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Introduction

To survive and thrive in a highly commercialized modern world, adequate family economic resources are important for family well-being. As a Chinese saying described, “Money is not everything but no money is totally unacceptable.” This chapter reviews research relevant to family economic well-being. It first discusses the definition of economic well-being, and then examines research relevant to important indicators of family economic well-being, such as income, expenditure, debt, asset, and financial satisfaction. The final section concludes with summaries of major findings and suggestions for future research.

Definition of Family Economic Well-Being

In the literature of family economic issues, economic well-being, financial well-being, and material well-being are used in an interchangeable way (Joo, 2008). For the convenience of clarity, economic well-being is used in this chapter. Family economic well-being is defined here

as a family economic status that has sustainably adequate economic resources to live a comfortable life.

In the literature, economic well-being is traditionally measured by income but more recently has been measured by expenditure and wealth. In recent years, more economists have recognized the importance of subjective measures of economic well-being and the relationship between objective and subjective measures (Clark, Frijters, & Shields, 2008; Di Tella & MacCulloch, 2006; Frey & Stutzer, 2002; Kahneman & Krueger, 2006).

Economic well-being can be measured by numerous indicators. When Alex C. Michalos, a well-known researcher in the area of well-being studies, discussed the philosophical issues upon which social indicators are based, he suggested that these indicators can be measured in various dimensions such as objective vs. subjective, positive vs. negative, input vs. output related, etc. (Sirgy et al., 2006). Following his suggestion, indicators of economic well-being can be categorized in similar manners. Table 24.1 presents examples of indicators of economic well-being.

These examples are generated by two dimensions, objective vs. subjective and input vs. output. An objective measure is tangible and a subjective measure is intangible that is relevant to human perception. An input measure refers to a factor that is used as an entry for a system or process while an output measure refers to a factor that is the outcome of a system or process. Many of these indicators are continuously measured

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Table 24.1 Indicators of economic well-being

	Input	Output
Objective	Income	Expenditure
	Debt	Asset
	Economic behavior (earning, spending, borrowing, saving)	Bankruptcy
Subjective	Money attitude	Financial satisfaction
	Materialism	
	Consumer confidence	

and the two extreme ends represent desirable or undesirable aspect of the item. For example, for income, low is undesirable while high is desirable. For subjective measures such as materialism, a low score is good and a high score is bad. For categorical variables such as employment, having a job is good and losing a job is bad. Some indicators with multiple dimensions are less obvious to classify within either the positive or negative categories such as money attitude. For many of these indicators, only comparisons to others and comparisons to one self's past are meaningful (Clark et al., 2008). For example, comparing to last year, experiencing an increase in this year's income is good. Having one's income classified as below the poverty level, as defined by a country or an international organization, is not good. Defining a family as doing well economically means that economic indicators of this family are above the average of a particular population. In addition, indicators can be measured at an individual and collective level. For example, economic well-being can be measured individually by family income or collectively by income inequality of a country.

In a general sense, behaviors lead to outcomes (Ajzen & Fishbein, 1980) and, as expected, positive economic behaviors contribute to economic well-being. Economic behavior can be defined as any human behavior that generates and manages economic resources to improve economic well-being. Common economic behaviors include earning, budgeting, spending, borrowing, and saving. Except for earning, the other behaviors refer to financial behaviors (Xiao, 2008) and, in recent years, certain financial behaviors are encouraged by public policy makers such as saving for retirement and taking control of consumer debts.

Several behavior science theories are applied for studying family economic behaviors. Included among these perspectives is the transtheoretical model of change (TTM) that focuses on behavior changes (Prochaska, DiClemente, & Norcross, 1992). Another is the theory of planned behavior that focuses on predicting and understanding human behaviors (Ajzen, 1991). These theories are applied to promote positive financial behaviors for improving family economic well-being. For example, TTM was applied in a consumer education program to encourage saving (Xiao, O'Neill, et al., 2004) and for debt reducing behavior among consumers with heavy debts (Xiao, Newman, et al., 2004). The theory of planned behavior was applied to debt repayment behavior in the context of credit counseling services (Guo, Xiao, & Tang, 2009; Xiao & Wu, 2008). Family economists recommended specific positive financial behaviors in areas of cash, credit, and saving management (e.g., Hilgert, Hogarth, & Beverly, 2003; O'Neill & Xiao, 2003). Positive financial behavior may help improve well-being within the economic domain of life, other life domains, and in an overall sense (Xiao, Sorhaindo, & Garman, 2006; Xiao, Tang, & Shim, 2009). In the following sections, we review research on family income, expenditure, debt, asset, and financial satisfaction.

Income

Income is the most commonly used indicator for economic well-being, though it can be defined in many different ways for different purposes. The US Census Bureau has been compiling income estimates since 1947 (Weinberg, Nelson, Roemer, & Welniak, 1999). Based on Annual Social and Economic Supplements (ASEC) to the Current Population Survey (CPS) conducted by the US Census Bureau, in 2009, median household income is \$49,777 (DeNavas-Walt, Proctor, & Smith, 2010).

Using the national median income as a norm, couple households fare better (median income \$71,830), whereas male headed households are close to the national median (\$48,084). Other

household types have lower than the national median: female headed households (\$32,597), female nonfamily households (\$25,269), and male nonfamily households (\$36,611). Racial and ethnic differences are found in household income. Asian and white households have above the national median income (\$65,469 and \$54,461, respectively) while Hispanic and black households have below the national median income (\$38,039 and \$32,584, respectively). Such patterns demonstrate persistence by having lasted for the last 40 years (1967–2009) (DeNavas-Walt et al., 2010, Figure 1).

Rich and not so rich families have different income sources evidenced by various levels of net worth. According to the 2007 Survey of Consumer Finance (SCF), income sources and average percentages of receiving them among families are wages (64.5%), business, farm, self-employment (13.6%), social security or retirement (9.6%), capital gains (6.7%), interests or dividends (3.7%), and transfers or other (1.9%). Families at the bottom 25% of net worth are most likely to receive wages (79.9%) and transfers or other income (8.6%). Families at the top 10% of net worth are most likely to receive income from business, farm, self-employment (24.7%), capital gains (14.4%), and interests or dividends (7.8%). Families at the middle level (25–90%) of net worth are more likely to receive incomes from social security or retirement incomes (10.9–14.1%) (Bucks, Kennickell, Mach, & Moore, 2009, Table 2).

Poverty

For a family, living in poverty is an indicator of economic ill-being. According to a US Census report, in 2009, the official poverty rate is 14.3% and 43.6 million people are in poverty. The poverty rate in 2009 is the highest since 2000. Female headed households are more likely to be in poverty than couple and male headed households (29.9% vs. 5.8 and 16.9%), with 4.4 million of these families being in poverty. Black and Hispanic Americans are more likely than white and Asian Americans to be in poverty (25.8 and 25.3% vs. 9.4 and 12.5%). Children under 18 are

more likely than adults and elders (65 or older) to be in poverty (20.7% vs. 12.9 and 8.9%) (DeNavas-Walt et al., 2010).

Not having health insurance is another indicator of economic ill-being. Based on a US Census report, in 2009, the percentage of Americans without health insurance is 16.7% or a total of 50.7 million Americans do not have health insurance. Hispanic, African, and Asian Americans are more likely than European Americans to be without health insurance (rates of lack of coverage are 32.4%, 21.0%, 17.2% vs. 12.0%, respectively). Rates of lack of coverage are higher than average among young and middle aged adults, age 18–24 (30.4%), 25–34 (29.1%), and 35–44 (21.7%). Lower-income Americans are more likely to be uninsured. Rates of lack of coverage for Americans with household incomes less than \$25,000 and \$25,000–\$49,999 are 26.6% and 21.4%, respectively, compared to those with household incomes \$50,000–\$74,999 and \$75,000 or higher for which the rates of no coverage are 16.0% and 9.1%, respectively (DeNavas-Walt et al., 2010). On March 23, 2010, President Obama signed the affordable care act into law. The law puts in place comprehensive health insurance reforms that will roll out over 4 years and beyond, with most changes taking place by 2014. This new law expects to provide health insurance coverage for more Americans who are currently uninsured (About the law, 2010).

Low-income families are facing a different set of financial issues compared to their higher-income counterparts, such as financial service access, asset accumulation, homeownership, credit use, and health insurance access (Garasky, Nielsen, & Fletcher, 2008; Xiao et al., 2010). Low-income individuals often reside in high-density, low-to-moderate income (LMI) communities that often display minority and ethnic enclave characteristics or geographical isolation characteristics (such as rural communities or tribal areas). Access to affordable financial products and services becomes a function of limited income (e.g., lack of auto ownership) along with geographical-spatial considerations (e.g., limited or nonexistent public transportation and geographical isolation). Such limitations create barriers to

conveniently accessing affordable financial services for LMI individuals and families. Payday lenders and check-cashing outlets tend to concentrate in high-density LMI communities (Graves, 2003; Immergluck, 2004; Praeger, 2009). In addition, LMI communities can be characterized as supplier-driven, cash-oriented economies and markets (Robles, 2007, 2009a).

Low-income individuals are more likely to be the unbanked (Berry, 2004; Washington, 2006). The bulk of the research on the unbanked has focused mainly on the recently arrived immigrant or immigrant legacy LMI individuals and families (Perry, 2008). As a result, there is a significant gap in our research knowledge into individuals who are “unbanked” due to poor credit and increasing dissatisfaction with banking experiences (Robles, 2009a). For recent immigrants, learning the host country’s culture and social system would help them in effective consumer decision making (Ogden, Ogden, & Schau, 2004). In addition, new research is exploring how recently arrived immigrants assimilate into host communities in the unit of “communities” instead of “individuals” (Hatton & Leigh, 2009). We know that in high-density immigrant and immigrant legacy communities, saving behaviors occur outside of mainstream financial institutions and often in an extended family or communal context (Chang, 2010; Chung-Hevener, 2006; Robles, 2007, 2009a). Research indicates that the unbanked often seek out businesses that engage in predatory practices and charge excessive fees and prices (Rhine, Greene, & Toussaint-Comeau, 2006).

Started in the 1990s, the antipoverty policy was implemented to help low-income individuals and households build assets or wealth (Blank, 2002). Lifting welfare eligibility limits on the value of a vehicle resulted in the greater likelihood that low-income individuals and families could own a car (Sullivan, 2006). Automobile ownership is important because it provides access to employment opportunities (Garasky, Fletcher, & Jensen, 2006) and affordable financial services that are rarely located in inner cities or LMI communities (Graves, 2003; Praeger, 2009). Partially under the rubric of asset building, government has intensified efforts to promote low-income

homeownership in the early to mid-2000s prior to the housing crisis (Belsky, Retsinas, & Duda, 2005). However, the targeting of subprime financial products in LMI communities—and specifically, communities of color—has exacerbated the wealth divide and created uncertainty surrounding future nuclear family homeownership opportunities. The continuing high national unemployment rate has contributed to a return to 1930s-style intergenerational households with adult children moving in with elder parents in order to protect assets and minimize depletion of savings (PEW Research Center, 2010). Recent lump-sum tax refund research indicates that LMI families do display future-oriented financial behaviors and asset building resiliency focused on children’s educational expenditures and family communal mobility aspirations (Garcia, 2009; Robles, 2009b).

Sherraden (1991) has proposed an institutional saving theory that promotes individual development accounts (IDA) to help low-income consumers save. More than 40 states have initiated some type of IDA policy (Greenberg & Patel, 2006). Longitudinal research suggests that IDA participants have significant variations in saving patterns (Han & Sherraden, 2009). Research also indicates that experiential knowledge contributes to cognitive ease and familiarity with financial services and products even for limited income individuals and households (Tescher, Sawady, & Kutner, 2007).

Earning Behavior

Bowles, Gintis, and Osborne (2001) conducted a literature review on determinants of earning and found several puzzles: (1) individuals with similar characteristics receive quite different earnings; (2) advantages of children of successful parents receive benefits besides superior education, the inheritance of wealth, or the genetic inheritance of cognitive ability; and (3) seemingly irrelevant personal characteristics, including beauty, height, obesity, and even whether one keeps a clean house, are often robust predictors of earnings.

Bowles et al. (2001) also review several conceptual models that explain the determinants of earning. Three models reviewed are labeled with names of three famous economists. A Walrasian model considers that services provided by an employee to the production process is an exogenously determined attribute of the worker. Productively identical individuals will receive the same wage in all employments. The behavioral characteristics of the parties to an exchange may be ignored. A Schumpeterian model contends that, at any given moment, factor payments typically include what may be termed “disequilibrium rents.” These rents are attributed to technical change, product innovation, changes in business organization, and other shocks. People differ in their ability to identify and capture these rents, and the personal dispositions and capacities contributing to success in this may correspond only weakly to productive skills. A Coasean model identifies that individual traits may be relevant to attenuating the incentive problems when labor effort is endogenous. These *incentive-enhancing preferences* may bear a competitive return even if they do not contribute directly to production. After reviewing these conceptual models, Bowles et al. then provide their own model, the model of incentive enhancing preferences. Three examples of incentive enhancing preferences include time preference, sense of self-efficacy, and increase of marginal utility of income. A study using the Panel Study of Income Dynamics (PSID) suggests robust effects of incentive enhancing preferences (Duncan & Dunifon, 1998). They study adult males whose motivational and behavioral traits measured 15–25 years prior to the observations of their current earnings. The motivational traits measured are preference for challenge over affiliation, fear of failure, sense of personal efficacy, and degree of trust. Behavioral measures include church attendance, participation in social clubs, television viewing, newspaper reading, and an interviewer’s assessment of the cleanliness of the respondent’s home. These variables, along with a cognitive test score, a measure of years of schooling completed, and an unusually rich set of other controls are then used to predict the average of

the log of hourly wages between 1988 and 1992. Another study using the National Longitudinal Survey of Young Women (NLSYW) and the National Child Development Study (NCDS) finds behavioral traits to have a significant influence on the earnings of women, controlling for standard human capital variables (Osborne, 2000). Reasoning and evidence suggests that incentive-enhancing preferences and other earnings-relevant behavioral traits may be influenced by schooling, and may explain some of the economic returns to schooling, as well as other individual differences in earnings (Bowles et al., 2001).

Bowles et al. (2001) suggest that while both cognitive functioning and schooling are important determinants of earnings, the economic return of schooling is not accounted for primarily by its contribution to enhanced cognitive scores. Instead, differences in cognitive scores account for very little of the residual earnings variance and these data provide no support for the hypothesis that the effect of cognitive scores on earnings increased secularly over the four decades covered by their estimates. However, schooling types may make differences in human capital investment. In the last four decades, average colleges in the United States are less selective but students who attend more selective colleges receive higher return on the investment (Hoxby, 2009).

Income Inequality

Income inequality can be considered an indicator of economic ill-being at a collective level. From a family perspective, research on income inequality may provide implications for directions that can be used to improve the economic well-being of individual families. Consistent with this perspective, family advocates are concerned about trends of income inequality to lobby for pro-family public policies. The Census Bureau has traditionally used two methods to measure income inequality—the shares of aggregate household income received by quintiles and the Gini index. In 2009, the top quintile of households receive 50.3% of total income in which top 5% receive 21.7% of total income, while lowest quintile of

households receive 3.4%. The Gini index is 0.468 (0 refers to perfect equality and 1 refers to perfect inequality) (DeNavas-Walt et al., 2010).

Gottschalk and Danziger (2005) analyze distributional changes over the last quarter of the twentieth century. Both male wage rate inequality and family income inequality has accelerated during the early 1980s, increased at a slower rate through the early 1990s and then stabilized at a high level through the early 2000s. The similarity in the timing of changes in these two distributions has been used as evidence that increased family income inequality primarily reflects increased inequality of wage rates.

Wolff and Zacharias (2009) analyze the level and distribution of economic well-being in the United States during the 1980s and 1990s based on the standard measure of money income and a measure of imputed income. Over the 1982–2000 period, median well-being increases faster when these adjustments are made than when standard money income is used. This adjustment also widens the income gap between African-Americans and whites but increases the relative well-being of the elderly. Adding imputed rent and annuities from household wealth to household income considerably increases measured inequality and the share of income from wealth in inequality. However, both measures show about the same rise in inequality over the period.

A research review on income inequality concludes that inequality in wages, earnings, and total family incomes in the United States has increased markedly since 1980, with some trends beginning as early as the late 1960s. The level of inequality today, for both market income and disposable income, is greater than at any point in the past 40 years or longer and may be as high as in the late 1910s or 1920s (McCall & Percheskie, 2010).

Bourguignon and Morrisson (2002) investigate the distribution of well-being among world citizens during the last two centuries. The estimates show that inequality of world distribution of income worsened from the beginning of the nineteenth century to World War II and after that seems to have stabilized or to have grown more slowly. In the early nineteenth century most inequality was due to differences within countries;

later, it was due to differences between countries. Anand and Segal (2008) review key studies on global interpersonal inequality and conclude that there is no change in global interpersonal inequality over 1970–2000.

Determinants of Income Inequality

A recent review on income inequality concludes that rising income inequality from the mid-1990s to the present was characterized by rapid income growth among top earners and new patterns of employment and income pooling across families and households. Research on economic inequality has expanded from a more narrow focus on wage inequalities and labor markets to other domains including incentive pay, corporate governance, income pooling and family formation, social and economic policy, and political institutions (McCall & Percheskie, 2010).

Income instability, work skill, and occupation may affect income inequality. Based on data from PSID, Gottschalk and Moffitt (2009) find that income instability should be considered as a major cause for income inequality. According to their research, income instability has been increased in the last 25 years. Gottschalk (1997) concludes that the increase in inequality reflects an absolute as well as a relative decline in the earnings of less skilled workers. In fact, the decline in wages for less skilled workers canceled out the impact of the rising wages for more skilled workers, so little or no change in mean wages has occurred. Kim and Sakamoto (2008) examine the rise of intra-occupational wage inequality in the United States in 1983–2002 with data from the CPS. They find that the direct association between occupations and wage inequality declined over this period as within-occupational inequality grew faster than between-occupational inequality.

Technology may cause income inequality. Acemoglu (2002) examines associations between technology change and income inequality. He concludes that the behavior of wages and returns to schooling in the United States indicates that technical change has been skill-biased during the past 60 years, and probably for most of the twentieth century. DiMaggio and Bonikowski (2008) study the impact of internet use on the earnings

of US workers with data from the CPS. Their analyses reveal robustly significant positive associations between web use and earnings growth, indicating that some skills and behaviors associated with Internet use are rewarded by the labor market. Analyzing data from the CPS for 1963–2005, Autor, Katz, and Kearney (2008) analyze trends of overall, upper-tail and lower-tail inequality. Overall, the growth of overall wage inequality in the 1990s is slowing down. However, two different paths existed. Upper-tail inequality existing between 90 and 50 percentile increased steadily since 1980 even adjusting for changes in labor force composition, while lower-tail inequality existing between 50 and 10 percentile rose sharply in the first half of the 1980s and plateaued or contracted thereafter. These patterns are potentially reconciled by a modified version of the skill-biased technical change hypothesis that emphasizes the role of information technology in complementing abstract tasks required by higher education and substituting for routine tasks required by lower education.

Income inequality may be resulted from family demographic and structure changes. Western, Percheski, and Bloome (2008) examine inequality among American families with children. From 1975 to 2005, the variance in incomes of American families with children increased by two-thirds. Their analyses show that disparities in education and single parenthood contribute to income inequality, but rising educational attainment and women's employment offset these effects. Most of the increase in family income inequality is due to increasing within-group inequality, which is widely shared across family types and levels of schooling. A study documents the trends of family structure and income inequality during 1976–2000 and argues that single mother families are always at the bottom of the income distribution that contributes to their greater income inequality within the group (Martin, 2006). Beenstock (2008) uses matched data for parents and siblings in Israel to decompose the sibling correlation in schooling and earnings. The findings indicate that sibling interaction plays a more important role than child–parent interaction to explain sibling correlation in schooling and earning. Sibling size

is negatively associated with schooling and earning. To reduce inequality, decreasing sibling size is one possible way.

Intergenerational Transfer

Factors that affect intergenerational inequality are in several dimensions (Bowles & Gintis, 2002). Intergenerational transfer is relevant to redistribution economic policies. Early research on the statistical relationship between parents' and their children's economic status after becoming adults found only a weak connection and thus seemed to confirm that the United States was indeed the "land of opportunity." But more recent research shows that the estimates of high levels of intergenerational mobility are artifacts of two types of measurement errors: mistakes in reporting income, particularly when individuals are asked to recall the income of their parents, and transitory components in current income uncorrelated with underlying permanent income. When corrected, the intergenerational correlations for economic status appear to be substantial, many of them three times the average of the US studies surveyed by Becker and Tomes (1986). On the basis of these and other empirical regularities, it seems safe to conclude that the intergenerational transmission of economic status is accounted for by a heterogeneous collection of mechanisms, including the genetic and cultural transmission of cognitive skills and noncognitive personality traits in demand by employers, the inheritance of wealth and income-enhancing group memberships, such as race, and the superior education and health status enjoyed by the children of higher status families. They find that the combined inheritance processes operating through superior cognitive performance and educational attainments of those with well-off parents, while important, explain at most three-fifths of the intergenerational transmission of economic status. Moreover, while genetic transmission of earnings-enhancing traits appears to play a role, the genetic transmission of IQ appears to be relatively unimportant. Most economic models treat one's income as the sum of the returns to the factors

of production one brings to the market, like skills, or capital goods. But *any* individual trait that affects income and for which parent–offspring similarity is strong will contribute to the intergenerational transmission of economic success, which are race, geographical location, height, beauty or other aspects of physical appearance, health status, and personality (Bowles & Gintis, 2002).

Grawe and Mulligan (2002) present a simple model of investment and intergenerational decision making that can be interpreted as a conceptual aggregation of many more detailed economic models. From it they derive one class of predictions about the role of endowments and credit markets in determining intergenerational correlations. The theory asserts that intergenerational earnings mobility is determined by the transmission of ability. Parents can transfer consumption between generations and among siblings using bequests. When credit constraints are considered, middle-earning families may be most susceptible to credit constraints; earnings mobility then would be least prevalent among families in the middle of the parent earnings distribution.

Erikson and Goldthorpe (2002) discuss a sociological approach to intergenerational transfer. When economists are concerned with the inheritance of inequality, they typically focus on the intergenerational transmission of income or wealth. In contrast, sociologists are more likely to analyze intergenerational mobility between (and immobility in) different class positions. Sociologists' results relating to the mobility regimes that operate within class structures are more complex, since it is supposed that the association between class origins and destinations may vary in strength across the component cells of the mobility table—that is, from one intergenerational transition to another. This supposition turns out in fact to be fully warranted, so what is lost in parsimony is gained in realism. Although somewhat simplified, the main findings from recent sociological research could be summarized as follows: (1) in all modern societies, significant associations between class of origin and class of destination prevail; (2) there is a general propensity for intergenerational class immo-

bility through the operation of class-specific inheritance effects; (3) within particular societies, mobility regimes show a high degree of constancy over time; (4) educational attainment is a major—probably *the* major—mediating factor in class mobility; (5) modern societies are not meritocracies in the sense that, once educational qualifications and other “merit” variables are controlled, class of destination is no longer dependent on class of origin; and (6) the mediating role of education varies significantly in its importance from one type of intergenerational transition to another.

Solon (2002) discusses issues of intergenerational transfer measurements and international comparisons. Based on his review, most US studies that have used multiyear measures of father's earnings and have measured son's earnings after his first few years in the labor market have estimated the intergenerational earnings elasticity at about 0.4 or higher. After comparing international studies on this topic, he concludes that the United States and the United Kingdom appear to be less mobile societies than are Canada, Finland, and Sweden. By making more efficient use of the available information in the PSID, Lee and Solon (2009) generate more reliable estimates of the recent time series variation in intergenerational mobility. Their results, which pertain to the cohorts born between 1952 and 1975, do not reveal major changes in intergenerational mobility.

Expenditure

Expenditure is considered a better measure of consumption than income. In recent years, expenditures are used to indicate family economic well-being. According to the Consumer Expenditure Survey, in 2009, the average annual expenditure is \$49,067, decreased 2.8% from the previous year (US Bureau of Labor Statistics, 2010). Major expenditure categories are housing (34.4% of total annual expenditure), transportation (15.6%), food (13.0%), and pension and social security (11.2%) (author calculation based on raw data provided by US Bureau of Labor Statistics).

The influential life cycle model in economics suggests that consumers would smooth life cycle consumption by borrowing and saving (Ando & Modigliani, 1963; Modigliani, 1986). This theory suggests that the consumption pattern over the life cycle should be fairly flat. Fernández-Villaverde and Krueger (2007) use Consumer Expenditure Survey data and a semiparametric statistical model to estimate life cycle profiles of consumption, controlling for demographics, cohort, and time effects. They find statistically significant, reverse U-shape patterns (humps) over the life cycle for total, nondurable, and durable expenditures. Changes in household size account for roughly half of these humps. The other half remains to be explained by factors not present in the standard complete markets life cycle model of consumption. If the ratio of peak consumption to consumption at age 22 is calculated, the ratio before demographic adjustment is roughly 1.6 and 1.3 thereafter. This finding is inconsistent with the basic version of the life cycle model.

Except for expenditure levels, it is not straightforward to link expenditure categories to economic well-being directly. Paulin (2008) examines both demographic and spending patterns changes for young, never-married adults from 1984–1985 to 2004–2005. For example, young singles experienced a decrease in real total outlays from 1984–1985 to 2004–2005, while other singles experienced an increase during that time. However, young singles today allocate larger shares of total outlays to food away from home and to travel, and smaller shares to food at home and to housing. He concludes that whether these changes indicate an increase or decrease in economic status is unclear.

Advances in technology may drive social norms of expenditures. For example, Creech (2008) examines cellular phone service and residential telephone services pending patterns for all consumer units and by age group from 2001 through 2006. The results show that cellular phone expenditures increased, while residential telephone service expenditures decreased, over that period. Wider availability and price packages that are comparable to residential telephone packages have been the main sources of this increase.

Also, cellular phone expenditures are now the majority of total telephone expenditures in three younger groups (under 25, 25–34, 35–44) of the six age groups.

Expenditures differ in family types. Using data from the Consumer Expenditure Survey, researchers find that cohabiting-parent families, compared to married-parent families, spend a greater amount on two adult goods (alcohol and tobacco) and a smaller amount on education. Cohabiting-parent families also differ in their spending patterns from divorced single-parent families and from never-married single-parent families (DeLeire & Kalil, 2005). Families with a nonbiological mother (a step-, adoptive, or foster mother) spend less on food than other two-parent families (Case, Lin, & McLanahan, 2000). Similar patterns are found for health investments (Case & Paxson, 2001). Single mothers are much more likely to purchase apparel and services for children than are single fathers (Paulin & Lee, 2002). Single-parent families spend a significantly smaller share of their budgets than do married-parent families on children's education expenses. Conversely, single-parent families spend significantly more on tobacco and alcohol products, as well as food consumed away from home, compared to married-parent families (Ziol-Guest, Kalil, & DeLeire, 2004).

Housing Expenditure

Housing is the single largest expenditure item in the budgets of most families and individuals. The average household devotes roughly one quarter of income to housing expenditures, while poor and near-poor households commonly devote half of their incomes to housing (Quigley & Raphael, 2004).

Microdata over the life cycle show different patterns for consumption for housing and non-housing goods: The consumption profile of non-housing goods is hump-shaped, while the consumption profile for housing first increases monotonically and then flattens out. These patterns hold true at each consumption quartile (Yang, 2009).

Racial/ethnic differences in housing expenditures are examined by Vendemia (2008). The amount households spend on housing varied depending on race or Hispanic origin. However, minorities spend a larger share of total expenditures on housing than do White households. When looking at consumer units that are homeowners only, the estimated market value of owned home as income, location of homes, family size, and age of reference person as possible major contributors to these differences. Renter households apportion the same share of total expenditures to housing as homeowners do. Renters spend, on average, about two thirds of their total housing expenditures on rent. Proportionately more Black and Hispanic households are renters, compared with Asian and White consumer units. Overall, data show that Black and Asian renters seem to have different spending patterns for housing, whereas shares spent by Hispanic and White consumer units among housing subcomponents are similar.

To examine whether or not there are housing market bubbles, Himmelberg, Mayer, and Sinai (2005) develop a formula to calculate annual cost of home ownership. The annual cost includes foregone interests if renting instead of owning is used, property taxes, maintenance costs, and risk premium, while minus mortgage interests and property related tax benefits and capital gains. Under certain assumptions, the predicted user cost is 5.0%, that is, for every dollar of price, the owner pays 5 cents/year in cost. Leaving aside other differences between renting and owning, people should be willing to pay up to 20 times (1/0.05) the market rent to purchase a house. Hence, for example, a two-bedroom apartment that rents for \$1,000 per month (\$12,000 per year) should sell for up to \$240,000.

For the two-thirds of US households who own homes, there is little evidence that housing has become less affordable in recent years. For the one-third of US households who are renters, the proportion of income that the median renter devotes to housing has increased only modestly. However, pronounced increases in the typical rental burdens for poor and near-poor households are found (Quigley & Raphael, 2004).

For the majority of American households—including more than two-thirds of those in the top three income quintiles—housing “affordability” refers to the terms on which dwellings can be purchased and loans to purchase these assets can be amortized. In contrast, for households of lower incomes, for the poor, for minority households, and for many young households, “affordability” refers to the terms for rental contracts and the relationship between these rents and their low incomes. For the owner-occupied sector, lack of affordability is a problem for younger households. Here, modest changes in institutional arrangements could greatly affect the affordability of home ownership, especially for young households whose incomes will increase over the life cycle. For low-income renters, more aggressive policy is needed. Rental housing can be made affordable to low-income households through policies that increase housing supply or those that augment the purchasing power of poor households (Quigley & Raphael, 2004).

Transportation Expenditure

Transportation expenditures is the second largest category for American families. The life cycle transportation expenditures differ in cohort and age. Research on age, period, and cohort effects on household transportation expenditure ratios in the United States and Japan indicates that (1) among a total of three effects, the period effect is the smallest; (2) with the exception of the latest birth cohort, the cohort effect shows a clear upward trend; (3) the age effect decreases in the 20s and 30s, and next increases with a peak detected in the late 50s, and finally decreases (Fukuda, 2010).

A study provides a comprehensive assessment of how household consumption patterns (including savings) would be impacted by increases in fuel prices or any other household expense. Using data from the 2002 Consumer Expenditure Survey, results show that households adjust their food consumption, vehicular purchases, and savings rates in the short run. In the long term,

adjustments are also made to housing expenses (Ferdous, Pinjari, Bhat, & Pendyala, 2010).

Another study models vehicle-fuel expenditure allocation in multi-vehicle households based on the Almost Ideal Demand System (AIDS). The AIDS model is estimated using data from surveys conducted by the Energy Information Administration in 1988, 1991 and 1994, augmented with a comprehensive set of household and vehicle characteristics for households owning 1–4 vehicles ordered by vehicle age. Results show that vehicle characteristics are the most significant factors in the expenditure allocation process. Own-price elasticities for all vehicles are close to 1 that suggests vehicle expenditures change at almost the same rate as the price change rate (Oladosu, 2003).

Food Expenditure

The third largest expenditure category is food. Food expenditures have different implications for different income groups. Using the US Bureau of Labor Statistics' 1992 Consumer Expenditure Survey and Detailed Monthly Consumer Price Indices, a study obtains expenditure elasticities (ratio of percentage change of food demand quantity to percentage change of food expenditure), own-price elasticities (ratio of percentage change of food demand quantity to percentage change of food price) and subsistence quantities (minimum or committed quantities) for each income group across nine broadly aggregated food commodity groups. Elasticity estimates and subsistence quantity estimates differ across income groups, supporting the premise that policies targeted at specific income groups should be based on the target group's elasticity estimates rather than average population elasticities (Raper, Wanzala, & Nayaga, 2002).

Family type differences are found in food expenditures. Using the Consumer Expenditure Survey Diary Component (1990–2003), researchers find that single parents, compared to married parents, allocate a greater share of their food budget to alcohol and food purchased away from

home. Conversely, they spend a smaller share of their food budget on vegetables and fruits. Compared to married parents, single fathers spend a greater share on alcohol and food purchased away from home and a lesser share on vegetables, fruits, meat and beans, desserts and snacks, and prepared foods. Single mothers, compared to married parents, spend a greater share on grains and nonalcoholic beverages and a lesser share on vegetables and alcohol. Single mothers and fathers differ from each other in almost all categories of food and beverage expenditure (Ziol-Guest, DeLeire, & Kalil, 2006).

Food expenditures also differ in age cohorts. Data from 23 years of the US Consumer Expenditure Survey (1982–2004) are analyzed to investigate cohort effects on food away-from-home (FAFH) expenditures using the age, period, and cohort (APC) model. Analyses reveal that later-born cohorts spend more on FAFH, both in dollar amount and in food budget share, compared with earlier-born cohorts. Significant cohort differences in FAFH remain after additional sociodemographic and economic variables are controlled (Zan & Fan, 2010).

Ethnic differences in food expenditures also are found. In 2009, on average, US households devoted approximately 13% of their income to total food expenditures, 7.6% of household income was devoted to food eaten at home (FAH), and 5.3% to food eaten away from home (FAFH) (US Bureau of Labor Statistics, 2010). Hispanic households allocate significantly more of their budget to FAH and significantly less to food consumed away from home among other differences, compared to non-Hispanic white households (Fan & Zuiker, 1998). Hispanic households devote a higher proportion of their budget to FAH (25.8%) than the average American household, while the Hispanic proportion spent on FAFH is only 3.6% (Lanfranco, Ames, & Huang, 2002). Research suggests that there are statistically significant differences in budget allocations between Hispanic Americans and African Americans. Hispanic households allocate a larger proportion of their budget to both food consumed at home and food consumed away from home than African

Americans, at any level of total expenditure, but less than non-Hispanic Caucasians. On average, the difference in budget share for FAFH is about 15% between African Americans and Hispanics (Fan & Lewis, 1999).

FAFH may have negative associations with health. Using state-level data from the Behavioral Risk Factor Surveillance System, evidence suggests that food-away-from-home expenditures are positively related to obesity, while food-at-home expenditures are negatively related to obesity. However, the magnitudes of these effects, while statistically significant, are relatively small (Cai, Alviola, Nayga, & Wu, 2008). Findings from a recent study examining the impact of household fast food expenditures and children's television viewing on children's dietary quality indicate that both factors have statistically significant negative effects (You & Nayga, 2005).

Health Care Expenditure

Health care expenditure is not a major expenditure category for American consumers but has increased rapidly in recent years. In 2009, health care expenditure share is 6.4% for the general population in the United States, increased 5% from 2009 after an increase of 4.3% in 2007–2008 (US Bureau of Labor Statistics, 2010).

Health care expenditures are highly concentrated in the United States, with 5% of the population accounting for the majority of health expenditures (Berk & Monheit, 2001). This concentration has proved remarkably stable over time; however, the degree of concentration has declined over the past decade. Using data from the 1996 to 2003 Medical Expenditure Panel Survey (MEPS), researchers find that rapid growth in prescription drug spending, which is diffused over a large fraction of the population, vs. slower growth in spending for inpatient care largely accounts for the recent change in concentration (Zuvekas & Cohen, 2007). Wang (2009) examines the degree of convergence in per capita health care expenditure and its nine components across the US states from 1980 to 2004. This research provides moderate evidence of conver-

gence in total health care expenditures and the diverse performance of expenditure components regarding convergence. Also hospital care is responsible for the bulk of cross-state convergence in total expenditure, whereas, the expenditure on prescription drugs is the most important diverging factor.

Age differences are obvious. The expenditure share rises from 2.3% in the under 25 group to 7.0% in the 55–64 age group, while the share for 65 or older group is 12.5% in 2008 (US Bureau of Labor Statistics, 2009). Duetsch (2008) compares health care expenditures between the 55–64-year-old and 65–74-year-old groups. For both age groups, the share of average annual expenditures allocated to health care expenditures rose over both decades. The increase in the share of health care expenditures allocated to health insurance from 1985 to 2005 mirrors a decrease in health care expenditures allocated to medical services over the period for both groups. Consumption of health care increases with age, with the 65–74 year-olds spending more overall on total health care in both decades. They also spend more on health insurance and drugs than the 55–64-year-old group in each of the survey years, while spending less overall on medical services and about the same on medical supplies.

Out-of-pocket health care expenditure patterns of households and the financial costs over the stages of the household life cycle are examined using the 1995 Consumer Expenditure Survey. The elderly households not only spend more for health care, but they also experience higher financial burdens than other households (Hong & Kim, 2000). Using data from the Consumer Expenditure Surveys 1980–2000, prewidowhood shifts in medical and funeral/burial expenditures and how these changes may affect postwidowhood economic well-being are researched. Results suggest that funeral/burial and medical expenditures, when combined, typically constitute a 63.1% income share for recently widowed households (Fan & Zick, 2004).

Health care expenditures differ across races/ethnicities and immigration status. Wee et al. (2005) estimate health care expenditures associated with

overweight and obesity and examine the influence of age, race, and gender with data from 1998 MEPS. The result shows that health care costs associated with overweight and obesity are substantial and vary according to race and age. Cook and Manning (2009) examine whether black-white and Hispanic-white disparities are evident in total health care expenditure. Black-white and Hispanic-white disparities diminish in the upper quartiles of expenditure, but expenditures by blacks and Hispanics remain significantly lower than by whites throughout the distribution. Blacks and Hispanics receive significantly disparate care at high expenditure levels, suggesting prioritization of improved access to quality care among minorities with critical health issues. Mohanty et al. (2005) compare the health care expenditures of immigrants residing in the United States with health care expenditures of US-born persons. The results show that per capita total health care expenditures of immigrants are 55% lower than those of US-born persons. Similarly, expenditures for uninsured and publicly insured immigrants are approximately half those of their US-born counterparts. Immigrant children have 74% lower per capita health care expenditures than US-born children. However, emergency department expenditures are more than three times higher for immigrant children than for US-born children. Overall, however, health care expenditures are substantially lower for immigrants than for US-born persons (Mohanty et al.). This study refutes the assumption that immigrants represent a disproportionate financial burden on the US health care system.

Health care costs are major concerns of policy makers, health care providers, insurers, and consumers (Sharpe, 2008). The high costs are particularly evident in two aspects of health care expenditures: aggregate health care expenditures tripled in the last five decades, rising from 5.2% of GDP in 1960 to over 16% in 2007 (Gruber & Levy, 2009). Another concern is that health care share of GDP in the USA is much higher than other developed countries (Sharpe, 2008). Detailed analyses reveal that this rise has virtually all been absorbed by increased insurance, with little increase in out-of-pocket exposure for

individuals. While individuals paid almost 70% of their medical costs out-of-pocket in 1960, that share has fallen to 26% today. Increased spending on health has instead manifested itself primarily in rising insurance spending, particularly for the public sector. Even as health care costs have been rapidly rising, private insurance has remained almost as generous as before, while public insurance has gotten much more generous. The generosity is expressed in three aspects. First, health insurance has shifted from fee-to-service contracts to other cost control approaches such as health maintenance organizations (HMO) that require minimal payment for using medical services. Second, portability of employer-sponsored required by law has decreased health insurance costs of those who are between jobs. Third, because of state and Federal mandates, private insurance includes benefits such as substance use and maternity costs. Public insurance programs mainly cover vulnerable families as illustrated by the fact that almost 40% of children from lower-education families had public coverage in 2007, or nearly twice the fraction that had it in 1989. A second implicit insurance mechanism is the provision of subsidized or free care by medical providers, also known as uncompensated care. Finally, bankruptcy offers a kind of last-ditch insurance for households, both uninsured and insured ones, with medical bills that they are unable to pay.

These patterns are consistent with the overall decline in the share of health spending borne by households as out-of-pocket medical spending and the general rise in risk-bearing by the public sector (Gruber & Levy, 2009). Shin and Moon (2007) examine the cost containment performance of HMO plans relative to non-HMOs using data from the 2000 MEPS. When various compounding factors are controlled, among the privately insured, nonelderly population, HMO enrollment is found to contain neither total health care spending nor total insurance payment, though it reduces total out-of-pocket expenditure. The favorable cost sharing for enrollees and the distinct reimbursement schemes in HMO plans seem to account for no significant overall cost saving.

To ensure health care coverage to most of the population, a series of public policies are enacted for this purpose. In the 1960s, for example, these concerns helped lead to the establishment of Medicare for the elderly and Medicaid for the poor. In more recent decades, similar concerns have led to the Consolidated Omnibus Budget Reconciliation Act of 1986, commonly known as COBRA, which provides displaced workers continued access to employer-sponsored health insurance. Other results are the Health Insurance Portability and Accountability Act of 1996 (HIPAA), which limits the restrictions that can be placed on insurance coverage when workers change jobs and the State Children's Health Insurance Program (SCHIP) program, which provides subsidized health insurance coverage for low-income children. Yet another policy change is Medicare Part D, the single largest expansion of Medicare benefits since the program's inception, which has provided drug coverage for senior citizens since 2006 (Gruber & Levy, 2009). The Congressional Budget Office estimates that under the new health care reform law, 94% of legal residents will have health coverage, up from 83% in 2010 (Regnier, 2010). The new law covers any Americans who get health benefits through work, buy insurance themselves, are on Medicare, or don't currently have insurance. It makes insurance more affordable right away by providing small businesses with a tax credit to provide coverage, and in 2014, by providing tax credits to those who need help in buying insurance. The Affordable Care Act is projected to reduce premium costs for millions of families and small business owners who are priced out of coverage today. This could help as many as 32 million Americans who have no health care today receive coverage (About the law, 2010).

Spending Behavior

To understand consumption behavior, economists have developed several theoretical models. One of the recent and influential is a hyperbolic consumption model (Angeletos, Laibson, Repetto, Tobacman, & Weinberg, 2001; Laibson, 1997).

This conceptual model integrates a standard economic theory of life-cycle planning with a psychological model of self-control. This integrated model provides a parsimonious formal framework in which to evaluate the quantitative effects of self-control problems. This conceptual modeling framework is built on three principles. First, the model adopts the standard assumptions of modern consumption models, including the ideas that consumers have uncertain future labor income and face liquidity constraints in the sense that they have limited ability to borrow against this future labor income. Second, the model extends the consumption literature by allowing simulated consumers to borrow on credit cards and by including a partially illiquid asset in the consumers' menu of investment options. Third, the model assumes that consumers have both a short-run preference for instantaneous gratification and a long-run preference to act patiently.

The hyperbolic discounting model generates numerous empirical predictions that distinguish the model from the standard model with exponential discounting. First, households with hyperbolic discount functions will hold their wealth in an illiquid form, since such illiquid assets are protected from consumption splurges. Second, households with hyperbolic discount functions are very likely to borrow on their credit cards to fund instant gratification. Thus, households with hyperbolic discount functions are likely to have a high level of revolving debt, despite the high cost of credit card borrowing. Third, since hyperbolic households have little liquid wealth, they are unable to smooth consumption, generating a high level of comovement between income and consumption. Indeed, hyperbolic households will even exhibit a high level of comovement between predictable changes in income and changes in consumption. Fourth, this comovement between income and consumption will stand out around retirement, when labor income falls and the lack of liquid wealth generates a necessary fall in consumption (Angeletos et al., 2001).

Smart spending behavior improves economic well-being. A study by Griffith, Leibtag, Leicester, and Nevo (2009) documents the potential and actual savings that consumers realize from four

particular types of purchasing behavior: purchasing on sale, buying in bulk (at a lower per unit price), buying generic brands, and choosing outlets. Researchers use data collected by a marketing firm on all food purchases brought into the home for a large, nationally representative sample of UK households in 2006. The results show that households save between 0 and 21% of their annual expenditures, with a mean of 6.5%. This translates into a saving of up to £794 a year (in the mid-2006, £1=US\$1.85) (Todd, 2010), with an average of £96 per year. The average household saves 16% of its annual expenditure from buying the largest package sizes, which translates into savings of £224 per year. Households save on average 2% of their annual expenditure by buying store economy brands, with households who buy standard store brands saving on average 3.7%. This translates into an average saving of £25 for economy own brands and £50 for standard own brands on average (Griffith et al., 2009).

Consumer Confidence

Consumer perception about economy is measured by consumer confidence. Consumer confidence is usually used to predict future consumption of consumers. The University of Michigan's Consumer Sentiment Index and the Conference Board's Consumer Confidence Index are the most widely followed measures of US consumer confidence. The Michigan index began as an annual survey in the late 1940s. In 1952, it was converted to a quarterly survey and in 1978 to a monthly survey. The Conference Board launched its index on a bimonthly basis in 1967 and expanded it to a monthly series in 1977 (Ludvigson, 2004).

Consumer confidence is usually used to predict consumer spending at the macrolevel of the US economy. Ludvigson (2004) evaluates what is known about the relationship between consumer confidence and consumer spending. In summary, the results on the predictability of consumer attitudes for consumer spending are somewhat mixed. For total consumer expenditures, there is

modest incremental information about the future path of spending in both the Michigan and Conference Board indexes. The inclusion of both surveys' measures of expectations delivers fairly strong predictability of expenditure growth on goods (excluding motor vehicles). For other expenditure categories, however, the results are generally weaker, and for some categories of expenditure the inclusion of confidence indicators actually weakens the statistical relation between contemporaneous indicators and future consumer spending (Ludvigson; Wilcox, 2007). Then consumer confidence may not be a good predictor of consumer spending in all categories. Some economists examine if precautionary motives drive consumer sentiment. If precautionary motive exists, consumption growth measured from today to tomorrow should be negatively correlated with consumer sentiment today. This result is not what is found in Ludvigson (2004), nor in Carroll, Fuhrer, and Wilcox (1994) and Bram and Ludvigson (1998), except for one study with microdata. Using the Michigan Survey of Consumer Attitudes and Behavior (CAB), the household-level data that underlies the Michigan Index of Consumer Sentiment, Souleles (2004) reports that higher confidence is correlated with less saving (lower consumption growth), consistent with precautionary motives.

Dominitz and Manski (2004) propose three strategies to improve the measure of consumer confidence. First, they do not see an obvious rationale for asking consumers about such distant, ambiguous phenomena as "business conditions." Consumers may usefully be queried about well-defined macroeconomic events that are directly relevant to their personal lives. Second, they believe that the traditional qualitative questions of consumer confidence surveys should at least be complemented by, and perhaps replaced by, probabilistic questions inquiring about well-defined events. Third, they suggest that the producers of consumer confidence statistics prominently report their findings for separate questions and for different subgroups of the population. They believe the improved consumer confidence indicators may be more useful for predicting consumer spending and making economic policies.

Debt

Consumer credit has potential to help families to smooth consumption flow over life-cycle stages. Without consumer credit, many families could not afford to own a home, go to college, and buy a car or other expensive consumer products and services. Thus, consumer credit improves the family economic well-being under the condition that families have control of it.

Debts are considered as an input, objective measure of economic well-being. Ideally, zero debt indicates the best economic well-being in terms of financial status, while bankruptcy is an indicator of economic ill-being (Lown, 2008). Some economists believe borrowing is good to smooth life cycle consumption and is a rational behavior. Dynan (2009) discusses advantages and disadvantages of consumer debts. Based on her research, although debt has positive and negative aspects, greater access to credit mainly has hurt household economic well-being in the last three decades.

Consumer debt has increased greatly in recent years. Using data from US Flow of Funds Accounts and National Income and Product Accounts, Dynan and Kohn (2007) show that the ratio of total household debt to aggregate personal income rose from 0.6 to 1.0 during 1980–2006. They also discuss potential factors associated with borrowing behavior of households. Changes in tastes, interest rates, and households' expected incomes do not increase household borrowing, but demographic shifts can explain part of the debt increase. The increase in house prices appears to have played the central role. House prices can be linked to household borrowing through several different channels. Financial innovations by financial institutions also seem to have boosted debt in both debt holdings and sizes.

Debt may also influence family relations such as marriage satisfaction. Dew (2008) studies the relationship between debt and marital satisfaction using data from the National Survey of Families and Households and finds that changes in consumer debt predict changes in the marital

satisfaction of married couples. Changes in consumer debt negatively predict couples' time together and positively predict arguments over money, which, in turn, are both associated with declines in marital satisfaction.

In 2007, 74.7% of debt amounts are in mortgages for primary residence. Other debts consisted of 10.2% for installment loans, 10.1% for mortgages for other residential property, and 3.5% for credit card debts. In the same year, 77% of American families hold debts. About half (48.7%) hold mortgages for their primary residences, 46.9% have installation loans, 46.1% keep credit card balances, 6.8% hold other debts, 5.5% have mortgages for other residential property, and 1.7% have other lines of credit not secured by residential property. The median value for those holding any debts is \$67,300. Median values for primary residence mortgages and other residential property debts are \$107,000 and \$100,000, respectively. Median values for installment loans, other debts, nonresidential property lines of credit, and credit card debts are \$13,000, \$5,000, \$3,800, and \$3,000, respectively (Bucks et al., 2009).

Debt-based financial ratios are used to measure economic well-being. A commonly used one is the leverage ratio that is the ratio of total debts to total assets. In 2007, the leverage ratio of American families is 14.9%. The very rich (top 10% income) and the very poor (bottom 20% income) have lower than average leverage ratios, 8.4% and 13.5%, respectively. Leverage ratios for middle income groups are between 18.5 and 25.3% (Bucks et al., 2009).

Another commonly used financial ratio is the debt to income ratio. In 2007, the average ratio of total debt payments to total income is 14.5%. The median ratio among debtors is 18.6%. The two groups that have highest median ratios are middle income in 40–59.9 and 60–79.9 percentiles, which are 20.3% and 21.9%, respectively. Two middle age groups (35–44, 45–54) have the highest median ratios, 20.3% and 19.3%, respectively. Two middle new worth groups (25–49.9, 50–74.9%) have the highest median ratios, 23.4% and 21.5%, respectively (Bucks et al., 2009). Using data from 1992 to 2005 Surveys of

Consumer Expenditures, Johnson and Li (2007) examine the relationship between debt service ratio (DSR) and consumption and find that a high DSR alone does not indicate higher sensitivity of consumption to a change in income. However, the DSR may help identify borrowing constrained households. In particular, the consumption of households with low liquid assets and high DSRs is more sensitive to income changes than the consumption of other low liquid asset households.

Two financial ratios are often used to measure financial difficulties or economic ill-being, the heavy debt-income ratio and serious delinquent payment rate. The percentage of debtors with the debt-income ratio over 40% is 14.7% in 2007. Bottom 20% income families, families with heads age 45–54, and lower 25–49.9% new worth families had the highest percentages, 26.9%, 16.0%, and 19.3%, respectively. The percentage of debtors with any payment past due 60 days or more is 7.1%. Bottom 20% income families, bottom 25% new worth families, and families with young heads under 35 had highest percentages of default, 15.1%, 9.4%, and 16.8%, respectively (Bucks et al., 2009).

Using the 1983 SCF data to examine factors associated with late payment behavior, Canner and Luckett (1990) find the late payment behavior is associated with marital status, age, number of children, race, and several other variables. Descriptive statistics of consumer debt delinquent behavior in recent years can be found in Federal Reserve Board staff papers (Aizcorbe, Kennickell, & Moore, 2003; Bucks et al., 2009; Bucks, Kennickell, & Moore, 2006). In these studies, the consumer debt delinquent behavior is measured by the percentage of consumers whose debt payments are late for 2 or more months. The trend of this measure has increased since the early 1990s, from 6% in 1992 to 8.9% in 2004 with fluctuations. However, the increasing trends are more consistent in several subpopulations. For example, for consumers who are at the bottom 20 percentile income, younger than 35 years old, at the bottom 25 percentile net worth, and nonhomeowners, proportions of the delinquent behavior among these populations have been going up linearly since 1995. The trend from 2004 to

2007 decreased a little but these disadvantaged groups still had highest percentages of being 2 or more months late in debt payment compared to their counterparts (Bucks et al., 2009). Family economic well-being has worsened because of heavy debts since the financial crisis started in 2007, which is evidenced by high numbers of consumer bankruptcy. According to American Bankruptcy Institute, consumer filings for the 12-month period ending September 30, 2010, totaled 1,538,033, an increase of 14% from the 1,344,095 total consumer filings calculated over the same period in 2009 (American Bankruptcy Institute, 2010a, 2010b).

Mortgage

Home mortgages have become increasingly important for American households. Mortgage debt was 15% of household assets in 1949, but rose to 28% of household assets by 1979 and 41% of household assets by 2001 (Green & Wachter, 2005). The structure of the modern American mortgage has evolved over time. The US mortgage before the 1930s would be nearly unrecognizable today: it featured variable interest rates, high down payments, and short maturities. Before the Great Depression, homeowners typically renegotiated their loans every year as common practices. However, the modern US mortgage provides many more options to borrowers than are commonly provided in other countries: choosing whether to pay a fixed or floating rate of interest, locking in their interest rate in between the time they apply for the mortgage and the time they purchase their house, choosing the time at which the mortgage rate resets; choosing the term and the amortization period, prepaying freely, and generally borrowing against home equity freely. They can also obtain home mortgages at attractive terms with very low down payments (Green & Wachter, 2005).

American families usually face choosing between a fixed-rate (FRM) and an adjustable-rate mortgage (ARM). Research indicates that an ARM is generally attractive, but less so for a risk-averse household with a large mortgage, risky income,

high default cost, or low moving probability (Campbell & Cocco, 2003).

The menu of choices for the overwhelming majority of borrowers is possible because the US mortgage system—with the implicit government guarantee for Fannie Mae and Freddie Mac—has solved the problem of how to persuade low-risk borrowers to join with higher-risk borrowers in broad mortgage pools. These mortgage pools provide the basis for mortgage-backed securities (A security that represents an investment in mortgage loans), which can then be sliced up in financial markets. But the benefits to mortgage borrowers come with their own set of risks, namely, the risk that Fannie Mae and Freddie Mac will malfunction in a way that will either cost the federal government a lot of money, or lead to a systematic crisis in US financial markets, or both (Green & Wachter, 2005). Unfortunately, this worry became a reality in 2008.

The first hints of trouble in the mortgage market surfaced in mid-2005, and conditions subsequently began to deteriorate rapidly. According to data from the Mortgage Bankers Association, the share of mortgage loans that were “seriously delinquent” (90 days or more past due or in the process of foreclosure) averaged 1.7% from 1979 to 2006. But by the third quarter of 2008, the share of seriously delinquent mortgages had surged to 5.2%. These delinquencies foreshadowed a sharp rise in foreclosures: roughly 1.7 million foreclosures were started in the first three quarters of 2008, an increase of 62% from the 1.1 million in the first three quarters of 2007 (Mayer, Pence, & Sherlund, 2009).

Mortgage defaults and delinquencies are particularly concentrated among borrowers whose mortgages are classified as “subprime” or “near-prime.” Some key players in the mortgage market typically group these two into a single category, which is called “nonprime” lending. Although the categories are not rigidly defined, subprime loans are generally targeted borrowers who have tarnished credit histories and little savings available for down payments. Near-prime mortgages are made to borrowers having more minor credit quality issues or borrowers who are unable or

unwilling to provide full documentation of assets or income. Some of these borrowers are investing in real estate rather than occupying the properties they purchase (Mayer et al., 2009).

Slackened underwriting standards—manifested most dramatically by lenders allowing borrowers to forego down payments entirely—combined with stagnant to falling house prices in many parts of the country appear to be the most immediate contributors to the rise in mortgage defaults. The surge in early payment defaults and the rise in the share of mortgages with low or no documentation suggest that underwriting also deteriorated along other dimensions. Unorthodox mortgage features such as rate resets, prepayment penalties, or negative amortization provisions do not appear to be significant contributors to date to the defaults because borrowers who experienced problems with these provisions could refinance into other mortgages. However, as markets realized the extent of the poor underwriting and house prices began to fall, refinancing opportunities became more limited. Borrowers may not be able to resolve their problems with these products through refinancing going forward and thus may be forced to default (Mayer et al., 2009).

Foreclosure is an indicator of economic ill-being. Campbell, Giglio, and Pathak (2009) use data on house transactions in the state of Massachusetts over the last 20 years to show that houses sold after foreclosure (or close in time to the death or bankruptcy of at least one seller), are sold at lower prices than other houses. Foreclosure discounts are particularly large on average at 27% of the value of a house. Foreclosure discounts appear to be related to the threat of vandalism in low-priced neighborhoods. They also estimate that a foreclosure at a distance of 0.05 miles lowers the price of a house by about 1%.

A mortgage is a complex product and needs strong cognition ability to understand (Campbell, Jackson, Madrian, & Tufano, 2010). Campbell (2006) presents evidence that in the late 1990s and early 2000s, many households paid higher mortgage rates than they needed to, particularly less educated and less wealthy households. Bucks and Pence (2008) assess whether borrowers know their mortgage terms by comparing the distributions of

these variables in the household-reported SCF to the distributions in lender reported data. Although most borrowers seem to know basic mortgage terms, borrowers with ARM appear likely to underestimate or not to know how much their interest rates could change. Borrowers who could experience large payment changes if interest rates rose are more likely to report not knowing these contract terms. Difficulties with gathering and processing information appear to be a factor in borrowers' lack of knowledge.

An environment of rising house prices and declining interest rates existed in the United States during the 1990s and early 2000s and presented opportunities for refinancing homeowners to extract home equity by increasing their mortgage balances. Lander (2008) described several factors associated with mortgage refinancing boom. To the extent that homeowners have present-biased preferences, this is a dangerous temptation that reduces saving (Khandani, Lo, & Merton, 2009).

Government regulations are needed to better inform families who would like to use mortgage to purchase houses. Woodward (2003) presents evidence that households pay lower mortgage fees when all fees are rolled into the interest rate, simplifying the task of cost comparison. Some economists have advocated mortgages with principal balances that automatically adjust to the regional level of house prices (Shiller, 2008). Thaler and Sunstein (2008) propose to require that mortgage terms be made available electronically in standardized form to permit the development of online sites for comparison shopping.

Installment Loans

Installment loans are also called consumer credits since consumers use these loans to purchase cars, education, and durable goods. In 2007, for installment loan value distributions, 51.7% are for vehicle loans, 33.2% education loans, and 15.1% other loans. Other loans refer to loans for furniture, appliances, and other durable goods (Bucks et al., 2009). A study examines effects of life-cycle stages on installment debt with data

from the 1998 SCF. Researchers find that compared to young singles, empty nests, solitary households, and single parents are more likely to borrow installment loans. In addition, single parents tend to borrow more than all other life-cycle stages except for the newly married. In addition, overspending is associated with both the status of having installment loans and the amount of installment loans (Baek & Hong, 2004). Favorable attitude towards using installment loans are associated with the loan amount (Chien & DeVaney, 2001).

Vehicle Loans

Automobiles, meaning cars and light trucks, are the most commonly held nonfinancial assets among Americans. In 2001, the share of families that owned automobiles was over 84%—higher than the share that owned primary residences at 68%. Roughly three-quarters of automobile purchases are financed through credit, and loans for automobile purchases are one of the most common forms of household borrowing (Agarwal, Ambrose, & Chomsisengphet, 2008).

Auto loans may help smooth consumption and reduce borrowing constraints. This has been examined with data from the Consumer Expenditure Survey, which illustrated the consumption reaction to predictable increases in discretionary income following the final payment of a vehicle loan. The results of this analysis demonstrated that a 10% increase in discretionary income due to a loan repayment led to a 2–3% increase in nondurable consumption (Stephens, 2008).

Consumer demands for auto loans differ in terms of maturity and interest rates. Using data from the Consumer Expenditure Survey on auto loan contracts researchers estimate the elasticities of loan demand with respect to interest rate and maturity. They find that, with the exception of high-income households, consumers are very responsive to maturity and less responsive to interest rate changes. Both elasticities vary with household income, with the maturity elasticity decreasing and the interest rate elasticity increasing with income (Attanasio, Goldberg, & Kyriazidou, 2008).

Factors associated with auto loan prepayments are identified in research and a competing risks framework can be used to analyze the prepayment and default options on auto loans with a large sample of such loans. Using this framework, researchers have found that a decrease in the credit risk of an auto loan holder, as measured by the Fair Isaac Corp score, lowers the probability of default and raises the probability of prepayment. An increase in the loan-to-value ratio also increases the probability of default and lowers the probability of prepayment (Agarwal et al., 2008). A study to estimate a competing risks model of default and prepayment on subprime automobile loans finds that prepayment rates increase rapidly with loan age but are not affected by prevailing market interest rates. Default rates are much more sensitive to aggregate shocks than are prepayment rates. Increases in unemployment tend to precede increases in default rates, suggesting that defaults on subprime automobile loans are driven largely by shocks to household liquidity (Heitfield & Sabarwal, 2004).

A study examines the role of relationship lending in the automobile loan market at a community development credit union (CDCU) and at a traditional community bank with data collected from actual car loan applications. Researchers find that the community bank relies on credit scoring, not relationship lending. Relationship lending is, however, a critical factor in the loan decision at the CDCU. Low-income households with strong ties to the CDCU are likely to receive loans, despite poor credit histories. If consolidation, deregulation, and technology move mainstream financial institutions away from relationship lending and toward credit scoring, CDCUs will occupy an increasingly critical niche for low-income households (Holmes, Isham, Petersen, & Sommers, 2007).

Educational Loans

Educational loans provide important resources for families to invest in their children's human capital. Education loan research is focused from public policy perspectives. A theoretical research on which, scholarship or student loan, is better to improve student welfare in the context of moral

hazard indicates that a scholarship scheme financed by a tax on graduate earnings is always at least as good as a student loan scheme. Indeed, the former will implement the first best allocation if individual effort and parental support are observable by the policy maker, and the second will be the best one if they are not (Cigno & Luporini, 2009). Scholars have argued that the unique nature of an investment in education results in a market failure for student loans. This market failure is said to exist despite the empirically established, attractive risk-return profile of educational investments. A review of the literature on school loan market failure argues against the market failure hypothesis and suggests that we should properly define and protect a borrower's property rights to his/her own future income. Protecting property rights and eliminating loan subsidies should result in a healthier market for educational funding (Carver, 2007).

A study investigates the determinants of taking out government-funded student loans of university students in Australia. The study finds that the probability of taking out student loans for the full cost of university is largely influenced by students' socioeconomic status. Other major influences on this decision include students' demographic and university enrollment characteristics (Birch & Miller, 2008). Another researcher studies repayment behavior for college graduates who borrow under the US Federal Student Loan Program to finance higher education with US data (Ionescu, 2008). A pattern revealed is that college graduates with lower debt will lock-in interest rates, while those with higher debt will switch to an income-contingent plan (designed to help students destined for low salary careers such as in nonprofit organizations or public services pay off their student loans). Using the model to quantify the effects of a reform introduced in 2006 that eliminates the possibility of locking-in interest rates for student loans, the reform leads to significant increases in default rates, which is largely accounted for by low-income borrowers (Ionescu, 2008). A study quantifies the effects of alternative student loan policies on college enrollment, borrowing behavior, and default rates in a heterogeneous model of life-cycle earnings and human capital

accumulation. The combination of learning ability and initial stock of human capital drives the decision to enroll in college, while parental wealth has minimal effects on enrollment. Repayment flexibility increases enrollment significantly, whereas relaxation of eligibility requirements has little effect on enrollment or default rates. A policy allowing flexibility benefits to low-income households, while relaxation of eligibility requirements has negligible effects on these households (Ionescu, 2009).

A review of government student loans in bankruptcy in Canada, Australia, England, the United States, and New Zealand suggests that all five jurisdictions are similar in that filing bankruptcy provides limited to no relief for loans funded or guaranteed by a government unit for funding postsecondary education. Two key justifications relied upon to justify this model—student abuse of the bankruptcy process and the need to protect the public interest—are unsubstantiated (Ben-Ishai, 2006). Currently, the US Bankruptcy Code gives student debt the extraordinary treatment of nondischarge ability, which means that, unlike all other unsecured debts, student loans are not discharged by bankruptcy proceeding. They survive a filing and continue to haunt the debtor in his postbankruptcy life. This is harsh and dramatic treatment and some scholars recommend an income-contingent approach similar to the debt relief programs used by several high-tuition law schools in the United States (Pottow, 2006). Recent decisions, however, have shown the courts' proclivities to step beyond the dictates of the Bankruptcy Code to fashion what they see to be a more equitable solution for struggling student loan debtors. For example, some courts now allow the partial discharge of student loans—discharging the portion of indebtedness that constitutes an undue hardship—as a way to mitigate the harsh outcomes produced by the undue hardship standard. Other researchers argue that partially discharging student loan debt is an ineffective and invalid option for bankruptcy courts under the Code for two reasons. The statute does not provide a definition for “undue hardship” and courts usually use the most stringent test to determine the presence of an undue hardship. Also no

statutory or equitable power gives the courts the authority to pick and choose which part of student loan debt to be forgiven (Miller, 2004).

Several studies reported research on student responses to student loans. A study examined the structure of attitudes to debt among current and prospective New Zealand tertiary (college) students. The findings show that the structure of these attitudes is reasonably described by two dimensions, Fear of Debt and Debt Utility. On average, longitudinally, the students became less debt fearful between the end of secondary school and the end of their first year of tertiary study, but their views as to the utility of debt remained unchanged (Haultain, Kemp, & Chernyshenko, 2010). College students are surveyed on their attitudes towards debt to determine why they are not concerned about their high debt levels. Overall, respondents are not too concerned about their debt and their financial future; optimism is greatest among sophomore/freshmen respondents; and discounting of current debt is greatest among graduate/senior/junior respondents (Wells, 2007). A study examines student workloads, debt levels, and the debt perceptions of junior- and senior-level College of Business students at a Midwestern state university during the current economic downturn. Overall, the students feel confident in securing employment upon graduation and in managing their debt load. Results indicate that expected salary is significantly influenced by this confidence. Additionally, students' confidence in their employment prospects and debt management abilities, and their belief that debt would impact their future lifestyles, are significantly related to student debt levels (Kuzma, Kuzma, & Thiewes, 2010).

Credit Card Debt

The deregulation of credit markets in late 1970s makes financial institutions prosper, such as credit card banks. Before the deregulation, credit card divisions in banks always lost money, but after the deregulation, the credit card divisions became cash cows (Manning, 2000). Ausubel (1991) demonstrates that, although the structure

of the credit card industry looks competitive after deregulation, its behavior is inconsistent with what conventional economic theory predicts. This inconsistency occurs because the credit sector in banking earned three to five times the ordinary rate of return in banking during the period 1983–1988. According to the economic theory, if credit card sector is competitive, it should not earn such a high rate of return compared to other sectors in banking industry. The profit of the credit card industry remained high in late 1990s (Ausubel, 1997).

Ellis (1998) argues that the 1978 Supreme Court decision (“Marquette”) fundamentally altered the market for credit card loans in a way that significantly expanded the availability of credit and increased the average risk profile of borrowers. The result is a substantial expansion in credit card availability, a reduction in average credit quality, and a secular increase in personal bankruptcies. The good news for consumers, especially low-income consumers, is that they have broader access to credit (Bird, Hagstrom, & Wild, 1999; Johnson, 2005; Lyons, 2003). The bad news is that the probability of default among these consumers may rise too and there may be an adverse selection process occurring in the credit market. A study using market experiment data provided by a major credit card issuer presents evidence supporting this theory and find that consumers with worse credit risks are more likely to respond to and accept inferior terms of credit card solicitation. Consumers who accept inferior offers are significantly more likely to default (Ausubel, 1999).

According to estimates by Lyons (2003) of trends in credit access by US families, the ability of all households to obtain their desired debt levels increased after 1983 and more dramatically between 1992 and 1998. Those experiencing the greatest gains in credit access were black households and households with low permanent earnings. Another study using data from the 1983 to 1995 SCF traces the evolution of the debt position of the poor as compared to that of the population at large (Bird et al., 1999). Findings from this research reveal that the fraction of poor households with a credit card more than doubled

and the average balances held on these cards rose almost as rapidly as the balances for nonpoor households. Draut and Silva (2003) document credit card use trends among American families in 1989–2001 and find that the proportion of households with income under \$10,000 that hold credit card debts increased by 184%, the largest increase among all income groups, from 1989 to 2001. Black and Hispanic consumers are more likely than whites to carry credit card balances.

Johnson (2005) documents recent changes in the credit card market by using data from SCF. Because of improvements in credit-scoring technology and risk-based pricing of credit card debt, the share of households, particularly lower-income households, having a credit card has increased. A study surveys credit card use among low- and middle-income consumers nationwide and provides evidence that seven out of ten households report using their credit cards as a safety net to pay for such things as car repairs, basic living expenses, medical expenses, or house repairs. Just under half had missed or are late with a payment in the last year, with nearly a quarter of households reporting paying a late fee at least one or two times in the past year (Demos and Center for Responsible Lending, 2005).

The effects of life-cycle stages on credit card debts also have been examined. Researchers find that, compared to young singles, solitary households and single parents are less likely and childless middle-aged couples are more likely to keep credit card balances, while only solitary households are more likely than young singles to owe more credit card debts. Overspending is associated with both the status of keeping credit card balances and the amount of credit card debt (Baek & Hong, 2004). Favorable attitude towards credit card use (i.e., approvals of using credits to make several types of purchases) is associated with credit card debts (Chien & DeVaney, 2001).

For young adults, credit management is a critical developmental task in personal finance. Research on credit card behavior of college students has been started in the last two decades (e.g., Grable & Joo, 2006; Hayhoe, Leach, & Turner, 1999; Hayhoe, Leach, Turner, Bruin, & Lawrence, 2000; Joo, Grable, & Bagwell, 2003;

Lyons, 2004, 2008; Palmer, Pinto, & Parente, 2001; Wang & Xiao, 2008; Xiao, Noring, & Anderson, 1995). A survey of over 4,000 students from Arkansas, California, and Ohio indicates that as students progress through college, they acquire more credit cards and debt; furthermore, students who work 10 or more hours per week are more likely to report debt problems than those students who work less than 10 h/week (Dale & Bevill, 2007). Risky credit behaviors refer to practices such as holding credit card debts, not making full payments to credit card bills, making credit card payment late, and maxing out credit card limits. These risky credit behaviors may result in negative life outcomes such as risky health behaviors (Adams & Moore, 2007; Nelson, Lust, Story, & Ehlinger, 2008).

Credit card debts of college students also have been found to contribute to the financial stress of college students (Grable & Joo, 2006). Risky use of credit cards demonstrates some tendency toward compulsive buying (Roberts, 1998; Roberts & Jones, 2001) and materialism (Pinto, Parente, & Palmer, 2000). Credit card debts also may affect the academic performance of college students adversely (Pinto, Parente, & Palmer, 2001). Research also indicates that engaging in positive financial behaviors, including positive credit behaviors, tends to increase life satisfaction and well-being in other life domains (Shim, Xiao, Barber, & Lyons, 2009; Xiao et al., 2009).

Payday Loans

Borrowing from subprime debt products is an indicator of economic ill-being because subprime products are high cost credit offered most frequently to economically disadvantaged consumers (Lander, 2008). Payday loans (PDL) are a typical form of subprime product, that while varying somewhat, often employ a relatively standard form and lending process. A consumer typically will walk into a storefront location, request a loan, have their employment verified, and if approved, walk out minutes later with the loan proceeds. The “typical” term is \$15–\$30 per \$100 borrowed (Stegman, 2007), extremely high

financial charges compared to those charged by mainstream financial institutions. Most PDL users are from low-income, racial and ethnic minority groups, and military families. By virtue of the product itself, PDL customers must have checking accounts and be employed. Lawrence and Elliehausen (2008) find that PDL customers are disproportionately young (under age 45) and 65% have children under age 18 living in the household. Most are from lower and middle-income households, with a moderate level of education and limited liquid assets. Fewer than half report having any savings (Elliehausen, 2009). Generally, they are in life stages where the demand for credit is high, and although 92% rely on other types of credit, many have been denied credit in the past 12 months, have credit cards that are at the limit, have concerns about their ability to access credit, and are less likely to be able to tap into mortgage credit (Lawrence & Elliehausen, 2008). Risks of payday lending include paying high interest rates and, if used repeatedly, the debts would be out of control. Some research studies indicate that PDLs do not help alleviate financial distress (Melzer, 2009) and are associated with poorer job performance by military borrowers (Carrell & Zinman, 2008). To discourage PDLs to military personnel, the 2007 National Defense Authorization Act caps PDLs to service members at a 36% APR, a regulation that industry critics support for all payday lending (Center for Responsible Lending, 2009).

However, some researchers argue there are may be reasons for the popularity of payday lending. PDLs may be the only credits these consumers can receive. Without PDLs, these consumers may use more expensive credit forms or face worse consequences of lack of credits such as utilities being shut down or losing jobs if car for work transportation is not fixed on time (Campbell et al., 2010).

Bankruptcy

Bankruptcy is an indicator of economic ill-being that, in its current form, allows consumers to choose between filing Chaps. 7 or 13 when fac-

ing extreme financial difficulties. Chapter 7 is the quick debt liquidation option, often referred to as straight bankruptcy, while Chap. 13 commits all of a debtor's disposable income to debt repayment for up to 5 years (Lown, 2008). The number of personal bankruptcy filings in the United States rose fivefold between 1980 and 2005, from around 300,000 per year in 1980 to over 1½ million in each of the years from 2001 to 2005. By the early 2000s, more people were filing for bankruptcy each year than were graduating from college, getting divorced or being diagnosed with cancer (White, 2009). From an economic perspective, bankruptcy has two benefits for consumers: consumption insurance (to cover negative consequences of overspending) and entrepreneurship insurance (to cover failure of running own business). After reviewing relevant research, White concludes that since state bankruptcy laws only differs in asset exemptions, researchers focus on effects of asset exemptions on bankruptcy and find that high-income consumers borrow more in high exemption states and high exemption states have more entrepreneurs.

Researchers have attempted to identify factors associated with filing bankruptcy. Using data from the Consumer Bankruptcy Project (CBP) in the late 1970s, Sullivan, Warren, and Westbrook (1989) conclude that debtors commonly are middle-class Americans who are drowning in debt because of uncontrollable debts and increasing economic volatility. In the CBP II, they identify five sources of financial distress, job losses, skyrocketing debt levels, divorces, risking medical costs, and unaffordable homes (Sullivan, Warren, & Westbrook, 2000). Some researchers believe other factors are more important, such as gambling, credit card, and other debts besides job losses and divorces (White, 2009). Examples of other sources of debt are identified in a study by Zhu (2008) who used data from personal bankruptcy filings in the state of Delaware during 2003. The research shows that household expenditures on durable consumption goods, such as houses and automobiles, contribute significantly to personal bankruptcy. After reviewing several relevant studies, White (2007) points out typical bankruptcy filers are not middle-class consumers

but become poorer overtime. Overall, the increase in credit card and possibly mortgage debt levels since 1980 provides the most convincing explanation for the increase in bankruptcy filings in the United States (White, 2007).

The new Bankruptcy Abuse Prevention and Consumer Protection Act took effective in October 2005. During 2005, the highest level of individual bankruptcy filings occurred, with over two million filings. The new law has two major changes: to limit the chapter choice by imposing means tests and raising filing costs and to require pre-filing counseling and post-filing education (Lown, 2008). The main purpose is to reduce the size of individual bankruptcies, a goal that seemed to be achieved in 2006 and 2007, 597,965 and 822,590, respectively. However, the numbers returned to very high levels in 2008 and 2009, 1,074,225 and 1,412,838 (close to the level of 2001) (American Bankruptcy Institute, 2010a, 2010b), which could be a result of the current financial crisis that caused high unemployment and lower income faced by many American families.

Li and White (2009) investigate whether the new personal bankruptcy law in 2005 plays a role in creating the mortgage crisis or making it worse. In particular, they show that there is a strong and previously unnoticed relationship between homeowners' decisions to default on their mortgages and their decisions to file for bankruptcy. In theory, bankruptcy and default could be either substitutes or complements. They show that theoretically the bankruptcy–default relationship is complementary for most homeowners, and the relationship between foreclosure and bankruptcy is also complementary. But they find that homeowners have responded to the 2005 bankruptcy reform by treating bankruptcy as a substitute for default and foreclosure.

White and Zhu (2008) examine how filing for bankruptcy under Chap. 13 helps financially distressed debtors save their homes after the new bankruptcy law. Chapter 13 helps debtors save their homes by stopping foreclosure, giving debtors extra time to repay mortgage arrears, and increasing their ability-to-repay their mortgages by discharging some or all of their unsecured debt. They also find that nearly all debtors who

use Chap. 13 are homeowners who wish to save their homes. This is despite the fact that a major bankruptcy reform adopted in 2005 was intended to force bankruptcy filers with higher incomes to repay some of their unsecured debt in Chap. 13. They also discuss how bankruptcy can be used to address the foreclosure crisis by allowing bankruptcy judges to “cram-down” (partially forgive) mortgage debt in Chap. 13 when debtors’ mortgages exceed the value of their homes. Some researchers point out that the new bankruptcy law does not solve fundamental issues that cause bankruptcies such as improving job opportunities and tightening credit regulations (Lown, 2008).

Asset

Asset is an important indicator of economic well-being that is accumulated through saving and investing. Dynan (2009) discusses changes in assets in the last five decades. According to her research, the ratio of housing value to income doubled from 1962 to 2008. For retirement savings, more households own IRAs, fewer own traditional defined benefit pension plans. Household equity holdings increased from 1989 to 2007. Low, middle, and high-income groups have the same pattern but different magnitudes.

Based on the 2007 SCF, 56.5% of families report having saved. Income is positively associated with self-reported saving, in which 33.7% of families at bottom 20% income report saving vs. 84.8% of families at top 10% income say so. Age shows a wave pattern. The youngest group (under 35) and the preretirement age group (55–64) are more likely to report saving (58.9% and 58.4%, respectively), while the oldest group (75 or older) is least likely to report saving (49.4%). In terms of family type, couple families without or with children are more likely to save (62% and 61.8%, respectively), whereas single headed families with children are least likely to save (45.8%). White non-Hispanic headed families are more likely than nonwhite families to save (58.8% vs. 50.8%) (Bucks et al., 2009, Table 1).

In 2007, the median net worth (total assets minus total debts) of American families is \$120,300. Net worth medians are diverse among

families with various incomes. The median net worth of bottom 20% income families is \$8,100 while that of top 10% income families is \$1,119,000. The age pattern is in an inverse U-shape. The preretirement age group has the highest median \$253,700. Younger groups such as under 35 and 35–44 have lowest medians, \$11,800 and \$86,600, respectively. Couple families without children have the highest median \$191,000. Couple families with children have the second highest median, \$141,100, which followed by single, age 55 or older headed families with a median of \$140,800. Single headed families without children, age under 55, have the lowest median, \$18,000. Single headed families with children have the second lowest median, \$41,000. White headed families have much higher median than nonwhite families, \$170,400 vs. \$27,800 (Bucks et al., 2009, Table 4).

Financial Assets. In 2007, 97.7% of American families hold any assets and 93.9% of American families hold at least some form of financial assets. Most commonly held financial assets are transaction accounts (checking and savings accounts) (92.1%) and retirement accounts (52.6%). Other commonly held financial assets are cash value life insurance (23.0%), stocks (17.9%), certificates of deposit (16.1%), savings bonds (14.9%), and pooled investments (11.4%). In addition, 9.3% of families held other financial assets, 5.8% other managed assets, and 1.6% bonds (Bucks et al., 2009, Table 6).

Nonfinancial Assets. In 2007, 92.0% hold nonfinancial assets. Most commonly held nonfinancial assets are vehicles (87.0%) and the primary residence (68.6%). Family holding rates of other nonfinancial assets include other residential property (13.7%), business equity (12%), equity in nonresidential property (8.1%), and other (7.2%) (Bucks et al., 2009, Table 9B).

Saving Motives

Saving motives were mentioned by Keynes (1936) long time ago as motivations to improve economic well-being. A review of saving theory

and corresponding empirical evidence finds that many motives mentioned by Keynes were still valid after 60 years (Browning & Lusardi, 1996).

Many economic theories speculate about saving motives with indirect evidence. For example, the life-cycle hypothesis conceptualizes the existence of a retirement savings motive. This concept encompasses the assumption that workers save in their work years and draw savings when they retire from work that implies a retirement saving motive (Ando & Modigliani, 1963). The precautionary saving motive assumes that people are uncertain about their future income and expenses so that they save for emergencies (Carroll, 1997, 2001). Somewhat related is the theory of intergenerational transfer, which suggests that people save to accumulate wealth for their children (Barro, 1974; Kurz, 1984).

In reality, it is possible to identify multiple saving motives (Browning & Lusardi, 1996). Most commonly cited saving reasons, according to the 2007 SCF, are retirement (33.9%) and liquidity (emergency) (32.0%). Other saving reasons are for future purchases (10%), educational cost (8.4%), for the family (5.5%), buying a home (4.2%), and investment (1.6%). Compared to the findings for 1998, two noticeable changes occurred. Saving for education reported by American families decreased from 11.0 to 8.4%, while saving for liquidity increased from 29.8 to 32.0% (Bucks et al., 2009).

Research on saving motives reported by consumers suggests that saving motives have a hierarchical pattern, in which saving motives reflecting financial needs move up when economic resources increase. For example, low-income consumers are more likely to save for daily expenses, middle income consumers for emergency, while higher-income consumers save for retirement (Xiao & Noring, 1994). The hierarchy of saving motives are found in other studies too (e.g., Canova, Rattazzi, & Webley, 2005; DeVaney, Anong, & Whirl, 2007). Saving motives also show cultural differences. For example, compared to Americans (all races), Chinese are more likely to report saving for their children (Xiao & Fan, 2002).

Emergency Savings

Transaction accounts are usually considered to be emergency funds for families, with demographic differences being found in prevalence of these accounts. In 2007, all families in the top 20% income category have transaction accounts while only 74.9% of the bottom 20% income families have this source of economic well-being. Age shows an inverse pattern, with the preretirement age group (55–64) having the highest holding rate of transaction accounts with 96.4%. In contrast, the youngest group (age under 35) has the lowest holding rate with 87.3%. Couple families, with or without children, have higher than average holding rates with 95.5% and 94.8%, respectively. Singles with children or singles under 55 without children have lower holding rates equaling 84.8% and 84.3% respectively. White headed families are more likely than nonwhite families to have transaction accounts equaling 95.5% vs. 83.9% (Bucks et al., 2009).

When families asked what was the desirable saving for emergencies, \$5,000 is the median amount for all families, which is also the amount reported by families at the 40–60% income group. For families at bottom 20% income, the median amount is \$2,000, while for families at top 10% income, the median is \$20,000 (Bucks et al., 2009, Table 3.1).

Amounts in transaction accounts are different by demographic groups, with families in the bottom 20% income category having a median value of \$800 while families in the top 10% income category possessing a medium value for these accounts of \$36,700. Age shows another inverse U-pattern with the newly retired age group (65–74) having the highest median value of \$7,700, while the youngest group (under 35) had the lowest value of \$2,400. Couple families without or with children have higher values of \$6,000 and \$5,000, respectively. Singles with or without children (under 55 and 55 or older) have lower median values of \$2,400, \$2,000, and \$2,500, respectively. White families have higher median values than nonwhite families with respective values of \$5,100 vs. \$2,000 (Table 6) (Bucks et al., 2009).

A number of studies examined factors associated with family emergency fund holdings and the effects of emergency fund holdings on family financial well-being (Harness, Chatterjee, & Finke, 2008). Emergency funds are defined as savings available to cover household expenses in the event of significant income disruption (Johnson & Widdows, 1985). Based on the degree of liquidity, emergency funds are categorized as quick, intermediate, and comprehensive funds. Varying across studies, an adequate emergency fund level is defined as a resource intended to cover 3–6 months expenses of a family. Emergency fund-related ratios have been used to study the financial well-being of older women (Hong & Swanson, 1995) and newly married households (Godwin, 1996). Studies also compared emergency fund holdings among households in two time periods (Chang & Huston, 1995) and with different emergency fund guidelines (Bhargava & Lown, 2006). Research also examines emergency fund holding among Asian American households (Hong & Kao, 1997) and among households with various employment statuses (Rodriquez-Flores & DeVaney, 2007) and family types (Huston & Chang, 1997). The amounts of emergency funds saved by households are more a function of their ability to save than their actual need (Bi & Montalto, 2004). Based on expected utility theory, households should have different ratios of emergency funds based on income uncertainties (Chang, Hanna, & Fan, 1997). Emergency fund levels also may be associated with financial behavior. A study finds that the perceived emergency fund level of consumers is associated with several financial behaviors such as saving regularly, paying credit card bills in full, and having a written financial plan (Joo & Grable, 2006).

Retirement Savings

Holding and amounts of retirement accounts differ by socioeconomic groups. Only 10.7% of families in the bottom 20% hold retirement accounts, while 89.6% of top 10% income families do so. Age shows another inverse U-pattern in which the middle age group (45–54) has the

highest holding rate of 64.7%, while, among pre-retirement age categories, the youngest group (under 35) has the lowest holding rate, only 41.6%. Couples with or without children has higher holding rates of 62.5% and 61.8%, respectively. Singles with children and singles aged 55 or older and do not have children have lower rates of 36.1% and 36.2%, respectively. White families (58.2%) are more likely than nonwhite families (39.1%) to hold retirement accounts (Bucks et al., 2009). For retirement accounts, families in the bottom 20% income levels have a media value of \$6,500 while top 10% income families have that of \$200,000. Preretirement age group (55–64) has retirement accounts of the highest median value (\$98,000), while the youngest group (under 35) has retirement accounts of the lowest value (\$10,000). Couples without or with children have higher retirement account values of \$55,100 and \$52,000, respectively. Singles with children and singles under 55 without children have lower values of \$30,000 and \$20,000, respectively. White families have retirement accounts of a higher median value (\$52,700) than nonwhite families (\$25,400) (Bucks et al., Table 6). In 2007, the fraction of eligible family heads declining to participate in work-related retirement plan is 16.2%. Income is strongly related to nonparticipation, with the nonparticipation rate among bottom 20% income families being 54.3% while that of the top 10% families being only 6.5% (Bucks et al.).

Major retirement sources are social security, employer sponsored defined benefits, defined contribution retirement plans (401(k) type plans), and private savings (Hanna & Chen, 2008). In recent years, retirement income adequacy has become a major issue because of the uncertainty of the social security system and the trends moving from defined benefit plans to defined contribution plans. The trend started because of the Employee Retirement Income and Security Act of 1974. In 1978, a section 401(k) was added to the Internal Revenue Code. Then in 1981 a clarification allowed employers to exclude employer and employee 401(k) contributions from taxable income (Campbell et al., 2010). In 1975, DB plan participants outnumbered DC plan participants by 2.4–1 while by

2007, DC plan participants outnumbered DB plan participants by 3.4 by 1 (US Department of Labor and Employee Benefit Security Administration, 2010).

In the last decades, behavioral economists find evidence that workers cannot behave rationally to participate in, contribute to and manage their retirement plans effectively. For example, plan participation, contribution rates, and asset allocation outcomes are heavily influenced by employer defaults (Carroll, Choi, Laibson, Metrick, & Madrian, 2009; Choi, Laibson, & Madrian, 2005; Choi, Laibson, Madrian, & Metrick, 2004a; Madrian & Shea, 2001; Thaler & Benartzi, 2004); participants chase past returns in both their asset allocation and contribution rate choices (Benartzi, 2001; Choi, Laibson, Madrian, & Metrick, 2004b; Choi, Laibson, Madrian, & Metrick, 2009); they fail to rebalance (Ameriks & Zeldes, 2004; Mitchell, Mottola, Utkus, & Yamaguchi, 2006); and their asset allocation choices are sensitive to the structure of the investment menu (Benartzi & Thaler, 2001; Brown, Liang, & Weisbenner, 2007). These findings suggest that there are cognitive limitations of workers when they save for retirements.

These concerns motivated several key provisions in the Pension Protection Act of 2006. This law allows employers to structure their saving plans to incorporate automatic enrollment, automatic contribution escalation, and a diversified default asset allocation (Campbell et al., 2010). New evidence shows that sponsors offering automatic enrollment and target date funds as default investment options for workers are increasing. Researchers suggest further government regulation opportunities such as promoting access, promoting annuitization of retirement wealth, and assisting workers' investment decisions (Campbell et al.).

A number of studies examine retirement saving adequacy. Based on different assumptions for major parameters such as rate of return on investment and consumption needs at retirements, estimated adequacy rates vary. The most pessimistic estimate is that only 31% of households have a high enough savings rate, assuming a retirement at age 62 (Moore & Mitchell, 1997). The most

optimistic estimate is that 80% of households would achieve an optional consumption level in a retirement (Scholz, Seshadri, & Khitatrakun, 2006). Other estimates are in between, from 52% (Yuh, Hanna, & Montalto, 1998; Yuh, Montalto, & Hanna, 1998), 56% (Ameriks, 2000, 2001; Yao, Hanna, & Montalto, 2003), 57% (Hanna, Garman, & Yao, 2003), to 65% (Butrica, Iams, & Smith, 2003).

Financial Satisfaction

Financial satisfaction is a subjective measure of economic well-being. Many studies have examined the relationship between income and financial satisfaction. For instance, Hsieh (2004) uses data from General Social Surveys to observe the association between income and the financial satisfaction of American elders and finds that different definitions of income have different effects on financial satisfaction. Vera-Toscano, Ateca-Amestoy, and Serrano-del-Rosal (2006), using data from a national survey in Spain, finds that not only income but also income expectation affects financial satisfaction. Sighieri, Desantis, and Tanturri (2006), using data from nine European countries, found that the relationship between income and financial satisfaction is positive up to a point. Other variables in the environment, such as differing household characteristics, explained an additional 30% of the variance regarding financial satisfaction.

Diener and Biswas-Diener (2002) review studies on the relationship between income and subjective well-being and conclude that there are at most small correlations between income and subjective well-being within nations. A related conclusion is that, unless they are rich, people who value material goals are less happy than those who do not. Diener and Biswas-Diener also suggest that income may have either a direct influence or an indirect influence, through financial satisfaction, on subjective well-being. Arthaud-Day and Near (2005) reach similar conclusions in a comprehensive review of the relationship between various types of incomes and subjective well-being.

Financial satisfaction may contribute to subjective well-being and overall well-being. Pavot and Diener (1993) conclude that life satisfaction is the self-evaluation of a person's life and that it should be related to domain satisfactions. This finding correlates with the findings of a national survey of English citizens, conducted by Bowling and Windsor (2001), which indicates that financial satisfaction contributes to life satisfaction. Financial satisfaction is also associated with overall satisfaction of quality of life according to a survey among a sample of US Midwest consumers (Mugenda, Hira, & Fanslow, 1990).

Summary and Future Research

Summary of Major Findings

The following are summaries based on the literature reviewed in previous sections:

1. Using family financial net worth as an indicator, family economic well-being has been increased since 1980s until mid-1990s and then decreased since mid-1990s.
2. Income is a commonly used indicator for economic well-being. Compared to white and Asian Americans, African and Hispanic Americans have had below average incomes for the last 40 years.
3. Living in poverty is an indicator of economic ill-being. In 2009, the official poverty rate in the United States was 14.3% and 43.6 million people were in poverty. The poverty rate in 2009 was the highest since 2000. Female, black, and Hispanic headed households are more likely to live in poverty.
4. Determinants of earnings are less associated with schooling and cognitive ability but are more related to other factors such as personalities and personal habits.
5. Income inequality can be considered as an indicator of economic ill-being at collective level. Research indicates that inequality in wages, earnings, and total family incomes in the United States has increased markedly since 1980. The level of inequality today, for both market income and disposable income, is greater than at any point in the past 40 years or longer.
6. Research on intergenerational transfer indicates earning ability transfers among generations. Most research shows positive associations of earnings between fathers and sons.
7. Expenditures are a better measure of economic well-being since it shows the purchasing power of a family. The top expenditure categories among American families are housing, transportation, and food. Research indicates that life cycle consumptions for total, durable, and nondurable goods expenditures are in a reverse U-shape.
8. Differences in income, family type, and race/ethnicity regarding housing, transportation, food, and health care expenditures are significant. Smart spending behavior increases family economic well-being.
9. There is mixed evidence for consumer confidence as an effective predictor of consumer expenditures.
10. Consumer credit can enhance family economic well-being by reducing credit constraints and smoothing life-cycle consumption at the early life-cycle stage. Consumer credit access has been broadened in the last two decades both because of government deregulation of financial markets and business innovations of financial products. On the other hand, overuse, abuse, or misuse of consumer credits cause bankruptcy and foreclosures that hurt family economic well-being.
11. Income, family type and racial/ethnic differences are found in both holding and the amounts of mortgages, installment loans (student, car, or purchase loans), and credit card debts.
12. Low-income consumers are more likely to use subprime products such as pay day loans.
13. Major causes of individual bankruptcy are heavy credit card, mortgage, and other debt burdens. Other possible causes are unemployment, divorce, and major medical expenses. The new bankruptcy legislation reduced the bankruptcy filing temporarily,

but the impact of the new law on family economic well-being is unclear.

14. Owning assets is an indicator of family well-being. In the last three decades, holdings and amounts of a variety of financial assets have increased among American families. More families hold stocks and other investments than before.
15. The saving motives of American families are diverse, demonstrating a hierarchical pattern in which low resource families save mainly for daily expenses, middle-level resource families for emergencies, and high resource families for retirement and children's education.
16. Research indicates that family emergency funds are inadequate and emergency fund levels differ in income, family type, and racial/ethnic groups.
17. Research on retirement saving adequacy is diverse with a wide range of estimates. On average, about half households are not saving enough for a comfortable retirement.
18. Financial satisfaction is a subjective measure of economic well-being. Financial well-being is associated with income and also contributes to life satisfaction, a subjective measure of well-being.

Future Research Directions

There is a need to create a conceptual framework of family economic well-being. In the current literature, existent theories primarily describe what actual behaviors are but not what optimal behaviors that improve economic well-being are. To promote family economic well-being, we need to create a conceptual framework to describe factors and associations of these factors that are associated with optimal or desirable statuses of family economic resources or family economic well-being but not only family economic status. The framework should also clearly specify what roles income, debt, expense, and asset have in improving and sustaining family economic well-being. We need to examine empirically the impact of several new laws and regulations on family

economic well-being. In recent years, several new laws and regulations in the area of bankruptcy, credit cards, health care, and financial product regulation have been enacted and have been or will be implemented. Future research should address following broad research questions: Does the new bankruptcy law discourage families with financial difficulties to file bankruptcy that would improve or hurt their family economic well-being in the long term? Is the new credit card law effective to help consumers take control of their credit card debts? Does the new health care law ensure broader access to health care services that has important consequences on family economic well-being? Can the new financial regulation law effectively protect consumers from marketing frauds and abuses in financial services?

Research on several key family economic issues and their associations with family economic well-being among American families (i.e., mainly middle-income families) should be encouraged in the future. Key issues include saving for a comfortable retirement, saving for children's education, and borrowing to purchase a home, car, education for children or other expensive durable goods. Ensuring family economic well-being also involves managing risks in life, job, health, finance, and other challenging aspects of the life course.

Research from a comprehensive perspective regarding the economic well-being of low-income consumers should be conducted. In the past two decades, public policies have been enacted to encourage low-income families to accumulate assets by providing assistance through special social programs. The effectiveness and sustainability of these programs need to be further evaluated.

Researchers need to explore how to increase the financial capability of families through formal and informal financial education. Financial capability refers to adequate financial knowledge and skills to purchase and use financial products to achieve economic well-being. In recent years, public and private institutions launched several major programs of financial education for youth, young adults and workers (Fox & Bartholomae, 2008).

These programs are effective at increasing financial knowledge and encouraging desirable financial behaviors (Xiao et al., 2010). Action-oriented financial education programs are encouraged (Xiao, O'Neill, et al., 2004) that not only teach financial knowledge but also encourage students to engage in and experience desirable financial practices. Further evaluation research on effectiveness of these financial education programs and their impacts on family economic well-being should be conducted. Better educated and informed consumers should make more effective financial decisions when markets are full with shrouded information (Gabaix & Laibson, 2006).

Research on family economic well-being should be improved with solid methodologies. For example, the SCF, a triennial survey sponsored by the Federal Reserve Board, is a data set used by many family economists. The data set is complicated to use with several methodological issues. These issues should be considered carefully to take full advantage of the rich data set and produce valid research findings (Lindamood, Hanna, & Bi, 2007).

In the last three decades, American families experienced gains and losses in terms of economic resources. Because of financial deregulation and innovations started in the 1980s, families have owned more financial assets and gained greater access to credit to smooth current consumption. However, because of the crash of financial system in 2007, the overall new effect is the decrease of family economic well-being evidenced by mass job losses, spending cuts, foreclosures, and bankruptcies. In the future decade, American families are still facing challenges in terms of economic security, with perhaps the most difficult hurdle being that the economy may take a longer time to recover than has been true in the past. This means that many families may not have adequate resources to maintain their current living standard. Moreover, the uncertain future of social security system and the trend toward moving from traditional retirement pensions to contributions into 401(k) type retirement accounts means that American workers need rethink the preparation for retirement. That is, workers must

take care of their retirement savings themselves early in their career to an extent that demands knowledge and skills for long term investment management. Rising costs in higher education is another factor for American families to worry about their children's education in the long term. Expensive long-term care is yet another factor for families with elder parents should be concerned about in the future. In sum, many economic challenges are likely to confront American families in the future. To achieve and maintain economic well-being, American families need to beware of these challenges and plan early to acquire and manage their economic resources well. Researchers should conduct relevant, meaningful research for family policy makers, family service professionals, and individual families to help improve family economic well-being.

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