

Savings, Assets, Credit, and Banking Among Low-Income Households: Introduction and Overview

Michael S. Barr and Rebecca M. Blank

Low-income individuals often lack access to the sort of financial services that middle-income families take for granted, such as checking accounts, bank loans, or easily utilized saving opportunities. High-cost financial services, barriers to saving, lack of insurance, and credit constraints increase the economic challenges faced by low-income families. The contributors to this volume analyze the financial constraints and choices of low-income families and describe the ways in which low-income families utilize financial services, through both formal and informal financial institutions. In these chapters, they also discuss policies that would spur the private sector to provide financial services that allow low-income families a better chance to achieve more stable economic lives.

Access to affordable financial services and opportunities to save and build assets are important to the lives of low-income families, who must deal with sometimes abrupt fluctuations in income that occur because of job changes, instability in hours worked, medical illnesses and emergencies, changes in family composition, and many other factors. If these families have limited access to savings, credit, or insurance, even small income fluctuations may create serious problems in their ability to pay rent, utilities, and other bills.

Unfortunately, access to mainstream financial institutions is often limited for low-income families. For many low-wage individuals, take-home pay is reduced by the high transaction costs they face when using financial services. Inadequate access to financial services may diminish the value of government income transfer programs such as the Earned Income Tax Credit (EITC) and increase the administrative costs for government and compliance costs for households in filing their tax returns and receiving refunds.

Limited access to mainstream financial services can also limit the ability of low-income families to build assets and save for the future. Savings are important because they help to smooth short-run income fluctuations. Savings can also

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provide capital for important long-term investment opportunities. For instance, middle- and upper-income families regularly use their savings to invest in educational opportunities, in the health of family members, in homeownership, and in pension funds for retirement.

Thinking cohesively about the financial service and wealth accumulation needs of low-income households is important because these areas are functionally related. Financial institutions can provide the necessary transactional services as well as the opportunities for saving and credit. Savings are needed to access credit, which can then assist with asset accumulation. Imprudent credit usage, however, can undermine asset-building and block access to future savings. As we shall see, some families that are even quite poor use credit and saving, although often through informal mechanisms.

The chapters in this volume provide greater understanding of these issues and present new evidence on assets, debt, and saving among low-income families. The volume includes chapters on financial services, credit card usage, and homeownership. Several chapters discuss the emerging literature in behavioral economics, which uses insights from psychology to understand saving, debt choices, and the financial behavior of low-income families. One chapter compares the financial behavior of poor families in the developing world and that of low-income families in the United States, while another chapter focuses on immigrants in the United States. Many of the chapters discuss policy changes that could address current problems.

This introductory chapter takes on four tasks. In the first section, we provide an overview of how low-income families manage their economic lives, highlighting key issues that are important in the choices that low-income families make in their use of financial services, saving, and credit. In the second section, we summarize the chapters in this volume, emphasizing their primary conclusions and contributions. We close that section by highlighting a few of the key themes that emerge across chapters.

The third section puts forth a single cohesive presentation of key policy options that would provide low-income individuals with better financial services and encourage better financial decisionmaking. Our view is that financial services policy for low-income households is ripe for reform. This section relies heavily on the policy discussions in later chapters but is not limited to those options; we emphasize the most promising new policies that would increase the financial stability and opportunities available to low-income families. In the final section, we discuss the research agenda, noting areas where academic research, data collection, and demonstration projects could enhance our understanding of the choices of low-income families and the effectiveness of different policy options designed to improve their financial lives.

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FINANCIAL SERVICES, SAVING, AND CREDIT USE AMONG LOW-INCOME HOUSEHOLDS

This section provides a brief overview of some of the financial service, saving, and credit issues that affect the financial choices faced by low-income households.

Financial Services

Low-income families are less likely to hold bank accounts and more likely to face high costs for transacting basic financial services through check-cashers and other alternative financial services providers (Barr 2004). High-cost financial services and inadequate access to bank accounts may undermine the widely shared societal goals of reducing poverty, moving families from welfare to work, and rewarding work through incentives such as the Earned Income Tax Credit.

Nearly 25 percent of low-income American families—those earning under \$18,900 per year—are “unbanked,” that is, they have neither a checking nor a savings account (Bucks, Kennickell, and Moore 2006). Even among moderate-income households earning between \$18,900 and \$33,900 per year, nearly 13 percent lack any bank account.

In lieu of bank-based transactions, saving, and credit products, low- and moderate-income households often rely on the more costly alternative financial services (AFS). AFS providers offer a wide range of services, including short-term loans, check-cashing, bill payment, tax preparation, and rent-to-own products, most often in low-income urban neighborhoods. AFS providers are the only source of basic financial services for many low-income persons, but those services come at a high price.

For example, while check-cashers offer essential services, the fees involved in converting paper checks into cash are high relative both to income and to analogous services available to middle- and upper-income families, such as check deposit into a bank account or electronic direct deposit. Check-cashing fees vary widely across the country and between types of checks, but they typically range from 1.5 percent to 3.5 percent of face value. The industry reports that it processes checks totaling more than \$55 billion annually (Barr 2004).¹ Almost all of these checks are low-risk payroll (80 percent) or government-benefit (16 percent) checks (Bachelder and Ditzion 2000). While even payroll checks are not without some credit and fraud risk, average losses from “bad” checks at check-cashing firms are low and compare favorably with interbank rates (Barr 2004).

Surprisingly, it is not just the unbanked who use alternative financial services. Many low- and moderate-income families with bank accounts regularly rely on high-cost nonbank providers to conduct much of their financial business—such as

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cashing checks, buying money orders, or taking out payday loans (Barr, this volume; Rhine et al. 2001). We might think of these families as “underbanked.”

The high costs of alternative financial services raise several concerns. First, the costs of these basic financial transactions reduce take-home pay. A worker earning minimum wage, working full-time, and making under \$12,000 a year might pay \$250 to \$500 annually to cash payroll checks at a check-cashing outlet, in addition to fees for money orders, wire transfers, bill payments, and other common transactions (Bachelder and Ditzion 2000; Kennickell, Starr-McCluer, and Surette 2000). High fees for tax preparation and filing, check-cashing, and refund anticipation loans reduce the value of EITC payments by over 10 percent (Barr 2004; Berube et al. 2002). Bringing low- and moderate-income families into the banking system can help reduce these high transaction costs, substantially increasing the purchasing power of these families.

Second, without a bank account, low-income households face key barriers to saving. Promoting low-income household savings is critical to reducing reliance on high-cost, short-term credit, lowering the risk of financial dislocation resulting from job loss or injury, and improving prospects for longer-term asset-building through homeownership, skills development, and education.

Third, without a bank account, it is more difficult and more costly to establish credit or qualify for a loan. Holding a bank account is a significant predictor of whether an individual also holds mortgage loans, automobile loans, or certificates of deposit (Hogarth and O'Donnell 1999). Although there are many reasons why some low- and moderate-income households lack a bank account, the financial and nonpecuniary costs of account ownership are important in their decision to become and remain unbanked. Despite the need to understand how the decision-making process of low- and moderate-income households interacts with these external constraints, there is little research to inform us about how these households make decisions about bank account ownership or about the kinds of financial products that they would find attractive and in which they would participate.

We do know that checking accounts are ill suited to the needs of many low- and moderate-income households. Bank accounts are not structured to be low-cost and low-risk for low-income households. Financial institutions find low-balance accounts expensive (Barr 2004) and frequently require high minimum balances, credit checks to open accounts, high bounced check and overdraft fees, and long check-holding periods. Such accounts are not designed for the lives and finances of low- and moderate-income households that live paycheck to paycheck.

Some low- and moderate-income households have had a bank account in the past but were unable to manage their finances. Households that have had past problems with their accounts are listed in the Chex Systems, a private clearinghouse that most banks use to decide whether to open accounts for potential customers. Thus, not only does their own experience with high and unexpected fees as bank customers in the past keep some low-income households from opening an account, but they may also be formally barred from doing so by the Chex Systems. The minimum balance requirement on many checking accounts is another significant barrier for low-income households. Moreover, banks, unlike check-cashing

outlets, sometimes hold checks for several days before crediting the deposit of funds; for low-income customers, this wait may not be practical.

These features of traditional bank accounts partially explain why many low- and moderate-income households are unbanked or underbanked. In addition, formal financial institutions are often less prevalent in low-income neighborhoods than alternative financial services providers (Temkin and Sawyer 2004). Still, for some households, non-economic factors, such as mistrust of financial institutions, may matter, and immigrant households often face documentation barriers to account ownership. Lack of financial education may also play a role in these choices.

Saving and Assets

Low-income families are less likely to hold significant savings or assets (Scholz and Seshadri, this volume). These families often find it difficult to save and plan financially for the future. Living paycheck to paycheck leaves them vulnerable to medical or job emergencies that may endanger their financial stability, and their lack of savings undermines their ability to invest in improving their skills, purchasing a home, or sending their children to college.

Just as many low-income households are effectively excluded from mainstream financial services, so too are these families largely excluded from society's mechanisms to encourage saving. These families often lack access to even basic institutional saving vehicles. Two-thirds of tax benefits for pensions go to the top 20 percent of Americans, while the bottom 60 percent receive only 12 percent of the tax benefit (Summers 2000). Most low-income workers either work for firms that have no savings plans or are not covered by such plans (Orszag and Greenstein 2005). As we mentioned previously, 22 percent of low-income households lack a bank account, a critical entry point for saving (Barr 2004). And given the low levels of assets among low-income households, most banks have historically not wanted these customers. Thus, saving among low-income households is depressed by the lack of sufficient income to afford saving and the lack of supply in savings products for the poor, coupled with the low rates of return offered to the poor given their low levels of wealth.

Yet evidence suggests that some low- and moderate-income households can and do save. For example, a high portion of low- and moderate-income workers participate in 401(k) plans if offered the chance to do so (Orszag and Greenstein 2005). In the 1990s, some 73 percent of federal employees earning \$10,000 to \$20,000 participated in the Thrift Savings Plan, as did 51 percent of those earning under \$10,000 (U.S. Department of the Treasury 1998). About 30 percent of families in the bottom income quintile saved in 2000 (Aizcorbe, Kennickell, and Moore 2003). Automatic enrollment in employer-sponsored pension plans boosts participation and asset accumulation among low-income employees, as well as among African American and Hispanic employees (Choi et al. 2002; Madrian and Shea 2001). When welfare benefit asset limits are raised, low-income households may respond by saving more, although the empirical evidence is mixed (Hurst and Ziliak 2006;

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Nam 2008; Sullivan 2006). This evidence provides some support for the notion that low-income households can save and that savings are shaped at least in part by the institutional mechanisms that encourage saving.

Low-income households may have different uses for their savings than middle-income and upper-income households. For example, Social Security covers a substantial share of low-income households' retirement needs, and it may be impractical to expect poor households to set aside more out of their current income for retirement. Yet there are many purposes for which low- and moderate-income households need savings, including housing acquisition and improvement, education, key life events, and emergencies. These households need easily accessible mechanisms through which to save and may need help in building up their savings. Many low-income households have been able to build up sufficient savings, for example, through homeownership. For some households, homeownership provides a means to build equity over time, as well as residential stability and economic security; for other households, the homeownership choice and the debt undertaken to purchase a home may be less beneficial, as Raphael Bostic and Kwan Ok Lee (this volume) make clear.

Low- and moderate-income households have lower savings and fewer assets to fall back on in an emergency. At the same time, these households have difficulty obtaining insurance for important life risks, including medical needs, divorce, and job loss. Insurance helps smooth consumption and protect asset accumulation while also preventing or minimizing cascading shocks. For example, an auto accident without insurance can lead to a job loss, which can have devastating consequences for family finances. Given insurance constraints, saving for precautionary reasons may be important for low-income households. At the same time, given income constraints, regular saving may put a heavy burden on consumption or contribute to high-cost borrowing for the poorest families. Government insurance programs might help by making it unnecessary for families to rely solely on self-insurance through savings.

Credit

Many low- and moderate-income households use an array of short-term and long-term credit products, provided by a range of institutions, both formal and informal. Alternative credit products include payday loans, tax refund anticipation loans, pawnshop loans, rent-to-own products, and secured credit cards. Some households use bank overdrafts regularly, at high cost, while others use credit cards, which often charge high interest rates and high fees. Some households have access to home mortgage and home equity loans, including loans from both prime and subprime lenders, as well as automobile loans and consumer loans backed by car titles. Again, these sources of credit for many low-income households are often costly. In addition, short-term credit products, such as payday loans, are structured in a way that makes it easy for households repeatedly to overborrow, and many subprime home mortgages are structured to disguise their true costs

(Barr 2004, 2005, 2007.) At the same time, credit access may provide an important insurance mechanism for low-income households facing emergencies and may provide an important means for smoothing consumption in the face of income volatility.

In our view, abstract debates about whether credit access is welfare-enhancing or welfare-reducing miss the point. Research on human failings in decisionmaking suggests that credit access through misleading products and inducements to over-borrow can be welfare-reducing (Barr, Mullainathan, and Shafir 2008), just as credit access through straightforward products can in principle be welfare-enhancing. Policy needs to focus on how to move the market toward provision of welfare-enhancing products and services. To that end, we explore several policy options in the final section of this chapter.

In sum, low- and moderate-income households are underinsured and financially underserved. They often lack savings, rely on expensive, short-term credit (formal or informal), and have limited access to formal financial services of the sort that many middle-class families take for granted. Only recently, and on a small scale, have some financial institutions begun to offer banking accounts and other services tailored to the needs of low-income households. Moreover, regulatory gaps often leave low-income families unprotected in credit transactions, and national saving policies focus heavily on the needs of middle- and upper-income Americans. As a result of these public- and private-sector financial service failures, low- and moderate-income households face barriers that can make it difficult for them to advance economically by effectively managing their financial lives. The chapters in this volume provide a better understanding of these problems and explore policy options to improve the situation.

THE RESULTS AND FINDINGS IN THIS VOLUME

The chapters in this volume range across a broad set of topics. They provide information on the use of financial institutions, savings, debt, and assets, based on the best data available. Some of the authors have tabulated information from existing data sets; others present results from original data newly collected from low-income communities. In interpreting their data, the authors compare their results against different theories about how low-income households make financial decisions and about the constraints they face. Finally, the authors relate their work to current policy debates, indicating the ways in which their evidence supports certain policy approaches.

Here we summarize the key results from these chapters in the order in which they appear in the volume. We start with three chapters that describe the financial lives of low-income households using national data sets, original survey data from a micro-study in metropolitan Detroit, and a comparison with financial diaries from low-income families in the developing world. We then turn to a chapter that utilizes behavioral economics to glean insights into these patterns. The final four chapters discuss public- and private-sector savings strategies, asset-building efforts, the costs

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and benefits of homeownership, and credit card usage among low-income families. The volume concludes with a chapter on the unique financial issues faced by immigrant families.

Summary of the Chapters

In chapter 2, John Karl Scholz and Ananth Seshadri present a portrait of the financial holdings of lower-income families. They introduce the two nationally representative data sets with significant wealth information, the Survey of Consumer Finances (SCF) and the Survey of Income and Program Participation (SIPP), and provide comparative information from both of these data sets throughout their chapter. Both data sets show a reasonably similar picture of asset holdings among lower-income households.

Net worth among families in the bottom quintile of the income distribution (that is, the poorest 20 percent of all households) has increased slowly. In 2004 (SCF data), 80 percent of bottom-quintile households reported positive net worth, compared to 71 percent in 1962, and the value of net worth among those who held it rose from about \$74,000 to over \$92,000 (in 2004 dollars). Both financial assets and stock holdings, two primary components of net worth, increased among lower-income families, while housing showed relatively little long-term trend. While assets grew, so too did debt. For example, credit card debt increased, although the share of lower-income households reporting serious credit problems, through 2004, was quite steady.

Scholz and Seshadri make a particularly valuable contribution in their chapter by using cohort analysis—tracing wealth holdings among specific age cohorts in the population as they age. In general, net worth grows within a cohort as it ages, and each cohort has done a little better than the last. Many of these gains, however, are concentrated among households headed by college-educated adults. It is striking how small the gains are over time among lower-income households, and particularly among African American households. The authors include a useful analysis and discussion of the research on why wealth among black families is so low.

Scholz and Seshadri conclude with a discussion of the question of how much lower-income households should save. They suggest that extensive savings among lower-income families may not be the best use of their money, given pressing needs for daily expenditures, and that government safety net and social insurance programs should be preserved and expanded to protect low-income families from serious economic shocks.

Chapter 3 by Michael Barr describes the use of financial services among lower-income families. This chapter is based on information from a unique data set collected by Barr in a survey of over one thousand low- and moderate-income families in the Detroit metropolitan area. These data provide detailed information on the financial services utilized by these families.

The results suggest that existing financial services, credit, and payment systems impose efficiency costs on lower-income households, increase their costs of credit,

and reduce their opportunities to save. Like their higher-income counterparts, Barr argues, these lower-income Detroit households regularly conduct financial transactions, but the financial services system is not designed to serve them well. In his survey, about 30 percent of the adults were unbanked. A substantial share of these adults indicated that lower fees, less confusing fees, or more convenient bank hours and locations would make them more likely to open an account. Barr shows that households use a range of formal and informal mechanisms to meet their financial service needs. A surprisingly large share (65 percent) of those with bank accounts had also used money orders in the recent past, as had 77 percent of the unbanked. Money orders, pawnshops, and payday lenders appear to complement formal financial services for many of these households, who commented on their convenience and ease of use.

There was significant variation in saving patterns. About one-third of these families contributed to savings each month, while 42 percent said that they never saved. Savers were more likely to be employed and to have more education. Many of those who didn't save reported that they found it difficult to live on their current income. They were also more likely to have health expenses. When households faced a large expenditure need, they got help from family and friends, borrowed money, or spent down assets. Slightly less than 20 percent reported that they were in deep financial trouble.

After a detailed description of the financial lives of these families, Barr closes the chapter by discussing strategies to transform the financial services system to better serve low- and moderate-income households, including tax credits for banks that serve low-income customers and policies that make it easier for low-wage workers to utilize bank accounts and savings plans.

Chapter 4 by Daryl Collins and Jonathan Morduch complements Barr's chapter by providing a comparative perspective on the financial lives of the poor in another country. Collins and Morduch use detailed information on the finances of a sample of households in several South African areas. Because these families were interviewed once every two weeks for more than a year, these authors had much more information than is typically available from the usual cross-sectional survey of financial behavior. They argue that many families in this data set were at about the same income level as families in the bottom quintile of the U.S. population.

The households described in Collins and Morduch's chapter were active financial managers. Their gross cash flows over the year were often much larger than their net cash available at any point in time, a point that cross-sectional data fail to uncover. Like the lower-income populations that Barr describes, these families used both informal and formal financial instruments, not just because formal financial services were not available, but also because the informal arrangements were sometimes better suited to their household's cash flow needs. For instance, many families participated in "savings clubs" in which a group of people would contribute a set amount of money each month to a club "pot." Each month one member received the entire pot of money. This system provided a large amount of cash at a particular point in time, and social pressure to contribute one's appropriate share to these savings each month was strong.

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Nonetheless, despite the availability of informal mechanisms such as these, Collins and Morduch note the need for better mechanisms to support savings and credit. In many cases, the savings mechanisms used by these households did not allow them to smooth over negative income shocks or to meet large cash demands (such as funeral or wedding expenses). Their need was less to invest in business (the aim of many micro-enterprise credit schemes) or to build long-term assets than to smooth consumption in the face of uneven income flows and to meet occasional spending needs that far exceeded their normal monthly income. Additional flexible credit and unstructured savings mechanisms would allow them to round out their financial portfolios to address these unmet needs.

While the previous two chapters provide a picture of financial decisionmaking among low-income families, Sendhil Mullainathan and Eldar Shafir use the tools of behavioral economics to develop a larger theoretical framework by which to think about savings and financial decisionmaking, especially among lower-income households. In chapter 5, they argue that low-income households exhibit the same fundamental biases and weaknesses in financial decisionmaking that are found among middle- and upper-income households, including being affected by context and situational factors and using simplified mental accounting techniques. Such human failings cause households to make easily predictable mistakes in utilizing financial services, in their saving behavior, and in their use of credit.

These insights suggest that the institutional contexts within which financial decisions are made may matter a great deal. These contexts shape behavior through the ways in which they offer choices. The authors argue that setting up the right institutional structure is particularly important for low-income families because they have little financial slack in their lives. Small mistakes in decisionmaking can cause much greater economic problems for them and their families than small mistakes do for higher-income families. For instance, a minor car accident requires mechanical work before the car can be used again; without a buffer stock of savings to make this bill affordable, the family has no functioning car, and the working adult in the family could experience job loss after being late for work for several days. Indeed, because small economic problems can have disastrous consequences, it may be entirely rational for lower-income families to engage in high-cost financial transactions, such as payday loans. It may be better to pay the costs of acquiring the short-term loan than to take on the problems that ensue without this small cash infusion.

Of course, such institutional contexts can be altered through private and public policies. Mullainathan and Shafir indicate a number of ways to make it easier to save and harder to undertake welfare-reducing transactions. For example, as in Barr (2004, 2007), the authors argue that the EITC should be directly deposited into households' bank accounts. They also argue for a range of savings policies that are automatic unless a person explicitly opts out of them. They suggest steps that the private sector could take to make it easier for low-income households to sign up for bank accounts, such as having a bank officer present at volunteer tax-filing sites. In short, the behavioral perspective in this chapter both explains the financial decisions of many low-income households and offers a framework by which to design policies to improve these decisions.

The remaining chapters focus on specific topics in financial decisionmaking. Peter Tufano and Daniel Schneider discuss policies to increase savings among the poor in chapter 6, which follows closely from the previous chapter, since Tufano and Schneider use behavioral economics to indicate why certain policy approaches are likely to be more successful in generating additional savings.

A goal of the Tufano and Schneider chapter is to develop a typology of savings policies. Hence, they discuss a range of policy approaches that have been tried, starting from coerced (mandated) savings plans such as Social Security. They discuss policies that make it hard to avoid saving, such as employer-sponsored savings plans that automatically enroll workers unless they opt out, and they discuss plans that make it easy to save, such as programs sponsored by tax preparation companies that encourage taxpayers to deposit a percentage of their refunds in savings accounts. Other policies bribe people to save through savings matches, such as those provided by individual development accounts (IDAs); create social mandates to save, such as the savings clubs discussed earlier; or make saving exciting, such as lottery-linked savings plans.

This chapter is particularly creative in thinking broadly about the problem of savings policy and about public and private strategies to improve savings outcomes, and it is particularly useful in describing some dimensions by which to judge the effectiveness of different approaches. Tufano and Schneider conclude that savings is hard work, particularly in a consumption-oriented society. Our retail and financial institutions are largely designed to make it easy to spend money, not to make it easy to save money. Some of the suggested policies in this chapter would alter that bias.

Michael Sherraden continues the focus on savings policy in chapter 7. Sherraden is less interested in short-term savings and more interested in long-term savings for the purpose of acquiring assets such as a home, a college education, or an adequate retirement nest egg. Over the past decade, a wide variety of communities have experimented with IDAs, and a number of these experiments have been evaluated by researchers. IDAs are matched-savings plans aimed at low-income households. Sherraden uses data from the American Dream Demonstration of IDAs to discuss the success of IDA efforts and to develop a broader theory about the policy components that are important to encourage asset development among lower-income households.

The most important message from the IDA experiments, claims Sherraden, is that the poor can save regularly if provided with greater incentives. About 52 percent of those enrolled in IDAs were “successful savers,” meaning that they had net savings of \$100 or more at a specific point after the beginning of the program. The most common use of IDA savings was to finance homeownership or home repair. The evidence suggests that while higher match rates did not induce higher savings, the “match cap”—the savings level beyond which matched dollars were no longer provided—did matter. Families in the IDA experiments seemed to take the match cap as a goal for their savings, so those facing higher match caps saved more. Financial education of up to ten hours also seemed to increase savings.

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Sherraden notes many positive effects of IDAs but also indicates that the way in which they were operated by community nonprofit organizations (with relatively few savers at each site) made them quite costly. To be successful as a national policy, IDAs would have to be implemented in a different way. The IDA experiments do suggest that more than savings incentives are needed to encourage saving among the poor. Programs should facilitate savings (through such practices as direct deposit), set high expectations (through something like match caps), and help educate low-income households about financial decisionmaking and savings. The chapter ends with a discussion of national savings initiatives that might make sense for the United States to consider as a way to encourage greater asset accumulation among low-income families.

The biggest asset many families hold is their home. In chapter 8, Raphael Bostic and Kwan Ok Lee explore homeownership among lower-income families. They discuss the data on homeownership levels, noting a significant growth in homeownership over the past decade not in the first quintile of household income but in the second quintile, composed of lower-middle-income families. Much of this growth is related to the expanded availability of credit through subprime loans.

Bostic and Lee provide an informative discussion of the benefits of homeownership, such as decreased residential mobility and greater wealth accumulation through housing equity growth, and contrast this with the potential risks, including the potential for accumulating no wealth and becoming trapped in a deteriorating community. They note the ways in which some subprime mortgages increase so-called instrument risk—the risk associated with these particular mortgage instruments and their ballooning payment requirements. They conduct a series of simulations of the net value of homeownership to different types of families in different neighborhoods (that is, different initial housing prices), with different mortgage instruments and different levels of housing appreciation over time.

Their simulations support their cost-benefit analysis, suggesting that lower-income families who buy more expensive houses, make lower down payments, use higher-risk mortgage instruments, or invest in low-appreciation neighborhoods may easily lose money from homeownership. Furthermore, the authors note, foreclosure risk is concentrated in lower-income and heavily African American neighborhoods, and residents of these disadvantaged neighborhoods face particular risks to homeownership. Of course, families that do not face these problems may gain significant wealth from homeownership. This chapter ends with a discussion of the policy options available that would reduce the risk of homeownership and ease affordability burdens for low-income families.

While information on asset ownership is useful, it is equally important to know how debt burdens are changing. Ronald Mann focuses on credit card use and credit card debt in chapter 9. He opens the chapter by discussing the significant changes in the credit card market that have allowed credit card companies to expand credit to a larger number of lower-income (higher-risk) families by greatly increasing the fees paid by these families to access credit.

As a result, credit card usage and debt have risen over time. In 2004 one-third of all families in the first quintile of the income distribution (and one-half of all

families in the second quintile) had credit card debt. Relative to their income, the magnitude of this debt was much greater than that held by higher-income families. Mann looks at the determinants of who acquires credit card debt. For lower- and moderate-income households, employment increases the use of credit cards to carry debt, and it is strongly correlated with other debt, such as mortgages and car loans. Mann interprets this as evidence that some persons are more “debt-prone” and willing to take the risks associated with higher debt levels. The chapter ends with a short discussion of the role of more stringent public requirements on credit card companies to provide greater disclosure of the actual interest rates embedded in credit cards that require up-front payments and multiple fees.

While the chapters in this book focus on lower-income families, there are particular groups among the low-income whose financial lives might be of special concern. For this reason, a number of chapters differentiate between families of different ages or families of different racial-ethnic backgrounds. One group of particular concern is immigrants, who may experience greater barriers to the use of formal financial services in the United States than others. In their examination in chapter 10 of the immigrant experience with financial services, Una Osili and Anna Paulson note the large wealth gap between immigrants and natives in the United States: the average immigrant family holds only one-fourth the wealth of the average family headed by a native-born adult. This wealth gap is much larger than the income gap between immigrant and native families.

Osili and Paulson use the SIPP data to explore these differences more closely, looking at both the probability of holding different types of financial assets and the amounts held. They find that the biggest difference is in the propensity to hold certain assets: immigrants are much less likely to hold checking or savings accounts, stocks, or IRA-Keogh plans. Although controlling for detailed demographic and economic characteristics of families significantly decreases the immigrant-native differences in wealth holdings, immigrants are still less likely to hold as much wealth as otherwise identical native-born families.

In exploring the reasons for these differences, the authors look at the greater priority that immigrants seem to place on homeownership, the trustworthiness of financial institutions in their home country, the likelihood that immigrants will send remittances home, and the integration of immigrants into the language and culture of the United States. The last effect is significant, while those who send remittances home are actually more likely to hold financial assets in the United States. The chapter ends with a discussion of ways to integrate immigrants more fully into formal financial institutions and increase their asset-holding in the United States.

Common Themes

Although the chapters in this volume focus on different aspects of the relationship of low-income households with formal financial services, they share a number of common themes. First and most important is the fact that low-income families are

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financial decisionmakers who need a range of financial services. Basic transactional services—receiving income, storing it, and paying bills—are less available and more expensive for low-income households. In addition, low-income households may have more acute needs for certain forms of finance. For example, less-skilled adults are more likely to face unemployment or involuntary part-time employment, and their incomes are more cyclical (Bania and Leete 2007; Hoynes 2000). Their need to smooth consumption may therefore be higher than it is among high-income households. This means that flexible credit or moderate levels of short-term savings may be quite important to the economic well-being of these families.

Second, lower-income families utilize both formal and informal means to manage their financial lives. Although low- and moderate-income U.S. households are less likely to hold checking or savings accounts than middle- and upper-income households, many such households do have bank accounts, and many low-income households, both banked and unbanked, also utilize a range of alternative financial services, such as check-cashers, payday lenders, and refund anticipation loan providers (Barr, this volume; Berube et al. 2002). This suggests that formal financial institutions are not fully meeting their needs. For instance, changes in banking have made low-fee bank accounts far less available in the past fifteen years. Many payday loan customers believe their loan is cheaper than the cost of returned check fees (Elliehausen and Lawrence 2001).

Third, lower-income families have substantially less wealth than high-income families. In itself, this is not surprising, since these families have less capacity to save and invest (Scholz and Sheshadri, this volume). But for some groups, particularly African Americans and immigrants, income differences alone do not explain these wealth differences; wealth holdings are lower even after accounting for income and demographic differences.

Fourth, the lower wealth holdings of low-income families have substantial implications for many aspects of their lives. Lower homeownership rates can mean greater residential relocation, which can in turn lead to greater instability in gaining access to schools, doctors, or family supports. The lack of short-term savings can lead to greater use of payday lenders for short-term loans and greater use of credit card debt. Lack of checking accounts can result in fees paid to check-cashing outlets or increased utilization of tax refund loans (Barr 2004). Use of these services increases the prices paid by lower-income families for financial services and makes saving even harder.

Fifth, when thinking of savings and the financial needs of lower-income households, we should consider their need for short-run economic flexibility, which savings and access to formal financial institutions can provide. By contrast, much of the recent policy discussion about saving among the poor has focused on long-run investment gains such as homeownership or future educational needs. While saving as a vehicle for long-term asset accumulation and investment is important, this is only half the story. The value of low levels of savings and low-cost credit to short-run economic flexibility and consumption smoothing is equally important. Indeed, for many low-income families the substantial dollars needed to ensure access to college or to stable economic retirement may be unattainable and can

only happen if individual savings are supplemented by government assistance programs, such as Pell grants and Social Security.

POLICY DIRECTIONS

The chapters in this volume discuss a wide variety of policy initiatives that might improve the access of lower-income families to savings and financial institutions and help prevent serious problems with credit, such as falling into debt traps or losing one's home through foreclosure. In this section, we discuss some of the key policies that we think are important to consider and that emerge from the issues discussed in this book. We divide this discussion into two sections: the first is aimed at private-sector changes, and the second at public-sector changes.

Private-Sector Policies to Enhance the Financial Well-Being of Low-Income Families

Financial services firms, employers, and nonprofits all have important roles to play in better serving low-income families. Bank accounts tailored to the needs of lower-income families are likely to expand their use of formal financial services. Such accounts would have low fees and no minimum balance, and they would be debit card accounts that do not allow overdrafts or check-writing. These accounts would be lower-cost and lower-risk for both banks and households (Barr 2004). Banks in a wide variety of communities are beginning to offer a range of lower-cost accounts tailored to low-income households. In some cases, banks are working on larger community-wide efforts. For instance, the Bank on San Francisco project is trying to decrease the number of unbanked families in that city by at least 20 percent. Sheila Bair (2005) provides a number of examples of local credit unions or banks that offer short-term consumer loans explicitly designed to compete with payday lenders, for much lower fees than is found among AFS providers.

In addition to tailoring bank accounts to low-income families, financial institutions could increase their presence in low-income neighborhoods. AFS providers outnumber bank branches in many neighborhoods (Temkin and Sawyer 2004). Banks can develop innovative, low-cost means of increasing their presence, including such options as mobile banking and kiosks in stores. Government incentives for banks to serve lower-income customers with better products should help increase the presence of financial services in lower-income neighborhoods. In addition, the U.S. Treasury Department's CDFI Fund, which supports the activities of community development financial institutions (CDFIs), is a program that should continue to expand in communities (such as Native American reservations) where other formal financial services are not available.

Employers of low-wage workers also shape the financial choices that these workers make. Employers can encourage the use of direct deposit, and they can work with local banks to ensure that their workers have access to accounts structured to

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their needs. Employer-based savings schemes, with automatic savings provisions, can encourage saving, not simply for retirement but also for shorter-term or emergency needs.

Of course, private-sector policy changes will occur only if they benefit financial institutions or employers. The growing interest in providing better financial services to low-income populations has increased the number of institutions that are working to better serve these families. Where changes have been successful, it will be important to share information about promising practices and effective policies aimed at low-wage workers and low-income families.

Public-Sector Policies to Enhance the Financial Well-Being of Low-Income Families

The public sector has primary responsibility for making sure that low-income families escape economic disaster. Indeed, to the extent that publicly financed savings assistance plans or homeownership efforts help families achieve long-term economic stability, the public sector's safety-net expenditures to support people who face economic destitution and require help from public assistance programs should be reduced.

As previously discussed, a key role for the public sector is to work closely with the private sector, encouraging and incentivizing financial institutions to serve lower-income populations. A tax credit to financial institutions for offering low-cost electronic accounts for low-income persons could expand private-sector interest in serving these households (Barr 2004, 2007). The Internal Revenue Service (IRS) could be authorized to open up privately offered bank accounts for unbanked households receiving tax refunds as a way to decrease the use of refund loans, increase opportunities for saving, and lower administrative costs in the tax system (Barr 2007). States could use their electronic benefit transfer programs for cash welfare and other state-administered benefits to bring households into the banking system rather than simply treating these programs as income transfer mechanisms (Barr 2004).

Policies should also be pursued to encourage saving among low-income households. Making the Saver's Credit refundable would expand the opportunity for tax-advantaged retirement savings to low-income families (Gale, Iwry, and Orszag 2004); Congress could enact a new automatic IRA for a broad range of workers who have no access to pension plans at work (Iwry and John 2007); and new tax credits could be provided to banks and thrifts for setting up automatic savings plans for low-income households to meet their shorter-term savings needs (Barr 2007). Interest is growing in matched-savings plans by which government funds supplement savings by low-income households. A variety of people are also calling for government-provided savings accounts for children at birth, similar to the Child Trust Fund provided by the United Kingdom (Goldberg 2005).

The government also plays a key regulatory role. For example, improved disclosures might help consumers make better decisions about borrowing. There

may be a need to require greater and more standardized disclosure of the financial implications of credit across both the mainstream and alternative financial sectors, including credit card fees, overdraft policies, and payday loans. Such cross-sector disclosures could improve the ability of consumers to comparison-shop across functionally similar credit products. Tailored disclosures regarding the consequences of certain borrower behaviors, such as making only the minimum payment on credit cards, might also help consumers make better choices (Barr 2007).

Moreover, we ought to consider how advances in behavioral economics, which have improved retirement savings outcomes, could be applied in the credit arena (Barr, Mullainathan, and Shafir 2008). While market forces in these two financial areas are quite different, the fundamental mistake that individuals make in not understanding the power of compound interest is strikingly similar. In the one case it leads to undersaving, and in the other to overborrowing. Congress could pursue opt-out strategies in the credit arena that would make it more difficult for households to make bad decisions with severe consequences. For example, credit card companies could be required to establish opt-out credit card repayment plans with the standard pay-down occurring over a reasonably short period of time (Barr 2007). As another example, Congress could require lenders to offer a standard set of home mortgages with straightforward terms; borrowers could opt out, but the opt-out rules would be “sticky,” making it harder for lenders to encourage borrowers to take out loans not in their interest (Barr, Mullainathan, and Shafir 2008).

More broadly, as we write, the need to implement better protection for low- and moderate-income families who utilize subprime and alternative mortgages has become a national priority, and we expect national legislation in this area to occur in the near future. Such reforms should focus on tightening broker and lender licensing and regulation, trying harder to combat deceptive practices, making structural changes to reduce or eliminate conflicts of interest by mortgage providers, and implementing new oversight, supervision, and enforcement provisions regarding nonbank financial providers.

Homeownership assistance programs have long been supported by the federal government, and in our judgment they should continue, albeit in the context of better protections for borrowers from unscrupulous and misleading tactics by mortgage and real estate professionals. Rental assistance programs, by contrast, have in recent years lagged far behind the need. Low- and moderate-income households have been paying an increasing share of their income toward rent, and the federal government’s Section 8 housing voucher program has never kept up with demand or met the promise of housing mobility embodied in its approach. As the nation recovers from the subprime mortgage fallout, we should be paying particular attention to the rental housing needs of families (Gramlich 2007).

The public sector assists low-income families in meeting their financial retirement needs, investing in education, covering major health expenditures, and, in some instances, meeting other needs that lower-wage workers cannot afford. These programs need to be preserved and strengthened. Long-term financial stability for Social Security is probably more important than improved savings plans

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for low-wage workers since 65 percent of retirees rely on Social Security for more than half of their current income (Mishel, Bernstein, and Allegretto 2005). Broadly available health insurance could prevent workers from incurring long-term debt or filing for bankruptcy when faced with a health crisis. Pell grants and other forms of educational subsidies can help low-income families educate their children beyond high school and give their children greater economic opportunities. Moreover, the government plays a central role in enhancing the take-home pay of low-wage workers through the Earned Income Tax Credit, which helps to lift millions of families out of poverty every year. The EITC has been effective and should be expanded, including for persons without children.

Finally, the public sector holds much of the responsibility for greater financial education for low-income families through public schools, regulatory disclosure requirements, and public subsidies to financial education programs. (The non-profit sector is also involved in these programs.) Evidence on the value of explicit financial education programs is admittedly mixed (Caskey 2006). There have been few entirely credible evaluations of financial education programs, however, so our knowledge about the best ways to provide financial education to lower-income families is limited at present. There is surely a role for financial education in high schools, for community-based short-term financial education programs for those who are motivated to attend, and for clearly understandable disclosure provisions aimed at those undertaking potentially high-cost financial transactions, such as credit card debt, payday loans, and mortgage lending.

THE RESEARCH AGENDA

This volume brings together the most recent research and data on the financial lives of lower-income families, but there is still much that we do not know. A variety of future research initiatives could greatly improve our understanding of the problems and possibilities facing lower-income families and give us better information about the effectiveness of different policies designed to increase savings and assets and reduce financial difficulties among low- and moderate-income families.

The U.S. data on wealth holdings and participation in financial services are extremely limited. Ongoing attention needs to be given to the coverage and reliability of data in both the Survey of Consumer Finances (SCF) and the Survey of Income and Program Participation (SIPP), our two primary sources of nationally representative wealth information. More detailed information about financial decisionmaking at the household level would be useful. The historical purpose of the SCF has been to collect information on wealth holdings; hence, it oversamples higher-income households. This survey could be expanded to provide more detail on the financial lives of lower-income households as well. The Federal Deposit Insurance Corporation (FDIC) will soon begin collecting baseline data on bank status from a nationally representative sample of low- and moderate-income households in collaboration with the U.S. Census Bureau. Such data collection efforts need to be supported and strengthened over time. In addition, it would be particularly useful to

collect detailed household financial cash flow information in the United States from a sample of lower-income families, similar to the data collected by Daryl Collins (2003) in other countries. This would provide longitudinal data on how financial decisions are made over time.

The research on IDAs demonstrates how we can build knowledge about new policies designed to change the behavior or improve the economic well-being of lower-income families. A wide variety of financial services policies would benefit from seriously evaluated, random-assignment demonstration projects.

Many of these evaluations should be aimed at determining the most effective policy designs and best practices presented by a set of alternative program options:

- *Private-sector and community-based efforts to expand bank account usage within lower-income populations:* These evaluations should both measure the impact of policy efforts and look at the cost and implementation issues facing private-sector institutions that try to expand bank accounts for lower-income persons. We need both institutional best practice information and program design information.
- *Several types of savings enhancement programs:* These evaluations should include employer-based automatic opt-in and opt-out savings plans as well as public matched-savings opportunities.
- *Alternative regulatory and disclosure requirements on higher-risk financial actions:* Evaluations would focus on credit card loans, payday loans, and mortgage loans.
- *Alternative ways of providing effective financial education (not necessarily limited to lower-income families):* With systematic comparison of evaluations of such education efforts, which should be made by both community-based organizations and public-sector institutions, we could develop a portfolio of educational and disclosure policies that would clarify the risks and opportunities encountered by the persons making household financial decisions. Although much discussed, our knowledge of “what works” in financial education is woefully limited.

Other evaluations should test newer ideas about which we know even less in order to discover whether they might have significant impacts on financial behavior:

- The impact of *direct deposit employer programs* (potentially bundled with short financial education opportunities) on the use of financial services among lower-wage workers.
- The effectiveness of a few more innovative policy options such as *lottery-linked savings* (see chapter 6) and *Child Development Accounts* (see chapter 7).

Good research and good data make important contributions to the policy discussion around the financial lives of low- and moderate-income families. While we expect adults to make the best financial decisions possible for their family, it is clear that some families (both low- and high-income) have difficulty saving or using credit in ways that advance their welfare. Our financial institutions are not well designed to help low- and moderate-income families get access to financial

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services, savings, and credit products that meet their needs. If we want to demand financial responsibility from low- and moderate-income households, we have an obligation to ensure that they have access to the banking, credit, and savings institutions that are also available to higher-income families.

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NOTE

1. Most recent data available at Financial Services of America (FiSCA), "FiSCA Frequently Asked Questions, How Large Is the Financial Services Industry." Available at http://www.fisca.org/Content/NavigationMenu/AboutFISCA/FAQs/default.htm#how_large (accessed November 7, 2008).

REFERENCES

- Aizcorbe, Ana M., Arthur B. Kennickell, and Kevin B. Moore. 2003. "Recent Changes in U.S. Family Finances: Evidence from the 1998 and 2001 Survey of Consumer Finances." *Federal Reserve Bulletin* 89(January): 1–32.
- Bachelder, Ed, and Sam Ditzion. 2000. *Survey of Non-Bank Financial Institutions for the Department of the Treasury*. Boston: Dove Consulting.
- Bair, Sheila. 2005. *Low-Cost Payday Loans: Opportunities and Obstacles*. Report by the Isenberg School of Management, University of Massachusetts at Amherst, to the Annie E. Casey Foundation. Baltimore: Annie E. Casey Foundation.
- Bania, Neil, and Laura Leete. 2007. "Income Volatility and Food Insufficiency in U.S. Low-Income Households, 1992–2003." Discussion paper 1325-07. Madison: University of Wisconsin, Institute for Research on Poverty.
- Barr, Michael S. 2004. "Banking the Poor." *Yale Journal on Regulation* 21(1): 121–237.
- . 2005. "Credit Where It Counts: The Community Reinvestment Act and Its Critics." *New York University Law Review* 80(2): 513–652.
- . 2007. "An Inclusive, Progressive National Savings and Financial Services Policy." *Harvard Law and Policy Review* 1(1): 161–84.
- Barr, Michael S., Sendhil Mullainathan, and Eldar Shafir. 2008. "Behaviorally Informed Home Mortgage Credit Regulation." Working paper UCC08-12. Cambridge, Mass.: Harvard University, Joint Center for Housing Studies.
- Berube, Alan, Anne Kim, Benjamin Forman, and Megan Burns. 2002. "The Price of Paying Taxes: How Tax Preparation and Refund Loan Fees Erode the Benefits of the EITC." Brookings Institution/Progressive Policy Institute, Center on Urban and Metropolitan Policy Survey Series (May). Available at: <http://www.brookings.edu/es/urban/publications/berubekimeitc.pdf> (accessed January 2009).

- Bucks, Brian K., Arthur B. Kennickell, and Kevin B. Moore. 2006. "Recent Changes in U.S. Family Finances: Evidence from the 2001 and 2004 Survey of Consumer Finances." *Federal Reserve Bulletin* 92(February): A1–38.
- Caskey, John P. 2006. "Can Personal Financial Management Education Promote Asset Accumulation by the Poor?" Policy brief 2006-PB-06. Terre Haute: Indiana State University, Networks Financial Institute.
- Choi, James, David I. Laibson, Brigitte Madrian, and Andrew Metrick. 2002. "Defined Contribution Pensions: Plan Rules, Participant Decisions, and the Path of Least Resistance." In *Tax Policy and the Economy*, edited by James M. Poterba. Cambridge, Mass.: MIT Press.
- Collins, Daryl. 2003. "Financial Instruments of the Poor: Initial Findings from the Financial Diaries Study." *Development Southern Africa* 22(5): 735–46.
- Elliehausen, Gregory, and Edward C. Lawrence. 2001. "Payday Advance Credit in America: An Analysis of Customer Demand." Monograph 35. Washington, D.C.: Georgetown University, McDonough School of Business.
- Gale, William G., J. Mark Iwry, and Peter R. Orszag. 2004. "The Saver's Credit: Issues and Options." *Tax Notes* 103(5): 597–612.
- Goldberg, Fred. 2005. "The Universal Piggy Bank: Designing and Implementing a System of Savings Accounts for Children." In *Inclusion in the American Dream: Assets, Poverty, and Public Policy*, edited by Michael Sherraden. New York: Oxford University Press.
- Gramlich, Edward M. 2007. *Subprime Mortgages: America's Latest Boom and Bust*. Washington, D.C.: Urban Institute Press.
- Hogarth, Jeanne M., and Kevin A. O'Donnell. 1999. "Banking Relationships of Lower-Income Families and the Government Trend Toward Electronic Payment." *Federal Reserve Bulletin* 85(July): 459–73.
- Hoynes, Hilary W. 2000. "The Employment, Earnings, and Income of Less-Skilled Workers over the Business Cycle." In *Finding Jobs: Work and Welfare Reform*, edited by David E. Card and Rebecca M. Blank. New York: Russell Sage Foundation.
- Hurst, Erik, and James P. Ziliak. 2006. "Do Welfare Asset Limits Affect Household Savings? Evidence from Welfare Reform." *Journal of Human Resources* 40(1): 46–71.
- Iwry, Mark, and David John. 2007. "Pursuing Universal Retirement Security Through Automatic IRAs." Working paper 2007-2. Washington, D.C.: Retirement Security Project.
- Kennickell, Arthur B., Martha Starr-McCluer, and Brian J. Surette. 2000. "Recent Changes in U.S. Family Finances: Results from the 1998 Survey of Consumer Finances." *Federal Reserve Bulletin* 86(January): 1–29.
- Madrian, Brigitte, and Dennis F. Shea. 2001. "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior." *Quarterly Journal of Economics* 116(4):1149–87.
- Mishel, Lawrence, Jared Bernstein, and Sylvia Allegretto. 2005. *The State of Working America: 2004–2005*. Ithaca, N.Y.: Cornell University Press.
- Nam, Yunju. 2008. "Welfare Reform and Asset Accumulation: Asset Limit Changes, Financial Assets, and Vehicle Ownership." *Social Science Quarterly* 89(1): 133–54.
- Orszag, Peter, and Robert Greenstein. 2005. "Toward Progressive Pensions: A Summary of the U.S. Pension System and Proposals for Reform." In *Inclusion in the American Dream: Assets, Poverty, and Public Policy*, edited by Michael Sherraden. New York: Oxford University Press.

Insufficient Funds

- Rhine, Sherrie L. W., Maude Toussaint-Comeau, Jeanne M. Hogarth, and William H. Greene. 2001. "The Role of Alternative Financial Service Providers in Serving LMI Neighborhoods." Paper presented to the Federal Reserve System Community Affairs Research Conference, "Changing Financial Markets and Community Development." Washington, D.C. (April 5–6).
- Sullivan, James X. 2006. "Welfare Reform, Savings, and Vehicle Ownership: Do Asset Limits and Vehicle Exemptions Matter?" *Journal of Human Resources* 41(1): 72–105.
- Summers, Lawrence H. 2000. "Remarks of Treasury Secretary Lawrence H. Summers at the Department of Labor Retirement Savings Education Campaign Fifth Anniversary Event." U.S. Department of the Treasury, Office of Public Affairs, press room release LS-785 (July 18). Available at: <http://www.treas.gov/press/releases/ls785.htm> (accessed January 2009).
- Temkin, Kenneth, and Noah Sawyer. 2004. "Analysis of Alternative Financial Service Providers." Paper prepared for the Fannie Mae Foundation. Washington, D.C.: Urban Institute, Metropolitan Housing and Communities Policy Center.
- U.S. Department of the Treasury. 1998. "TSP Participation and Contribution Rates." Internal document on file with Michael S. Barr.