The Welfare Functions of Credit and Debt in an Era of Rising Inequality

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The Welfare Functions of Credit and Debt in an Era of Rising Inequality

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The Welfare Functions of Credit and Debt in an Era of Rising Inequality

Abstract

Low-income families have increasingly relied on debt as income inequality

has grown and state policy has become less redistributive since the 1970s. This

study examines the shift toward debt by linking the macro-level patterns in

inequality, social policy and family debt to the micro-level analysis of family

finances. Using several data sources on family finances--the Survey of Income and

Program Participation, the Survey of Consumer Finances, and the Panel Study of

Income Dynamics, I analyze the tradeoff between social assistance and debt at the

household level and the dynamics of family debt trajectories over time.

Findings suggest that there is a general tradeoff between social assistance

income and household debt. The reliance on debt in place of greater redistribution

or social assistance is the result of a convergence of factors and explicit policy

decisions that have promoted credit to improve the conditions of those who have

been excluded from broader economic prosperity. The analysis of debt trajectories

shows that debt has grown significantly faster for black families than white families.

Social assistance, like welfare and the EITC, has become less effective in protecting

low-income families from relying on debt. Taken together, this research suggests

that growing debt places low-income families in increasingly precarious conditions

in the long term, rather than the stability traditionally offered by the welfare state.

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CHAPTER ONE

INTRODUCTION

This dissertation seeks to examine the increased reliance on debt as an important feature of the U.S. welfare regime, in the context of growing economic inequality. The main purpose of the study is to develop an understanding of how the broader neoliberal shift from the welfare state to the market has led low-income families to rely increasingly not only on the labor market but also on the market for credit for financial resources.

This introductory chapter begins with an overview of the context and background that frames the dissertation. I then discuss the problem that motivates this study, the intended purpose of the research, and the specific research questions. Following this is a review of the relevant research and a brief description of the data used. The chapter concludes with an outline of the organization of the dissertation.

For scholars of inequality, the 2007 financial crisis made clear that debt and credit had come to play a central role in the well-being of families in the U.S. Amidst the expansion of credit in recent decades, debt has become a key economic resource for households to meet such needs as housing, education, and other consumption. For families with debt, the real median value of their debt holdings nearly tripled from 1989 to 2010 (Bricker et al. 2012). Considering this reliance on credit to maintain the well-being of American families, debt has come to play a critical role in welfare provision. The significance of this shift must be understood in relation to

two important social phenomena that took place during this period: increasing economic inequality and important changes in the U.S. welfare state.

Since the mid-1970s, economic inequality has increased, according to a variety of measures. The distribution of earnings has become increasingly unequal, as incomes at the top have grown rapidly while earnings in the middle and the low end have remained relatively stagnant, barely keeping up with economic growth. Wealth has also become increasingly concentrated at the high end of the distribution. At the same time, state policy has become less redistributive and social safety net programs have generally weakened.

The transformation of the U.S. welfare state in recent decades has been a major area of research across a number of areas of sociology, including social stratification, political sociology, and economic sociology. The changing shape of welfare policy is often placed in the context of a broader 'neoliberal' transformation of the U.S. economy and social institutions. From this perspective, the primary features of the changing welfare state are typically described as: (i) a fundamental retrenchment of the welfare state, involving a decline in social benefits and less redistributive policy; and (ii) an increased emphasis on the market in its place, particularly the labor market. An enormous body of research has been concerned with the implications of these changes for the well-being of low-income families, during a period of increasing inequality. Considering the growing reliance on debt among low-income families over this period, credit has become an increasingly important source of financial resources, beyond labor market earnings and transfer income. Despite these changes, there has been little theoretical and empirical

scholarship on the reliance on debt as an important feature of the U.S. welfare regime.

The aims of this dissertation are threefold. The primary purpose is to contribute an understanding of how, in the context of the broader neoliberal shift from the welfare state to the market, low-income families are dependent not just on the labor market, but also on the market for credit as they increasingly rely on debt for their well-being. This study analyzes macro- and micro-level quantitative data and historical policy actions to understand the relationship between social benefits and debt in the lives of low-income families. The dissertation also examines the social stratification of the increased reliance on debt over time.

To shed light on the problem, this dissertation addresses a series of research questions. First, to what extent does debt serve as a substitute for transfer income in the finances of low-income families? Next, what is the role of state policy in the increased reliance on debt among the poor? Finally, what are the long-term trajectories in family debt, and how are these socially stratified?

Existing Research

This section critically reviews three main areas of theoretical and empirical literature the frame this study and inform the specific research questions: (i) theoretical approaches to the study of neoliberalism; (ii) the transformation of the U.S. welfare state; and (iii) the welfare functions of credit. After reviewing these key areas of literature, I briefly discuss a few additional areas of research that are relevant to the substantive focus of this dissertation but are not as central to the

theoretical framework, including the expansion of credit, wealth inequality, and unequal access to credit.

Theorizing neoliberalism

Few concepts have been as widely applied by social scientists in recent years as 'neoliberalism.' Some use it to describe to a specific set of economic policies, while others use it to encapsulate a broad historical moment (Centeno and Cohen 2012, Hall and Lamont 2013). In its more general conceptualization, the term can be shorthand for a broad ideological shift that encompasses policies, values, and underlying approaches to governance in the political and economic spheres. In this sense, Bourdieu (1999) describes neoliberalism essentially as "the tyranny of the market."

Scholars generally trace the rise of neoliberalism to the economic crisis of the mid-1970s. In response to the perceived shortcomings of postwar Keynesianism, neoliberal reformers promoted a laissez-faire approach to economic activity. In broad terms, its defining characteristic is an emphasis on shifting economic power from the state to private markets (Amable 2011, Centeno and Cohen 2012). It promotes the influence of the market through "deregulation, privatization and withdrawal of the state from many areas of social provision" (Harvey 2005: 2-3).

Although the basic conceptualization of neoliberalism implies a shrinking of government activity, critics argue that neoliberal reformers instead seek to reshape the operations of governments in line with market principles to create and facilitate markets (Brown 2006). Some scholars of neoliberalism argue that its scope has

extended well beyond economic policy (Peck and Tickell 2002) and that it encompasses "a wide range of efforts to organize social relations according to principles of market rationality" (Brown 2003).

A number of concrete policies are typically grouped under the banner of neoliberalism. These include policies that promote capital mobility, trade liberalization, the deregulation of labor markets, minimizing expenditures on public goods and services, less redistributive policy, and welfare state retrenchment. (Centeno and Cohen 2012, Jessop 1994, Levy 2006, Streeck and Thelen 2005, Wacquant 2009). When applied to international development, it emphasizes the fiscal austerity, free trade, privatization, loosened financial regulation, and deregulation of domestic markets that make up the Washington Consensus (Williamson 1990).

The loose application of the term 'neoliberalism' to describe a broad set of general market-friendly policy approaches misleadingly implies a monolithic transformation in economic and political governance (Prasad 2006, Thelen 2014). In terms of its approach to welfare policy, the literature on neoliberalism has mainly focused on two aspects of reform: (i) an overall retrenchment of the welfare state; and (ii) the adoption of 'workfare' policies in its place. Through the retrenchment of the welfare state, social programs are seen to be less generous as benefit levels decline, and states adopt punitive sanctions and restrict eligibility to reduce the pool of recipients. The 'workfare' policies require participation in the labor market as a precondition for social assistance and therefore direct the poor away from social programs and toward the labor market to obtain financial resources.

While scholars of neoliberalism have focused on these two processes, the increased reliance on debt in the absence of social assistance is largely missing from the study of neoliberalism and the welfare state (Campbell 2010). Indeed, the observed increased reliance on debt among low-income families is consistent with neoliberalism's emphasis on market-based reforms and less public provision of social support. Without an analysis of the dramatic expansion of debt among families who might otherwise receive social assistance, the literature does not fully specify the neoliberal reform of the U.S. welfare state.

Transformation of the U.S. welfare state

As described above, neoliberalism has been theorized as a broad paradigm that has reshaped governance across industrialized democracies in similar ways. With respect to welfare policy, the general pattern has been one of less generous assistance with more constraints on eligibility, especially in the 1980s and 1990s (Achterberg and Yerkes 2009, Brooks and Manza 2006, Handler 2009, Scruggs 2006). Research on changes in welfare policy toward the poor specifically in the U.S. has mainly focused on two aspects of the transformation: the declining generosity of benefits and shift away from direct public support toward requirements and incentives for entering the labor market.

The first major rollback in cash assistance was implemented through the federal budget adopted by the Reagan Administration in 1981, which also reduced welfare caseloads by 14 percent. Employment requirements for welfare recipients were expanded in 1988 through federal legislation that also required state

governments to actively shift welfare recipients to the labor market (Danziger 2010). The landmark welfare reform of the mid-1990s is seen as the centerpiece of changes to welfare policy toward the poor in recent decades. Whereas all families with children below an income eligibility threshold could claim cash assistance under the previous Aid to Families with Dependent Children (AFDC), welfare was no longer an entitlement under the new Temporary Assistance for Needy Families (TANF). Control over welfare programs shifted to state governments, who could set their own benefit levels and income eligibility criteria. The federal reforms established lifetime limits on welfare receipt, expanded mandatory work requirements, and instituted sanctions for recipients that did not meet the stricter requirements. State governments could also add additional conditions for welfare receipt and impose their own time limits and sanctions (Danziger 2010, Western et al. 2012).

In addition to reducing the generosity of cash assistance, the new 'workfare' policies further emphasized the labor market as the primary and possibly only source of support for low-income families (Fording et al. 2011, Krinsky 2007, Peck 2001). Through stricter employment requirements, these reforms were intended to restrict entry to welfare programs, reduce periods of welfare receipt, and increase the number of families leaving welfare.

Although direct cash benefits declined, the federal earned income tax credit (EITC) expanded rapidly during this period, establishing it as perhaps the most important means-tested antipoverty program in the U.S. In fact, the total disbursements through the EITC were comparable to the total benefits transferred

to the poor through TANF and the Supplemental Nutritional Assistance Program (i.e. Food Stamps) combined (Hotz and Scholz 2003, Western et al. 2012). The underlying structure of the EITC compared to traditional welfare programs reflects an important aspect of the transformation of welfare policy in the U.S. By providing assistance to low-income families through a refundable tax credit that is calculated based on earnings, access to the EITC is contingent on employment activity. The expansion of the EITC in place of cash assistance therefore reflects the reorientation of welfare policy toward the labor market, as access to social assistance becomes increasingly dependent on work.

Since the 1996 welfare reform, a large body of empirical research has estimated the effects of changes in welfare policy, including employment requirements, eligibility criteria, sanctions, and time limits (Lichter and Jayakody 2002, Corcoran et al. 2000). These studies find significant increases in employment and income for single mothers, but little change in their poverty rates in the years after the reforms were implemented (Blank 2002, Blank 2004). In a study of former recipients, nearly 80 percent had some employment in the first year after leaving welfare, but only half had found consistent work. Those who worked full-time had incomes that were not far above the poverty line, and approximately one-fifth returned to welfare within the year (Acs and Loprest 2004). It is important to note that these effects may be confounded by the strong late-1990s economy (Western et al. 2012).

With the decline of cash assistance and the implementation of varying eligibility criteria and requirements, qualitative research on former welfare

recipients depicts a tenuous attachment to employment and continuing pressures of economic vulnerability. Despite supplementing their incomes with off-the-books work and informal assistance from friends and relatives, the financial insecurity of former welfare recipients is manifested in difficulties in maintaining consistent housing, unreliable transportation, health problems, and inconsistent child care arrangements (Lein and Schnexnayder 2007, Seefeldt 2008).

Research on the effects of the EITC has largely focused on the labor market activity of EITC recipients, as well as other outcomes related to family formation and the financial behavior of recipients (Martin and Prasad 2014). These studies show that the tax credit significantly increases the labor market participation of single mothers, although the effect on their hours worked is ambiguous (Eissa and Hoynes 2006, Hotz and Scholtz 2003, Noonan et al. 2007). Distributed as a lump-sum payment, the tax credit is typically applied to large one-time spending on unpaid debt or housing (Romich and Weisner 2000, Smeeding et al. 2000, Mendenhall et al. 2012). Since the EITC provides incentives for low-skill workers to enter the labor market, some research has argued that it increases competition for low-wage jobs and subsidizes the low wages paid by employers in this segment of the labor market (Kenworthy 2011, Rothstein 2010).

While the literature on the transformation of U.S. welfare policy has emphasized the shift from direct state support to the market, it has mainly considered the increased dependence of low-income families on the labor market. To the extent that restricted access to social assistance and low earnings from the labor market lead low-income families to increasingly rely on debt, their

dependence on the market for credit and debt is a critical but understudied component of the broader shift from welfare policy to greater market dependence.

Welfare functions of credit

The research discussed in this section sheds light on the 'welfare functions' that credit has come to perform in the context of increased economic inequality and a weakened social safety net. Some fundamental functions of traditional welfare state policy are: (i) to supplement incomes derived from the labor market, and (ii) to provide social insurance against various forms of risk. A foundational justification for these elements of welfare policy is that the welfare state performs these valuable functions that markets themselves would fail to provide. However, to the extent that households increasingly rely on credit as both an income supplement and as a form of insurance against risk (e.g. unexpected health care costs, job loss, volatility in income from year-to-year), these functions are essentially being derived from the market rather than the state. A significant implication of this shift is that the credit/debt is a source of the precise uncertainties and risk that welfare policy has traditionally been designed to eliminate. Whereas state-supported income transfers and social insurance are intended to be stabilizing, credit/debt is inherently a source of risk and potentially destabilizing. The research highlighted here describes how the poor make use of credit; how credit figures into family instability and finances; and how there may be a tradeoff between the welfare state and the expansion of credit.

Even before the increased reliance on credit in recent decades, black households used more kinds of credit than white households with similar incomes (Hiltz 1971). In recent years, poor households have become more reliant on credit card debt than middle-class households by some measures. Among households in the lowest income quintile, approximately half hold credit card debt that is more than one month's worth of income; one-quarter have credit card debt worth at least three months of income. By comparison, among middle-income households, one-quarter had credit card debt that exceeded one month of income (Mann 2009). A qualitative study of families just above the poverty line found that these families depend on credit cards to keep pace with the consumption habits of the middle class (Newman and Chen 2007).

Research suggests that in recent decades American families have become increasingly exposed to risk and uncertainty, particularly with regard to their economic circumstances (Hacker 2006; McCloud and Dwyer 2011). As families increasingly rely on credit/debt as a buffer against unexpected expenses or the loss of income and the absence of a sufficient safety net, a greater number of families have incurred high debt burdens from which they are unable to recover and ultimately file bankruptcy (Sullivan, Warren, and Westbrook 1989, 2000; Sullivan et al. 1989).

Rajan (2010) posits a direct trade-off between redistributive policy and the expansion of credit in his argument that, instead of directly addressing the underlying causes of increasing economic inequality, policymakers promoted access to credit as a quick fix to the problem of rising inequality. In this account, there

would have been formidable political opposition to any attempts to pursue redistributive policy. After this easier access to credit functioned as a "palliative" against the potentially disruptive effects of stagnant incomes for the middle-class, credit was later promoted as a policy solution to the problems of the working class and the poor. Whether the expansion of credit was the result of a deliberate political strategy, this argument does illustrate how the expansion of credit can serve as a functional substitute for redistributive policy or a strengthened social safety net.

From a comparative perspective, Prasad (2012) demonstrates a negative correlation between country-level social spending and debt; countries with higher social expenditures have lower levels of debt as a share of income. Other research examines how the reliance on credit/debt has partly substituted for social assistance in the specific areas of housing policy (Conley and Gifford 2006; Croft 2001; Marcuse 2009) and income transfers (Danziger 2010, Sullivan 2008, Stegman and Faris 2005).

The expansion of credit

Research attempting to explain the dramatic expansion of credit in recent decades has focused on a few sets of factors: consumer demand; private firms in the banking and finance industry; and politics and state policies. After briefly highlighting these explanations, I discuss another set of studies that explicitly consider the conditions of rising economic inequality as a central factor in the expansion of credit.

Carruthers and Ariovich (2010) explain how, during the era of industrialization and urbanization, credit practices became increasingly adopted by

merchants to facilitate consumption, particularly of expensive durable goods like household appliances, which would otherwise have been unaffordable for workers whose purchases were constrained by their weekly wages. In the postwar period, consumers played a vital role as the primary engine for economic growth in the U.S. Cohen (2003) traces the development of a culture of mass consumption and examines how it has been shaped by historical, legal and political factors (Cohen 2003). As consumption increasingly performed social and cultural functions, American households provided substantial demand beyond what their actual earnings would allow. This massive consumer demand therefore provided an economic rationale for the extension of credit by merchants and banks. Schor (1998) analyzes this culture of mass consumption near the end of the 20th century, which she describes as increasingly "aspirational" and "status-conscious consumption." In her study, Americans commonly felt that they did not have sufficient income to afford what they needed to purchase, even among higher income households. The cultural dimensions underlying mass consumption stimulated the demand for credit, which was central to facilitating the "overspending" of consumers.

Other research describes how private industry responded to this burgeoning consumer demand. After consumer credit was initiated by large urban merchants, major banks became aware of the profit opportunities and soon became large suppliers of credit (Geisst 2009). Increased activity in private lending spurred financial innovations, which often made it more profitable for some firms to lend money to facilitate consumption rather than providing capital to invest in expanded

or improved production, as in car financing (Hyman 2011). Among private lenders, important innovations that improved the measurement of creditworthiness of consumers were important technological solutions to problems of trust and information asymmetry that had constrained the willingness of private lenders to provide capital to consumers on credit (Carruthers and Ariovich 2010). By the early 1980s, the increasingly powerful banking industry successfully lobbied for changes in regulations, especially to loosen limits on interest rates. The technological innovations that improved credit monitoring and a more relaxed regulatory environment enabled private lenders to extend credit beyond middle-class consumers to low-income Americans by the early 1990s. Indeed, private lenders generally recognized that despite their lower income levels, these borrowers could be a source of tremendous profits, since they are less likely to pay their debts and therefore more likely to incur late charges and other fees on top of the high interest rates charged by the lenders (Mann 2006).

Although these market-oriented factors of consumer demand for credit and the supply of credit by private lenders examine the direct participants in credit transactions, they do not fully explain the dramatic expansion of credit in recent decades. Another body of literature closely examines the political context and state action in the expansion of credit.

Direct state policy in the expansion of credit has been most notably apparent in the housing market. Following the Great Depression, the government supervision and regulation of New Deal policies aimed to increase the affordability and limit the risk of home ownership. Through homeowner subsidies like the mortgage-interest

tax deduction and the development of government-sponsored secondary markets

for trading loans between lenders and investors, the state directly intervened with

both consumers and lenders to promote the expansion of mortgage credit

(Immergluck 2009).

Looking more explicitly at recent decades, Krippner (2011) is concerned

with the broader 'financialization' of the economy, which she describes as "a broad-

based transformation in which financial activities have become increasingly

dominant in the U.S. economy over the last several decades" (Krippner 2011). In her

view, a unique convergence of economic, social and political conflicts made it

especially difficult for the state to address the problems of inflation and a growing

deficit in the late 1960s and 1970s. Partly to avoid a political conflict with social

groups that had placed demands for increased social provision from a fiscally

weakened state, Krippner argues that policymakers instead pursued policies to

deregulate the financial system and attract foreign capital. In the longer term, these

policy decisions had the effect of promoting the turn to finance as a growing share of

economic activity. While the state was not passive in bringing about this shift,

particularly in deregulating the financial sector, Krippner is careful to argue that

greater financialization was not necessarily a deliberate outcome sought by

policymakers. Instead, the growing role of the finance industry was an inadvertent

outcome of the state's attempt to deal with other, short-term fiscal, social and

political problems (Krippner 2005, 2010, 2011).

Another set of studies points to the increased reliance on credit/debt as an

outcome of increasing inequality. Examining trends in income inequality as well as

increased volatility in year-to-year household income, Dynan (2010) argues that the increased indebtedness over this same period is partly a result of households stabilizing consumption despite increasingly unstable income. Leicht and Fitzgerald (2006) similarly focus on the expanding pool of credit to resolve the seeming paradox between increasing income inequality, unprecedented rates of consumption, and consistently high levels of consumer confidence. Reich (2010) argues that the increased reliance on debt is the latest in a series of strategies used by households in the face of rising inequality. In his view, as median wages stagnated in the 1970s, women increasingly entered the labor market to sustain the economic position of households. As economic inequality has generally continued to widen despite major demographic shifts in the labor market, Reich argues that indebtedness has become the prevailing strategy of the middle class. Rajan (2010) attributes the expansion of credit in recent decades to policymakers who regarded the expansion of 'easy credit' as a palliative against the destabilizing effects of increasing inequality--and a political strategy that was more feasible and palatable than pursuing actual redistributive policy. Unlike Krippner (2011), Rajan describes the expansion of credit as a deliberate policy decision, although the evidence for the claim is ambiguous.

Wealth Inequality

An important area of sociological research that has incorporated topics of credit and debt is the literature on wealth inequality. This literature makes an important contribution in expanding the scope of inequality research beyond the

conventional focus on income and earnings. Scholars of wealth inequality often argue that wealth is a particularly important indicator of well-being because it can provide benefits that are not fully captured in income, it represents a cumulative stock of advantage, and it can be self-perpetuating as it is used to produce more wealth (Keister and Moller 2000). Despite the convincing arguments made in studies of wealth inequality, social stratification research continues to heavily emphasize income, partly because of the extensive data on income and earnings available to researchers.[1]

The existing literature on wealth inequality tends to be largely descriptive, using data to demonstrate the magnitude of wealth inequality across society, between social groups, and over time (Keister 2000, 2005). The research demonstrates that a focus on income understates the nature of economic inequality and that when wealth is taken into account, measures of inequality are usually much larger. Wealth ownership has long been very uneven, with a substantial share of wealth concentrated in the ownership of a small minority (Keister and Moller 2000).

Beyond general wealth inequality, research on the racial wealth gap has been influential in the study of racial inequality. Oliver and Shapiro (1995) estimated that by the time of their landmark study, whites held more than ten times the wealth of African Americans, low-income whites had higher net wealth than high-income African Americans, and a much larger proportion of African Americans actually had negative net wealth. Other research has examined the implications of the racial

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[1] See Spilerman (2000) for a discussion of how dominant models in social stratification research are oriented toward individual actors and the production process, which is reflected in a corresponding focus on labor market processes and rewards.

wealth gap for outcomes in education and employment, and how it can be explained

by historical disparities as well as contemporary dynamics in wealth accumulation

(Conley 1999, 2001). More recently, researchers have extended the research on

racial disparities in overall net worth by studying racial gaps in home ownership as

a specific mechanism of more general racial wealth inequality (Charles and Hurst

2002; Flippen 2001, 2010; Freeman and Hamilton 2004; Krivo and Kaufman 2004;

Turner and Smith 2009).

Unequal access to credit

In sociological research related to the role and function of credit, scholars

have addressed concerns of inequality by examining the problem of unequal access

to credit. Research on lending discrimination, predatory and subprime lending, and

other exploitative practices (e.g. payday lending) demonstrate that access to credit

is uneven across society, with particularly significant implications for racial

inequality. The overwhelming evidence demonstrates that low-income households

and racial minorities are more subject to such exploitative lending practices, which

suggests an important mechanism through which the greater reliance on credit in

recent decades reinforces economic and racial inequality.

Much research on discrimination in credit markets examines applications for

home mortgages, because of the central role of home ownership in wealth

accumulation and the ability of researchers to access the extensive data made

available through federal regulations that require lending institutions to disclose

information about mortgage applications. Research has established that Black and

Hispanic applicants are more likely to be rejected or receive less favorable terms for

mortgages than whites, even when controlling for credit characteristics (Ross and Yinger 2002). A study of the data collected through the Home Mortgage Disclosure Act found that Black and Hispanic applicants were 82 percent more likely to be rejected than similar whites (Munnell et al. 1996). Oliver and Shapiro (1995) estimate that the interest rates paid by Blacks on home mortgages were 0.5 percentage points higher than the interest rates paid by whites, controlling for income and other borrower characteristics. Beyond the race of the applicant, historical practices of redlining indicate that the racial composition of the neighborhood can also influence mortgage application decisions (Massey and Denton 1993). Taking into account differences in demand, research finds evidence indicating that minority neighborhoods have comparatively less access to mortgage funding (Phillips-Patrick and Rossi 1996; Siskin and Cupingood 1996).

Just as lending institutions increasingly extended consumer credit to lower-income households by the 1990s, the number of mortgage loans to Black and Hispanic borrowers increased by approximately 60 percent from 1989 to 2000, compared to an increase of 16 percent for whites (Turner et al. 2002). While greater numbers of minority borrowers accessed loans, disparities in the conditions of these loans are another important dimension of unequal access to credit. Williams et al. (2005) find that 78 percent of the increasing in lending to minority neighborhoods in the 1990s was from lenders specializing in subprime loans (Williams, Nesiba, and McConnell 2005). Their research emphasizes the racial dimension of this disparity by showing that across the income distribution black borrowers are much more likely than whites to have received loans from subprime lenders. Other research

identifies residential segregation as a key social condition that facilitates subprime lending, since mortgage brokers could more easily market subprime loans to neighborhoods with high concentrations of underserved minorities (Bond and Williams 2007; Calem, Gillen, and Wachter 2004; Rugh and Massey 2010; Stuart 2003). The rapid expansion of subprime lending was a key factor precipitating the recent financial crisis, and the subsequent collapse of the housing bubble and rise in home foreclosures has also disproportionately impacted minority borrowers (Immergluck 2009, 2010; Schuetz, Been and Ellen 2008; Shiller 2008).

In addition to direct discrimination in mortgage applications and the inferior conditions of subprime loans, researchers have examined other exploitative practices, including storefront check-cashers and payday lenders that charge exorbitant interest rates for short-term loans (Caskey 1996; Mann and Hawkins 2007; Squires and O'Connor 1998). This body of research on the unequal access to credit has made important contributions by directly addressing issues of inequality in relation to credit and debt and considering the influence of social conditions, like residential segregation.

Data

The empirical components of the dissertation make extensive use of three primary data sets: the Survey of Consumer Finances (SCF), the Survey of Income and Program and Participation (SIPP), and the Panel Study of Income Dynamics (PSID). While the major surveys used in inequality research (e.g. Census, Current Population Survey) typically include richer data on income and earnings than

wealth and assets, these three data sets are more commonly used in research on wealth and assets, which includes data needed to analyze credit and debt. The data available across these three surveys allow me to analyze reliance on credit and debt and participation in social programs at the household-level, for both cross-sectional and longitudinal analysis.

The Survey of Consumer Finances, conducted by the Federal Reserve Board, contains the most detailed data about household assets and liabilities. The survey takes place every three years beginning in 1983, and the most recent available data is from the 2010 survey. It is administered to a cross-sectional nationally representative sample of approximately 4,500 households. To produce accurate estimates of aggregate net worth in the U.S., the survey oversamples wealthy respondents from a list of tax returns at top of the income distribution. The SCF includes detailed information about household financial assets (e.g. bank accounts, stocks and mutual funds, retirement funds, home, and vehicles) and liabilities (e.g. mortgages, credit cards, bank loans, car loans). It includes additional information on demographics, employment and income, program participation (including TANF, food stamps, SSI, Medicaid, Social Security, unemployment compensation), utilization of financial services, and attitudes toward credit and borrowing.

The Survey of Income and Program Participation (SIPP) contains detailed household-level data that partly overlaps with the content of the SCF, while providing a few important advantages. While the relatively small sample size of the SCF makes it difficult to study low-income subpopulations, the SIPP has a much larger nationally representative sample of approximately 35,000 households. The

survey is designed as a continuous series of national panels that provide longitudinal data over the course of a panel, which range from 2.5 to 4 years. While the SIPP does include detailed information on financial assets and liabilities, it has a higher nonresponse rate for these questions than the SCF and PSID. Nevertheless, the SIPP is often accepted as a reliable source of wealth data (Kochhar, Fry, and Taylor 2011). A major strength of the survey is its detailed data on participation in government transfer programs, which is necessary for my analysis of household-level reliance on debt and social assistance.

The Panel Study of Income Dynamics (PSID) is a rich source of longitudinal data that is widely used in inequality research and is particularly suited for studies of the low end of the income and wealth distribution. With a sample size of approximately 7,800 families, the PSID includes data collected annually from 1968 to 1997, and then every two years thereafter. The survey did not initially include questions about wealth and assets, which were first asked in special supplement in 1984. Data on wealth and assets were then included in supplements in 1989 and 1994, and then in each administration of the survey since 1999. While the PSID data on assets and liabilities is less detailed than the SCF or SIPP, it does include data on financial assets (e.g. bank accounts, stocks and mutual funds, home, and retirement accounts) and liabilities (e.g. mortgages, car loans, and unsecured debt, which includes credit card debt). The PSID also includes information on program participation, including TANF, food stamps, SSI, Medicaid, social security, and unemployment compensation.

Organization of the Dissertation

After this introduction, chapter 2 combines macro- and micro-level analysis to understand the relationship between social assistance and debt in the lives of low-income families. It first uses macro-level trends in inequality, redistributive policy and household data to examine general patterns in the change in household debt and social assistance over time. It then links the macro-level patterns to a micro-level analysis of household data to examine whether changes in social assistance income are offset by changes in debt at the household level.

Chapter 3 takes a historical perspective in examining the role of government policy in establishing the use of credit as a private source of welfare, with a focus on the growing reliance on debt among low-income families. It considers several macro-level factors and the central role of government policy to explain the expansion of credit. The expansion of credit as a strategy to improve conditions of those who are marginalized from broader economic prosperity has roots in policy efforts to improve conditions for rural residents in the early 20th century. Since then, government policy has been central in facilitating the expansion of credit, and government institutions have often created new markets for extending credit to broader segments of the population. I consider the timing of several macro-level processes and argue that government policy has been central in shaping both the supply and demand factors in lending markets.

Chapter 4 presents an empirical analysis of longitudinal patterns family debt through the analysis of family debt trajectories. The focus on debt trajectories can

shed light on the long term implications of the shift toward debt, compared to the short-term tradeoff examined in Chapter 2.

Using longitudinal data from the PSID, the analytical strategy is similar to that employed in the expansive mobility literature that often analyzes mobility in income or socioeconomic status (see Avery and Rendall 2002; Charles and Hurst 2003; and Keister 2004 for applications of mobility analysis to debt and assets). This chapter also examines the long term impact of social assistance on the debt trajectories of low-income families.

Taken together, these empirical analyses investigate the expansion of credit in the context of rising inequality and a less redistributive U.S. welfare state. The arguments and findings are summarized in the concluding chapter, which also considers the broader implications of relying on debt to perform functions traditionally associated with the welfare state.

CHAPTER TWO

MACRO AND MICRO PERSPECTIVES ON SOCIAL ASSISTANCE AND DEBT

This chapter combines macro- and micro-level analysis to understand the

relationship between social assistance and debt in the lives of low-income families.

The first section examines macro-level trends in inequality, redistributive policy,

and household debt to suggest a general relationship between the rise in household

debt as a response to increasing income inequality and less generous social

assistance. As inequality in market income has increased since the 1970s, the

equalizing effects of redistributive policy (i.e. transfers and taxes) have diminished.

Through structural changes in social assistance programs, the share of transfer

income directed toward low-income families has steadily declined over this period.

While there has been a concomitant rise in debt across all families, debt has

increased much more rapidly for low-income families and for black families.

The second section links these macro-level patterns to micro-level data on

social assistance and debt among low-income households. Using multiple panel data

sets from the Survey of Income and Program Participation (SIPP) and a unique

panel of the Survey of Consumer Finances (SCF), the empirical analysis of social

assistance and household debt examines whether declining social assistance income

is offset by an increase in indebtedness at the household level. The analysis

generally finds that households do take on more debt in response to less social

assistance income. Further, the results suggest that black families and low-income

are significantly more likely to rely on debt in the absence of social assistance than other families.

Rising inequality, less redistribution, increasing debt

The increase in income inequality over recent decades has been well documented and has received significant attention in the literature on social stratification. Since the mid-1970s, incomes have grown rapidly at the top of the distribution, while real incomes at the median have had much smaller growth and incomes at the low end of the distribution have remained relatively stagnant. This pattern is illustrated clearly in Figure 2.1, which shows the change in family income from 1973 to 2010 at different points of the income distribution, based on Census data. Real income at the 95th percentile grew by 52 percent, while the median income increase only 14 percent and incomes of the bottom quintile have barely changed after adjusting for inflation.
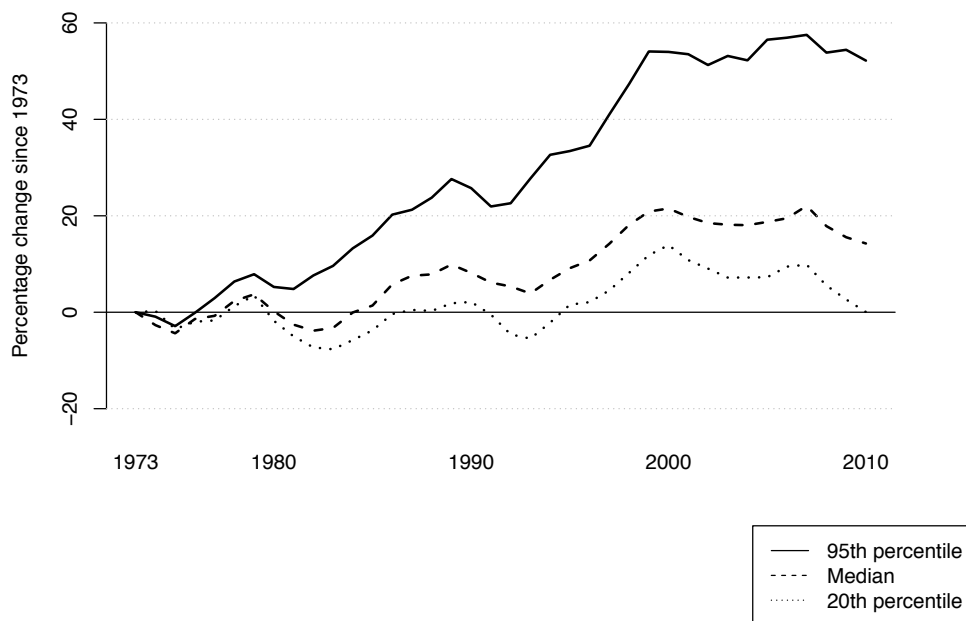
Figure 2.1: Change in family income, 1973-2010 (U.S. Census)

The general rise in inequality is also reflected in Figure 2.2, which draws on a

Congressional Budget Office (CBO) analysis of income dispersion since 1979

(Congressional Budget Office 2011). Using IRS data on tax returns and Census data,

the CBO study defines the market income of a household as the sum of its labor

income, business income, capital gains and other capital income. Figure 2.2 shows a

generally consistent increase in the Gini index for household market income since

the 1970s.
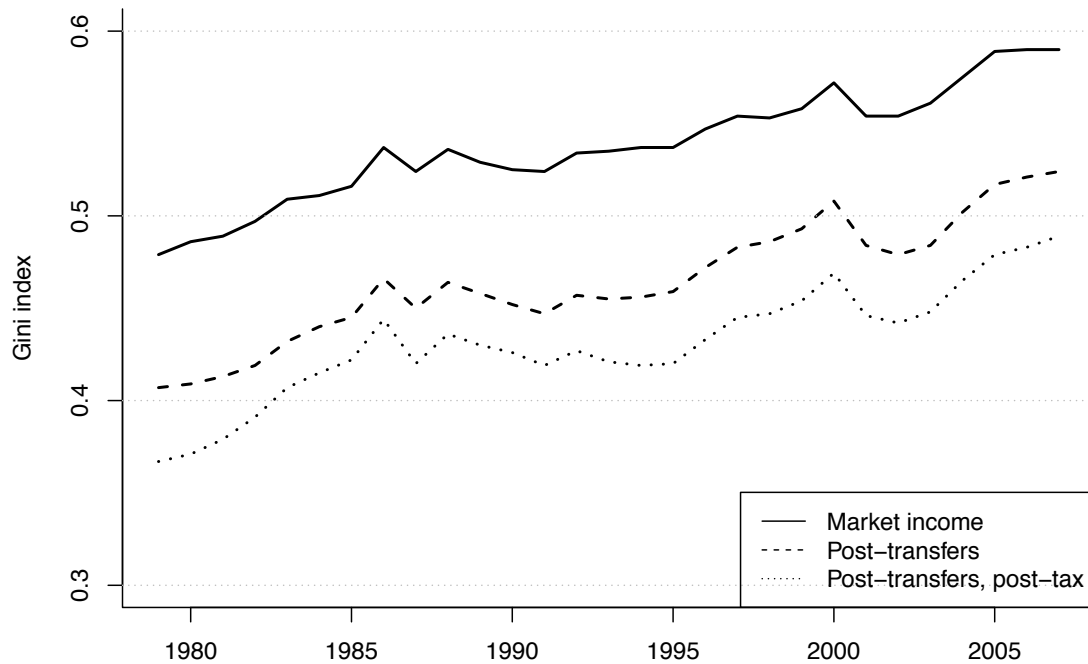
Figure 2.2: Income inequality in the U.S. (Gini index), 1979-2007 (CBO)

Over this same period, redistributive policy became less effective in reducing inequality in market income. There are two main policy tools that are fundamentally redistributive: (i) government transfers, including cash payments and in-kind benefits; and (ii) tax policy. In broadest terms, transfer payments can include TANF/AFDC, social security, unemployment insurance, Supplemental Security Income (SSI), veterans benefits, workers compensation and state and local government cash assistance programs. In-kind benefits include food stamps, school meals, housing and energy assistance, and health benefits through Medicare, Medicaid, and the Children's Health Insurance Program (Congressional Budget Office 2011, Fox et al. 2014). Through progressive income taxes and refundable tax

credits, such as the earned income tax credit (EITC) and child tax credit, tax policy can have an equalizing effect on the distribution of income from market sources.

The CBO analysis also estimates household income after accounting for income from the expansive set of government transfers mentioned above, including cash payments and in-kind benefits, and federal taxes. In Figure 2.2, the Gini index for post-transfer and post-tax income is indeed lower than the measure for market income, which shows that transfers and taxes do have an equalizing effect on the income distribution. However, inequality in post-transfer/tax income also increased over this period. In fact, inequality in post-tax/transfer income increased by a larger margin (33 percent) than inequality in market income (23 percent).

Increasing inequality in post-transfer/tax income has been the result of two processes: (i) increased inequality in market income, and (ii) less redistribution through government transfers and taxes. The CBO analysis measures the equalizing effect of transfers and taxes by calculating how much the Gini index of income inequality is reduced after accounting for the transfer income received and taxes paid by households. The diminishing equalizing effect of redistributive policy is shown in Figure 2.3. While the combination of transfers and taxes reduced the measure of income inequality by 23 percent in 1979, the equalizing effect fell to only 17 percent by 2007, based on the measures calculated by the CBO.
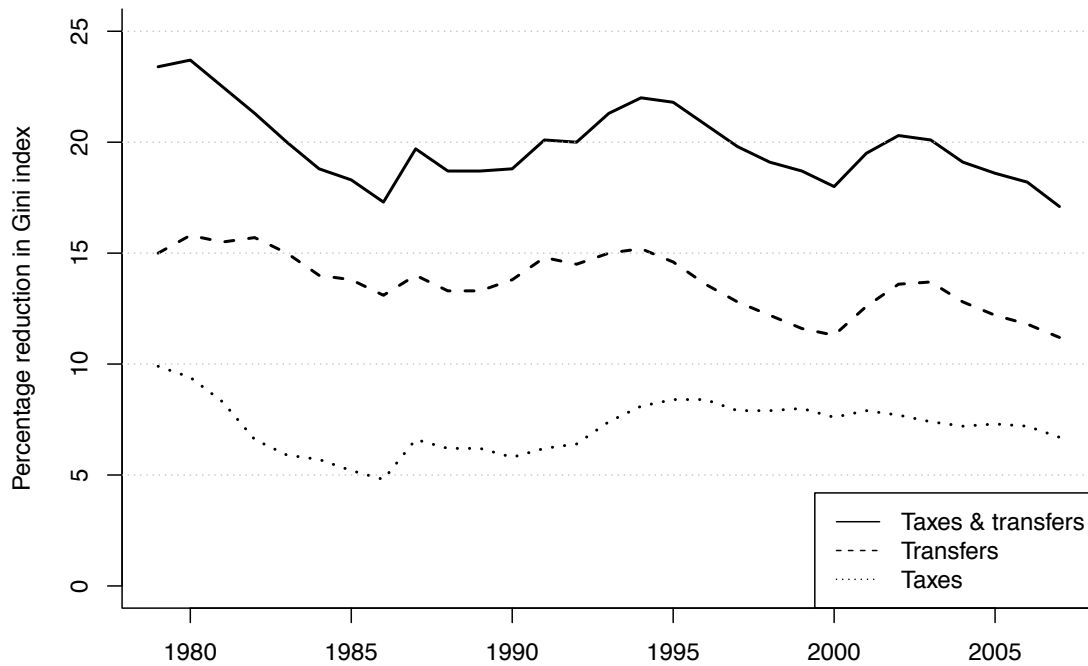
Figure 2.3: Reduction in income inequality from transfers and taxes (CBO)

Although the overall size of transfer payments examined in the CBO study remained stable over this period, the changing composition of government transfers partly explains why they have had a declining redistributive effect on market income. With short-term fluctuations in line with economic cycles, government expenditures on social programs for the nonelderly population—excluding health programs—has remained low with a slight long-term decline (Figure 2.4). This measure includes programs that tend to be means-tested and focused on low-income families.
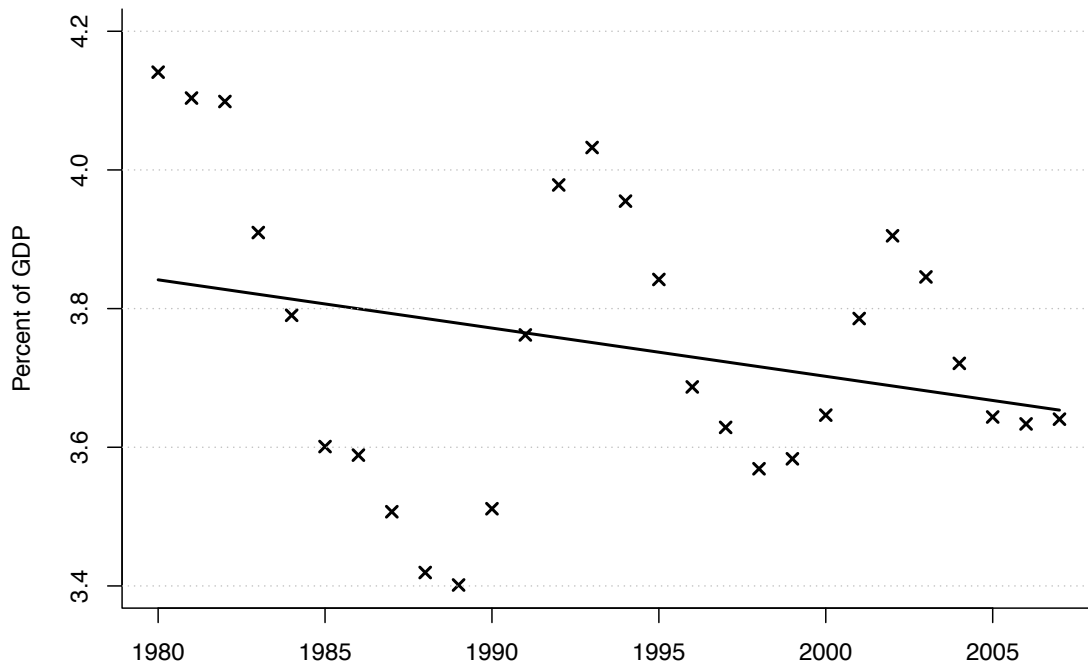
Figure 2.4: Nonelderly social expenditures (excluding health) (OECD)

During this period of increasing economic inequality, a smaller proportion of resources has been directed toward the social programs that are particularly aimed at low-income families. Growth in programs like Medicare has shifted transfer income toward higher income families, and the concomitant decline in direct cash assistance, like TANF, further directed transfer income away from the lowest-income families. Figure 2.5 shows the decline in the share of transfer payments received by the lowest quintile of the income distribution. While these low-income families received 54 percent of transfer payments in 1979, they received only 36 percent in 2007.
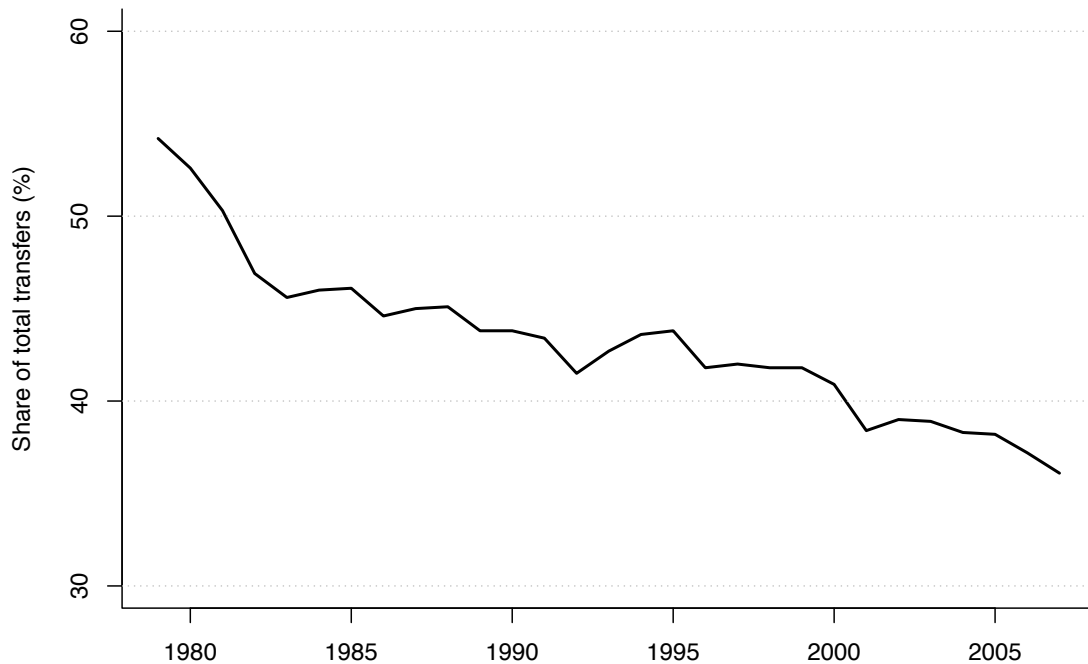
Figure 2.5: Share of total transfers received by lowest-income households (CBO)

The equalizing effect of tax policy also declined over this period, despite the growth in refundable tax credits for low-income families, like the EITC and child tax credit. Even after accounting for refundable tax credits, federal tax policy reduced income inequality by a smaller margin in 2007 than in 1979. The extent to which taxes reduced income inequality is shown in Figure 2.3. The CBO attributes the declining effect of federal taxes on income inequality to the shift in the composition of tax revenues away from progressive income taxes toward less progressive payroll taxes.

Taken together, this evidence shows that there has effectively been less income redistribution through state policy. The equalizing effects of transfers and

taxes, the main elements of redistributive policy, have both declined over this period of rising income inequality.

In addition to growing income inequality and less redistribution, there was also a dramatic rise in the reliance on debt by families over this period. A combination of government actions and decisions by private firms most directly facilitated the expanding availability of credit (Campbell 2010; Immergluck 2009). With the financial sector beginning its rapid expansion in the 1970s, government deregulation of consumer banking in the early 1980s allowed banks to extend greater amounts of credit to consumers (Krippner 2011). The Depository Institutions Deregulation and Monetary Control Act of 1980, for example, eliminated ceilings on the interest rates that banks could charge for loans. Other legislation around this time, including the Garn-St. Germain Depository Institutions Act of 1982, further removed lending restrictions and gave banks more freedom to operate in other sates, which put pressure on state governments to relax their regulations of lending (Immergluck 2009; Prasad 2012). By making lending more profitable for banks, these changes encouraged banks to increase the supply of credit that they were willing to extend to borrowers. Continued through the 1990s, this wave of deregulation also facilitated the development of markets for asset-based securities, which created additional incentives for banks to create loans that could be securitized and traded on secondary markets. By pursuing monetary policy aimed at minimizing inflation, the Federal Reserve maintained very low interest rates, which kept the cost of loans low for consumers.

The use of debt by a family can be measured by its leverage ratio—the ratio of the

sum of its debt to the value of its assets. Figure 2.6 shows that the leverage ratio for

all families increased during a period of stagnant earnings for middle- and low-

income families and a concomitant expansion in access to credit. Across all families,

total debt amounted to 12.2 percent of family assets in 1989. This leverage ratio

increased relatively steadily to 16.4 percent in 2010.
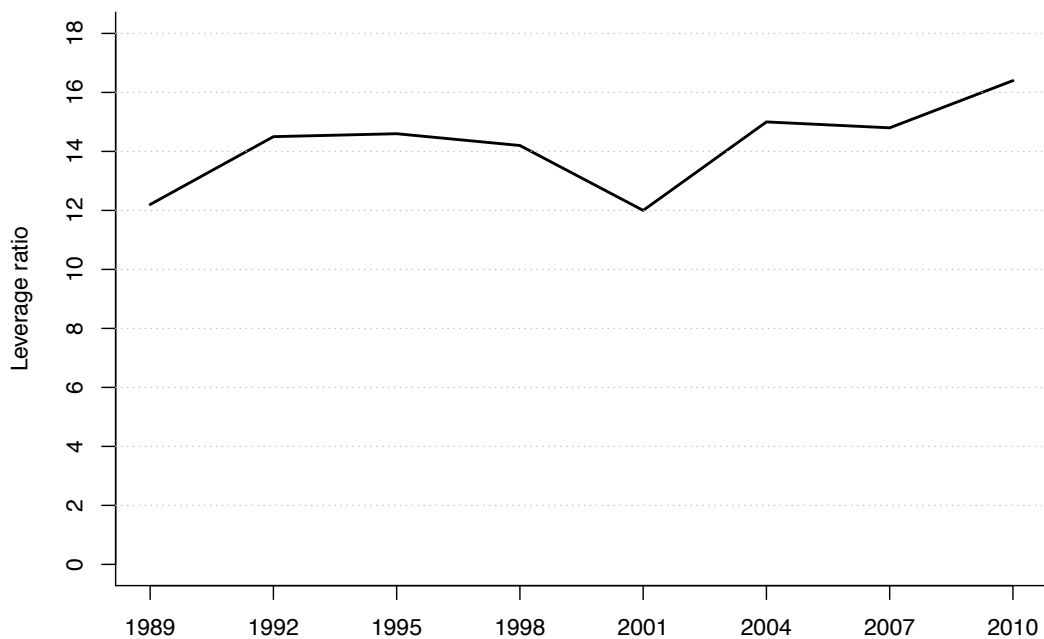
Figure 2.6: Family debt as a percentage of total assets, all families: 1989-2010 (SCF)

The trends in family debt over time have been far from uniform. Table 2.1

shows the mean debt for families by income group in 1989 and 2010. While there

has been a large increase in debt for families in each income group, the increase is

most pronounced for the lowest income families. The mean amount of total debt for

families in the bottom income quintile grew by more than 500 percent. Even for the

income groups with the smallest increases, the mean total debt doubled over this period. The mean total debt for families in the middle quintile increased by 145 percent. In figures not shown here, the middle income quintile has the highest leverage ratio among the income groups; the leverage ratio increased most rapidly for the bottom income quintile.

Table 2.1 also disaggregates the debt into two main categories. Mortgage debt includes home mortgages, home equity lines of credit, and other residential debt. Non-mortgage debt includes debt from credit cards, vehicle loans, education loans, other installment loans, lines of credit not secured by residential property, loans against pensions and life insurance, margin loans, and other miscellaneous debt. For all income groups, mortgage debt grew more rapidly than other forms of debt. Mortgage debt more than doubled for each income group and nearly tripled for the middle income quintile. For the bottom income quintile, mortgage debt increased more than 700 percent. While there was less growth in non-mortgage debt, the change in these forms of debt varied across income group. The greatest increase was for families in the bottom quintile; their mean amount of non-mortgage debt increased by more than 300 percent.

Table 2.1. Family debt (mean) by income group: 1989-2010. (in 2010 dollars)

	1989	2010	% Change
< 20 percentile			
Total debt	4,195	25,960	+519%
Mortgage	1,799	15,629	+769%
Non-mortgage	2,396	10,331	+331%
20-39.9 percentile			
Total debt	12,651	34,510	+173%
Mortgage	8,311	26,195	+215%
Non-mortgage	4,339	8,315	+92%
40-59.9 percentile			
Total debt	29,097	71,178	+145%
Mortgage	19,425	57,164	+194%
Non-mortgage	9,672	14,013	+45%
60-79.9 percentile			
Total debt	56,852	112,667	+98%
Mortgage	42,636	94,999	+123%
Non-mortgage	14,216	17,668	+24%
80-89.9 percentile			
Total debt	81,538	169,834	+108%
Mortgage	65,691	144,842	+120%
Non-mortgage	15,847	24,993	+58%
90+ percentile			
Total debt	153,302	317,878	+107%
Mortgage	126,036	286,670	+127%
Non-mortgage	27,267	31,208	+14%

Debt amounts for families by race are shown in Table 2.2. While white families have higher amounts of debt, there was a larger proportional increase in debt amounts for black families. In terms of their leverage ratios (not shown here), black families have a ratio of debt to assets that is twice as high as white families throughout this period. Both mortgage and non-mortgage debt increased more rapidly for black families. By 2010, the mean dollar amount of non-mortgage debt

for black families nearly matched that of white families, without accounting for differences in assets, income, or any other characteristics.

Table 2.2. Family debt (mean) by race: 1989-2010. (in 2010 dollars)

	1989	2010	% change: 1989-2010
White			
Total debt	48,691	109,187	+124%
Mortgage	37,269	92,645	+149%
Non-mortgage	11,422	16,542	+45%
Black			
Total debt	18,810	51,572	+174%
Mortgage	12,103	37,806	+212%
Non-mortgage	6,707	13,767	+105%

The top section of Table 2.3 compares debt amounts between families that received some transfer income and families without transfer income.[2] During a period when a declining share of government transfers was directed toward low-income families, those who received some means-tested transfer income had much larger proportional increases in debt than other families. For transfer recipients, non-mortgage debt increased more than mortgage debt; their mean amount of non-mortgage debt increased by over 400 percent, compared to a 46 percent increase for other families. Their ratio of debt to assets more than doubled from 17 percent in 1989 to 41 percent in 2010, compared to an increase from 12 percent to 16 percent for families that did not receive transfer income.

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[2] The Survey of Consumer Finances identifies transfer income as income from TANF, food stamps, or other forms of means-tested assistance such as Supplemental Security Income (SSI).

Table 2.3. Family debt (mean) for families receiving social assistance: 1989-2010.
(in 2010 dollars)

	1989	2010	% change: 1989-2010
Received transfer income			
Total debt	4,410	20,730	+370%
Mortgage	2,822	12,694	+350%
Non-mortgage	1,587	8,036	+406%
No transfer income			
Total debt	48,478	107,348	+121%
Mortgage	37,052	90,696	+145%
Non-mortgage	11,426	16,651	+46%
Among families that received transfer income:			
White			
Total debt	4,040	25,347	+527%
Mortgage	1,934	16,192	+737%
Non-mortgage	2,106	9,155	+335%
Black			
Total debt	2,667	21,145	+693%
Mortgage	1,538	12,196	+693%
Non-mortgage	1,129	8,949	+692%

The bottom section of Table 2.3 disaggregates the families who received transfer income by race. Total debt increased by over 500 percent for white families that received transfer income and by nearly 700 percent for black families with transfer income. The proportional increase in non-mortgage debt was more than twice as large for black families with transfer income. By 2010, black families receiving transfer income had a leverage ratio of nearly 60 percent, compared to just under 40 percent for white families with transfer income.

Social assistance and debt at the household level

The preceding section suggests a possible relationship between redistributive policy and debt, based on macro-level data. Household debt grew substantially, particularly for low-income families, while government transfers and tax policy became less effective in reducing income inequality. This section links the macro-level patterns to household finances at the micro level by analyzing the usage of social assistance and debt by families. The main purpose of this analysis is to examine the potential tradeoff between the receipt of social assistance and the reliance on debt, using longitudinal panel data on household finances.

The empirical analysis uses two independent data sets to examine household debt and income from social programs: the Survey of Income and Program Participation (SIPP) and the Survey of Consumer Finances (SCF). Both surveys collect data on wealth, including assets and debt, and income from transfer programs, in addition to other information needed for this analysis. The SIPP includes comprehensive data on participation in social programs, and it has a larger sample size, which is especially useful for an analysis that is particularly concerned with low-income households. The SCF is the most accurate publicly available source of data on household finances. It includes more detailed information on assets and debts, although it has a smaller sample size than the SIPP.

For the analysis of SIPP data, I use the two most recent panels of the survey--2004 and 2008. Each panel is comprised of a different sample of households for which several years of longitudinal data is collected. The 2008 panel began during a

period of historically extreme economic conditions that had major implications for both household debt and social assistance. The financial crisis entailed shocks in the consumer credit market that made lenders significantly less willing to extend credit than they had been in the preceding years. As unemployment more than doubled during the recession, many families lost income and were less able to make payments on their debt. In turn, these conditions produced greater demand on social safety net programs. As a result, expenditures on social programs increased significantly, particularly on food stamps, EITC, unemployment insurance, and Medicaid (Moffitt 2013). Because the 2008 SIPP panel covers an exceptional period, it may be difficult to interpret the results from that data beyond those unique circumstances. To overcome the potential limitations of the 2008 panel, this analysis also uses the 2004 panel, which was conducted during a relatively stable period of moderate economic growth.

The SIPP conducts interviews of households in the sample every four months over the duration of the panel. In each wave, respondents provide information on the core survey content, including income and participation in social assistance programs. The survey collects information on assets and liabilities through a supplemental topical module that is administered once a year (i.e. in three-wave intervals). The 2004 panel was conducted for twelve waves, but the topical module on assets and liabilities was administered only in the third and sixth waves. Therefore, the 2004 panel includes the necessary data for two consecutive years. The reference period for the first six waves of interviews mainly corresponds to 2004 and 2005. The 2008 panel was conducted for fifteen waves of interviews, and

the topical module on assets and liabilities was administered only in the fourth, seventh, and tenth waves. The 2008 panel therefore provides the necessary data for three consecutive years from the second through the tenth waves. The reference period for these waves mainly corresponds to 2009-2011.

The primary outcome of interest in the SIPP analysis is the dollar amount of household debt. This includes debt owed on a home mortgage, mortgages on other real estate, vehicle loans, credit card and store bills, medical bills, loans from financial institutions, educational loans, loans from individuals, and other unsecured liabilities. Since families may be expected to turn to different kinds of debt in response to changes in their income, this analysis also distinguishes between secured and unsecured debt. Secured debt refers to loans that are made against some property of value that can be claimed by the lender in the event of a default, such as a house or car. Unsecured debt does not involve such collateral; this category includes credit card loans and other loans from private institutions and individuals. Unsecured debt is a particularly important source of credit for low-income households since they are less likely to own assets than can be used as collateral for secured loans.

The main predictor in the SIPP analysis is the sum of income from means-tested social programs and the EITC. The measure of means-tested cash transfers in the SIPP includes TANF, General Assistance, Supplemental Security Income (SSI) and veterans' pensions. However, the SIPP does not collect information on the EITC. Given the significant expansion of the EITC as a major element of social policy aimed at low-income families, excluding the EITC would be a significant limitation of this

41

analysis. Therefore, the EITC value is estimated for each family using the TAXSIM

program of the National Bureau of Economic Research (Feenberg and Coutts 1993).

The simulation program uses income and demographic characteristics of each

family, including earned income, family size, and number of children, to calculate

estimated values of the federal and state EITC to which each family would be

entitled in a given year. In the absence of information on the EITC in the SIPP, it is

not known for certain whether respondent households who were eligible for the

EITC the credit actually claimed it. Research has shown that the EITC has a high

take-up rate; approximately 80 percent of those eligible claimed the credit in the

2005-2009 period (Jones 2014). Without other information to determine whether

respondent households actually claim the tax credit, this analysis assumes that all

eligible households in the sample receive the estimated value of the EITC.

I restrict the sample to households for which there is data on debt at multiple

points in their respective panel. For the 2004 panel, the sample is restricted to

households that are interviewed in each of the first six waves of the panel, thus

providing two data points on debt for each household (i.e. in the third and sixth

waves). For the 2008 panel, I include families that are interviewed in the second

through tenth waves, thus providing three data points on debt for each household

(i.e. in the fourth, seventh and tenth waves).[3] To avoid the potentially confounding

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[3] Each wave of the SIPP is conducted over four months. The respondents are divided into four
rotation groups; households in a given rotation group are interviewed in the same month. Since the
interview collects core survey content about the preceding four months, the data collected from the
households across the rotation groups do not correspond to the same four calendar months. For the
2004 panel, I combine the data collected in waves 1-3 to create measurements for the first year,
which I label as Year 1. Likewise, I combine data from waves 4-6 to create measurements for the
second year, which I label as Year 2. I refer to these as Year 1 and Year 2 of the panel data rather than
using calendar years. Because the data on debt is collected in three-wave intervals, the reference

influence of imminent retirement on the decision to take on debt, I restrict the

samples to households whose heads are between the ages of 20 and 63, following

Sullivan (2008). The resulting sample for the 2004 panel includes 20,759

households; the sample for the 2008 panel has 13,996 households.

The SCF is a national household survey sponsored by the Federal Reserve

that includes detailed information on household assets and liabilities. It is typically

administered every three years as a cross-sectional survey, with a new sample

selected each time. However, after the 2007 survey, the SCF conducted follow-up

interviews with respondents in 2009, to assess the impacts of the financial crisis

and recession on a full range of households. The 2007-09 panel is the first

longitudinal data collected in the SCF, allowing for the analysis of sampled

households over the two-year period.

Whereas the SIPP collects data on the dollar amount of several kinds of debt

held by households, the SCF also asks for information about the actual payments

that each household makes on various types of debt. The amount of debt itself is an

incomplete measure of the role of debt in the finances of a given household. Actual

debt payments can vary across types of debt, and the lending terms that determine

debt payments can also vary across households for the same types of debt. Two

households with the same amount of debt but different debt types, debt payments,

or incomes are understood to face different debt burdens. The SCF uses the detailed

information on a household's monthly debt payments for various types of debt to

construct a measure of its debt burden, which it defines as an estimate of total

---

periods of the debt data are exactly one year apart. Similarly, for the 2008 panel, I combine waves 2-4 to calculate Year 1, waves 5-7 for Year 2, and waves 8-10 for Year 3.

scheduled loan payments (interest plus minimum repayments of principle) as a

share of available income (Bucks et al. 2009). This measure of debt burden is an

important advantage of the SCF, despite its smaller sample than the SIPP.

The outcome of interest in the analysis of SCF data is the household debt

burden, which is also referred to as the payment-to-income ratio. Since families may

use different kinds of debt in response to change in income, after analyzing the total

debt burden from all sources of debt. I then separately consider the debt burden

from mortgage debt and the debt burden from non-mortgage debt. The distinction

between these categories of debt is described in the preceding section.

As with the SIPP analysis, the main predictor in the SCF analysis is the sum of

income from means-tested social assistance and the EITC. The SCF measure includes

TANF, food stamps, SSI and other forms of means-tested social assistance. The SCF

also does not collect information on the EITC. As with the SIPP analysis, estimated

values of the federal EITC are calculated for each household with the TAXSIM

program. Because the SCF does not provide the state of residence, the state EITC

cannot be estimated. Of the states that offer their own EITC, many define the value

of the credit as a percentage of the federal EITC amount for which the filer qualifies.

Changes in a household's federal EITC amount should track very closely with its

state EITC amount. This sample is also restricted to households whose heads are

between the ages of 20 and 63. The resulting sample includes 2,817 households.

A. SIPP analysis: Effects of social assistance on the amount of debt

Table 2.4 presents descriptive statistics on the samples used in the analysis

of SIPP data. By restricting the analysis to households that were interviewed in each of the waves for the relevant time period (i.e. the first through sixth waves for the 2004 panel; the second through tenth wave for the 2008 panel), it is important to note that the samples favor families that are stable throughout that period. This may be reflected in the income distribution of the samples. In each of the panels, the samples are skewed toward families at the higher end of the income distribution, with more families in the top income quartile than the bottom income quartile.

Table 2.4. Summary statistics: SIPP 2004 and 2008.

	SIPP 2004		SIPP 2008		
	Year 1	Year 2	Year 1	Year 2	Year 3
Total debt (2010 $)	98,769	102,860	108,977	102,210	97,191
Secured debt	88,015	91,918	94,973	91,942	87,586
Unsecured debt	10,753	10,942	14,004	10,268	9,605
Earned income	65,199	64,771	63,362	62,012	61,097
Total wealth	230,981	252,166	218,739	213,722	215,133
Age	43.1	44.2	44.5	45.5	46.5
Employed (%)	78.3	77.7	76.8	75.7	75.0
Homeowner (%)	70.0	71.0	70.0	70.5	70.4
Health insurance (%)	77.9	77.9	73.7	72.8	72.8
Household size	2.8	2.8	2.8	2.8	2.8
Married (%)	57.6	58.1	56.7	57.2	57.5
No liquid assets (%)	13.1	12.1	14.0	16.1	13.2
Received transfer income (%)	9.5	9.4	9.4	9.3	9.5
Amount (2010 $)	5,922	6,807	6,563	6,857	6,898
Received EITC (%)	17.4	18.2	20.8	21.1	20.8
Amount (2010 $)	1,866	1,873	2,154	2,071	2,036
Income quartile					
Below 25th percentile	19.0	18.4	19.0	19.5	19.5
25-49.9 percentile	22.6	22.9	22.7	22.8	22.4
50-74.9 percentile	28.0	27.7	26.6	26.7	26.7
Above 75th percentile	30.4	30.9	31.8	31.0	31.4
Race					
White		73.8		71.8	
Black		12.1		11.7	
Hispanic		8.0		10.1	
Asian		2.7		3.5	
Other		3.5		2.9	
N		20,759		13,996	

The samples for each panel are very similar in most respects. On average, unsecured debt accounts for approximately 10 percent of total debt, with the rest made up by secured debt, including home mortgages. Just under 10 percent of families receive some income from means-tested cash transfers, as defined by the

SIPP, in each year of both panels. Roughly one-fifth of families are estimated to qualify for the EITC in each year. A higher share of families in the 2008 panel qualify for the EITC than in the 2004 panel, which may reflect the expansion of the program over time as well as the increase in families whose lower income during the economic downturn qualified them for the EITC (Moffitt 2013).

The following fixed-effects model is used to estimate the responsiveness of household debt to income from means-tested social programs:

$$\ln Y_{it} = a_{it} + \beta(\ln X_{it}) + \delta(Z_{it}) + \rho_t + \gamma_i + \varepsilon_{it} \qquad (2.1)$$

using panel data on households i (i=1,...,N) observed at time points t. The dependent variable is the log transformation of the debt amount, Y_{it}.[4] The analysis first estimates the model for total debt then separately estimates the model with secured debt and unsecured debt as the dependent variable. The main predictor is the log of combined income from means-tested social programs and the imputed household EITC. Z_{it} is a vector of economic and demographic controls that vary across households and over time, including earned income, wealth, age, employment status, whether the household owns its home, whether the head of the household has health insurance, the size of the household, and the marital status of the household head. The basic model is expanded to include interactions of social assistance income with race, income group, and whether the household owns any liquid assets. Period terms or year effects are represented by ρ_t, and γ_i is the household fixed effect. The dollar amounts have been adjusted to 2010 dollar

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[4] Households that report zero debt are assigned a value of 1; the dependent variable, the log of the debt amount, then equals zero for these households.

values.

Results for the models estimating total household debt using data from the SIPP 2004 panel are shown in Table 2.5a. In the basic model, the estimated coefficient on the sum of transfer income and the imputed EITC is significant and negative. This suggests that higher levels of social assistance are associated with lower levels of debt, controlling for various economic and demographic variables. The estimated coefficients on the controls are consistent with expectations. For example, homeownership has a large positive effect on total debt, and household size is also positively associated with total debt. The second model adds interactions for race on the measure of transfer income. The results estimate a significant, negative relationship between transfer income and total debt for black families; the coefficient for white families (i.e. the reference group) is not significant. The third model adds interactions for income groups to the basic model, none of which are significant. The fourth model adds an interaction for households with no liquid assets to the basic model. While the coefficient on the indicator variable suggests that these families have significantly less debt than other families, the model does not suggest that the relationship between transfer income and debt is significantly different for families with no liquid assets. In the full model that includes all interaction terms, the relationship between social assistance income and total debt remains significant and negative for black families, even when controlling for income group and ownership of liquid assets.

Table 2.5a. Fixed-effects models of Total Household Debt, SIPP 2004.

	(1)	(2)	(3)	(4)	(5)
Transfer income/EITC (log)	-0.034**	-0.020	-0.021	-0.032**	0.000
	(0.012)	(0.014)	(0.021)	(0.012)	(0.024)
Year 2	-0.053	-0.053	-0.053	-0.056	-0.057
	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)
Earned income (log)	0.063**	0.065**	0.056**	0.060**	0.054**
	(0.019)	(0.019)	(0.021)	(0.019)	(0.021)
Age	0.091	0.089	0.087	0.086	0.080
	(0.109)	(0.109)	(0.109)	(0.108)	(0.108)
Age-square	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Employed	0.306**	0.312**	0.304**	0.289**	0.292**
	(0.097)	(0.097)	(0.097)	(0.097)	(0.097)
Homeowner	3.157**	3.164**	3.153**	3.121**	3.123**
	(0.167)	(0.167)	(0.167)	(0.166)	(0.166)
Health insurance	-0.145	-0.144	-0.144	-0.164	-0.161
	(0.106)	(0.106)	(0.106)	(0.106)	(0.106)
Household size	0.308**	0.308**	0.302**	0.293**	0.287**
	(0.041)	(0.041)	(0.042)	(0.041)	(0.041)
Married	0.443**	0.445**	0.433**	0.422*	0.413*
	(0.165)	(0.165)	(0.166)	(0.164)	(0.165)
Total wealth	-0.000+	-0.000+	-0.000+	-0.000+	-0.000+
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Black x Transfer income		-0.082*			-0.081*
		(0.035)			(0.035)
Hispanic x Transfer income		-0.003			-0.004
		(0.040)			(0.040)
Asian x Transfer income		0.049			0.045
		(0.092)			(0.092)
Other race x Transfer income		-0.033			-0.036
		(0.053)			(0.052)
Income quartile 2			0.062		0.072
			(0.149)		(0.150)
Income quartile 3			0.107		0.133
			(0.163)		(0.164)
Income quartile 4			0.259		0.286
			(0.179)		(0.180)
2nd quartile x Transfer income			-0.012		-0.016
			(0.023)		(0.023)
3rd quartile x Transfer income			-0.017		-0.022
			(0.030)		(0.030)
4th quartile x Transfer income			-0.032		-0.043
			(0.036)		(0.036)
Owns no liquid assets				-0.663**	-0.662**
				(0.131)	(0.133)
No liquid assets x Transfer income				-0.012	-0.011
				(0.022)	(0.023)
Constant	2.299	2.300	2.360	2.698	2.754
	(2.658)	(2.657)	(2.655)	(2.639)	(2.635)
N (household-years)	41,438	41,438	41,438	41,438	41,438
N (households)	20,719	20,719	20,719	20,719	20,719

Table 2.5b presents results for models estimating only secured debt, rather than total household debt. In the basic model, the estimated coefficient on transfer income is significant and negative. As expected, homeownership has a very large effect on secured debt, since home mortgages are a major component of secured debt. The second model adds interactions for race, and it does not find a significantly different coefficient of transfer income on secured debt between racial groups. In the third model, households in higher income quartiles have larger amounts of secured debt than those in lower income quartiles. This model estimates a significant negative relationship between transfer income and secured debt for the top income quartile; the interactions for the other income groups are not significant. It should be noted that in the sample from the 2004 SIPP panel, less than 5 percent of families in the top quartile report any transfer income or have positive imputed values of the EITC in either year analyzed here. By comparison, 72 percent of families in the bottom income quartile report receiving some transfer income or have positive imputed values of the EITC. In the fourth model, families with no liquid assets have lower amounts of secured debt, but the relationship between transfer income and secured debt is not significantly different for these families.

Table 2.5b. Fixed-effects models of Secured Debt, SIPP 2004.

	(1)	(2)	(3)	(4)	(5)
Transfer income/EITC (log)	-0.037**	-0.037*	-0.002	-0.035**	0.004
	(0.013)	(0.016)	(0.021)	(0.014)	(0.024)
Year 2	-0.030	-0.030	-0.031	-0.032	-0.033
	(0.048)	(0.048)	(0.048)	(0.048)	(0.048)
Earned income (log)	0.058**	0.058**	0.037+	0.056**	0.036+
	(0.019)	(0.019)	(0.020)	(0.019)	(0.020)
Age	0.113	0.113	0.106	0.111	0.104
	(0.114)	(0.114)	(0.114)	(0.114)	(0.114)
Age-square	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Employed	0.259*	0.259*	0.254*	0.249*	0.246*
	(0.104)	(0.104)	(0.104)	(0.104)	(0.104)
Homeowner	5.101**	5.100**	5.090**	5.081**	5.070**
	(0.198)	(0.198)	(0.198)	(0.198)	(0.198)
Health insurance	-0.066	-0.066	-0.070	-0.076	-0.080
	(0.112)	(0.112)	(0.112)	(0.111)	(0.112)
Household size	0.197**	0.197**	0.185**	0.189**	0.177**
	(0.048)	(0.048)	(0.049)	(0.048)	(0.048)
Married	0.495**	0.497**	0.476*	0.484*	0.467*
	(0.190)	(0.191)	(0.191)	(0.190)	(0.190)
Total wealth	-0.000+	-0.000+	-0.000+	-0.000+	-0.000+
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Black x Transfer income		0.007			0.003
		(0.037)			(0.037)
Hispanic x Transfer income		-0.007			-0.007
		(0.040)			(0.040)
Asian x Transfer income		0.031			0.029
		(0.107)			(0.107)
Other race x Transfer income		-0.018			-0.021
		(0.058)			(0.059)
Income quartile 2			0.265+		0.264+
			(0.154)		(0.155)
Income quartile 3			0.422*		0.426*
			(0.172)		(0.174)
Income quartile 4			0.582**		0.587**
			(0.190)		(0.193)
2nd quartile x Transfer income			-0.026		-0.027
			(0.023)		(0.023)
3rd quartile x Transfer income			-0.039		-0.041
			(0.031)		(0.032)
4th quartile x Transfer income			-0.077*		-0.080*
			(0.036)		(0.036)
Owns no liquid assets				-0.356**	-0.322*
				(0.135)	(0.137)
No liquid assets x Transfer income				-0.008	-0.016
				(0.021)	(0.021)
Constant	-0.140	-0.140	-0.091	0.076	0.116
	(2.750)	(2.750)	(2.739)	(2.741)	(2.731)
N (household-years)	41,438	41,438	41,438	41,438	41,438
N (households)	20,719	20,719	20,719	20,719	20,719

Table 2.5c presents results for models estimating only unsecured debt, using the 2004 panel of the SIPP. In the basic model, the estimated overall effect of transfer income is negative but not significant. Unlike the models of secured debt, homeownership does not have a significant relationship with unsecured debt, which is consistent with expectations. When considering differences between racial groups, the results from the second model show that there is a significant negative relationship between transfer income and unsecured debt for black families in particular. This estimated significant negative coefficient remains in the full model, even when also controlling for income groups and ownership of liquid assets.

Table 2.5c. Fixed-effects models of Unsecured Debt, SIPP 2004.

	(1)	(2)	(3)	(4)	(5)
Transfer income/EITC (log)	-0.009	0.015	-0.018	-0.009	0.004
	(0.014)	(0.017)	(0.021)	(0.014)	(0.025)
Year 2	-0.161**	-0.162**	-0.161**	-0.164**	-0.165**
	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)
Earned income (log)	0.035+	0.037+	0.035+	0.031	0.033
	(0.019)	(0.019)	(0.020)	(0.019)	(0.021)
Age	0.061	0.060	0.062	0.056	0.057
	(0.120)	(0.120)	(0.120)	(0.120)	(0.120)
Age-square	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Employed	0.295**	0.302**	0.295**	0.276**	0.282**
	(0.106)	(0.106)	(0.106)	(0.106)	(0.106)
Homeowner	0.066	0.073	0.070	0.030	0.039
	(0.177)	(0.177)	(0.177)	(0.177)	(0.177)
Health insurance	-0.207+	-0.206+	-0.210+	-0.225+	-0.226+
	(0.120)	(0.119)	(0.120)	(0.119)	(0.119)
Household size	0.506**	0.506**	0.506**	0.492**	0.490**
	(0.056)	(0.056)	(0.056)	(0.056)	(0.056)
Married	0.362+	0.366+	0.366+	0.339	0.347+
	(0.208)	(0.208)	(0.208)	(0.208)	(0.208)
Total wealth	-0.000**	-0.000**	-0.000**	-0.000**	-0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Black x Transfer income		-0.096*			-0.091*
		(0.038)			(0.039)
Hispanic x Transfer income		-0.039			-0.042
		(0.041)			(0.041)
Asian x Transfer income		0.035			0.035
		(0.079)			(0.079)
Other race x Transfer income		-0.086			-0.087
		(0.062)			(0.062)
Income quartile 2			0.047		0.039
			(0.155)		(0.156)
Income quartile 3			-0.054		-0.049
			(0.175)		(0.177)
Income quartile 4			-0.013		-0.007
			(0.199)		(0.201)
2nd quartile x Transfer income			0.002		0.002
			(0.024)		(0.024)
3rd quartile x Transfer income			0.021		0.019
			(0.034)		(0.035)
4th quartile x Transfer income			0.040		0.034
			(0.047)		(0.048)
Owns no liquid assets				-0.735**	-0.771**
				(0.140)	(0.142)
No liquid assets x Transfer income				0.005	0.015
				(0.023)	(0.024)
Constant	2.202	2.174	2.194	2.620	2.593
	(2.926)	(2.925)	(2.921)	(2.931)	(2.925)
N (household-years)	41,438	41,438	41,438	41,438	41,438
N (households)	20,719	20,719	20,719	20,719	20,719

I use the same model to analyze household data from the 2008 panel of the SIPP. Table 2.6a presents results from estimating models of total household debt using this more recent SIPP data. In the basic model, the estimated coefficient on transfer income is negative and nearly significant (p=0.07). The coefficients on homeownership and the other controls have the expected signs and are comparable to the estimates from the 2004 panel. In the other models with interactions for race and income groups, the estimated effects are not significant. Unlike the estimates from the 2004 panel, the year effects are significantly negative. Since this panel was administered in the recession period after the financial crisis, the restricted availability of credit in lending markets may explain the declining levels of debt from year to year, controlling for other variables. It may also be the case that these period effects were the dominant factors influence household finance and that the change in debt from year to year was not as sensitive to changes in transfer income.

Table 2.6a. Fixed-effects models of Total Household Debt, SIPP 2008.

	(1)	(2)	(3)	(4)	(5)
Transfer income/EITC (log)	-0.019+	-0.014	0.004	-0.012	0.021
	(0.010)	(0.013)	(0.019)	(0.011)	(0.021)
Year 2	-0.168**	-0.168**	-0.167**	-0.152**	-0.151**
	(0.057)	(0.057)	(0.057)	(0.056)	(0.056)
Year 3	-0.231*	-0.231*	-0.230*	-0.238*	-0.236*
	(0.100)	(0.100)	(0.101)	(0.099)	(0.099)
Earned income (log)	0.059**	0.059**	0.045**	0.055**	0.041**
	(0.015)	(0.015)	(0.016)	(0.014)	(0.016)
Age	0.200*	0.200*	0.199*	0.200*	0.198*
	(0.091)	(0.091)	(0.091)	(0.090)	(0.090)
Age-square	-0.003**	-0.003**	-0.003**	-0.003**	-0.003**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Employed	0.121	0.120	0.120	0.090	0.089
	(0.088)	(0.088)	(0.088)	(0.087)	(0.087)
Homeowner	3.432**	3.431**	3.430**	3.393**	3.391**
	(0.167)	(0.167)	(0.167)	(0.166)	(0.167)
Health insurance	-0.002	-0.000	-0.009	-0.023	-0.029
	(0.094)	(0.094)	(0.094)	(0.094)	(0.094)
Household size	0.260**	0.260**	0.254**	0.250**	0.245**
	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)
Married	0.615**	0.614**	0.608**	0.584**	0.576**
	(0.146)	(0.146)	(0.147)	(0.146)	(0.146)
Total wealth	-0.000**	-0.000**	-0.000**	-0.000**	-0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Black x Transfer income		-0.028			-0.027
		(0.032)			(0.032)
Hispanic x Transfer income		-0.008			0.000
		(0.028)			(0.028)
Asian x Transfer income		0.031			0.022
		(0.064)			(0.064)
Other race x Transfer income		-0.012			-0.011
		(0.062)			(0.062)
Income quartile 2			0.308*		0.325*
			(0.143)		(0.144)
Income quartile 3			0.278+		0.305+
			(0.155)		(0.156)
Income quartile 4			0.349*		0.379*
			(0.169)		(0.170)
2nd quartile x Transfer income			-0.036+		-0.042+
			(0.022)		(0.022)
3rd quartile x Transfer income			-0.028		-0.038
			(0.026)		(0.026)
4th quartile x Transfer income			0.037		0.026
			(0.034)		(0.034)
Owns no liquid assets				-0.700**	-0.691**
				(0.121)	(0.122)
No liquid assets x Transfer income				-0.026	-0.028
				(0.019)	(0.020)
Constant	1.263	1.279	1.216	1.535	1.497
	(2.717)	(2.716)	(2.718)	(2.688)	(2.689)

Table 2.6a (continued)

	(1)	(2)	(3)	(4)	(5)
N (household-years)	41,880	41,880	41,880	41,880	41,880
N (households)	13,960	13,960	13,960	13,960	13,960

Robust standard errors in parentheses
** p<0.01, * p<0.05, + p<0.1

Table 2.6b presents results for models estimating only secured debt using data from the 2008 panel. In the basic model, the estimated overall effect of transfer income on secured debt is negative and significant. The second model also estimates a significant negative effect that is not significantly different across racial groups. The fourth model also estimates a significant negative effect that is not significantly different for households that do not own liquid assets. These estimates from models of secured debt with the 2008 panel are similar to the results from the 2004 panel.

Table 2.6b. Fixed-effects models of Secured Debt, SIPP 2008.

	(1)	(2)	(3)	(4)	(5)
Transfer income/EITC (log)	-0.028**	-0.028*	-0.005	-0.023*	0.004
	(0.011)	(0.013)	(0.017)	(0.011)	(0.021)
Year 2	-0.111+	-0.110+	-0.109+	-0.102+	-0.100+
	(0.058)	(0.058)	(0.059)	(0.058)	(0.059)
Year 3	-0.239*	-0.236*	-0.239*	-0.243*	-0.240*
	(0.102)	(0.102)	(0.103)	(0.102)	(0.103)
Earned income (log)	0.051**	0.052**	0.030*	0.050**	0.028+
	(0.014)	(0.014)	(0.015)	(0.014)	(0.015)
Age	0.250**	0.250**	0.246**	0.250**	0.246**
	(0.093)	(0.093)	(0.093)	(0.093)	(0.093)
Age-square	-0.003**	-0.003**	-0.003**	-0.003**	-0.003**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Employed	0.084	0.084	0.081	0.067	0.063
	(0.092)	(0.092)	(0.092)	(0.091)	(0.091)
Homeowner	5.443**	5.442**	5.436**	5.421**	5.413**
	(0.200)	(0.200)	(0.200)	(0.200)	(0.200)
Health insurance	0.038	0.039	0.024	0.026	0.013
	(0.095)	(0.095)	(0.095)	(0.095)	(0.095)
Household size	0.190**	0.190**	0.176**	0.185**	0.171**
	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)
Married	0.573**	0.572**	0.542**	0.556**	0.522**
	(0.155)	(0.155)	(0.155)	(0.155)	(0.155)
Total wealth	-0.001**	-0.001**	-0.001**	-0.001**	-0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Black x Transfer income		-0.011			-0.013
		(0.029)			(0.030)
Hispanic x Transfer income		-0.007			-0.002
		(0.032)			(0.032)
Asian x Transfer income		0.090			0.087
		(0.068)			(0.068)
Other race x Transfer income		-0.011			-0.011
		(0.069)			(0.069)
Income quartile 2			0.292*		0.308*
			(0.138)		(0.140)
Income quartile 3			0.435**		0.460**
			(0.153)		(0.156)
Income quartile 4			0.586**		0.612**
			(0.169)		(0.171)
2nd quartile x Transfer income			-0.014		-0.019
			(0.020)		(0.020)
3rd quartile x Transfer income			-0.025		-0.032
			(0.026)		(0.027)
4th quartile x Transfer income			0.017		0.010
			(0.036)		(0.037)
Owns no liquid assets				-0.378**	-0.364**
				(0.118)	(0.120)
No liquid assets x Transfer income				-0.019	-0.022
				(0.018)	(0.019)
Constant	-2.731	-2.713	-2.738	-2.581	-2.579
	(2.729)	(2.725)	(2.743)	(2.726)	(2.736)

Table 2.6b (continued)

	(1)	(2)	(3)	(4)	(5)
N (household-years)	41,880	41,880	41,880	41,880	41,880
N (households)	13,960	13,960	13,960	13,960	13,960

Robust standard errors in parentheses
** p<0.01, * p<0.05, + p<0.1

Table 2.6c presents results for models estimating only unsecured debt, using the 2008 panel of the SIPP. In the basic model, the estimated overall effect is not significant. In the second model, with interactions for race, the estimated effect for black families is negative and nearly significant (p=0.07). The estimated effect for black families persists in the full model, even when incorporating interactions for income group and ownership of liquid assets. These results are substantively similar to the results from the models estimating unsecured debt on data from the 2004 panel, although the estimated effects for the 2008 panel are not quite significant at the .05 level. As with the models of total debt described above, the period effects in these models are significantly negative, which may dominate the year-to-year changes in unsecured debt and mute the sensitivity to changes in transfer income during that period.

Table 2.6c. Fixed-effects models of Unsecured Debt, SIPP 2008.

	(1)	(2)	(3)	(4)	(5)
Transfer income/EITC (log)	0.001	0.021	-0.005	0.005	0.022
	(0.012)	(0.015)	(0.019)	(0.012)	(0.022)
Year 2	-0.389**	-0.390**	-0.388**	-0.370**	-0.370**
	(0.055)	(0.054)	(0.055)	(0.054)	(0.054)
Year 3	-0.529**	-0.532**	-0.528**	-0.536**	-0.538**
	(0.087)	(0.087)	(0.087)	(0.086)	(0.085)
Earned income (log)	0.037*	0.038**	0.033*	0.033*	0.029+
	(0.014)	(0.014)	(0.016)	(0.014)	(0.016)
Age	-0.055	-0.057	-0.055	-0.055	-0.058
	(0.082)	(0.082)	(0.082)	(0.081)	(0.081)
Age-square	0.000	0.000	0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Employed	0.120	0.121	0.120	0.086	0.087
	(0.095)	(0.095)	(0.095)	(0.095)	(0.095)
Homeowner	0.369*	0.369*	0.369*	0.325*	0.325*
	(0.158)	(0.158)	(0.158)	(0.157)	(0.157)
Health insurance	0.172+	0.175+	0.168+	0.147	0.147
	(0.101)	(0.101)	(0.101)	(0.101)	(0.101)
Household size	0.438**	0.438**	0.433**	0.426**	0.422**
	(0.051)	(0.051)	(0.051)	(0.050)	(0.050)
Married	0.647**	0.651**	0.650**	0.612**	0.618**
	(0.181)	(0.181)	(0.182)	(0.180)	(0.181)
Total wealth	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Black x Transfer income		-0.064+			-0.061+
		(0.035)			(0.035)
Hispanic x Transfer income		-0.031			-0.027
		(0.032)			(0.031)
Asian x Transfer income		-0.108			-0.120+
		(0.070)			(0.070)
Other race x Transfer income		-0.084			-0.082
		(0.061)			(0.060)
Income quartile 2			0.146		0.151
			(0.145)		(0.146)
Income quartile 3			-0.007		0.006
			(0.163)		(0.164)
Income quartile 4			0.116		0.132
			(0.183)		(0.185)
2nd quartile x Transfer income			-0.008		-0.012
			(0.022)		(0.022)
3rd quartile x Transfer income			0.017		0.009
			(0.029)		(0.029)
4th quartile x Transfer income			0.061		0.052
			(0.042)		(0.042)
Owns no liquid assets				-0.855**	-0.880**
				(0.118)	(0.119)
No liquid assets x Transfer income				-0.013	-0.007
				(0.019)	(0.019)
Constant	5.023*	5.053*	5.022*	5.345*	5.381*
	(2.167)	(2.163)	(2.168)	(2.131)	(2.127)

Table 2.6c (continued)

	(1)	(2)	(3)	(4)	(5)
N (household-years)	41,880	41,880	41,880	41,880	41,880
N (households)	13,960	13,960	13,960	13,960	13,960

Robust standard errors in parentheses
** p<0.01, * p<0.05, + p<0.1

B. SCF analysis: Effects of social assistance on debt burden

This section expands the analysis by considering the actual debt burden

faced by families, rather than simply the dollar amount of their debt. The Survey of

Consumer Finances collects detailed data on debt payments for various types of

debt and constructs a measure of debt burden that represents these debt payments

as a share of household income. A comparable measure of debt burden cannot be

calculated from SIPP data, since it does not collect information about debt

payments.

The sample is comprised of families who were interviewed in the 2007 SCF

and were re-interviewed in the 2009 follow-up to the 2007 survey. Descriptive

statistics of the sample drawn from the 2007-09 SCF panel are presented in Table

2.7. A notable difference between 2007 and 2009 is the large increase in mean

family debt burden. These average values are heavily influenced by outliers with

very high debt burdens. When excluding the top one percent of families by total debt

burden, the mean ratio of debt payments to income increases from 17.7 percent in

2007 to 21.8 in 2009 (not shown in table). For debt burden from mortgage-related

debt, when excluding the top one percent of families in each year, the mean ratio

increases from 11.2 percent in 2007 to 14.2 percent in 2009. For non-mortgage

debt, excluding the top one percent produces an increase in the mean ratio from 6.1

percent to 6.5 percent. While the mean debt burden is substantially lower when

excluding outliers, the burden of debt payments on all debt, mortgage-related debt,

and non-mortgage debt all increased from 2007 to 2009.

Table 2.7. Summary statistics: Survey of Consumer Finances, 2007-09 Panel.

	2007	2009
Ratio of total debt payments to income (x100)	39.2	81.8
Mortgage	26.3	61.0
Non-mortgage	12.9	20.9
Earned income (2009 $)	160,561	127,312
Age	44.4	46.5
Employed (%)	88.0	83.1
Homeowner (%)	71.3	73.1
Health insurance (%)	86.0	86.3
Household size	3.0	3.0
Married (%)	69.1	63.7
No liquid assets (%)	6.5	6.6
Received transfer income (%)	8.2	9.9
Amount (2009 $)	5,265	4,823
Received EITC (%)	17.8	18.7
Amount (2009 $)	2,010	2,470
Income quartile		
Below 25th percentile	15.4	16.8
25-49.9 percentile	19.1	19.2
50-74.9 percentile	21.6	21.5
Above 75th percentile	43.9	42.5
Race		
White		76.0
Black		10.9
Hispanic		8.2
Other		4.8
N		2,817

The SCF over-samples wealthy households in an effort to maximize the

accuracy of its data on household assets and liabilities, since wealth is heavily

concentrated at the top of the distribution (Kennickell 2007). The disproportionate

representation of families in the top income quartile is likely a combination of over-

sampling wealthy households in the SCF and my restricting the sample to

households that were interviewed in both years, which may favor more stable

households.

The official measure of income from means-tested social assistance in the

SCF represents the combined income from TANF, food stamps, SSI, and other forms

of means-tested social assistance. This measure is defined slightly differently in the

SCF than in the SIPP, which includes only means-tested cash transfers (i.e. food

stamps, an in-kind form of social assistance, is included in the SCF measure of social

assistance, but is excluded in the official SIPP measure). The impact of the economic

recession may be reflected in the decline in average household earned income and

the drop in employment from 2007 to 2009. A greater share of households receives

some transfer income or are estimated to receive the EITC in 2009 than in 2007.

This analysis estimates a fixed-effects model similar to the model in the

preceding analysis of SIPP data:

$$Y_{it} = a_{it} + \beta(\ln X_{it}) + \delta(Z_{it}) + \rho_t + \gamma_i + \varepsilon_{it} \qquad (2.2)$$

The dependent variable, Y_{it}, is the ratio of debt payments to income of household *i* in

year *t*. The analysis first estimates the model for the debt burden of debt from all

sources combined then separately estimates the model for the debt burden from

mortgage-related debt and non-mortgage debt. The main predictor is the log of

combined income from means-tested social programs and the imputed household

EITC. Z_{it} is a vector of economic and demographic controls that vary across households and over time, including earned income, wealth, age, employment status, whether the household owns its home, whether the head of the household has health insurance, the size of the household, and the marital status of the household head. The basic model is expanded to include interactions of social assistance income with race, income group, and whether the household owns any liquid assets. Period terms or year effects are represented by ρ_t, and γ_i is the household fixed effect. The dollar amounts have been adjusted to 2009 dollar values.

Results for the models estimating total debt burden are shown in Table 2.8a. In the basic model, the estimated coefficient on transfer income is significant and negative. When controlling for the set of economic and demographic variables, more transfer income corresponds to a significantly lower debt burden. The second model adds interactions for race on the measure of transfer income. The results show a significant negative coefficient for the white families (i.e. the reference group), and the relationship between transfer income and debt burden is not estimated to be significantly different for other racial groups. The third model adds interactions for income groups. For the lowest income quartile, the estimated relationship between transfer income and debt burden is significant and negative. The estimates for the two middle income quartiles are also significant and negative, but the magnitudes of the estimated coefficients are smaller than for the bottom income quartile. The estimated coefficient of transfer income is significant and positive for the top income quartile. In the SCF sample, less than 7 percent of families in the top income

quartile report any transfer income or have positive imputed values of the EITC in either year. By comparison, 76 percent of families in the bottom income quartile receive transfer income or the EITC in either year. These significant coefficients for the income group interactions remain significant in the full model, which also includes interactions for race and ownership of liquid assets.

Table 2.8a. Fixed-effects models of debt burden – Total debt, SCF 2007-09.

	(1)	(2)	(3)	(4)	(5)
Transfer income/EITC (log)	-6.440*	-7.083*	-58.276**	-6.246*	-61.979**
	(2.777)	(3.232)	(14.792)	(2.744)	(15.833)
Year 2009	2.563	2.183	1.686	2.145	0.968
	(10.252)	(10.268)	(10.289)	(10.232)	(10.226)
Other income (log)	-94.928**	-94.941**	-65.480**	-95.432**	-65.846**
	(24.304)	(24.312)	(19.565)	(24.416)	(19.652)
Age	-14.268	-14.255	0.353	-13.508	1.251
	(11.730)	(11.737)	(11.473)	(11.691)	(11.454)
Age-squared	0.259+	0.260+	0.104	0.249+	0.094
	(0.146)	(0.146)	(0.141)	(0.145)	(0.140)
Employed	70.435*	70.343*	55.667+	70.817*	53.786+
	(33.466)	(33.608)	(30.255)	(33.552)	(30.244)
Homeowner	-7.391	-7.371	13.257	-2.858	15.364
	(17.832)	(17.804)	(19.336)	(17.425)	(18.954)
Health insurance	-23.918+	-23.674+	-10.193	-26.473+	-14.634
	(14.218)	(14.225)	(14.146)	(14.404)	(14.556)
Household size	39.543+	39.567+	48.028*	38.890+	47.205*
	(20.616)	(20.623)	(21.198)	(20.506)	(21.012)
Married	20.626	20.750	69.224**	19.078	71.858**
	(18.484)	(18.531)	(20.516)	(18.623)	(20.834)
Total assets (log)	18.039**	17.927**	19.812**	15.891*	17.818**
	(6.657)	(6.677)	(6.474)	(6.325)	(6.098)
Black x Transfer income		0.576			8.770
		(5.077)			(6.891)
Hispanic x Transfer income		4.037			1.039
		(4.385)			(5.087)
Other race x Transfer income		-2.363			-15.804+
		(5.347)			(9.280)
Income quartile 2			-478.415**		-486.215**
			(106.451)		(108.177)
Income quartile 3			-605.308**		-612.343**
			(131.593)		(133.182)
Income quartile 4			-805.957**		-813.842**
			(174.436)		(176.273)
2nd quartile x Transfer income			52.305**		54.400**
			(13.053)		(13.515)
3rd quartile x Transfer income			50.647**		54.341**
			(15.262)		(16.086)
4th quartile x Transfer income			67.450**		70.739**
			(18.646)		(19.492)
Owns no liquid assets				-75.275+	-123.922*
				(43.074)	(55.717)
No liquid assets x Transfer income				2.028	12.823+
				(5.625)	(6.942)
Constant	814.826**	813.001**	682.427*	838.860**	707.212*
	(289.064)	(289.005)	(282.241)	(293.209)	(285.177)
N (household-years)	5,634	5,634	5,634	5,634	5,634
N (households)	2,817	2,817	2,817	2,817	2,817

Table 2.8b presents results from the models estimating the debt burden only from mortgage-related debt. These results are similar to the models of total debt burden. In the basic model, the estimated overall effect of transfer income on mortgage-related debt burden is significant and negative. In the second model, with interactions for race, the estimated coefficient for white families is nearly significant (p=0.06), and the estimates for other racial groups are not significantly different. Including interactions for income groups in the third model produces a significant and negative estimated coefficient on transfer income for the bottom income quartile. The estimates for the middle two income quartiles are also significant and negative, but the magnitude of the estimated effect is smaller than for the bottom income quartile. The significant estimated effects for the income group interactions remain in the full model.

Table 2.8b. Fixed-effects models of debt burden – Mortgage debt, SCF 2007-09.

	(1)	(2)	(3)	(4)	(5)
Transfer income/EITC (log)	-3.755*	-3.817+	-43.400**	-3.611*	-45.706**
	(1.749)	(2.044)	(11.077)	(1.740)	(11.829)
Year 2009	6.179	6.066	5.582	5.877	5.240
	(8.119)	(8.133)	(8.169)	(8.105)	(8.134)
Other income (log)	-68.931**	-68.935**	-46.064**	-69.297**	-46.297**
	(16.067)	(16.073)	(13.090)	(16.137)	(13.145)
Age	-7.516	-7.502	4.141	-6.965	4.812
	(10.084)	(10.087)	(10.279)	(10.100)	(10.300)
Age-squared	0.153	0.153	0.029	0.146	0.021
	(0.122)	(0.122)	(0.123)	(0.122)	(0.123)
Employed	43.854+	43.641+	32.451	44.135+	30.759
	(23.604)	(23.757)	(21.755)	(23.639)	(21.814)
Homeowner	0.628	0.644	17.207	3.918	18.686
	(13.227)	(13.193)	(14.695)	(12.951)	(14.400)
Health insurance	-16.028	-15.961	-5.099	-17.879+	-8.510
	(10.123)	(10.126)	(10.779)	(10.218)	(11.010)
Household size	22.764+	22.782+	29.537*	22.291+	28.955*
	(11.851)	(11.854)	(12.126)	(11.816)	(12.034)
Married	24.779	24.870	63.009**	23.650	65.197**
	(15.860)	(15.899)	(18.626)	(15.857)	(18.961)
Total assets (log)	13.194*	13.166*	14.576**	11.634*	13.223**
	(5.123)	(5.150)	(5.003)	(4.886)	(4.752)
Black x Transfer income		-0.180			6.021
		(3.660)			(5.097)
Hispanic x Transfer income		1.088			-1.497
		(3.065)			(3.801)
Other race x Transfer income		-2.025			-12.915+
		(3.815)			(7.110)
Income quartile 2			-362.882**		-368.936**
			(86.492)		(87.720)
Income quartile 3			-463.965**		-469.556**
			(107.436)		(108.634)
Income quartile 4			-626.469**		-632.693**
			(141.219)		(142.659)
2nd quartile x Transfer income			39.934**		41.579**
			(10.004)		(10.350)
3rd quartile x Transfer income			39.287**		42.013**
			(11.515)		(12.128)
4th quartile x Transfer income			50.229**		52.484**
			(14.562)		(15.199)
Owns no liquid assets				-54.454+	-91.387*
				(30.455)	(40.221)
No liquid assets x Transfer income				1.440	9.781+
				(4.030)	(5.145)
Constant	545.575**	544.789**	432.846*	563.032**	450.601*
	(208.499)	(208.477)	(206.104)	(209.950)	(206.510)
N (household-years)	5,634	5,634	5,634	5,634	5,634
N (households)	2,817	2,817	2,817	2,817	2,817

Table 2.8c presents results from models estimating the debt burden only from non-mortgage sources of debt, which includes consumer credit and revolving credit. These results are also similar to the preceding models of total debt burden and debt burden from mortgage-related debt. In the basic model, the estimated overall effect of transfer income on non-mortgage debt burden is negative and nearly significant (p=0.076). With interactions added for race in the second model, the estimated coefficient for white families is negative and nearly significant (p=0.07); the estimates for other racial groups are not significantly different. The third model adds interactions for income groups, and it estimates a significant and negative relationship between transfer income and non-mortgage debt burden for families in the bottom income quartile. The estimated effect for families in the second income quartile is also significant and negative, but the magnitude of the estimated effect is smaller than for the bottom income quartile. The estimated coefficients for these income groups remain significant in the full model.

Table 2.8c. Fixed-effects models of debt burden – Non-mortgage debt, SCF 2007-09.

	(1)	(2)	(3)	(4)	(5)
Transfer income/EITC (log)	-2.685+	-3.266+	-14.876*	-2.635+	-15.677*
	(1.514)	(1.799)	(7.287)	(1.502)	(7.591)
Year 2009	-3.616	-3.883	-3.897	-3.732	-4.057
	(3.860)	(3.881)	(3.864)	(3.854)	(3.885)
Other income (log)	-25.997+	-26.006+	-19.416+	-26.136+	-19.431+
	(13.471)	(13.475)	(10.845)	(13.540)	(10.846)
Age	-6.752	-6.753	-3.788	-6.543	-3.699
	(4.115)	(4.119)	(3.227)	(4.040)	(3.211)
Age-squared	0.106+	0.107+	0.075+	0.103+	0.075+
	(0.056)	(0.056)	(0.044)	(0.055)	(0.044)
Employed	26.581	26.703+	23.216	26.682	23.530
	(16.224)	(16.226)	(14.314)	(16.295)	(14.442)
Homeowner	-8.019	-8.015	-3.950	-6.776	-4.118
	(6.683)	(6.683)	(6.001)	(6.316)	(6.064)
Health insurance	-7.890	-7.712	-5.095	-8.595	-5.255
	(5.999)	(5.995)	(5.087)	(6.207)	(5.165)
Household size	16.779	16.786	18.490	16.599	18.492
	(11.690)	(11.694)	(12.281)	(11.607)	(12.285)
Married	-4.153	-4.120	6.215	-4.572	6.497
	(6.052)	(6.063)	(5.413)	(6.218)	(5.464)
Total assets (log)	4.845+	4.761+	5.236+	4.257	4.903+
	(2.858)	(2.858)	(2.905)	(2.655)	(2.835)
Black x Transfer income		0.755			2.686
		(1.825)			(2.428)
Hispanic x Transfer income		2.949+			2.692
		(1.743)			(1.891)
Other race x Transfer income		-0.338			-3.105
		(2.416)			(3.303)
Income quartile 2			-115.534*		-115.729*
			(46.186)		(46.396)
Income quartile 3			-141.343*		-141.495*
			(57.622)		(57.850)
Income quartile 4			-179.488*		-180.114*
			(78.781)		(79.232)
2nd quartile x Transfer income			12.371*		12.419*
			(6.128)		(6.190)
3rd quartile x Transfer income			11.360		11.776
			(7.278)		(7.488)
4th quartile x Transfer income			17.221+		17.693*
			(8.783)		(8.964)
Owns no liquid assets				-20.821	
				(15.432)	
No liquid assets x Transfer income				0.588	-0.576
				(1.726)	(0.860)
Constant	269.250+	268.212+	249.581+	275.828+	251.145+
	(138.946)	(138.888)	(133.148)	(142.134)	(133.880)
N (household-years)	5,634	5,634	5,634	5,634	5,634
N (households)	2,817	2,817	2,817	2,817	2,817

Discussion

The primary purpose of this chapter has been to combine macro- and micro-level analysis to understand the relationship between social assistance and debt in the lives of low-income families. The macro-level analysis in the first section of the chapter documents the increasing income inequality in recent decades and the diminished equalizing effects of government transfers and tax policy, the core elements of redistributive policy. While market income has become increasingly concentrated at the top of the income distribution, the reduction in inequality from transfers and tax policy has declined over this period. For government transfers, a smaller share of total transfer income has been directed to low-income families, which constrains the redistributive impact of transfer programs.

During this period of rising income inequality and diminished redistribution, there was enormous growth in household debt. While debt grew for families across the income distribution, the rise in debt was especially dramatic for low-income families. Debt levels increased more for families that received some social assistance income, and the growth in debt for black families also outpaced that of white families over this period.

The second section uses household-level data from the SIPP and SCF to examine the relationship between social assistance and debt in family finances. The analysis of SIPP data from the 2004 and 2008 panels provide empirical support for the hypothesis that there is a trade-off between social assistance income and the use of debt by households. In the 2004 panel, less social assistance income corresponds to higher amounts of total debt for the full sample of households. The amount of

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total debt is more sensitive to changes in social assistance income for black families compared to white families. The analysis suggests that less social assistance income corresponds to higher levels of both secured and unsecured debt. For secured debt, the relationship is significant for all families. In taking on unsecured debt, black families seem to be distinctly sensitive to changes in social assistance.

For the 2008 panel of the SIPP, the estimated relationship between transfer income and total debt is negative but not quite statistically significant at the .05 level. In the 2008 data, there is a significant tradeoff between transfer income and secured debt, which includes vehicle loans. The tradeoff between transfer income and unsecured debt is nearly significant for black families. In terms of the direction and estimated magnitudes of the tradeoffs between transfer income and total debt, secured debt, and unsecured debt, the results from the 2008 panel are similar to the results from the 2004 panel. In the 2008 panel, the year effects are significant and negative, pointing to significant drops in household debt following the financial crisis and during the recession. The models suggest that household debt fell in these years, even when controlling for other economic and demographic variables. To the extent that some of the estimated relationships between transfer income and debt are not statistically significant in the 2008 panel, the substantial period effects may account for some of the reduced sensitivity to changes in transfer income during this period. In both SIPP panels, the analysis does not show evidence of distinct effects of transfer income on debt between income groups.

The analysis of SCF panel data takes advantage of the data on the actual debt payments reported by households in that survey and examines whether the amount

of social assistance income has an effect on the burden of those debt payments

relative to the household's available income. The models estimate a significant

overall effect of transfer income on the measure of debt burden from all sources of

debt combined. This relationship is also significant when applying the model only to

the debt burden posed by mortgage-related debt. The estimated overall effect of

transfer income the debt burden posed by non-mortgage debt, which includes

revolving debt and consumer credit, is negative but not quite statistically significant.

When adding interactions with income groups, the estimated effect of transfer

income on non-mortgage debt burden is significant and negative for families in the

bottom income quartile. The analysis of SCF data does not find significant

differences between racial groups in the sensitivity to changes in transfer income,

but there are significant differences between income groups for each measure of

debt burden.

The argument that there is a tradeoff between social assistance income and

household debt is bolstered by the similar findings from the analysis of data from

multiple sources in several time periods. Comparing the results from the analysis of

SIPP and SCF data, the models generally estimate a significant negative relationship

between transfer income and household debt, particularly for total debt and

secured/mortgage-related debt. For unsecured debt, the analysis of SIPP data finds

a significant tradeoff specifically for black families. Unsecured debt in the SIPP is

similar to non-mortgage debt in the SCF. The analysis of SCF data finds a significant

tradeoff with non-mortgage debt specifically for low-income families.

One notable difference is that the analysis of SCF data consistently shows

that the estimated relationship between social assistance income and debt burden is significantly different between income groups in all three areas of debt (i.e. total debt, mortgage-related debt, and non-mortgage debt). The analysis of SIPP data does not consistently show significant differences between income groups. Since the analysis in this chapter examines a different debt measure for each survey, it may be that the relationship between transfer income and debt is different in important ways between income groups when considering the actual burden of debt payments as captured in the SCF, rather than the dollar amounts of debt as measured in the SIPP. Another possible interpretation is that the larger relative sample of high-income families in the SCF allows for more accurate estimates of income group differences in the relationship between transfer income and debt.

An important limitation of the analysis presented here is that it does not account for the possibility of differential selection of families into debt. In other words, families that are otherwise similar in terms of the economic and demographic characteristics included in the models may have different propensities to taking on debt. To the extent that their likelihood of taking on debt is related to some other factor not included in the models, the estimated relationships between transfer income and debt in this chapter may be biased.

While the analysis uses the official measures of means-tested social assistance as defined in each survey, these measures do not include all sources of social assistance intended for low-income families. I partly deal with this limitation by imputing estimated values of the EITC for each family in each year of the panel data, since the EITC has become a major source of income support for low-income

families. However, the data does not include other important social assistance programs such as Medicaid and Social Security Disability Insurance (SSDI).

The analysis here does recognize that families may use various types of debt in different ways, and it partly addresses this by distinguishing between secured and unsecured debt in the SIPP analysis and mortgage-related and non-mortgage debt in the SCF. This research is intended to investigate the broad relationship between transfer income and household debt. Future research could expand on the findings by disaggregating household debt into more specific categories.

This chapter examined macro-level changes in social assistance and household debt to derive hypotheses about the relationship between transfer income and debt for low-income families, and tested these hypotheses with household-level data from multiple sources collected at several points in time. The findings from this analysis generally support the argument that with less income from social assistance programs, low-income households have a greater demand for credit in other to access necessary economic resources. The observed debt levels of households are a function of both their demand for more debt and the willingness of lenders to supply credit to low-income households. The following chapter turns its attention to the policy factors that have shaped the supply and demand for debt among low-income families.

CHAPTER THREE

DEBT AS A SOCIAL WELFARE STRATEGY: THE ROLE OF STATE POLICY

This chapter takes a historical perspective in examining the role of government policy in establishing the use of credit as a private source of welfare, leading especially to the growing reliance on debt among low-income families. These outcomes have been the result of a convergence of several factors, all of which are marked by the central role of government policy. The expansion of credit as a response to the concerns of improving conditions of those who are marginalized from broader economic prosperity has early roots in policies to address the problems of rural residents in the early 20th century. Since then, government policy has been central in facilitating the expansion of credit, and government institutions have often created new markets for extending credit to broader segments of the population. I consider the timing of several macro-level processes and argue that government policy has been central in shaping the increased supply of credit (e.g. through the creation of government institutions and deregulation of lending) and demand for credit (e.g. through less redistributive policy and less generous social assistance).

Early roots

Although this study focuses on the welfare functions of debt in recent decades, the expansion of credit as a policy strategy to address the problems of rising inequality and economic marginalization has historical roots that extend back

more than a century. To address the conditions of American farmers who were not sharing the benefits of economic growth in an industrializing economy, Theodore Roosevelt appointed a commission to study "the general condition of farming life in the open country" and identify "ways in which the Government, National and State, may show the people how to solve some of these problems" (U.S. Senate 1909). The Country Life Commission made several recommendations in its final report, including the dissemination of more productive farming techniques, improving public education in rural areas, and strengthening the church as an institution of rural life. Its recommendation to expand access to credit for farmers, however, became the centerpiece of legislation and the most consequential legacy of the Commission.

The Federal Farm Loan Act (FFLA) of 1916 created government institutions that enabled farmers to borrow large loans based on the value of their property that would be paid off over long borrowing terms. The government also issued bonds backed by these loans, which could be bought and traded by private investors. Historical scholars have emphasized the FFLA for innovating and institutionalizing the amortized loan, which would be quickly standardized in the lending market (Quinn 2010).

Around this time, private businesses innovated and adopted the use of installment payments for large purchases, especially in the auto industry (Hyman 2011). The combination of new forms of lending and low interest rates led to a major expansion of consumer credit, particularly in the 1920s. The central role of government policy in facilitating the reliance on credit is an early example of using

the expansion of credit as a strategy to address distributional concerns and the

problems posed by segments of the population that were not benefiting from

broader economic gains (Rajan 2010).

New Deal and the expansion of credit

The Great Depression created the imperative to improve the overall economy

and reestablish the stability of financial markets. The construction industry was hit

especially hard by the downturn, as widespread unemployment diminished the

demand for new housing and banks faced the problems of foreclosures and loan

defaults. Since various segments of the economy depended on the housing market,

policymakers regarded homeownership as a viable strategy for producing the major

stimulus needed to revive the economy (Prasad 2012). Through a series of New Deal

policies, government action was central in innovating, investing, and regulating the

next major phase of expanding credit--specifically in the development and

standardization of home mortgages with long terms, fixed rates, and high loan-to-

value ratios (Immergluck 2009).

To deal directly with the problem of foreclosures, the government created

the Home Owners Loan Corporation (HOLC) in 1933 to take on defaulted mortgages

owned by banks and refinanced them into long-term, fixed-rate mortgages, which

decreased the monthly payments for borrowers. The Federal Housing

Administration (FHA) was established in 1934 to provide mortgage insurance to

lenders in case borrowers defaulted on their loans. Through the terms it established

for insurable mortgages, the FHA standardized the features of home mortgages:

they would have long terms of 20 to 30 years, fixed interest rates, and large loan amounts relative to the value of the home (i.e. low down payments). The Veterans Administration (VA) also became a player in the expansion of lending by guaranteeing mortgages. Between 1945 and 1956, VA-backed loans represented 35 percent of new mortgage flows (Immergluck 2009).

The government also created the Federal National Mortgage Association (FNMA, or Fannie Mae) to attract investment capital from investors outside of the housing market by purchasing mortgages and raising capital by issuing long-term bonds to investors. By creating a secondary market for mortgages, Fannie Mae increased the availability of liquid capital to the primary mortgage market, which could be used to make additional loans.

These New Deal policies achieved some key objectives that fundamentally reshaped homeownership in the U.S.: (i) increasing the supply of credit by creating new sources of capital; (ii) shielding lenders from the risk of loan defaults; and (iii) reducing the risk to borrowers by establishing and diffusing relatively low-risk and more affordable long-term loans. As intended, these institutions dramatically increased homeownership from under 45 percent in 1940s to more than 65 percent, which would become a new baseline in the postwar era.

While primarily crafted to stimulate a faltering economy and resurrect crippled financial markets, this strategy was based on the view that expanding access to credit should be a principal method of improving the welfare and well-being of American families. Through the creation of several important financial institutions, these policies elevated the significance of debt in household finances

and firmly entrenched the premise that credit should serve as a central resource for families. Indeed, while consumer credit constituted less than 2 percent of GDP in 1944, it soared to more than 12 percent by 1965 (James and Sylla 2006). Beyond promoting homeownership, these government-based financial innovations "made it easy and widely popular for Americans to take on significant levels of debt" (Prasad 2012: 205).

Credit for All

By the 1960s, social researchers highlighted the problems of consumer credit rapidly expanding beyond the ability of families to repay their debts (Caplovitz 1963). In the context of the civil rights era, the most pressing problem related to credit, however, was the discriminatory lending practices that had become widespread throughout the industry. The government institutions played a central role in establishing explicitly discriminatory practices that were normalized among private lenders, as well. As one example, the FHA accepted the use of restrictive covenants that explicitly required home sellers to discriminate against potential buyers. A number of other FHA lending practices, including the institutionalization of redlining, created enormous obstacles to credit for African American and further entrenched patterns of residential segregation (Jackson 1985, Massey and Denton 1993, Sugrue 1996, Freund 2007).

While discriminatory lending practices were especially prevalent in the housing market, the problem also characterized the market for consumer credit. In addition to widespread racial discrimination, women faced significant barriers to

credit as lenders typically required husbands to co-sign on loan applications and considered women to be especially risky borrowers with supposedly unstable income who might leave their jobs once they became pregnant (Prasad 2012: 223-225).

Increasing access to credit for marginalized segments of the population, including the urban poor, became an important objective on the agenda of civil rights groups and other advocates. Because credit had become a critical resource for the economic well-being of families, these groups demanded that it be equally accessible. The liberal efforts to address discrimination would be an important factor in the next phase of the expansion of credit.

A series of laws were subsequently enacted to reduce barriers to accessing credit. The Consumer Credit Protection Act of 1968 required greater transparency in the disclosure of lending terms to borrowers, and the Fair Housing Act of the same year sought to eliminate discrimination in the housing market. As credit became increasing important in family finances, concerns about fair access to credit persisted. The Equal Credit Opportunity Act of 1974 extended beyond the housing market and prohibited discrimination in lending by gender and race. To promote greater transparency and to detect discrimination in lending practices, the Home Mortgage Disclosure Act of 1975 required lenders to report data on loan applications, including the loan amount, location of the property, race and gender of the borrower, whether the loan was approved, and the reason for a decision to deny an application. The Community Reinvestment Act of 1977 sought to reduce

neighborhood-based lending discrimination by requiring banks to make loans in their local communities, particularly in low-income areas.

These reforms were generally passed with bipartisan support and marked an important step in expanding access to credit to families across racial groups and along the income distribution. They were motivated by an underlying view that regards credit as a fundamentally productive resource. Credit enables families to maintain consumption and expenditures in the event of an unexpected change in income, and it allows borrowers to start their own businesses (Marron 2009). In this view, credit is key to improved opportunities, especially for upward mobility; therefore, equal access to credit is essential. While a family may make borrowing decisions based on its financial circumstances, this view of the democratization of credit does not consider that major sources of risk are contingent on macroeconomic conditions, government policies, and the structure of financial markets, beyond the control of the borrower.

Financialization and deregulation

After this period of establishing equal access to credit under the law, the US economy underwent a striking transformation toward 'financialization', whereby financial activities represented an increasingly large share of the overall economy. In the 1970s, policymakers were confronted with the major problems of slowed economic growth, high inflation and high unemployment. Krippner (2011) attributes the financialization of the economy to the response of policymakers to these crisis conditions in the 1970s, while clarifying that "financialization was not a

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deliberate outcome sought by policymakers but rather an inadvertent result of the state's attempts to solve other problems" (Krippner 2011: 2).

In the preceding years, the primary strategy for contesting distributional conflicts had been for social groups to make demands on the state for reforms that took the form of public spending on government programs, such as those associated with the War on Poverty and Great Society reforms of the late 1960s. This would be a less fruitful strategy in dealing with a state confronting an economic and fiscal crisis. To deal with the gap between state expenditures and tax revenues, Krippner argues that the state shifted toward a strategy of deficit financing in the 1970s. Policymakers pursued reforms that helped the state access capital from both domestic and global sources, in order to resolve its fiscal and social problems. Previously strict controls on the flow of credit within the US were loosened, and deregulated financial markets combined with high interest rates in the 1980s to attract an unprecedented flow of foreign capital.

The decisions of policymakers reflected a broader transformation whereby functions that had previously been within the domain and capacity of the state had shifted to take place in the market. With the weakening of economic conditions required for shared prosperity, "efforts to shift aspects of policy implementation from state institutions to markets allowed policymakers to shield themselves from responsibility for unfavorable events such as inflation or unemployment" (Krippner 2011: 147). This fundamental reorientation of state functions underlies the shift of welfare state policy from direct social assistance and transfer programs to a greater reliance on household debt instead.

Whether the responses to the crisis conditions of the 1970s were intended to promote the broader financialization of the economy, the important implication of this history for this study is that the reforms facilitated a dramatic expansion in the supply of credit in the years ahead.

Before this period, state governments had strong authority to regulate lending, including the ability to limit interest rates that could be charged on loans. In 1978, the Supreme Court ruled that national banks would be governed by the usury regulations of their home state, even when making loans to borrowers in other states. This ruling effectively raised the interest rate limits for national banks, and it also undermined the capacity of state governments to regulate lending within its borders since banks would only be constrained by the limits set by their home state. The Depository Institutions Deregulation and Monetary Control Act (DIDMCA) of 1980 further limited the ability of states to regulate conditions of lending and made it easier for national banks to 'export' interest rates between states. These important changes to the regulatory environment of lending were also important in the subsequent expansion of credit cards. Under the new rules, national banks could be chartered in states without strong limits on interest rates and easily extend credit cards to consumers in other states, making credit cards available to consumers in states with stricter lending regulations.

The Alternative Mortgage Transaction Parity Act of 1982 further eroded the capacity of state governments to regulate lending by overriding various consumer credit protections, including restrictions on loan arrangements with adjustable interest rates and balloon payments. These significantly expanded the types of loans

that banks could make and also liberalized restrictions on how banks themselves could borrow capital.

Over the 1980s and 1990s, the deregulation of financial activity in general, and lending practices in particular, facilitated the securitization of loans and expanded the ability of firms to take on leverage to an unprecedented degree. The Secondary Mortgage Market Enhancement Act of 1984 facilitated the securitization of loans by firms other than government-sponsored enterprises, such as Fannie Mae. With increased securitization and expanding secondary markets for loans, lenders could more easily trade risky debt holdings and were therefore more willing to make riskier loans (Rajan 2010). The Financial Services Modernization Act of 1999 repealed longstanding regulations of the Glass-Steagall Act that mandated the separation of investment and commercial banks. The Commodity Futures Modernization Act of 2000 excluded privately negotiated ("over-the-counter") derivatives from regulation.

While these changes would have complex effects on the financial industry and the broader economy in the following decades, these reforms all had the basic effect of increasing the supply of credit in lending markets. The relaxed constraints on lending, easier trading of loans on secondary markets, and less regulation of new financial instruments created greater opportunities for profits in lending. The resulting influx of capital increased the liquidity of the lending markets by providing lenders with more capital with which to issue more loans, thereby increasing the supply of credit available to borrowers. Under the new regulatory environments,

lenders were significantly more willing to make loans to borrowers who previously

may have been considered too risky, particularly low-income borrowers.

Income inequality and social safety net

This period of increased financialization and policy reforms that increased

the supply of available credit was also marked by the striking growth of income

inequality. In a landmark study on the distribution of household income, the

Congressional Budget Office finds significant growth of household income at the top

of the distribution relative to income at the middle or the bottom of the distribution.

The average after-tax household income for the top one percent of the distribution

increase by 275 percent from 1979 to 2007, and by 65 percent for the rest of the top

quintile (i.e. the 81st through 99th percentiles). By comparison, average household

income grew by 40 percent for the middle 60 percent of the distribution and by just

18 percent for the bottom quintile. The share of total income total income received

by the top one percent rose from 8 percent to 17 percent. The share received by the

middle 60 percent declined from 50 percent to 43 percent, and the share going to

the bottom quintile dropped from 7 percent to 5 percent (Congressional Budget

Office 2011).

An enormous literature of social science research has considered a number

of explanations for this growth in income inequality. A major factor, according to

much of this research, is the increased returns to high levels of education since the

1970s. Economists have argued that the nature of technological change during this

period created a disproportionate demand for skilled workers and that this

demand-side factor is reflected in the increased 'college premium', or the returns to

a college degree relative to workers with lower levels of education. While still

emphasizing the value of high skills in the labor market, others argue that the key

factor over this period is that the demand for higher skills outpaced the growth in

the educational attainment of the labor force (Goldin and Katz 2009).

A second major factor in increased income inequality is the

internationalization of the economy during this period, particularly through

increased trade and competition in a much larger global market. A key mechanism

through which globalization would influence income inequality is that the

heightened competitive pressure from firms in other countries forces employers to

reduce costs by either lower the wages paid to American workers or to shift

production to areas with lower labor costs. As the manufacturing industry, for

example, shifted production overseas, a major source of relatively well-paying jobs

for workers without high levels of education was diminished in the U.S. A third key

factor emphasized in the literature on the growth of income inequality is the

weakening of labor market institutions that would otherwise have an equalizing

effect on wages in the labor market. The decline of unionization has greatly

weakened the ability of workers to bargain for higher wages, and the declining value

of the minimum wage has also contributed to the stunted growth of wages at the

low end of the distribution.

As income inequality grew and the supply of credit expanded over this

period, there were important changes in the structure of welfare state policy aimed

at low-income families. Measures of overall social expenditures are ambiguous,

since rising costs of health are drive up spending on low-income families through the public provision of health care. In terms of the intended targets of social programs, it is clear that government transfer payments have shifted away from low-income households. While the bottom quintile of the income distribution received more than half of total transfer payments (including cash assistance and in-kind benefits) in 1979, they received only 35 percent of transfers in 2007 (Congressional Budget Office 2011).

It follows that public assistance has become less significant to the finances of low-income families. Among single-parent families in 1979, public programs (including cash assistance, food stamps, disability payments, and the EITC) accounted for 25 percent of their post-transfer income; by 2006, public sources made up only 13 percent of the income of these families (Danziger and Danziger 2009). Research on the financial conditions of families after the decline of cash assistance indicates that former recipients experience significant economic insecurity, especially in accessing income to cover basic expenses. They rely on unpredictable sources of income and commonly experience problems of housing insecurity, health problems, accessing transportation, and child care (Lein and Schexnayder 2007, Seefeldt 2008).

The changing structure of social policy aimed at the poor has also been characterized by a shift toward social support that is more dependent on participation in the labor market. The reforms to traditional welfare itself implemented employment requirements that restricted eligibility for welfare programs, reduced the time that recipients received benefits, and lowered the

overall welfare caseload. As discussed in Chapter 1, while direct cash benefits declined, the federal earned income tax credit (EITC) expanded rapidly during this period, becoming a primary source of income support for low-income families. The total amount of assistance provided through the EITC roughly matched the combined total benefits receive by low-income families through TANF and the Supplemental Nutritional Assistance Program (Hotz and Scholz 2003, Western et al. 2012). By providing assistance to low-income families through a refundable tax credit that is based on earnings, access to the EITC is contingent on employment activity. The expansion of the EITC in place of cash assistance therefore reflects the reorientation of welfare policy toward the labor market, as access to social assistance has become increasingly dependent on work.

Increasing income inequality, especially the relatively sluggish income in the middle and even smaller growth at the bottom of the distribution, and less redistribution through transfer programs and tax policy combine to increase the demand for credit. As families access fewer resources from market sources and from social assistance, they can utilize credit as an important financial resource. The effects of the declining generosity of cash assistance are concentrated on low-income families, while less redistributive tax policies shape the financial conditions of the middle class; the combination of these shifts contribute to the increased demand for credit overall.

Expanding debt for low-income families & High-risk lending

While policy changes facilitated a general expansion of credit since the 1970s, lenders had avoided the perceived risks of low-income borrowers until the dramatic expansion of credit to low-income families in the 1990s. Indeed, the increases in debt during this time were concentrated among low-income families. From 1989 to 2004, the share of high-income families (i.e. top quantile) with outstanding mortgages remained stable, and the share with outstanding credit card debt declined slightly, based on the Survey of Consumer Finances. Over that period, the share of low-income families (i.e. bottom quantile) with outstanding mortgages or credit card debt had doubled (Retsinas and Belsky 2008). Even scholars who stress the importance of credit well before the post-1970s financialization of the economy point out that what was new in this period was that macroeconomic conditions had undermined the ability of borrowers to repay their loans, compared to earlier periods (Prasad 2012). In contrast to the earlier expansion of credit through New Deal institutions and in the postwar era, "a credit system premised on rising wages and stable employment was reappropriated to shore up uncertain employment and income inequality" (Hyman 2011: 4).

The expansion of credit to low-income borrowers was most visible in the housing market and had two phases, as described by Immergluck (2009). In the 1990s, the deregulation of lending markets facilitated the growth of securitization and the secondary market for mortgages, particularly those with so-called 'alternative' features. Unlike the standardized mortgages with long-terms and fixed rates, these alternative loans had adjustable rates and balloon payments, and they were securitized and traded outside of government-sponsored enterprises like

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Fannie Mae. The isolation of low-income potential borrowers in areas that had long been underserved by traditional lenders also enabled the creation of a dual loan market: one segment of the market dealt in conventional loans with traditional lending terms and fixed rates, and the other segment was dominated by subprime loans with less favorable conditions for borrowers.

To serve the latter segment, new mortgage companies emerged to originate new loans to borrowers. Unlike traditional banks, these new companies were not governed by substantial regulation and became central institutions in the subprime lending market. In this first phase, lenders focused particularly on refinance and home equity loans. These lenders and mortgage brokers took advantage of the huge influx of capital to extend loans to borrowers who previously had been considered too risky. Because these loans could easily be securitized and traded on secondary markets, the risks posed by the borrowers' potential inability to repay the loans could be passed on from the lenders that issued the loans. Technological innovations and an increased availability of consumer data also allowed lenders to segment potential borrowers and more accurately assess the risks of low-income borrowers.

In the second phase of the expansion of credit to low-income borrowers in the housing market, starting after the early 2000s recession, home purchase loans figured more prominently. Lax regulations allowed lenders to make loans to borrowers with little or no documentation of their income, assets, and other indicators of their ability to repay the loans. The looser regulatory environment also facilitated the development of complex financial products, like collateralized debt

obligations, that continued to attract even more capital to lending markets and shifted the risks inherent in making loans away from the initial lenders. The continued influx of capital seeking higher investment returns contributed to the need to generate even more nontraditional loans, further increasing the availability of credit to low-income borrowers.

The geography of the expansion of credit during this period also illustrates that the growth in credit during this period was especially concentrated in low-income communities. A study of neighborhood-level variation in lending found that in neighborhoods with especially large shares of subprime borrowers (i.e. the bottom quartile of neighborhoods with the greatest prevalence of residents with low credit ratings), mortgage credit grew twice as fast as in neighborhoods with disproportionately prime borrowers (i.e. the top quartile of neighborhoods with the lowest prevalence of residents with low credit ratings) over 2002-2005 (Mian and Sufi 2009). Further, during this period, there was a negative correlation between neighborhood income and mortgage credit growth. In other words, neighborhoods with slower income growth (and even declining incomes) had more mortgage loans. Mortgage credit had essentially been decoupled from income growth in the early 2000s.

Persisting racial disadvantage

Despite policy reforms aimed at removing barriers to credit for low-income and minority communities, these racial disadvantages have persisted and in some ways have been exacerbated, in markets for various types of credit (Williams,

Nesiba and McConnell 2005). Research has found that while African Americans are more likely to have poor credit, after controlling for income and credit scores, they have less access to credit on comparable terms to white applicants (Ross and Yinger 2002; Blanchflower, Levine and Zimmerman 2003). Credit car applicants from black neighborhoods are more likely to have their applications denied than similarly qualified applicants from white neighborhoods (Cohen-Cole 2011). African Americans have less access to car loans and commercial credit than comparable white applicants (Charles, Hurst and Stephens 2008; Chatterji and Seamans 2011; Cohen 2012).

Black applicants who are approved are more likely to be subjects of predatory lending and receive loans with higher interest rates and less favorable conditions (Ghent, Hernandez-Murillo and Owyang 2011; Rugh and Massey 2010). Black households continue to own fewer financial assets (Keister 2000). They are less likely to own their homes, and those who do own their homes have lower property values (Cortes et al 2007; Freeman 2005; Flippen 2010; Hirschl and Rank 2010; Shapiro 2004; Flippen 2004). When borrowers are unable to repay their debts and face the prospect of defaulting on their loans, Black borrowers are more likely to be steered toward more expensive and unfavorable bankruptcy provisions (Braucher, Cohen and Lawless 2012).

Changing consumption preferences

While this chapter has focused on the role of government policy in both increasing the supply of and demand for credit, an important alternative

explanation is that the consumption preferences of U.S. households has shifted toward more expensive, luxury purchases. It is possible that an upgrading of consumer expenditures over time has contributed to the demand for credit. Furthermore, there could be a feedback effect whereby the growing availability of credit could reinforce the increasingly expensive preferences of consumers.

Historical expenditure data from the Bureau of Economic Analysis provide little support for the hypothesis that changing luxury consumption preferences have been a major factor in tremendous expansion of credit. Figure 3.1 shows the expenditures by American consumers on several types of products related to luxury consumption since the postwar era. The share of spending on clothing has declined steadily over time from more than 10 percent in the 1940s to 3.3 percent in 2007, before the financial crisis. Spending on restaurants dropped slightly from 5.6 percent in 1970, before the expansion of credit to consumers, to 5.1 percent in 2007. Spending on furnishings has declined steadily, and there is not an upward trend in expenditures on car purchases that would help explain the increased utilization of credit.
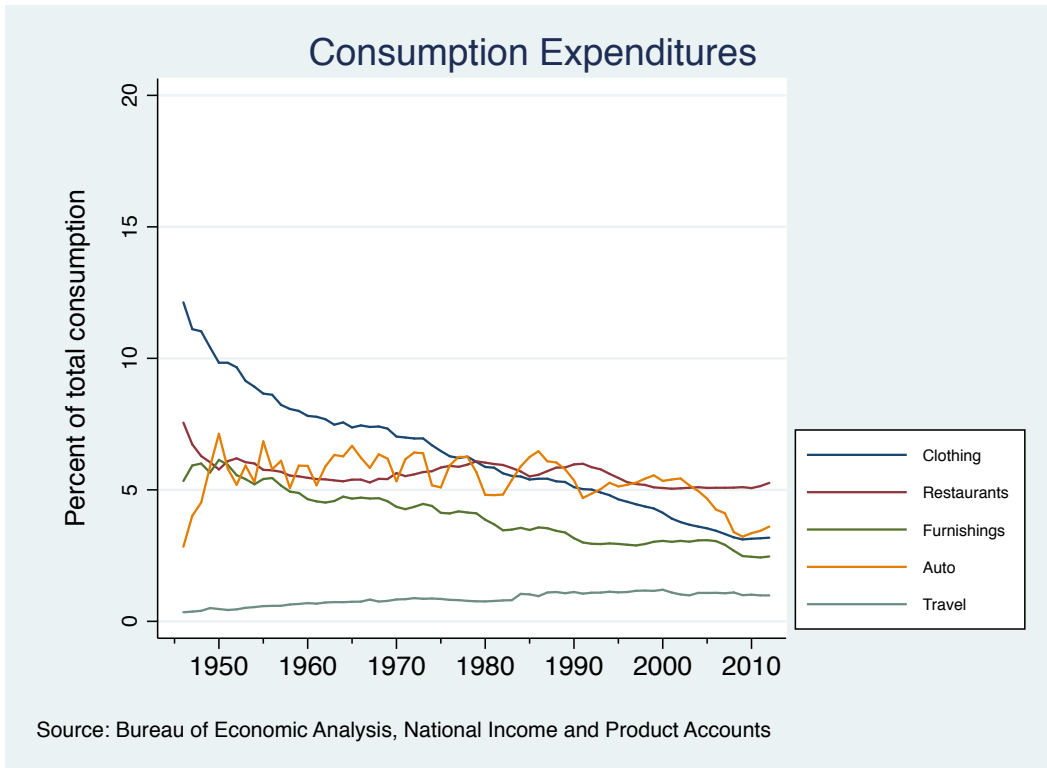
Figure 3.1. Consumption expenditures on luxury-related products.

By comparison, Figure 3.2 shows the two largest categories of consumption expenditures: health care and housing. With a steady increase over that past 60 years, the greatest share of spending is currently on health care, which is typically considered a traditional function of modern welfare states.
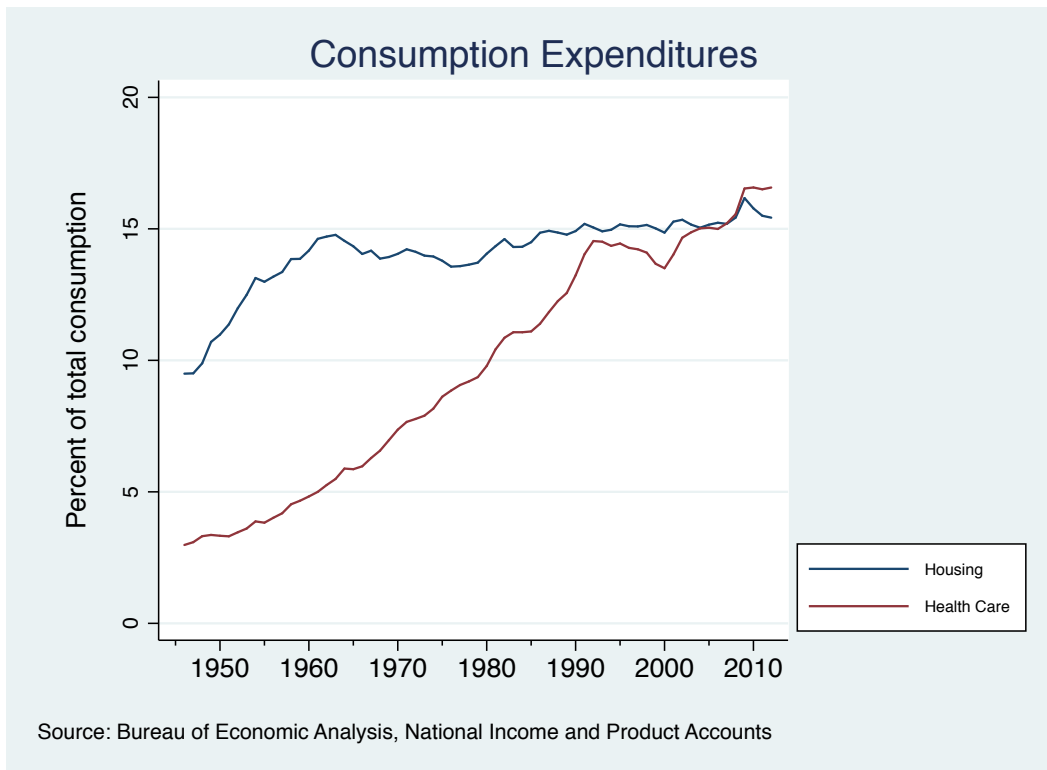
Figure 3.2. Consumption expenditures on housing and health care.

Discussion

This chapter has argued that a convergence of factors over the 20th century led to two important outcomes: (i) the use of credit and debt as a private source of welfare, and (ii) the remarkable reliance on debt among low-income households, in the absence of sufficient resources from the labor market or through welfare state policy. Although credit has been established as a private source of welfare, the common thread across the various factors discussed above is the active role of state policy and government institutions in facilitate the shift toward the reliance on credit.

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The strategy of addressing distributional concerns by expanding credit to segments of the population that have not shared in economic prosperity has early roots. In considering the conditions of rural Americans during the industrialization of the early 20th century, Theodore Roosevelt explicitly sought strategies through which the federal and state governments could direct rural residents themselves to improve their own conditions. The system of farm loans was enabled by new government institutions but drew on private resources to improve the conditions of farmers, rather than direct public assistance.

At the core of the New Deal efforts to stimulate the economy and revived a collapsed financial industry was the massive expansion of credit to American consumers, particularly through home purchases. The FHA institutionalized a standard mortgage agreement with long terms and fixed rates that made credit more accessible to a much broader range of consumers. Other government institutions, including Fannie Mae, were developed to attract private capital to the lending market by offering protection against risks for investors. This approach was based on the premise that expanding access to credit, with the direct support of government institutions, was a desirable strategy for improving the well-being of American families. Through the creation of powerful government institutions that played central roles in the lending market, the state "developed a form of 'mortgage Keynesianism' in which credit-financed consumption of homes became a central element of the functioning of the economy as well as of the organization of people's lives" (Prasad 2012: 221).

Since credit had become a critical resource for families, civic organizations and advocates raised concerns about unequal access to credit because of discriminatory lending practices. By removing legal barriers and establishing a equal legal access to credit, policy reforms further expanded the market for credit, especially to minority borrowers.

The growing financialization of the economy since the 1970s was driven in large part by policymakers who turned to domestic and international sources of capital to address the economic and fiscal crisis conditions during that time. The loosening of regulations that began in the 1970s prefigured the the far-reaching deregulation of credit markets and lending in the 1980s and 1990s. By relaxing regulations on the interest rates that could be charged by lenders and undermining the capacity of state governments to regulate lending activity, important changes in federal policy enabled private lenders to introduce new types of loans with higher rates to a segment of consumers that previously would have been regarded as risky borrowers. The acceleration of securitization in the 1990s increased the flows of capital to lending markets and provided more liquidity for lenders to originate new loans. As lenders were more willing to make riskier loans, these policy changes expanded the supply of credit available to borrowers.

At the same time that policy changes were rapidly expanding the availability of credit, incomes were growing increasingly unequal. While earners at the high end of the income distribution experienced considerable growth since 1970, the earnings of those in the middle and bottom of the distribution had remained relatively stagnant or even declined. Despite growing inequality in the labor market,

the state implemented less redistributive policy through taxes and transfers overall, which influenced the relative post-transfer conditions of middle-class and low-income families. A transformation in welfare policy during this period also decreased the generosity of assistance provided to low-income families, particularly with regard to cash assistance. The weakened ability of families to access resources in the labor market, less overall redistributive policy, and the shrinking availability of public assistance for low-income families all contributed to a increased demand for credit.

Further deregulation, the development of new types of loans and other financial products, and the continued influx of capital accelerated lending to previously high-risk borrowers, especially in the mortgage market. This expansion of credit was especially concentrated among low-income and minority borrowers and neighborhoods.

While sociological research on stratification and policy has been somewhat slow in analyzing the dramatic expansion of credit and its interplay with the welfare state in the U.S. (Conley and Gifford 2006), the idea that credit has come to serve welfare functions has long been recognized in the legal scholarship on bankruptcy (Sullivan, Warren and Westbrook 2000, Ramsay 2003, Tabb 2005, Warren and Tyagi 2004, Barba and Pivetti 2009). A regime of private welfare, centered on the expansion of credit, may provide resources for improving conditions and creating opportunities for mobility for some or even many. However, "it does not fulfill the functions of redistribution and collectivization of risk that are the basic functions of the public welfare state as traditionally understood" (Prasad 2012: 229). To the

extent that credit has come to preform welfare functions, the benefits and stability

offered by traditional welfare states are limited to families than can access credit in

private markets. These are the borrowers considered creditworthy by lenders in the

private sector, not necessarily those in greatest need of protection from market

forces. Furthermore, since the activity of private lenders is directly influenced by

market conditions, fluctuations in the supply of capital, and the regulatory

environment, those who are in greatest need of protection are essentially reliant on

contingencies of the private lending markets, not institutions of public welfare.

CHAPTER FOUR

SOCIAL STRATIFICATION AND DEBT TRAJECTORIES

The primary objective of this chapter is to take a long-term perspective on

the analysis of rising family debt. It presents an empirical analysis of longitudinal

patterns of family debt by examining debt and mobility through the analysis of

family debt trajectories. Building on the short-term analysis of family debt in

Chapter 2, the focus on debt trajectories can shed light on the longer term

implications of the shift toward debt. Second, this chapter considers the social

stratification of debt trajectories, with a particular focus on racial differences in the

longitudinal patterns of family debt. The third objective of this chapter is to examine

the impact of social assistance on the debt trajectories of low-income families,

specifically focusing on welfare and the EITC.

The long-term perspective of this analysis recognizes the cumulative nature

of debt. While much stratification research takes income, a measure of the flow of

money in a time period, as the primary indicator of a family's economic position,

debt carries over from year to year and can impact the economic position of a family

over a long period. Others have made similar arguments to explain that wealth may

be a more useful measure of economic position than income, especially in the study

of racial economic inequality (Oliver and Shapiro 1995). These cumulative

resources are especially important to stratification research as they can reinforce

relative advantages and disadvantages over time.

There may be important racial differences in how the expansion of credit and

the increased reliance on debt have shaped the financial conditions of families over time. As discussed in Chapter 3, the expansion of credit has been partly characterized by greater access to credit for black borrowers who had historically faced barriers in lending markets. This has been led by a combination of efforts to reduce direct discrimination in lending, the improved ability of lenders to assess the risk of borrowers, and market conditions that attracted a growing supply of credit to be extended to borrowers. Despite the greater access to credit, however, there have been persistent racial differences in lending conditions over this period. Existing research points to inferior lending conditions for black borrowers in nearly all credit markets, including home mortgages and consumer credit, that result from continued lending discrimination, widespread predatory lending practices that have targeted black borrowers, and other practices. The analysis in this chapter therefore highlights potential racial differences in family debt trajectories.

This chapter incorporates several approaches to analyzing debt trajectories of families over time. Using data on the finances of families that are observed for over twenty years, I analyze the longitudinal patterns of their debt amounts and their estimated debt burdens, with a focus on comparing the trajectories of white and black families. I then examine how the estimated debt burden of a family at one point influences its debt burden at a later point, or the intragenerational persistence of debt burden. Since there is a general increase in family debt during this period, I also analyze the mobility of families and their relative positions in the distribution of debt burden over time.

I then focus on specifically on families with especially high debt burdens,

which can de described as a condition of financial distress. As discussed in the preceding chapter, debt itself is not an unambiguous indicator of economic position. Credit can be used as a productive investment with positive returns by creating opportunities for mobility through education or wealth creation. However, high levels of debt can become significant, unmanageable burdens that do create disadvantages for families. I analyze the factors that influence the likelihood that a family finds itself in financial distress with a very high debt burdens. Finally, I revisit the relationship between social assistance and debt by analyzing the impact of transfer income on the debt trajectories of families that have received welfare assistance and those that have received the EITC.

The empirical analysis points to several significant findings about the debt trajectories of families. In the early years of the period analyzed here, unequal access to credit limited the amount of debt that black families could acquire. However, as credit was increasingly targeted to low-income families in the 1990s and 2000s, the debt burden of black families quickly approached that of white families. This shift is not accounted for by other variables, such as income, assets, homeownership and other family characteristics. While measures of debt were fairly persistent within families from 1984-2007, there are important racial differences in the mobility of families along the distribution of debt burden. Black families had lower initial debt burdens, but were more likely than similarly positioned white families to experience increased debt burdens over the period. In the opposite direction, black families that initially had high debt burdens were less likely than similarly positioned white families to move down to lower positions in

the debt distribution. Lastly, the analysis of social assistance and debt trajectories suggest that whereas transfer programs had provided an important buffer against debt in early years, over time they have become less protective against debt. For TANF recipients and EITC recipients, their debt burden became nearly indistinguishable from families that did not receive these benefits.

Data

To analyze longitudinal patterns of debt, I use data from the Panel Study of Income Dynamics (PSID). Although the PSID began collecting data on families in 1968, it first collected information about wealth and assets in a special supplement in 1984. Data on wealth and assets were then included in supplements in 1989 and 1994 and then in each biennial administration of the survey since 1999. The PSID data on assets and liabilities is less detailed than the SCF or SIPP. For example, it distinguishes between only two categories of debt: i. mortgages, and ii. all other debt combined (i.e. credit cards, student loans, medical bills, and personal loans). Although it collects less detailed information, the PSID data on assets and liabilities are considered to be reliable, especially for families on the lower end of the income and wealth distributions (Ratcliffe et al. 2007). The clear advantage of the PSID is its long panel, which allows for the study of wealth over a period of more than twenty years.

The main period analyzed in this chapter encompasses the waves in which the PSID collected data on assets and liabilities: 1984, 1989, 1994, 1999, 2001, 2003, 2005, and 2007. The primary sample analyzed in this chapter consists of

families in which the head is observed in each wave of the PSID. Longitudinal research on income and mobility generally considers data on income and finances during early adulthood to be an unreliable measure of 'permanent' income because of the considerable fluctuation in financial circumstances during this life stage (Hertz 2005; Mazumder 2005; Sharkey 2008). Therefore, I restrict the sample to families in which the head is at least 25 years old. To reduce the influence of retirement-related financial decisions, I exclude observations in which the head is over age 63. Since the period covers twenty-three years, the primary sample is essentially comprised of a cohort of families in which the head is between ages 25-40 in 1984.

Since the selection of the PSID sample in 1968 was based on the demographics of the U.S. population at the time, the core PSID sample does not reflect the large increase in Hispanic families since then. The PSID added a supplemental sample of families to make it more representative of contemporary demographics, mainly by adding an additional sample of Hispanic families. Since the period analyzed in this chapter begins in 1984, the families added to the core PSID sample are not included. The primary sample analyzed in this chapter consists of families in which the head is white or black.

The condition that the family head be consistent throughout this period does exclude families that drop out of the PSID during this period. Selection into the sample therefore favors stable families. The primary sample should not be considered representative of the U.S. population as a whole, but of a cohort of family heads that were consistently observed from 1984 to 2007. Considering racial

differences in patterns of family formation and stability, the disproportionate exclusion of black families is an important limitation of the primary sample.

For some components, I analyze a secondary sample that relaxes the requirement that the family is observed in each wave; this secondary sample is comprised of families in which the head was observed in at least two waves. This condition ensures that the sample includes observations at multiple time points for each family. However, the relaxed constraint means that, unlike the primary sample, the secondary sample is not a cohort of family heads that are all observed over the same period. For sample, the secondary sample may include a family in which the head is 50 years old in 1984. That family would be included through 1994, for a maximum of three family-year observations; in the next PSID wave in 1999, the head would be 65 years old and outside the age range of the sample. Similarly, the secondary sample could include a family in which the head was 25 years old in 2001; the family could be included in subsequent years but not in waves prior to 2001. In some parts of the analysis, I also consider a sample of families observed over a shorter time period, beginning in the 1990s.

It is important to note that the structure of the panel data makes it difficult to distinguish life cycle and period effects when examining debt trajectories. When considering evidence for racial differences in the trajectories of debt amount, debt burden, and the likelihood of having a high debt burden, I attempt to address this limitation by estimating additional models that are meant to assess whether racial differences in these trajectories could be attributed to differences in the age structure of white and black families in the sample. These are discussed in the

relevant sections of the analysis below.

The total debt of families is calculated as the sum of the amount of mortgage debt and debt from other sources reported by the respondent. The measure of total assets is the sum of the reported value of primary residence equity; other real estate; vehicles; farm or business ownership; checking, savings, and other financial instruments; stocks and mutual funds; assets held in IRAs; and other assets. The dollar amounts of debt, assets, and income values are adjusted to 2010 dollars.

I construct a measure of family debt burden as the ratio of monthly debt payments to monthly income, in concordance with the term as defined in the SCF. The PSID specifically asks about the amount of monthly mortgage payments, but not for debt from other sources. I estimate monthly payments on non-mortgage debt by using the formula employed by the SCF to calculate its measure of debt payments on non-mortgage debt, which applies a fixed percentage to non-mortgage debt balances. Because the PSID did not collect data on mortgage payments in 1989, the measure of debt burden could not be calculated for that wave. Therefore, the analysis of debt burden in this chapter does not include observations from 1989. To allow for the possibility that wealthy families may make use of debt and credit differently than other families and that these different financial strategies might influence the outcomes of interests, the models also include a simple indicator of whether the family was in the top half of the wealth distribution of families in the respective wave of the PSID.

Like the SIPP and SCF, the PSID did not collect information about the EITC over this period. Since the EITC has become a major component of social policy for

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low-income families, I impute the EITC value for each family using the TAXSIM

program of the National Bureau of Economic Research, as described in Chapter 2

(Feenberg and Coutts 1993). The simulation program uses income and demographic

characteristics of each family, including earned income, family size, and number of

children, to calculate estimated values of the federal and state EITC to which each

family would be entitled in a given year. As with the analysis in Chapter 2, I make

the assumption that all eligible families receive the full estimated value of the EITC.

Table 4.1 provides descriptive statistics for the primary and secondary

samples. The primary sample consists of 994 families with a consistent head who is

observed in each wave of the PSID that included data on assets and debt from 1984

to 2007, for a total of 7,951 family-year observations. The composition of these

families changes over time, as the family heads gets married or divorced, children

are born or leave home, and the size of the family grows or shrinks. The secondary

sample is made up of families in which the head was observed in at least two of the

relevant PSID waves during this period. Because of the looser constraints, the

secondary sample is much larger with 8,368 different families and 34,259 family-

year observations.

Table 4.1. Summary statistics, PSID samples, 1984-2007.

	1984-2007 (observed each wave)		1984-2007 (observed at least 2 waves)	
	White	Black	White	Black
Total debt (2010 $)	95,084	42,628	84,206	31,710
Debt burden (payment-to-income ratio)	12.1%	10.1%	13.0%	9.2%
High debt burden	2.4%	2.4%	3.9%	3.7%
Homeowner	86.0%	58.5%	73.1%	43.1%
Total assets (2010 $)	447,209	98,812	296,246	64,813
Family income (2010 $)	118,786	61,411	98,080	49,163
Age	47.2	46.0	42.1	41.0
Family size	2.9	3.2	2.9	3.1
Couple	84.8%	57.9%	74.5%	42.8%
Children	0.8	1.1	0.9	1.3
High net wealth	72.2%	32.4%	53.6%	18.7%
TANF recipient	0.3%	6.7%	0.7%	6.3%
Amount (2010 $)	3,379	3,760	2,878	2,804
EITC recipient	5.6%	18.1%	10.9%	29.8%
Amount (2010 $)	1,302	1,465	1,687	2,044
Income quartile				
<25th percentile	4.4%	26.7%	9.5%	34.2%
25-49.9 percentile	12.7%	24.2%	19.5%	29.5%
50-74.9 percentile	28.7%	26.1%	32.1%	23.5%
75+ percentile	54.2%	23.0%	39.0%	12.7%
N (family-years)	5,968	1,984	19,779	11,433
N (families)	746	248	4,764	3,010

Since the descriptive statistics in Table 4.1 are based on family-year observations (i.e. multiple observations for each family in different years), comparisons between white and black families within the samples are confounded by within-family changes in these variables over time. Some general patterns are discernible, including higher homeownership rates, asset values, income and the prevalence of families headed by a married or cohabiting couple among white

families. Black families are more likely to receive some income from AFDC/TANF and more likely to be EITC recipients. As mentioned above, the strict condition of including only families for which the head is observed in every wave in the primary sample favors the selection of more stable families. The skew toward families at higher income quartiles may be evidence of this distortion. The second sample, which has a looser condition that families be observed at least twice, is less tilted toward families at higher income quartiles.

Analysis

1. Longitudinal analysis of total family debt

This component considers change in the total amount of family debt over the course of the study, focusing on the primary sample of families that are observed in each wave of the PSID from 1984 to 2007. I use multilevel models to analyze the growth in total debt for black and white families (Gelman 2006; Raudenbush and Bryk 2002; Wooldridge 2001). As a longitudinal panel of families, the data is composed of observations at time points, *t*, which are nested within families, *i*.

The general expansion of credit documented in the preceding chapters should be reflected in positive growth curves across the sample. As discussed in Chapter 3, the historical account emphasizes that access to credit became increasingly available to black families after they had previously faced significant barriers in lending markets. Although earlier legislation had banned explicit racial discrimination in lending, these previously excluded segments became an increasingly attractive to lenders who sought new markets and developed new loan

products in the 1990s. To the extent that this aspect of the expansion of credit has

shaped the debt trajectories of black families in particular, this would be reflected in

growth curves that increase more rapidly for black families during this time.

I estimate a model using total family debt, time, race, homeownership and

other covariates, including assets, income and demographic controls:

$$\ln Y_{it} = \beta_0 + \beta_1(black_i) + (\beta_2 + b_{2i})(time_t) + \beta_3(time_t^2) + \beta_4(black_i * time_t) + \beta_5(black_i * time_t^2) + (\beta_6 + b_{6i})(homeowner_{it}) + \beta_7(black_i * homeowner_{it}) + \beta_8(X_{it}) + b_{0i} + \varepsilon_{it} \tag{4.1}$$

where $\ln Y_{it}$ represents the log of the total amount of debt for family i in year t.[5] The

model includes terms for time and the square of time to allow for non-linear growth

in family debt, and interactions of race with the time terms. It also includes a term

indicating whether the family owns a home in year t, as well as an interaction of race

with homeownership. The other time-varying covariates, X_{it}, include the log of total

assets, the log of family income, and other demographic controls for age, family size,

whether the family is headed by a married or co-habitating couple, and number of

children. The model includes a family-level random intercept (b_{0i}) and random

slopes of time (b_{2i}) and homeownership (b_{6i}). The results from this model are

shown in Table 4.2.

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[5] Households that report zero debt are assigned a value of 1; the dependent variable, the log of the debt amount, then equals zero for these households.

Table 4.2. Random effects models of total family debt (log), 1984-2007, PSID.

	(1)	(2)	(3)
Black	-2.079**	-2.257**	-2.060**
	(0.255)	(0.321)	(0.333)
Time (in years from 1984)	-0.010	-0.021	0.008
	(0.018)	(0.018)	(0.027)
Time-squared	-0.003**	-0.002**	0.001
	(0.001)	(0.001)	(0.001)
Black x time	-0.024	-0.025	-0.013
	(0.037)	(0.036)	(0.037)
Black x time-squared	0.004**	0.004**	0.004*
	(0.001)	(0.001)	(0.001)
Homeowner		4.728**	4.505**
		(0.201)	(0.208)
Black x homeowner		0.890*	0.846*
		(0.348)	(0.349)
Income quartile 2			0.173
			(0.179)
Income quartile 3			0.531**
			(0.206)
Income quartile 4			0.944**
			(0.229)
Total assets (log)			-0.040+
			(0.023)
Family income (log)			0.116*
			(0.053)
Age			0.104+
			(0.060)
Age-squared			-0.002**
			(0.001)
Family size			0.129*
			(0.063)
Couple			0.365*
			(0.169)
Children			-0.211**
			(0.068)
EITC (log)			-0.043*
			(0.021)
Constant	10.077**	5.864**	3.311*
	(0.119)	(0.193)	(1.319)
N (family-years)	7,951	7,951	7,869
N (families)	994	994	992

** p<0.01, * p<0.05, + p<0.1

In the basic version of the model, the initial level of family debt at the

beginning of the period is significantly lower for black families relative to white families. The estimated coefficient on the interaction of race with the square of time indicates that the average level of family debt increases significantly more rapidly for black families. The quadratic term for time for whites is actually negative for white families in the basic model. The results for the second model show that homeownership significantly increases the amount of family debt, as expected, since mortgage debt is a major component of total family debt. The estimated effect of homeownership on debt is significantly larger for black families. This may be a function of the lower initial levels of debt for black families; with lower initial debt amounts, the additional debt from purchasing a home would be larger proportional increase for the average black family than for the average white family.

These results are consistent with the full model that includes all covariates. When controlling for assets, income, age and family structure, black families have lower initial levels of debt and a significantly higher growth rate over this period. The significant positive effect of income on total debt is consistent with the expectation that families with higher incomes have greater access to credit, as lenders consider them to pose less risk as borrowers. The negative coefficient on the quadratic term for time for white families disappears in the full model.

As mentioned above, the structure of the panel data makes it difficult to disentangle possible life cycle effects from period effects. Understanding the different estimated trajectories between white and black families would be even more difficult if the life cycle effects are different between racial groups. I make an effort to address this issue in two ways. First, I estimate models for white and black

families separately. This approach does not make the assumption that the age effects and the estimated effects of other variables are the same for black and white families. In results not shown here, the estimated coefficients for these separate white and black samples are similar to the results for the combined sample reported in Table 4.2. This suggests that the variables, including age, do not function significantly differently between racial groups. Second, I estimate models with an interaction term between race and age to consider the possibility of racial differences in life cycle effects. In results not shown here, the estimated coefficients for the interactions between race and age are not significant. Between these two approaches, the evidence does not suggest different life cycle effects for white and black families.

To interpret the importance of the significantly higher growth rate in total debt for black families, estimated growth curves in family debt levels for the primary sample are presented in Figure 4.1 (based on the full model in Table 4.2). The trajectories for white and black families are shown separately, estimated at the universal means of the covariates. These growth curves show that black families have considerably lower debt in 1984, and their debt levels increase more rapidly than for white families. The gap in debt between white and black families, adjusting for the covariates, begins to narrow noticeably from the mid-1990s on. By 2007, the racial difference in family debt has reversed, and they estimated debt of black families surpasses that of white families, after accounting for income, assets, age and family structure covariates.
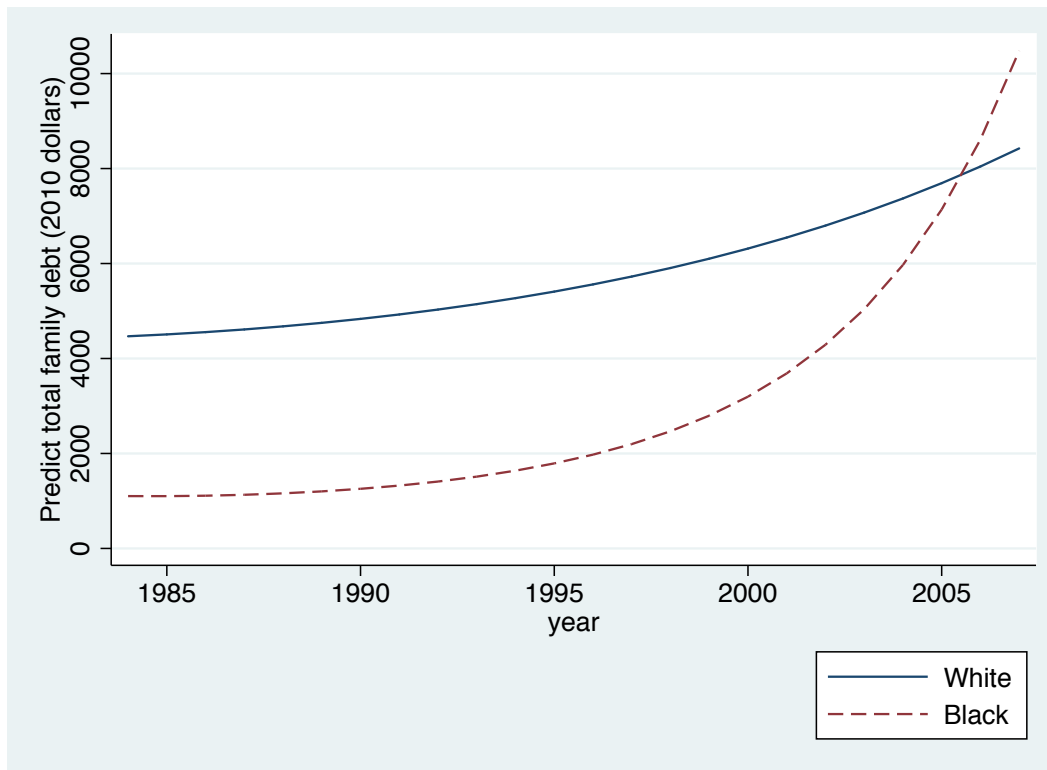
Figure 4.1. Estimated growth curves of family debt.

2. Longitudinal analysis of debt burden

While the previous component analyzes the growth in debt amounts over time, the remainder of this chapter focuses on debt burden, measured the ratio of estimated debt payments to income. Considering that debt levels are generally increasing over this period and income has not grown at a similar rate, there should be evidence of a general increase in debt burdens across families. In terms of racial differences, the debt burdens of black families would increase more rapidly for two reasons. First, the more rapid growth in debt levels of black families would correspond with higher debt payments and, in turn, higher ratios of debt payments to income. Second, debt payments are also a function of the terms of a loan. To the extent that black families have debt with inferior lending terms, like higher interest

rates, this should also contribute to higher debt burden growth rates.

As described above, the PSID specifically collects data on mortgage payments; the data here imputes the value of debt payments for non-mortgage debt using a standard method based on the SCF formula. Existing research has shown that black borrowers are more likely to obtain mortgages with worse lending terms than white families, when controlling for other factors that would influence the terms of a mortgage. The imputation of payments for non-mortgage debt applies the same formula to the amount of non-mortgage debt for all families. To the extent that black families also receive inferior lending terms for non-mortgage debt, as shown in existing research, the measure constructed here produces a conservative estimate of the debt burden for black families relative to white families.

I first estimate models of family debt burden separately for each year in which debt burden data is available in the PSID. The samples analyzed here are not limited to families who are observed in multiple waves; instead the sample for each year is composed of families in which the head of the family is between age 25 and 63, regardless of whether the family is observed in other PSID waves. This produces larger sample sizes that range from 4,688 to 5,935. I estimate the model for each year:

$$Y_i = \beta_0 + \beta_1(black_i) + \beta_2(X_i) + \varepsilon_i \qquad\qquad (4.2)$$

where Y_i represents the debt burden of family i. The model includes an indicator term for race, and the covariates, X_i, include terms for whether the family owns a home, the value of its assets, income, and demographic and family structure variables. The results from this series of models are reported in Table 4.3.

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With regard to racial differences in debt burden, two results stand out. First, black families are estimated to have a lower debt burden than white families in each year, for both the unconditional and conditional models. Part of this difference is accounted for by the covariates, as the magnitude of the difference is lower in the conditional models in each year. Second, the magnitude of the black-white difference has been declining since 1994; the difference is no longer significant by 2009, when accounting for covariates. In other words, the gap in debt burden between black and white families has narrowed significantly and effectively disappears over a period of fifteen years.

The estimated effects of the covariates shed light on the underlying dynamics of family debt burdens. The direction of these effects is generally consistent across the years, while there are some noticeable changes in the magnitudes. Families in higher income groups consistently have lower debt burdens than families in lower income groups. Families in the top half of the wealth distribution consistently have significantly lower debt burdens than other families. Homeownership has a large significant effect on debt burden, as expected. The changing magnitude of the coefficient indicates that the estimated effect of homeownership on family debt burden has increased over time. After accounting for other covariates, homeowners have higher debt burdens than homeowners in preceding years.

Table 4.3. Regression models of family debt burden,
estimated separately for each year, PSID.

	1984		1994		1999		2001	
Black	-3.79**	-1.51**	-4.42**	-2.63**	-3.51**	-2.37**	-3.86**	-2.39**
	(0.29)	(0.30)	(0.38)	(0.41)	(0.43)	(0.46)	(0.42)	(0.45)
Income quartile 2		-1.72**		-1.93**		-1.90*		-0.58
		(0.49)		(0.66)		(0.77)		(0.75)
Income quartile 3		-2.79**		-2.89**		-3.53**		-0.83
		(0.60)		(0.82)		(0.96)		(0.95)
Income quartile 4		-2.91**		-3.74**		-5.17**		-1.57
		(0.73)		(1.02)		(1.23)		(1.21)
Homeowner		12.30**		11.25**		13.75**		13.43**
		(0.35)		(0.47)		(0.52)		(0.52)
High net wealth		-2.46**		-3.62**		-3.11**		-2.85**
		(0.36)		(0.48)		(0.53)		(0.51)
Total assets (log)		0.15**		0.29**		0.33**		0.50**
		(0.05)		(0.07)		(0.09)		(0.09)
Family income (log)		-0.20		-0.22		-1.14**		-2.11**
		(0.24)		(0.33)		(0.43)		(0.43)
Age		0.37**		0.53**		0.19		-0.09
		(0.11)		(0.15)		(0.17)		(0.16)
Age-squared		-0.01**		-0.01**		-0.00*		-0.00
		(0.00)		(0.00)		(0.00)		(0.00)
Family size		-0.52**		-0.15		0.61+		-0.27
		(0.19)		(0.34)		(0.34)		(0.33)
Couple		-0.15		0.27		-0.91		-1.17*
		(0.36)		(0.54)		(0.58)		(0.57)
Children		0.67**		0.15		-0.54		0.27
		(0.23)		(0.37)		(0.39)		(0.37)
EITC (log)		0.08		-0.08		-0.12		-0.01
		(0.08)		(0.08)		(0.08)		(0.08)
Constant	9.34**	2.45	11.99**	-0.54	12.87**	16.23**	13.47**	31.65**
	(0.18)	(2.98)	(0.24)	(4.24)	(0.26)	(5.30)	(0.25)	(5.17)
N	4,950	4,923	5,201	5,147	4,688	4,619	4,934	4,872

** p<0.01, * p<0.05, + p<0.1

Table 4.3 (continued)

	2003		2005		2007		2009	
Black	-3.87**	-1.96**	-3.63**	-2.19**	-3.87**	-1.96**	-3.63**	-2.19**
	(0.44)	(0.46)	(0.49)	(0.53)	(0.44)	(0.46)	(0.49)	(0.53)
Income quartile 2		-1.89*		-1.15		-1.89*		-1.15
		(0.81)		(0.91)		(0.81)		(0.91)
Income quartile 3		-3.71**		-1.91		-3.71**		-1.91
		(1.04)		(1.17)		(1.04)		(1.17)
Income quartile 4		-5.46**		-3.51*		-5.46**		-3.51*
		(1.35)		(1.51)		(1.35)		(1.51)
Homeowner		15.33**		15.39**		15.33**		15.39**
		(0.54)		(0.63)		(0.54)		(0.63)
High net wealth		-3.86**		-3.20**		-3.86**		-3.20**
		(0.53)		(0.63)		(0.53)		(0.63)
Total assets (log)		0.42**		0.63**		0.42**		0.63**
		(0.09)		(0.10)		(0.09)		(0.10)
Family income (log)		-1.54**		-3.37**		-1.54**		-3.37**
		(0.51)		(0.56)		(0.51)		(0.56)
Age		-0.37*		0.06		-0.37*		0.06
		(0.16)		(0.19)		(0.16)		(0.19)
Age-squared		0.00		-0.00		0.00		-0.00
		(0.00)		(0.00)		(0.00)		(0.00)
Family size		-0.05		-0.29		-0.05		-0.29
		(0.33)		(0.39)		(0.33)		(0.39)
Couple		0.11		0.19		0.11		0.19
		(0.57)		(0.66)		(0.57)		(0.66)
Children		0.04		0.02		0.04		0.02
		(0.38)		(0.45)		(0.38)		(0.45)
EITC (log)		-0.23**		0.17+		-0.23**		0.17+
		(0.08)		(0.10)		(0.08)		(0.10)
Constant	14.52**	33.27**	15.55**	42.76**	14.52**	33.27**	15.55**	42.76**
	(0.26)	(5.75)	(0.30)	(6.42)	(0.26)	(5.75)	(0.30)	(6.42)
N	5,176	5,133	5,488	5,424	5,176	5,133	5,488	5,424

** p<0.01, * p<0.05, + p<0.1

Next, I estimate a multilevel model to analyze change in the debt burden over

time, using samples of families that are observed in each PSID wave during the

relevant time period:

$$Y_{it} = \beta_0 + \beta_1(black_i) + \beta_2(time_t) + \beta_3(time_t^2) + \beta_4(black_i * time_t) + \beta_5(black_i * time_t^2) + \beta_6(X_{it}) + b_{0i} + \varepsilon_{it} \qquad (4.3)$$

where Y_{it} represents the debt burden of family i in year t. The model includes terms for time and the square of time to allow for non-linear growth in debt burden over the period, interactions of race with the time terms, and a family-level random intercept (b_{0i}). The time-varying covariates, X_{it}, are the same set of economic, demographic and family structure variables as in the model estimated in the previous component, shown in Equation 4.1. The results from the model are reported in Table 4.4.

The first column reports results for the primary sample of families observed in each PSID wave from 1984 to 2007. The results show a lower initial debt burden for black families at the beginning of the period. The significant positive coefficient for the quadratic term for time describes non-linear growth in family debt burden. Over this period, the model does not estimate a significant racial difference in the growth curves of family debt burden.

Table 4.4. Random effects models of family debt burden, PSID.

	1984-2007	1994-2005
Black	-4.35**	-5.42**
	(0.98)	(0.65)
Time (in years)	-0.03	-0.12
	(0.11)	(0.11)
Time-squared	0.01*	0.03**
	(0.00)	(0.01)
Black x time	0.05	0.60**
	(0.14)	(0.18)
Black x time-squared	0.00	-0.04*
	(0.01)	(0.02)
Income quartile 2	-1.87*	-2.56**
	(0.76)	(0.53)
Income quartile 3	-3.66**	-5.06**
	(0.91)	(0.67)
Income quartile 4	-4.39**	-6.75**
	(1.08)	(0.81)
Homeowner	15.74**	15.23**
	(0.53)	(0.40)
High net wealth	-3.83**	-3.19**
	(0.43)	(0.34)
Total assets (log)	0.29**	0.23**
	(0.09)	(0.07)
Family income (log)	-3.89**	-2.91**
	(0.37)	(0.28)
Age	0.50*	0.45**
	(0.21)	(0.16)
Age-squared	-0.01**	-0.01**
	(0.00)	(0.00)
Family size	-0.05	0.15
	(0.24)	(0.21)
Couple	1.64**	2.22**
	(0.62)	(0.48)
Children	-0.15	-0.03
	(0.27)	(0.23)
EITC (log)	0.04	0.03
	(0.09)	(0.06)
Constant	36.57**	29.29**
	(5.67)	(4.35)
N (family-years)	6,762	11,271

** $p<0.01$, * $p<0.05$, + $p<0.1$

Informed by the models in Table 4.3 that suggested a narrowing racial gap in debt burden beginning in the mid-1990s, I also estimate the multilevel model of

debt burden for a sample of families observed in each PSID wave from 1994-2005. With a shorter time period, this sample is larger than the 1984-2007 sample. These results are reported in the second column of Table 4.4. The initial debt burden of black families is significantly lower at the beginning of the period, in 1994. For this time period, the model estimates that debt burden does increase more rapidly for black families than for white families. Although the estimated coefficient on the interaction of race with the quadratic term for time is negative, the combined effect of the linear and quadratic time terms for black families leads the model to predict that the black-white gap in debt burden narrows over this period.

The results from the multilevel models of debt burden are generally compatible with the results from the models of cross-sectional samples for each PSID wave, reported in Table 4.3. Black families have lower initial debt burdens, and the racial gap narrows over time. These results are consistent with the expectation that unequal access to credit limited the availability of debt to black families in the earlier years. As lenders increasingly targeted previous excluded segments of the market in the 1990s and 2000s by extending more credit but often with inferior lending terms, the debt burden of black families quickly moved closer to that of white families. As with the preceding analysis of trajectories in debt amounts, I attempt to address the possibility of different life cycle effects between race groups by estimating the models separately for white and black families and by estimating models with an interaction term between race and age. The results from both approaches (not reported here) do not suggest different life cycle effects for white and black families.

3. Persistence of debt burden

The preceding components analyze the overall change in the amount of debt and the debt burden of families over time. They show the growth in the overall levels of debt and debt burden, how this growth is influenced by various family characteristics, and racial differences in these trajectories. Since debt levels are generally increasing across the sample over this period, it is important to consider the relative position of families within the distribution of debt burden. This component focuses on the distribution of debt across families and considers two main questions. First, how persistent is family debt burden over time? Second, to what extent is there mobility within the distribution over the time period? This analysis does not seek to identify the causal effect of initial debt burden on future debt burden, but rather to produce estimates of the persistence of debt burden over time and shed light on the movement of families along positions in the distribution of debt burden.

I first estimate the overall persistence in family debt burden by estimating the model:

$$Y_{2007,i} = \beta_0 + \beta_1(Y_{1984,i}) + \beta_2(black_i) + \beta_3(X_i) + \varepsilon_i \qquad (4.4)$$

The dependent variable is the measure of debt burden of family *i* in 2007, and the main predictor, $Y_{1984,i}$, represents the debt burden of the same family in 1984. The model includes a term for race and other covariates, including assets, income, age, family size, couple status, number of children, and homeownership, observed both in 1984 and 2007.

The results for the model of intragenerational elasticity of debt burden are reported in Table 4.5. Controlling for all covariates, the debt burden of a family in 1984 significantly predicts its debt burden in 2007; the intragenerational elasticity is estimated to be 0.3. The results in the second column indicate that black families have a significantly higher adjusted debt burden than white families in 2007. In other words, when they begin with the same initial debt burden in 1984 and controlling for all covariates measured at both time points, black families end up with significantly higher debt burdens than white families in 2007.[6]

Table 4.5. Debt burden elasticity, 1984-2007
(covariates not reported).

	1	2
PIR$_{1984}$	0.30**	0.31**
	(.05)	(.05)
Black		2.05†
		(1.07)
N	941	941

Standard errors in parentheses.
† p<0.10, * p<.05, ** p<.01

While the estimated elasticity describes the persistence of family debt burden over time, this single parameter does not provide information about the mobility of families within the distribution of debt burden. To shed light on these patterns of mobility, I use transition matrices that describe the movement between different positions in the distribution of debt burden. These matrices group families into quartiles based on their position in the distribution of family debt burden for

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[6] A model with an interaction between race and the initial debt burden does not estimate a significant difference in the elasticity of debt burden between black and white families; results not reported here.

the full PSID sample of families in the respective year. The matrices in Table 4.6

show how the families that start in a given quartile in 1984 are distributed across

the destination quartiles in 2007.

The top and bottom matrices in Table 4.6 describes mobility within the

distribution of debt burden for white and black families respectively. Of white

families that were in the top quartile in 1984 (i.e. the families with the highest ratio

of debt payments to income), 28 percent remained in the top quartile in 2007.

Compared to white families, a smaller share of black families had debt burdens in

1984 that placed them in the top quartile of families that year. However, of black

families in the top quartile in 1984, 41 percent remained in the top quartile in 2007.

These figures show that black families that begin with relatively high debt burdens

are less likely to move down from the high debt burden position than white families

that begin in the same quartile in 1984.

Table 4.6. Mobility across the distribution of debt burden
among white and black families

		White					
		2007 quartiles				Row %	Row total (unweighted)
		Bottom	*2nd*	*3rd*	*Top*		
	Bottom	30	24	24	22	~100%	159
1984	*2nd*	30	25	24	20	~100%	186
quartiles	*3rd*	18	27	27	28	~100%	205
	Top	13	26	33	28	~100%	196

		Black					
		2007 quartiles				Row %	Row total (unweighted)
		Bottom	*2nd*	*3rd*	*Top*		
	Bottom	35	20	20	24	~100%	132
1984	*2nd*	31	19	25	25	~100%	48
quartiles	*3rd*	22	19	33	25	~100%	36
	Top	9	25	25	41	~100%	32

Note: Figures represent row percentages.

Table 4.7 describes the overall concentration of black and white families
across different cells of the transition matrix. Each cell corresponds to a specific
pairing of origin and destination quartiles; the number in each cell is the percentage
of families who were positioned in the specific pair of origin and destination
quartiles represented by the cell. For example, the cell in the first row and first
column of the matrix gives the percentage of families that were in the bottom
quartile in 1984 and in the bottom quartile in 2007. The figures show more
movement up from the lowest quartile (i.e. from relatively low to relatively higher
debt burdens) for black families than white families. In 1984, most black families
(53 percent) were in the lowest quartile of debt burden (i.e. the families with the
lowest ratio of debt payments to income). By 2007, only 29 percent remained in the

lowest quartile. By comparison, 21 percent of white families were in the bottom

quartile in 1984, and 23 percent were in that quartile in 2007.

Table 4.7. Mobility across the distribution of debt burden among white and black
families: Overall concentration

		White				
		2007 quartiles				
		Bottom	2nd	3rd	Top	Total
	Bottom	6	5	5	5	21
1984	2nd	8	6	6	5	25
quartiles	3rd	5	7	7	8	27
	Top	4	7	9	7	27
	Total	23	25	27	25	~100%
		Black				
		2007 quartiles				
		Bottom	2nd	3rd	Top	Total
	Bottom	19	10	11	13	53
1984	2nd	6	4	5	5	20
quartiles	3rd	3	3	5	4	15
	Top	1	3	3	5	12
	Total	29	20	24	27	~100%

Note: Figures represent cell percentages.

The results also show that black families are more likely to move up to the

highest quartile of debt burden over this period. The share of black families in the

top quartile increases from just 12 percent in 1984 to 29 percent in 2007. By

comparison, the proportion of white families in the top quartile decreases from 27

percent in 1984 to 25 percent.

The transition matrices illustrate the observed patters in mobility within the

distribution of debt burden, without accounting for other family characteristics and

changes in these attributes over time. The next analysis uses a logit model to

estimate the likelihood of moving to a higher or lower quartile in the distribution, while controlling for covariates measured in 1984 and 2007:

$$Y_{2007,i} = \beta_0 + \beta_1(black_i) + \beta_2(debtburden_{1984,i}) + \beta_3(X_i) + \varepsilon_i \qquad (4.5)$$

I estimate the model for two different dependent variables: binary indicators of whether family i moved to a higher or lower quartile of the distribution of debt burden from 1984 to 2007. In addition to a term for race, the model controls for the observed debt burden of the family in 1984 and a set of covariates measured both in 1984 and 2007, including assets, income, and other demographic and family structure characteristics. Table 4.8 reports the results, expressed in terms of odds-ratios.

Table 4.8. Likelihood of changing relative debt position from 1984 to 2007.

	Unadjusted		Adjusted	
	β_{black}	z	β_{black}	z
Moving to higher quartile	1.42*	2.15	1.57†	1.83
Moving to lower quartile	0.75	-1.42	0.66	-1.58

† p<.10, * p<.05, ** p<.01

The first row presents the results from the model of whether a family moved to a higher quartile in the debt burden distribution from 1984 to 2007. In the unadjusted model, black families are significantly more likely to move to a higher quartile. The coefficient on the race term indicates an increased likelihood, relative to white families. When controlling for initial debt burden amount in 1984 and covariates, the model estimates a higher likelihood for black families, and the racial difference is nearly statistically significant (p=.07). The second row presents results

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for the likelihood that a family moves to a lower quartile over the time period. The coefficient on the race terms indicates that black families are less likely to move to a lower quartile than white families in both the unadjusted and adjusted models, but the estimates are not statistically significant.

4. Financial distress: high debt burden

The preceding sections examined the trajectories of family debt burden using a continuous measure of the ratio of debt payments to income. This component analyzes a more specific dimension of financial distress--the prevalence of families with particularly high debt burdens. In its official reports on family finances based on data from the Survey of Consumer Finances, the Federal Reserve considers families with debt payments that exceed 40 percent of their incomes to have "unusually large" debt burdens (Bucks et al. 2009). I use this threshold to define whether a family has a high debt burden. This component analyzes the growth in the prevalence of having a high debt burden and the factors that influence the likelihood that a family has a high debt burden.

Table 4.9 reports the prevalence of high debt burdens in cross-sectional samples of the PSID over time. While it was rare for families to have debt burdens over 40 percent in 1984 (2.5 percent), the rate increases steadily over time. By 2007, the share more than triples to 8.2 percent. High debt burdens are more common among families in the bottom income quartile than other income groups. However, there are substantial increases in the prevalence of high debt burdens for all income groups. By 2007, approximately one in seven low-income families were

in a condition of financial distress with regard to their debt burdens. Among families in middle-income groups, the share with high debt burdens in 2007 was higher than the percentage of low-income families with high debt burdens in 1984. Disaggregating families by race shows that the prevalence of high debt burdens increases for both white and black families, and the rate increases more rapidly for black families, especially after the 1990s.

Table 4.9. High debt burden in cross-sectional samples of PSID: Percent of families with debt burden 40+%.

	Overall	Income quartile				Race	
		$<25^{th}$	25-49.9	50-74.9	75+	White	Black
1984	2.5	6.2	1.9	1.4	0.6	2.5	2.1
1994	4.5	9.1	4.4	2.9	1.6	4.3	4.4
1999	4.9	10.8	4.4	3.2	1.2	4.6	4.8
2001	5.2	10.3	5.3	3.0	2.2	4.9	4.9
2003	6.1	10.9	7.3	4.1	2.1	5.7	6.5
2005	7.2	13.5	7.6	6.0	1.8	7.0	6.8
2007	8.2	14.5	9.9	6.1	2.3	7.7	7.9
2009	7.8	12.8	8.9	6.7	2.8	7.2	9.6

I next estimate logit models of the likelihood of having a high debt burden separately for each year in which debt burden data is available in the PSID:

$$Y_i = \beta_0 + \beta_1(black_i) + \beta_2(X_i) + \varepsilon_i \qquad (4.6)$$

where Yi is a binary indicator of whether family i has a ratio of debt payments to income that exceeds 40 percent. The model includes an indicator term for race and the set of economic, demographic, and family structure covariates, Xi, used in previous models. Table 4.10 reports the results, expressed in odds-ratios.

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Table 4.10. Logit models of having high debt burden (>40%),
odds-ratios, estimated separately for each year, PSID.

	1984		1994		1999		2001	
Black	0.82	0.73	0.86	0.53**	0.99	0.58**	0.91	0.58**
	(0.14)	(0.15)	(0.11)	(0.08)	(0.13)	(0.09)	(0.11)	(0.09)
Income quartile 2		0.30**		0.41**		0.42**		0.49**
		(0.08)		(0.08)		(0.09)		(0.09)
Income quartile 3		0.14**		0.21**		0.28**		0.24**
		(0.05)		(0.05)		(0.07)		(0.06)
Income quartile 4		0.08**		0.12**		0.11**		0.23**
		(0.03)		(0.04)		(0.04)		(0.08)
Homeowner		0.91		0.72+		0.79		0.71*
		(0.22)		(0.12)		(0.14)		(0.12)
High net wealth		1.20**		1.14**		1.07*		1.16**
		(0.05)		(0.04)		(0.03)		(0.04)
Total assets (log)		0.62**		0.58**		0.57**		0.52**
		(0.04)		(0.04)		(0.05)		(0.05)
Family income (log)		1.05		1.11**		1.12**		1.05*
		(0.04)		(0.03)		(0.03)		(0.02)
Age		1.00**		1.00**		1.00**		1.00**
		(0.00)		(0.00)		(0.00)		(0.00)
Age-squared		0.80		1.18		1.15		0.98
		(0.16)		(0.14)		(0.14)		(0.12)
Family size		0.94		1.29		1.03		1.01
		(0.27)		(0.24)		(0.20)		(0.19)
Couple		1.07		0.87		0.87		0.99
		(0.24)		(0.12)		(0.12)		(0.14)
Children		5.38**		3.14**		3.68**		4.31**
		(1.39)		(0.62)		(0.73)		(0.82)
EITC (log)		1.03		1.00		1.01		1.03
		(0.04)		(0.03)		(0.02)		(0.02)
Constant	0.03**	1.11	0.05**	0.52	0.05**	1.16	0.05**	7.54*
	(0.00)	(1.01)	(0.00)	(0.44)	(0.00)	(1.08)	(0.00)	(7.36)
N	6,692	6,657	6,884	6,809	6,150	6,068	6,417	6,332

** p<0.01, * p<0.05, + p<0.1

Table 4.10 (continued)

	2003		2005		2007		2009	
Black	1.26*	0.83	0.96	0.63**	1.17+	0.80*	1.28**	0.86
	(0.13)	(0.10)	(0.09)	(0.07)	(0.10)	(0.08)	(0.11)	(0.09)
Income quartile 2		0.53**		0.54**		0.68**		0.80
		(0.09)		(0.09)		(0.10)		(0.11)
Income quartile 3		0.33**		0.41**		0.33**		0.50**
		(0.07)		(0.09)		(0.07)		(0.10)
Income quartile 4		0.17**		0.17**		0.21**		0.30**
		(0.05)		(0.05)		(0.06)		(0.08)
Homeowner		0.58**		0.75*		0.63**		0.46**
		(0.08)		(0.10)		(0.08)		(0.06)
High net wealth		1.09**		1.12**		1.12**		1.11**
		(0.03)		(0.03)		(0.02)		(0.02)
Total assets (log)		0.52**		0.52**		0.60**		0.54**
		(0.04)		(0.04)		(0.04)		(0.04)
Family income (log)		1.02		1.07**		1.04*		1.06**
		(0.02)		(0.02)		(0.02)		(0.02)
Age		1.00**		1.00**		1.00**		1.00**
		(0.00)		(0.00)		(0.00)		(0.00)
Age-squared		1.09		1.01		1.02		0.98
		(0.11)		(0.10)		(0.09)		(0.09)
Family size		1.18		1.10		0.81		1.03
		(0.18)		(0.16)		(0.11)		(0.14)
Couple		0.89		0.92		0.95		1.00
		(0.10)		(0.10)		(0.10)		(0.10)
Children		4.28**		3.73**		3.65**		3.58**
		(0.68)		(0.56)		(0.48)		(0.46)
EITC (log)		0.99		1.06**		1.01		1.02
		(0.02)		(0.02)		(0.02)		(0.02)
Constant	0.06**	29.22**	0.08**	12.01**	0.08**	5.56*	0.08**	10.05**
	(0.00)	(24.30)	(0.00)	(9.42)	(0.00)	(3.97)	(0.00)	(7.02)
N	6,723	6,668	7,072	6,993	7,296	7,225	7,613	7,441

** p<0.01, * p<0.05, + p<0.1

In the unadjusted models , black families are not significantly less likely than white families to have high debt burdens through 2001. They are more likely than white families to have high debt burdens in most of the following waves, except in 2005 when the racial difference is not significant. After adjusting for all covariates, black families are estimated to be significantly less likely to have high debt burdens

in several of the years. This suggests that the higher unadjusted likelihood for black families in the years after 2001 is attributable to differences in the covariates included in the adjusted model. Families in higher income quartiles are significantly less likely to have high debt burdens that families that are lower in the income distribution. The value of a family's assets has a significant negative relationship with its likelihood of having a high debt burden. The number of children is estimated to significantly increase the likelihood that a family will have a high debt burden. By 2009, there is no longer a significant difference by race when controlling for the covariates in the adjusted model.

Next, I estimate a multilevel model to analyze change over time in the likelihood of having a high debt burden, using longitudinal data on families that are observed in each PSID wave during the relevant time period:

$$Y_{it} = \beta_0 + \beta_1(black_i) + \beta_2(time_t) + \beta_3(time_t^2) + \beta_4(\ black_i * time_t) +$$
$$\beta_5(black_i * time_t^2) + \beta_6(X_{it}) + b_{0i} + \varepsilon_{it} \qquad\qquad (4.7)$$

The dependent variable, Y_{it}, is a binary indicator of whether family *i* has a ratio of debt payments to income that exceeds 40 percent in year *t*. The model includes linear and quadratic terms for time, interactions of race with the time terms, and a family-level random intercept (b_{0i}). The time-varying covariates, X_{it}, are the same set of economic, demographic, and family structure variables used in previous models. The results from this model are shown in Table 4.11.

Table 4.11. Multilevel logit models of having high debt
burden (>40%), odds-ratios, PSID.

	1984-2007	1994-2005
Black	0.16*	0.16**
	(0.12)	(0.06)
Time (in years)	1.03	1.00
	(0.07)	(0.06)
Time-squared	1.00	1.01
	(0.00)	(0.01)
Black x time	1.02	1.24+
	(0.11)	(0.14)
Black x time-squared	1.00	0.99
	(0.00)	(0.01)
Income quartile 2	0.28**	0.21**
	(0.09)	(0.05)
Income quartile 3	0.12**	0.08**
	(0.05)	(0.03)
Income quartile 4	0.08**	0.04**
	(0.04)	(0.01)
Homeowner	5.92**	6.31**
	(2.04)	(1.51)
High net wealth	0.38**	0.41**
	(0.09)	(0.07)
Total assets (log)	1.21**	1.17**
	(0.07)	(0.04)
Family income (log)	0.40**	0.39**
	(0.06)	(0.04)
Age	1.13	1.03
	(0.15)	(0.09)
Age-squared	1.00	1.00
	(0.00)	(0.00)
Family size	1.13	1.05
	(0.16)	(0.12)
Couple	1.18	2.34**
	(0.37)	(0.56)
Children	0.92	0.95
	(0.16)	(0.13)
EITC (log)	1.08+	1.04
	(0.04)	(0.03)
Constant	2.30	37.04+
	(7.32)	(75.78)
N (family-years)	6,824	11,566
N (families)	992	2,360

** p<0.01, * p<0.05, + p<0.1

The first column reports results for the primary sample of families observed

in each PSID wave from 1984 to 2007. The model estimates that black families had a significantly lower likelihood of having a high debt burden than white families at the beginning of the period, in 1984, when controlling for all covariates. The results do not show a clear pattern in changes over this period.

Considering the evidence from the previous components suggesting that the racial gap in debt burden began to narrow in the mid-1990s, I also estimate the multilevel model of debt burden for a sample of families observed in each PSID wave from 1994-2005. These results are reported in the second column of Table 4.11. The estimated odds of having a high debt burden is significantly lower for black families at the initial point, in 1994, when adjusting for the covariates. For this time period, black families do become increasingly more likely of having a high debt burden than white families. The coefficient of the interaction between race and the linear term for time is positive and has a p-value of .06.

Taken together, the results of these models suggest that black families have lower initial odds of having a high debt burden, but the racial gap in the likelihood narrows over time. As with the analysis of the continuous measure of debt burden, these results are consistent with the expectation that unequal access to credit limited the availability of debt to black families in the earlier years. As lenders increasingly targeted previous excluded segments of the market in the 1990s and 2000s by extending more credit but often with inferior lending terms, black families became significantly more likely to be in conditions of financial distress with debt payments that were more than 40 percent of their income. As with the preceding analysis of debt trajectories, I attempt to address the possibility of different life cycle

effects between race groups by estimating the models separately for white and black families and by estimating models with an interaction term between race and age. The results from both approaches (not reported here) do not show evidence of different life cycle effects for white and black families.

5. Social assistance and debt burden

Having examined the longitudinal patterns of family debt, the persistence of debt burden, and the likelihood of a family having a high debt burden, this component considers the role of social assistance in the debt trajectories of families. To understand the effect of social assistance on the reliance on debt, this component estimates models to compare the debt trajectories of families that receive social assistance to non-recipient families for two different forms of income support for low-income families: TANF/AFDC and the EITC.

i. TANF

I estimate a multilevel model to analyze change in the debt burden for families over time:

$$Y_{it} = \beta_0 + \beta_1(TANF_i) + \beta_2(time_t) + \beta_3(time_t^2) + \beta_4(TANF_i * time_t) + \beta_5(TANF_i * time_t^2) + \beta_6(X_{it}) + b_{0i} + \varepsilon_{it} \qquad (4.8)$$

where Y_{it} represents the debt burden of family *i* in year *t*. The model includes a term that indicates whether family *i* received any TANF income in year *t*.[7] It also includes linear and quadratic terms for time, interactions of welfare receipt with the time

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[7] For pre-1996 observations, the data is for AFDC income.

terms, and a family-level random intercept (b_{0i}). The time-varying covariates, X_{it}, are the same set of economic, demographic, and family structure variables used in previous models.

The results from this model are reported for two different samples in Table 4.12. The primary sample is limited to families that are observed in each wave of the PSID from 1984 to 2007. Families report receiving some TANF income in 1.9 percent of the family-years that make up the primary sample. The secondary sample includes families that are observed in at least two waves over that period. Families report receiving some TANF income in 2.7 percent of the family-years that make up the secondary sample.

The results for both samples are generally similar across the estimated growth rates and the estimated effects of TANF receipt and other covariates. TANF families are estimated to have significantly lower initial debt burdens at the beginning of the period. The estimated coefficients on the time variables describe the debt trajectories of families over this period. While the debt burden of non-TANF families does increase significantly over time, the debt burden growth rate of TANF recipients is significantly larger. The negative coefficient on the interaction of TANF receipt with the quadratic term for time indicates that the estimated growth in the debt burden of TANF slows over time.

Table 4.12. Multilevel models of welfare receipt and debt burden, PSID

	1984-2007 (observed each wave)		1984-2007 (observed at least 2 waves)	
	Unadjusted	Adjusted	Unadjusted	Adjusted
TANF recipient	-6.04**	-18.68**	-4.54**	-12.11**
	(1.94)	(1.99)	(1.05)	(1.03)
Time (in years)	0.10	-0.09	-0.05	0.03
	(0.07)	(0.11)	(0.04)	(0.04)
Time-squared	-0.00	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)
TANF recipient*Time	0.14	2.14**	0.13	1.34**
	(0.45)	(0.43)	(0.20)	(0.19)
TANF recipient*Time-squared	0.01	-0.06**	-0.00	-0.04**
	(0.02)	(0.02)	(0.01)	(0.01)
High net wealth		-3.97**		-2.95**
		(0.42)		(0.21)
Total assets (log)		0.17+		0.25**
		(0.09)		(0.04)
Income, non-TANF (log)		-3.44**		-3.18**
		(0.22)		(0.10)
Age		0.47*		0.17*
		(0.21)		(0.07)
Age-squared		-0.01**		-0.00**
		(0.00)		(0.00)
Family size		-0.31		-0.31*
		(0.24)		(0.13)
Couple		0.93		0.88**
		(0.61)		(0.26)
Children		0.04		-0.02
		(0.27)		(0.15)
Homeowner		15.69**		15.66**
		(0.53)		(0.22)
EITC (log)		0.24**		0.25**
		(0.09)		(0.03)
Constant	10.90**	30.67**	9.81**	33.35**
	(0.44)	(4.90)	(0.28)	(1.65)
N (family-years)	6,824	6,767	34,597	34,451
N (families)	993	991	8,370	8,356

** p<0.01, * p<0.05, + p<0.1

To interpret the importance of the significantly higher growth rate in debt

burden for TANF families, Figure 4.2 shows estimated growth curves for family debt

burden.[8] The trajectories for TANF and non-TANF families are shown in separate lines, estimated at the universal means of the other covariates in the model.
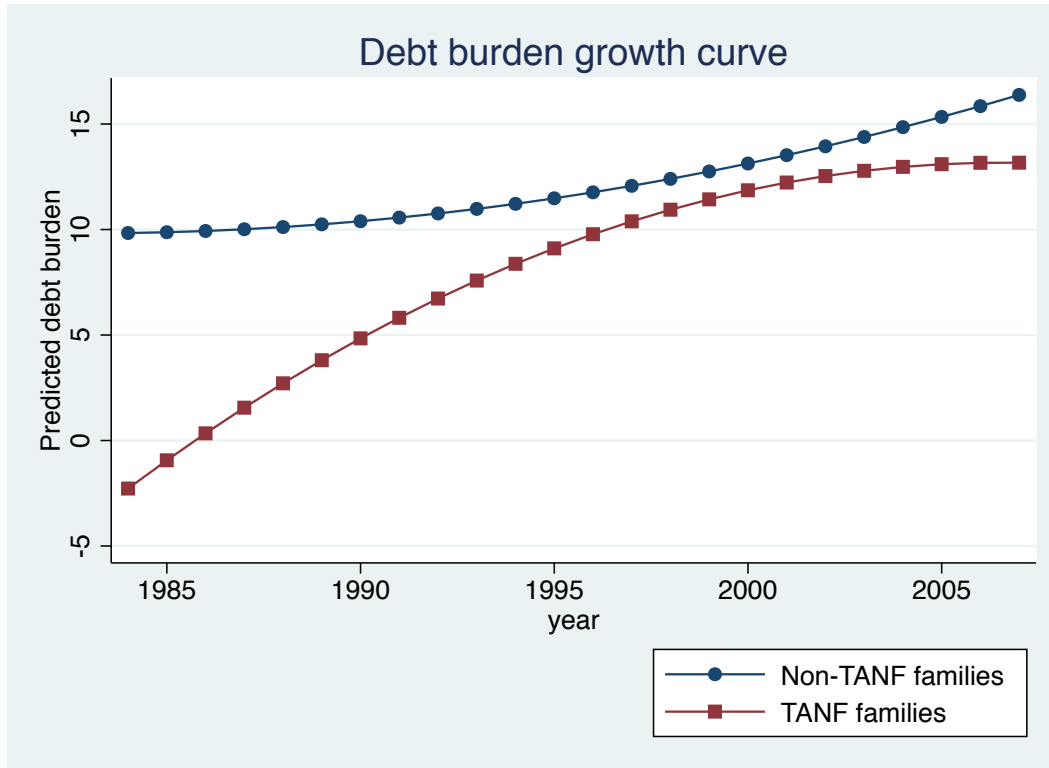

Figure 4.2. Estimated growth curves of debt burden, by TANF receipt.

As the debt burden increases more rapidly for TANF families, the gap between TANF and non-TANF families narrows significantly. By the early 2000s, there is only a marginal difference in the estimated debt burden of TANF and non-TANF families, after controlling for other variables. These results suggest that welfare did have a significant protective effect against the burden of debt. However, welfare has become strikingly less protective against debt burden over time to the

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[8] The growth curve in Figure 4.2 is based on the adjusted model estimated for the secondary sample in Table 4.12.

point that the debt burdens of TANF recipients and other families are nearly

indistinguishable, after accounting for the covariates.

ii. EITC

As discussed previously, TANF has become a less significant component of

social policy aimed at providing support for low-income families. Instead, the total

amount of income assistance provided through the EITC surpassed expenditures on

TANF/AFDC in the mid-1990s. By 2010, the number of families receiving the EITC

was about fifteen times larger than the number of families that received TANF

benefits. Since the EITC has become a major source of social assistance, I estimate

models to compare the debt trajectories of families receiving the EITC and non-EITC

families. I use the same model as for the preceding analysis of TANF and non-TANF

families, replacing the term for TANF recipient with a term for EITC recipient.

The results are reported for the primary and secondary samples in Table

4.13. Families are estimated to qualify for the EITC in 8.8 percent of the family-years

that make up the primary sample and 19.1 percent of the family-years in the

secondary sample.

The results for both samples are generally similar across the estimated

growth rates and the estimated effects of EITC receipt and other covariates. EITC

recipient families are estimated to have lower initial debt burdens, but the estimates

are not statistically significant. According to the adjusted model, the debt burden of

all families increases significantly over time. For the secondary sample, debt burden

grows significantly more rapidly for EITC recipients than non-EITC families.

Table 4.13. Multilevel models of EITC receipt and debt burden, PSID.

	1984-2007 (observed each wave)		1984-2007 (observed at least 2 waves)	
	Unadjusted	Adjusted	Unadjusted	Adjusted
EITC recipient	-1.77	-2.26	-0.84	-0.46
	(1.54)	(1.42)	(0.84)	(0.77)
Time (in years)	0.11+	-0.01	-0.01	0.10**
	(0.07)	(0.11)	(0.04)	(0.04)
Time-squared	-0.00	0.01*	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)
EITC recipient*Time	0.05	-0.08	-0.06	-0.12
	(0.26)	(0.23)	(0.12)	(0.11)
EITC recipient*Time-squared	0.01	0.01	0.01*	0.01**
	(0.01)	(0.01)	(0.00)	(0.00)
High net wealth		-3.87**		-2.81**
		(0.42)		(0.21)
Total assets (log)		0.33**		0.32**
		(0.09)		(0.04)
Family income (log)		-4.86**		-4.20**
		(0.26)		(0.12)
Age		0.51*		0.20**
		(0.21)		(0.07)
Age-squared		-0.01**		-0.00**
		(0.00)		(0.00)
Family size		-0.17		-0.22+
		(0.24)		(0.13)
Couple		1.57*		1.35**
		(0.61)		(0.26)
Children		-0.08		-0.08
		(0.27)		(0.15)
Homeowner		15.67**		15.77**
		(0.52)		(0.22)
Constant	10.77**	42.72**	9.53**	42.23**
	(0.44)	(5.01)	(0.28)	(1.71)
N (family-years)	6,824	6,797	34,597	34,597
N (families)	993	993	8,370	8,370

** p<0.01, * p<0.05, + p<0.1

To interpret the importance of the different growth rates for EITC recipients

and non-recipients, Figure 4.3 shows estimated growth curves for family debt

burden.[9] The trajectories for EITC and non-EITC families are shown in separate

[9] The growth curve in Figure 4.3 is based on the adjusted model estimated for the secondary sample in Table 4.13.

lines, estimated at the universal means of the other covariates in the model.
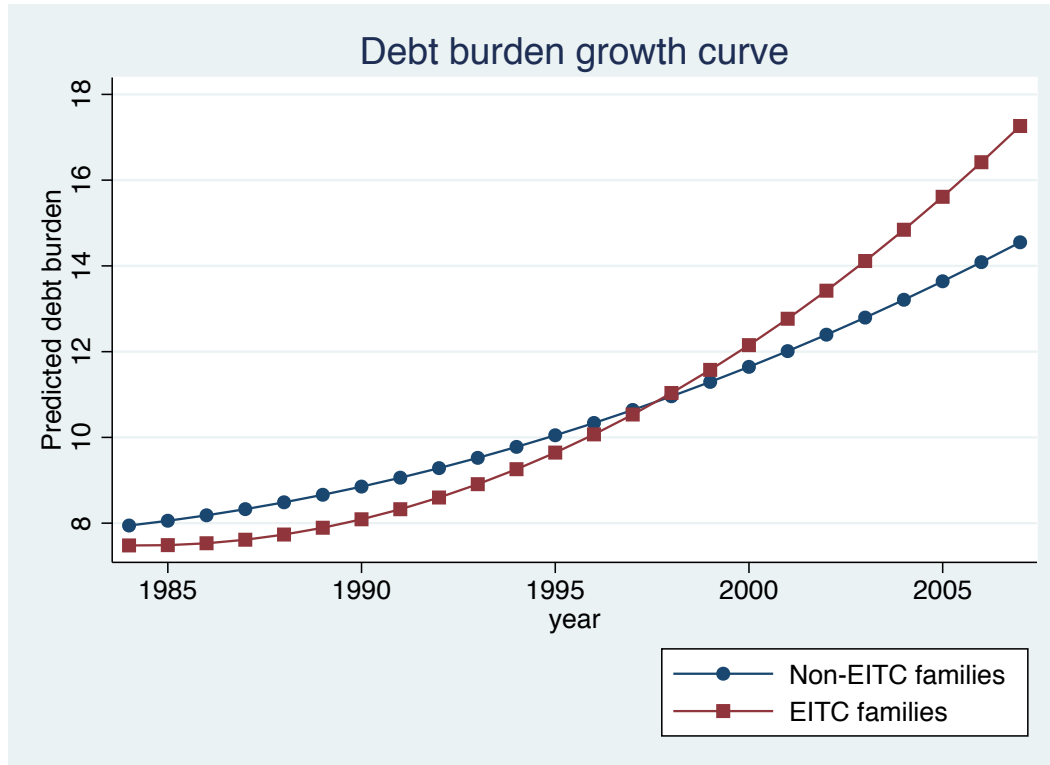

Figure 4.3. Estimated growth curves of debt burden, by EITC receipt.

The initial narrow gap between EITC and non-EITC families closes around the mid-1990s, and the debt burdens of EITC recipients are estimated to surpass those of non-recipients thereafter, after adjusting for the covariates. While the TANF may have become less protective against debt because of its shrinking scope, these results suggest that the EITC has also not protected low-income families from taking on greater debt burdens, despite the expansion of the tax credit as a source of support for low-income families.

Discussion

The primary purpose of this chapter has been to incorporate a long-term

perspective into the analysis of rising family debt. Considering the cumulative nature of debt, the debt trajectories of families are a necessary part of understanding the increased reliance on debt in family finances. This chapter also examines the social stratification of debt trajectories by analyzing racial differences in the longitudinal patterns of family debt. Finally, the chapter connects the analysis of debt trajectories to this dissertation's focus on the changing nature of welfare policy by examining the impact of TANF and the EITC on the debt trajectories of low-income families. The empirical analysis of family finances over more than twenty years reveals several important findings that contribute to a sociological understanding of the increased reliance on debt.

First, while there is a general increase in the amount of debt and family debt burdens, there are important differences in these trajectories for black and white families. Black families have significantly lower initial amounts of debt in 1984, but debt grows significantly faster for black families thereafter. This finding is not explained by other variables, such as homeownership, assets, income, or other family characteristics. From 1984 to 2007, the racial gap in debt levels quickly narrows and the estimated debt levels of black families exceed white families, after controlling for other variables.

There is a similar pattern in the trajectories of debt burden over time. While black families have significantly lower debt burdens in 1984, their debt burden increases significantly faster than white families, particularly between 1994 and 2005. In general, family debt burden is persistent over time, as a family's initial debt burden in 1984 is significantly predictive of its debt burden in 2007. Even when

families begin with the same initial debt burden, though, black families are more likely than similarly positioned white families to experience increased debt burdens over this period, when accounting for other family characteristics.

Since debt burdens generally increase for the overall sample over this period, I examined changes in the relative position of a family in the distribution of debt burden over time. That analysis shows that black families are significantly more likely to move up from low initial positions to higher positions in the distribution of debt burden than white families. Black families are also significantly more likely than white families to be in conditions of financial distress with high debt burdens, over this period.

These results provide empirical support for the argument that unequal access to credit limited the amount of debt that black families could acquire. A combination of efforts to reduce discrimination in lending, changes in market conditions that attracted a growing supply of credit, and changes in the regulatory environment led lenders to increasingly target previous excluded segments of the market in the 1990s and 2000s. Despite greater access to credit, black borrowers were more likely to be offered credit with inferior lending terms for nearly all types of loans, including home mortgages and consumer credit. As credit was increasingly targeted to low-income families in the 1990s and 2000s but with inferior lending terms, the debt burden of black families quickly approached that of white families.

It is important to note that the measure of debt burden in this analysis is based partly on a calculation that assumes the same payment rate on non-mortgage debt across families. To the extent that black families take on debt with less

favorable lending terms and higher interest rates, the debt burdens of black families analyzed are conservative estimates of their actual debt burdens. With more complete data on actual debt payments for non-mortgage debt, the debt burdens for black families are likely to be even higher.

An important limitation of the analysis in this chapter is that the samples favor families that are stable over time. In order to analyze data from the same families over time, the samples are restricted to families in which the head is consistent in the waves of the PSID. This may especially influence the interpretation of estimated racial differences in debt trajectories, since there are differences in family stability patterns between white and black families. While it seems likely that debt would be higher for the less stable families that are excluded from the analysis, further research is needed to assess the role of family instability in shaping debt trajectories.

This chapter also points to important findings with regard to recipients of social assistance. The analysis of the debt trajectories of TANF and EITC recipients is informed by the finding from Chapter 2 that at the micro level of household finances, there is a tradeoff between receiving social assistance and relying on debt, based on an analysis of multiple sources of short-term panel data. The main conclusion from the analysis of welfare recipients is that while welfare had previously provided a significant buffer against debt, it has become less protective against debt over time. Welfare recipient families have had a rapidly increasing debt burden over time, and by the end of the period it is nearly indistinguishable from non-welfare families. The findings from the analysis of EITC recipients are similar;

the debt burden of EITC recipients grows significantly more rapidly than for non-EITC families. These results may be especially informative because of the expansion of the EITC as a primary component of income support for low-income families. As with the analysis of racial differences in debt trajectories, it is important to consider that the measure of debt burden assumes the same debt payment rate for on non-mortgage debt for all families. It is reasonable to expect that non-TANF and non-EITC families on average have access to credit on better terms. This would suggest that the debt burdens for TANF and EITC recipients are conservative estimates of their actual debt burdens, which are likely to be even higher.

This chapter lends empirical support to the broader argument that welfare policy has played an important role in the shift toward increased reliance on debt among low-income families. An important function of social assistance is to provide stability for families that are otherwise unable to access sufficient resources from market sources. Relying on debt in place of social assistance could further undermine the financial instability of low-income families. Rather than accessing social assistance from the state, low-income families rely on credit without the resources to repay debt, which could create more precarious conditions in the long term.

CHAPTER FIVE

CONCLUSIONS

This dissertation was designed to examine the increased reliance on debt as an important feature of the U.S. welfare regime, the context of growing economic inequality. The main purpose of the research was to develop an understanding of how the changing structure of welfare policy has made low-income families increasingly dependent not only on the labor market for financial resources but also on the market for credit.

Sociologists have produced a wealth of research on the transformation of the U.S. welfare state in recent decades. These changes are often described within a framework of neoliberalism, which emphasizes the general retrenchment of the welfare state and an increased emphasis on the market in its place, especially the labor market. As shown throughout this dissertation, low-income families have increasingly relied on debt as an important source of financial resources, beyond labor market earnings and assistance from government programs. Despite the large increase in debt among low-income families, there has been little theoretical and empirical scholarship on the reliance on debt as an important feature of the U.S. welfare regime.

This dissertation has connected macro-level patterns in inequality, social policy, and household debt to micro-level analysis of household finances. Through the empirical analysis of quantitative data and historical policy actions, this research has examined a series of questions related to the interplay between the welfare

state and the increased reliance on debt. To what extent does debt serve as a substitute for social assistance in the finances of low-income families? What is the role of state policy in the increased reliance on debt among the poor? What are the long-term trajectories in family debt, and how are they socially stratified? The findings contribute to a sociological understanding of the transformation of the welfare state and the welfare functions of credit in the context of increasing inequality.

Although the growth in household debt has been striking in recent decades, the examination of historical policy actions in this dissertation show that the strategy of expanding access to credit rather than using redistribution to improve well-being is not a new one. As far back as the early 20th century, the federal government implemented policies to improve the conditions of rural residents by establishing programs to extend credit to struggling farmers. After the proliferation of consumer credit in the 1920s, New Deal policies aimed to strengthen the overall economy by promoting the expansion of credit to American families. Newly created government institutions, including the FHA and Fannie Mae, essentially developed the long-term, fixed-rate mortgage that would become central to family finances and attracted private capital to supply credit to the lending market.

These institutions actively created new markets for lending and borrowing, reflecting the extensive state action that has been central throughout the history of expanding access to credit. These new policies forged a political economy of debt and credit, described by one scholar as mortgage Keynesianism (Prasad 2012). In addition to significantly increasing homeownership, this approach made it normal

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for families to take on large amounts of debt. Credit had been established as an important resource in determining the economic position of families in the U.S.

A convergence of factors led to the expansion of debt to larger segments of the population, particularly to low-income families. Since credit had become an important factor in shaping well-being, policies aimed at discriminatory lending practices sought to equalize access to credit. Through the growing financialization of the economy, policy reforms allowed the state to access domestic and increasingly large foreign sources of capital to address the conditions of economic and fiscal crisis in the 1970s.

A wave of policy reforms in the 1980s and 1990s loosened regulations on banking, which significantly transformed lending markets. This deregulation unleashed an influx of capital to lending markets that essentially increased the supply of credit available to borrowers. These reforms also enabled the growth of the securitization of loans, which made it easier for lenders to trade debt on secondary markets. This increased the liquidity of the lending market and made lenders more willing to make loans that previously would have been considered too risky to previously excluded segments of the market, including low-income families.

While these policy changes greatly increased the supply of credit, a few important factors increased the demand for credit, especially among low-income families. As income at the top of the distribution grew significantly, there was only sluggish growth in the middle and minimal growth at the bottom of the distribution. Second, social programs directed a declining share of transfer income to low-income families, and cash assistance for the poor became less generous. At the end of the

1990s and in the early 2000s, the growth in household debt was especially concentrated among low-income families. In a market where investors sought increasingly riskier investments with higher returns, lenders actively extended loans to low-income borrowers, who previously may have been considered too risky by lenders.

With a greater understanding of the macro-level factors and policies that contributed to the expansion of debt among low-income families, I analyzed microdata in Chapter 2 to examine the utilization of debt at the household level. The evidence from the analysis of two panels of the Survey of Income and Program Participation (SIPP) and a unique panel of the Survey of Consumer Finances suggests that there is a general tradeoff between social assistance income and household debt. The analysis of SIPP data suggests a distinct tradeoff for black families, when focusing specifically on unsecured debt. The analysis of SCF data finds a significant tradeoff with non-mortgage debt specifically for low-income families.

The analysis of longitudinal family data from the PSID in Chapter 4 reveals several important findings about the dynamics of the general increase in debt across families since the early 1980s that contribute to a sociological understanding of the increased reliance on debt. The first set of original findings from the analysis in Chapter 4 points to racial differences in family debt trajectories. While black families had lower levels of debt when the PSID first began collecting data on assets and liabilities in 1984, their debt levels have grown significantly faster than white families. This cannot be explained by differences between white and black families

in homeownership, assets, income, and other family characteristics included in the models. Adjusting for these factors, the growth in debt for black families is especially pronounced from the mid-1990s on, and the estimated debt levels of black families surpassed white families thereafter.

The racial differences in the trajectories of debt burden over time are similar. Family debt burden is generally persistent over time for all families, and this continuity is especially pronounced for black families. Though black families had lower debt burdens when the PSID first began collecting data on debt in 1984, they were more likely than similarly positioned white families to experience increased debt burdens over this period. Black families are significantly more likely to move up from low initial positions to higher positions in the distribution of debt, and they are also significantly more likely to be in conditions of financial distress with high debt burdens.

These results provide empirical support for the argument that unequal access to credit limited the amount of debt that black families could acquire at the beginning of the study. A combination of efforts to reduce discrimination in lending, changes in market conditions that attracted a growing supply of credit, and changes in the regulatory environment led lenders to increasingly target previous excluded segments of the market in the 1990s and 2000s. Despite greater access to credit, black borrowers were more likely to be offered credit with inferior lending terms for nearly all types of loans, including home mortgages and consumer credit. As credit was increasingly targeted to low-income families in the 1990s and 2000s but with inferior lending terms, the debt burden of black families quickly approached

that of white families.

The second set of original findings from the analysis in Chapter 4 relates to the debt trajectories of recipients of social assistance. While welfare had previously provided a significant buffer against debt, it has become less protective against debt over time. Welfare recipient families have had a rapidly increasing debt burden over time, and by the end of the period their debt burden is nearly indistinguishable from non-welfare families. The findings from the analysis of EITC recipients are similar. Despite the scope of the EITC as a source of income assistance, it also has not protected low-income families from relying increasingly on debt.

A central theme of this study is that the reliance on debt in place of greater redistribution or social assistance is the result of explicit policy decisions that promoted credit to improve the conditions of those who were excluded from broader economic prosperity. These policies have been based on the premise that expanding credit, rather than redistribution or a stronger welfare state, should be an important resource for improving the well-being of American families.

To be sure, credit can be used to create opportunities for mobility by enabling people to upgrade their skills through education, create businesses to generate income, and accumulate wealth. To the extent that debt performs traditional functions of the welfare state, however, the benefits and stability that would otherwise come from income assistance, redistribution and the collectivization of risk are extended only to those who can access credit and who, importantly, are also able to repay these debts. With these welfare state functions shifted to private lending markets, those in greatest need of support are considered

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risky borrowers who have less access to credit and typically take on debt with

higher interest rates and other less favorable conditions. Rather than the stability

traditionally offered by the welfare state, a greater reliance on debt places low-

income families in increasingly precarious conditions in the long term, as their well-

being is more dependent on the private market

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