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Household Debt in the Consumer Age: Source of Growth—Risk of Collapse

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Abstract

The 2008 U.S. financial upheaval raises important questions about the sources of household consumption and debt growth, along with their macroeconomic effects. We argue that spending and financial preferences evolve as social norms interact with both cultural trends and institutional changes in household finance. We identify historical forces that raised consumption and debt over the past quarter century and interpret these events with Hyman Minsky's financial cycle framework. Strong consumption helped moderate recessions and boost growth since the mid 1980s. But unprecedented household debt has now culminated in a financial crisis that threatens to cause a deep recession.

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I. INTRODUCTION AND MOTIVATION

In the past quarter century of U.S. macroeconomic history, two facts stand out. First, the economy has enjoyed the “great moderation:” a reduction in the variance of GDP due in large part to the absence of deep, prolonged recessions and a lengthening of expansions.¹ Second, American consumers have gone on an extended shopping spree: the ratio of personal outlays to disposable income rose from below 90 percent in the early 1980s to nearly 100 percent in 2007. We argue that these two salient features are linked: the Keynesian demand effects of strong consumer spending have mitigated recessions and supported strong aggregate growth.² But these trends may have run their course: in early 2008, consumption-driven growth is threatened by its evil twin—the explosion of household debt that accompanied the American spending boom.

What is the source of the dramatic rise of American consumption? Conventional theory seeks an explanation in the behavior of an atomistic representative consumer who responds to changes in prices or wealth according to the life-cycle model. The model has been extended to cover uncertainty and precautionary saving, leisure choice and a bequest motive (Deaton 1992, Browning and Lusardi 1996), but its key prediction remains: consumers form intertemporal plans aimed at smoothing their standard of living (or marginal utility of wealth) across predictable income changes over their life-cycle. In the context of this model, the familiar cast of macroeconomic variables: inflation, income, taxes, and interest rates, ought to supply the variation needed to explain recent consumption behavior. These factors—essentially prices and budget constraints—undoubtedly play a role in rising consumption, but we argue that the life-cycle model has some potentially serious limitations for our attempt to understand modern American consumption behavior.³

In particular, the life-cycle model assumes that economic agents predict future states of the world—or at least that they understand the true probability distributions from which those states are drawn. As Crotty (1994, page 131)

¹Kim and Nelson (1999) and McConnell and Perez-Quiros (2000) independently estimate a break date of 1984 for the variance of GDP.

²Torralba (2006) finds that changes to consumption explain 44 percent of the decrease in variance of GDP. Others have linked the great moderation and consumption, but the causation is often reversed. For example, Carroll (1992) argues that the reduction in output variance reduces household needs for precautionary saving and thus raises consumption.

³See Parker (2000) for a detailed discussion. In particular, he argues that higher wealth explains, at best, 20 percent of the rise in the consumption rate through the late 1990s. Moreover, the detailed timing and distribution of changes in wealth and consumption do not align well. Wealth-to-income ratios have not risen since the late 1990s (the Flow of Funds household net worth-to-income ratio was almost identical in 1998 and 2006) while the expenditure rate has jumped by an additional two percentage points.

writes, however, “[e]xpectations and confidence formation are complex, institutionally contingent, and nondeterministic psychological and social processes that can never be fully or permanently captured by any *fixed* mathematical formula.” Real economic agents could be paralyzed by what they *don’t know* if they insisted on obtaining the kind of information the life-cycle consumer is assumed to possess. They avoid paralysis “through the use of heuristics fixed by law, formal policy, or deeply rooted routine” (Crotty 1994, page 134). For this reason, our understanding of household spending and financial decisions must be institutionally specific and historically contingent.

To meet this objective, we think of consumption preferences as endogenous and evolving through time. This perspective is not new: many papers have used models of preferences with different types of habit formation, and microeconomics has long admitted the possible importance of status and relational concerns that affect preferences. Our somewhat different approach relates to the framework of Akerlof and Kranton (2000, 2005). Recent research on consumer behavior identifies the importance of social norms that inform individuals’ utility of consumption. Individuals base their identity on social relations, and their views on what they and others *should* and *should not* buy (consumption norms) have important effects on the way they choose to consume. This approach can be linked with standard theory by modifying utility functions to reflect a loss in utility that depends on the distance of behavior from some conceptual ideal (Akerlof 2007), similar to other reference-dependent utility models. The difference, however, is that preferences are altered not just by the historical consumption path. Endogenous preferences in our framework are, in a sense, *produced* by group interactions, the media, and other social influences. In section II, we connect these ideas with aggregate U.S. consumption patterns.

An increase in desired consumption, however, is not adequate to create *effective* demand. Households must transform their socially driven consumption preferences into actual spending. In the formative years of Keynesian macroeconomic theory consumer finance was largely ignored. In the 21st century, however, households use financial markets extensively to finance their expenditure. Through the lens of conventional microeconomic consumer theory, this change has significant potential benefits as it enhances the ability of households to smooth consumption relative to income fluctuations. But the heavy use of financial markets by consumers also introduces the possibility of behaviors not anticipated in models of narrow intertemporal optimizers with full information.

In section III, we argue that behavioral patterns based on social norms, and related to those that drive consumption preferences, have contributed significantly to the household debt explosion. Institutional changes over the past 25 years undoubtedly decreased borrowing constraints, allowing some house-

holds to more effectively smooth consumption. But financial innovation also allowed consumers to borrow more in response to a wide variety of social cues and encouraged more spending. In a world of uncertainty, this kind of borrowing did not necessarily correspond to a careful plan for repayment consistent with forward-looking intertemporal budget constraints. Rather, borrowing to spend more was encouraged by the fact that others were also borrowing in new ways, and it seemed to work out for them. We argue that an explanation of the recent consumption and debt trends requires us to move beyond atomistic, representative consumers to consider fundamental social influences on household spending and financial decisions.

Section IV discusses the macroeconomic implications of these behaviors. We argue that the strong trend of consumption growth in the past two decades has provided an essential source of Keynesian economic stimulus that enhanced growth and mitigated the severity of recessions, especially the recession of 2001. The associated build up of household debt, however, raises doubt about whether recent consumption trends can be sustained. We interpret these developments with Hyman Minsky's financial instability theory, developed primarily for business investment. Minsky's work identifies the systematic character of aggregate debt-financed expansions that sow the seeds of their own destruction as greater leverage leads to financial fragility. The consumption and debt financing choices of the past two decades may have worked out for many households not because they were based on carefully laid intertemporal plans. Instead, falling interest rates and rising home prices combined to validate increasingly fragile household financial positions. But in 2006 and 2007 this benign macroeconomic environment began to change, especially in the overleveraged and overvalued housing market. As of this writing, warning signals abound about the financial state of the American consumer. The U.S. may have exhausted an unprecedented consumption-driven boom and may stand on the brink of the most severe downturn in economic activity since at least the early 1980s, and possibly since the Great Depression.

Section V summarizes these arguments and emphasizes the historical specificity of the American consumption boom of recent decades, and the possibly imminent consumption bust. The Minsky perspective implies that financial boom-bust patterns occur systematically, but the particular form they take depends on special historical circumstances. The reversal of (1) social forces that stimulated rising household spending, (2) financial innovation that opened new doors to consumer borrowing, and (3) favorable macroeconomic conditions that allowed the consumption party to continue for an unusually long time may now intersect in a "perfect storm" that completes a dramatic, Minsky cycle.

II. SOCIAL INFLUENCES ON BEHAVIOR: CONSUMPTION NORMS

This section explores microeconomic aspects of modern consumption behavior which are summarized by the concept of the household *consumption norm*, an amalgamation of socially determined references that guide spending decisions. Rather than maximizing an exogenous, static utility function, we think of household choice as a fundamentally dynamic process conditioned by endogenously evolving references to the household's history and its social circumstances. We then describe social factors that have increased U.S. consumption norms in recent decades.

A. SOCIAL REFERENCES AND HOUSEHOLD CHOICES

For decades, social psychologists have studied the effect of group identity on human behavior. Hyman (1942) explores psychological and sociological factors that determine agents' evaluation of their social status. Festinger (1954) studies social reference groups and argues that humans have a fundamental drive to evaluate their opinions and abilities, primarily through comparison to those who are similar on relevant dimensions. Tajfel's (1972) concept of social categorization suggests that behavior is determined in part by group prototypes that reflect social values and act as guides for action, rather than solely by atomistic preferences. This process also provides an in-group comparative context that consists of similar others who appear to validate one's self-concept and associated cognitions and behaviors. Thus, uncertainty about perception and behavior is reduced. Indeed, the deep motivation for people to identify with groups may stem from a desire to reduce at least the perception of uncertainty (Hogg 2000).

Within the marketing literature, reference groups are defined as social groups that are important to a consumer and against which he compares himself. Consumers use others as a source of information for arriving at and evaluating one's beliefs about the world. More recent reference group research is based on conformity and social comparison theory (see Folkes and Kiesler 1991 for a review).

In economics, the reference group idea is becoming increasingly important as economists begin to consider social influence on economic decisions. Neumark and Postlewaite (1998) examine the rapid increases in female employment in the U.S. during the 20th century. They develop a model that introduces relative income concerns into household utility functions, and test their model by checking whether women's likelihood of employment is affected by the employment of their sisters-in-law. They find evidence that the entry of some women into

paid employment can spur the entry of other women, independently of wage and income effects. Goldin (1995) argues that aspects of female labor force participation are best explained as a function of the interaction between the types of work (e.g., manual or white-collar) available in economies at different stages of development and social stigmas against women working in certain types of work. Akerlof and Kranton (2005) propose a new approach to principal-agent problems based on the agent's self-identity. In their model, each individual belongs to a category with its own ideal for behavior. The individual derives utility from belonging to the category, but also loses utility if her actions fail to live up to her ideal for how someone in her social category should behave.

In the context of household consumption, we argue that preferences are not given exogenously, in the conventional sense, but rather *created* through time as the household is continually buffeted by events and social interaction. Households learn consumption patterns from their social reference groups. By analogy to the economic theory of the firm, households learn “technologies” from their reference group to “produce” utility using specific consumption goods as “inputs” (as in Becker 1965). Reference groups—virtual or real—are an important source of information: first, they introduce an individual to new products so that choice sets are influenced by one's reference group; second, they provide experience and knowledge in how to appreciate, enjoy (and consequently desire) new products.

Consider a simple example. Think of the preference for good wine less as an innate characteristic of individual utility but rather as a learned behavior conditioned by one's social reference group. An individual with a working class reference group is unlikely to sit around the table at expensive restaurants bantering with friends and sommeliers about tannins, complexity, oakiness, etc. Indeed, we argue that if the enjoyment “technology” for good wine is not typically part of one's social reference group, it may be difficult for that person to appreciate the difference between wine qualities. Should an individual experience a large rise in income, he will have the means to begin dining at places, and with other people, that take their wine seriously. The association with higher income households in the new reference group will “teach”, at least implicitly, the person in the new social situation about the joys of fine wine and change his preferences.⁴

Another idea that has received attention in recent research, the importance of status in consumption, derives from the influence of reference groups. Indi-

⁴The sitcom *The Beverly Hillbillies* ran for nine seasons in the 1960s by describing the antics of a poor family transplanted to Beverly Hills after finding oil on their property. The humor comes from the ridicule of a family operating outside of its reference group, an exception that proves the rule.

viduals do not only learn utility producing technologies from their social reference groups, they also compare their consumption standards to the reference group. When Hyman (1942) asked his respondents if they ever thought about their standing relative to others, over 80 percent reported that they thought about their relative position in a variety of domains, including economic. He discovered that some individuals compared themselves to actual groups, such as friends, neighbors, work groups, and their families, while others used general, more abstract, social categories such as race, occupation, or socioeconomic class. Positional and status perceptions induce comparisons with other individuals, as when purchase decisions are affected by the car in the neighbor's driveway or the camcorder that the mother next door uses to take cute pictures of her toddler (Frank 1997, Schor 1998). Frank, in particular, forcefully argues that people care about their ranking in the consumption hierarchy. They define their self image and self worth by what they consume and possess relative to those around them. Thus, in addition to obtaining satisfaction from consumption *per se*, people care about how their consumption compares with others in their reference group. Again, social forces shape the preferences that drive consumption.

In addition, "habit formation," a concept that is becoming more important in both microeconomic and macroeconomic research on consumption, is implied from this way of understanding household preference.⁵ Habit formation is typically modeled by a utility function with a kink at some "habit level" that depends on previous consumption. This structure creates an asymmetry in marginal utility so that consuming less than the habit level of consumption resonates more than a same-sized increase in consumption relative to the habit level. One justification for assuming habit formation is that repetition of a stimulus diminishes the perception of the stimulus and responses to it. We add that once individuals learn new enjoyment technologies from their social reference group, they will not forget them. To extend the example discussed above, once you learn to appreciate good wine you do not forget the associated pleasures, even if your economic situation deteriorates. Thus, household preferences are path dependent and the relevant references for current decisions include both the social circumstances in which an individual is situated at any point in time, what one might call her cross-sectional reference, and the individual's personal history, or her time-series reference.

We define the *consumption norm* as the standard of consumption an individual considers normal based on his group identity, determined by both the

⁵See Duesenberry's (1949) "relative income hypothesis." Recent references include Campbell and Cochrane (1999), Fuhrer (2000), and Morley (2007).

cross-sectional and time-series references.⁶ The consumption norm provides a conceptual “sufficient statistic” for social and habitual influences on consumer choice that evolve through time. The norm varies with age, family background, neighborhood, and education, among many other things.⁷ Of course, one could model these influences on choice in a utility function for any given individual.⁸ One way to capture this idea formally might be to specify preferences as reference-dependent and model the consumption norm reference point endogenously. But to the extent that the utility function is viewed as strictly exogenous, as is typical in most economic modeling, it abstracts from the dynamic social context of preferences. If the consumption norm “parameter” of utility functions evolves endogenously, the standard assumption of exogenous preferences misses potentially important dynamic factors that affect consumption choices. We argue that the consumption norm is a powerful behavioral force that cannot be ignored as we try to understand modern consumption behavior and how it impacts macroeconomic performance.

B. RISING NORMS IN RECENT DECADES

In this subsection, we argue that strong forces operating in the U.S. over the past quarter century have not only raised consumption norms, they have raised norms faster than the growth in median incomes. Figure 1 documents the remarkable increase in aggregate U.S. household expenditure relative to income. Personal outlays have risen as a share of disposable income from a low value near 88 percent in the 1981–82 recession to about 100 percent.⁹ Americans are

⁶Schor (1998) also uses the terms “social norm” and “consumption norm” in a similar context. She writes (page 9), that “the very term ‘standard of living’ suggests the point: the standard is the social norm.” Akerlof (2007) defines norms as individuals’ views about how they and others should or should not behave.

⁷Walckirch et al. (2004) provide interesting evidence on influence of family influences on preferences. They argue (page 356) that “[c]hildren might strive to keep up with the consumption of parents and siblings and their well-being might depend on comparisons with these reference groups.”

⁸Akerlof (2007) makes a similar point. He argues that individual consumption choices are driven in part by a sense of what they “should” consume, determined, for example, by culture and one’s sense of place in society.

⁹Personal outlays follow the NIPA definition used in the computation of the national saving rate. They include personal consumption expenditures, household interest payments, and personal transfer payments. This concept of expenditure conforms with the disposable income measure that includes interest received by households and transfer income net of taxes for social insurance. Expenditure can also be measured as disposable income less personal saving computed from the Federal Reserve Flow of Funds accounts. According to this measure, the expenditure-income ratio rose even more than the increase in the NIPA measure shown in figure 1.

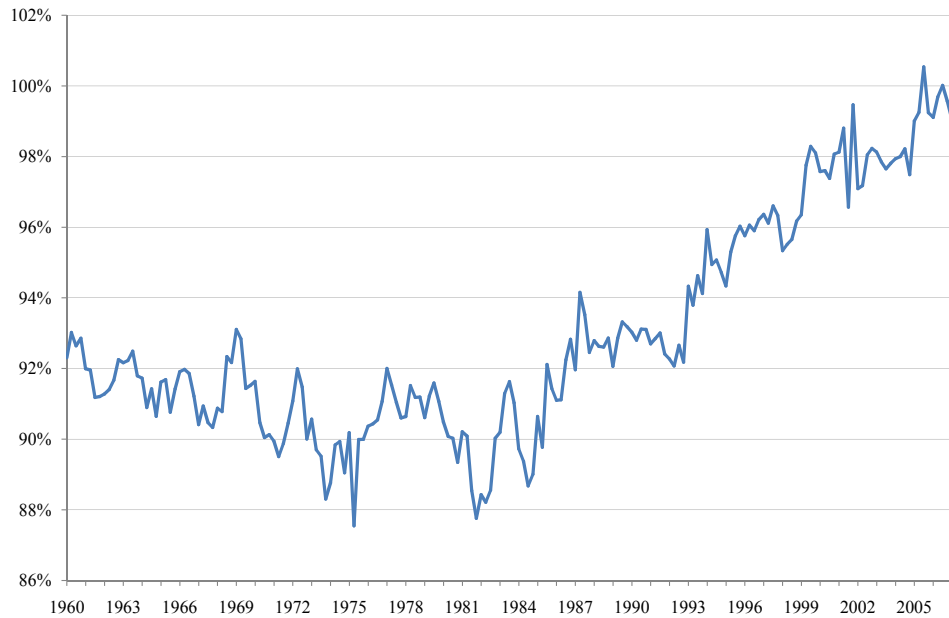


Figure 1: Personal Outlays as Share of Disposable Income

consuming much more of their income, and both domestic and world aggregate demand rely more on that spending.

That consumption levels should rise in a growing economy is no surprise, as rising incomes allow individuals to support higher standards of living. Good economic times raise incomes and allow individuals to spend more, and the increased spending tends to push up consumption norms. Due to habit formation, however, economic downturns do not cause symmetric reductions in consumption norms. This asymmetry implies that households will try to keep consumption growth above income growth over the medium term. If credit access, discussed in the next subsection, allows households to finance desired consumption, as discussed in the next section, *actual* consumption growth will exceed income growth, contributing to the trend evident in figure 1.

In addition to this aggregate asymmetry, new micro opportunities for consumption can cause higher growth of spending relative to income. The drive for profit requires enterprises to grab consumer attention not just by producing more of the same thing, but by introducing innovative products. Through marketing, modern firms incorporate new and better stuff into consumption norms. Some things that were “luxuries” decades ago become standard (for example, electric windows in cars). Some standard parts of today’s consumption norm for most of American society did not even exist a couple of decades ago (DVD

players, for example). In the language developed in the previous subsection, households learn how to use the new products to produce satisfaction in new ways.¹⁰ Product innovation is always an objective of entrepreneurial capitalism, but there is no reason for it to proceed at the same rate over time. We believe that integration of semi-conductor technology into consumer products has been particularly effective in raising the rate of consumer product innovation in the past quarter century, and it has accelerated the growth in consumption norms.¹¹

The mass media have become a central part of the learning process that shapes consumption choices through time. As Becker and Murphy (1993, page 943) point out: “many ads provide essentially no information. Rather, they entertain, create favorable associations between sexual allure and the products advertised, instill discomfort in people not consuming products popular with athletes, beauties, and other elites, and in other ways induce people to want the products.”¹² Greater media saturation obviously encourages more consumption. In addition, advertising targets consumers with the means to pay for the products it hawks. When promoting new products that are not yet “necessities,” in the sense that they are not part of current socially determined consumption standards, marketing often targets upper middle class consumers where there is a reasonably dense population of potential buyers

¹⁰In some cases, new products will replace an older item: consider the digital video recorder and the video cassette recorder. Nonetheless, we argue that product innovation tends to increase desired spending relative to income and wealth for at least three reasons. First, many products provide new consumption opportunities without replacing anything else in a significant way. Second, even if new products replace something else, the new items are usually more expensive, especially early in their product life cycle. Third, opportunities to consume new durable items will encourage accelerated obsolescence and replacement of older goods.

¹¹It seems possible that the introduction of electric consumer appliances in the early 20th century could have had similar effects, but the rate at which norms rose during the electrification boom was likely more constrained by household finance, as discussed in the next subsection.

¹²Becker and Murphy (1993), however, argue against modeling advertising as if it changes tastes, inconsistent with our approach. They write (page 942): “To be sure, consumers may respond to the social and psychological pressures generated by advertisement. But they also respond to such pressures when considering dinners at prestige restaurants, ownership of Mercedes cars, and many other goods.” The argument seems to be that if advertising changes tastes then the simple consideration of goods, even in the absence of advertising, also changes tastes. Becker and Murphy reject such a dramatic change in conventional consumer theory. Our approach, however, proposes that all consumption activity causes preferences to evolve continuously. The consideration of purchasing a Mercedes car, for example, may indeed change preferences: one will never look again at a Ford the same way after test-driving a Mercedes.

with the discretionary income to buy something that was not previously part of their typical budget. Thus, the target audience of advertising is often a group of consumers with above-median incomes.¹³ But this advertising takes place in the *mass* media, and it therefore extends its reach to households with incomes lower than the target audience. The media present compelling and influential lifestyle models. Because of these models, part of the relevant social reference changes from actual peers and neighbors to fictional characters created for entertainment and marketing. In this context, the consumption behaviors demonstrated, while possibly portrayed as perfectly “normal,” are constrained by the script writer’s imagination only, and may therefore be completely inconsistent with the implicitly assumed income and wealth of the character.¹⁴

This democratization of marketing affects the learning processes that cause consumption norms to evolve. As Schor (1998, pages 80-81) points out, one’s reference neighborhood used to consist largely of friends and family who lived in close proximity, and who likely had similar incomes and group identities. But media saturation greatly widens the “neighborhood.” Spending ambitions are not determined by one’s immediate neighborhood and social circles only; one is also bombarded with consumption cues from the mass media. It is the explicit objective of marketing to convince people to spend more, and, as mentioned above, much marketing likely targets higher income individuals. Thus, the remarkable expansion of the media marketing juggernaut, facilitated by modern communication technology, raises consumption norms and desired spending.

If marketing is biased toward higher income consumers with discretionary spending power, rising economic inequality also contributes to an increase in desired spending that outpaces income growth. To illustrate this point, suppose that the median advertising message targets households with income at the 80th percentile. The message influences all income groups, however. As the income gap between the marketing target group and the median-income household rises, the pressure to spend “beyond one’s means” rises across much of the income distribution. Median households will not be able to afford the standard

¹³Consider, for example, extensive advertising of high-end car brands during nationally televised sporting events.

¹⁴Schor (1998) discusses media influence on consumption and makes this point forcefully. For example, she discusses (page 5) the popular, even trend-setting, television show *Friends*, in which twenty-somethings with mediocre jobs (if they have jobs at all) live comfortably in spacious Manhattan apartments in good neighborhoods with plenty of money for stylish clothes and leisure activities. These experiences demonstrate a model for material life in the same way interaction among neighbors demonstrate consumption standards. But while the real demonstration effects in a neighborhood are constrained by budgets, the fictional demonstrations in the media are not.

of living of the 80th percentile, but they will do what they can, pushing the propensity to consume out of disposable income higher, and, as discussed in the next section, increasing household indebtedness.

These trends are magnified by “positional externalities” in consumption, emphasized prominently in the work of Robert Frank who compares the evolution of consumption norms to an arms race. Frank (1997, page 1840) writes “[t]he things we feel we ‘need’ depend on the kinds of things that others have, and our needs thus grow when we find ourselves in the presence of others who have more than we do. Yet when all of us spend more, the new, higher spending level simply becomes the norm.” Each person’s consumption creates an externality for everyone else. As some households stretch their budgets to approach the high and rising consumption standards portrayed in the mass media, they compel others to do the same thing to keep up in Frank’s consumer arms race.

The positional externality also biases households’ consumption-saving choices, as discussed by Frank (2005). Suppose that economic growth would lead to a balanced expansion of consumption relative to income for the representative household in the absence of positional considerations. Put this household in a socially isolated environment with economic growth and its consumption-income ratio would be constant. Now, add the positional externality. Consumption spending can be observed by others, while saving is largely private. The externality, therefore, will tilt the household choice towards current consumption and away from saving. Again, these forces raise consumption norms faster than household income.

Finally, there can be little doubt that the growing prevalence of two-earner households has raised household consumption. The fraction of married women in the labor force increased from 30.5 percent in 1960 to 60.6 percent in 1995, and it has hovered above 60 percent through 2005 (*Statistical Abstract of the United States* 2007, table 584). Superficially, one might expect this broad social trend to have little impact on consumption-income ratios. A household with two incomes has more resources and will obviously consume more. When this behavior is analyzed in the asocial framework of a representative household model with exogenous preferences, one might not expect two-earner households to spend a higher fraction of their income. The representative household perspective, however, may miss important aspects of this fundamental shift in family life. Consider the spillover effect on a family that chooses not to follow the trend toward two earners. One parent stays home with the kids, but this family is embedded in a social environment in which many households have two incomes. As the neighbors next door, the couple’s siblings, or the families of the employed spouse’s co-workers move toward two earners in their households,

the pressure on the single-earner family rises, likely driving desired consumption up faster than income.¹⁵

The positive implication of the arguments presented here is that modern social forces cause preferences to evolve endogenously to raise desired consumption relative to income and wealth. These arguments have a potential normative implication as well. In models in which consumers have present-biased preferences, in the sense of Laibson (1997), or have to battle with temptation to consume, as in Benhabib and Bisin (2002) and Bernheim and Rangel (2001), these phenomena make consumption ever more tempting and delaying consumption ever more difficult. Households with time-inconsistent preferences may reduce their overall utility, in some sense, by succumbing to this magnified temptation. The result could lead not only to regret, but, more tangibly, precarious household financial circumstances that loom large in early 2008, the source of which we turn to now.

III. FINANCIAL INNOVATION AND CREDIT ACCESS

The desire for higher consumption alone is not sufficient to explain the striking upward trend in consumption relative to income in figure 1. Consumers must be able to *pay for* their desired spending. This section discusses how institutional changes in household credit have helped consumers realize their desire to spend more, leading to an unprecedented expansion in U.S. household debt.

A. FINANCIAL NORMS

We have argued that product innovation, mass media, and the myriad effects of social reference groups interact to determine household consumption choices. Similar processes shape household financial behavior. Indeed, financial practices are a subset of household behavior and therefore the general perspectives of decision-making presented above apply also to the realm of household finance. Again, uncertainty is central to the argument. Hicks once insisted that people “do not know what is going to happen and know that they do not know what is going to happen,” (see Davidson 1987, page 149). This is exactly the kind of situation in which Festinger (1954) predicts that social comparison will

¹⁵Neumark and Postlewaite (1998) argue that this kind of phenomenon also raises the social pressure on the non-working spouse to enter the labor force, which would cause consumption to rise, but with no obvious effect on the consumption-income ratio. Another possible reason for a higher spending rate in two-earner households is reduced family income uncertainty if the earnings of the partners are not perfectly correlated (Carroll 1992).

be important for forming beliefs. Keynes likely had the same idea in mind when he wrote:

Knowing that our own individual judgment is worthless, we endeavor to fall back on the judgment of the rest of the world which is perhaps better informed. That is, we endeavor to conform with the behavior of the majority or the average. The psychology of a society of individuals each of whom is trying to copy the others leads to what we may strictly term a conventional judgment (1936, pages 214-5).

Through this channel, it is possible for financial behavior to spread through reference groups. Thaler and Shefrin (1981, page 397) identify financial rules of thumb:

In the savings context several such rules appear to be commonly used. These rules alter the budget constraint faced by the doer in much the same way as credit limits imposed by lenders do. A simple first departure from pure discretion is a ban on borrowing, the so-called debt-ethic. A somewhat weaker rule which seems common is to prohibit borrowing except for specific purchases, like houses and automobiles.

They further describe the evolution of what we call “financial norms” (page 398) in ways very similar to the endogenous evolution of consumption norms discussed in the previous section:

We wish to make three other points about internal rules of thumb. First, it is useful to consider these rules as learned as much as chosen. Rules like the debt ethic are learned from parents and other models, which suggests that there will be differences in the use of rules depending on social class, education, and age. Second, rules of thumb are likely to become habits. By establishing a routine, the doer decision process can be avoided. Third, to the extent that the rules do become habits, there will be rigidities built into the individual’s behavior.

A related example comes from Guiso, Sapienza, and Zingales (2003, 2006) who report evidence that religion is correlated with attitudes toward savings and with actual savings. They find that variables reflecting culture have as much power to explain cross-country savings ratios as variables derived from the life-cycle hypothesis.

Thus, financial behavior and habits are subject to social influences and evolve through time. Changing institutional structures interact with social norms to define what practices are responsible, tasteful, etc. For example, borrowing for a home with 20 percent down and a fixed-rate mortgage was consistent with the financial norms of the 1960s and the 1970s. But few people in that era would re-finance their mortgages to get cash for a new car or a vacation. When home equity loans with tax advantages became available in the late 1980s, borrowing against one's home for non-housing consumption became more common. In the 1990s, innovations in the mortgage markets reduced transaction costs and cash-out refinancing became more common. Initially, these actions were responses to changes in available financial products. We argue, however, that what households consider "responsible" behavior also evolved along with these changing practices.

B. CONSUMER CREDIT: CHANGING INSTITUTIONS

Historically, the ability to finance expenditure with debt has been most relevant for business spending. Until the early 1980s, the household experience with credit was largely limited to home mortgages and the finance of consumer durables, primarily cars. These loans were collateralized and required substantial down payments. But things have changed dramatically in recent decades. Credit cards now provide a line of unsecured credit to most households, albeit with substantial interest costs. Innovations in housing finance have greatly increased the ability of home owners to borrow at tax-subsidized interest rates for any kind of consumption through equity credit lines or cash-out refinancing.¹⁶

One important reason for these developments is new information technology that makes it easier to obtain information on prospective borrowers. Pagano and Jappelli (1993) report that the number of credit reports grew from 60 million in 1960 to 100 million in 1970 and 400 million in 1989. Standard models of credit rationing, such as Stiglitz and Weiss (1981), rely on the lender's inability to distinguish between "good" and "bad" borrowers. Such models generate outcomes in which lenders ration credit if they cannot distinguish the quality of borrowers. However, if lenders can distinguish between borrowers,

¹⁶There are a variety of causes for the institutional changes that have transformed consumer finance. A pivotal event, however, was the 1978 ruling in *Marquette National Bank of Minneapolis v. First Omaha Service Corp.* This decision effectively removed interest rate restrictions in most states by allowing lending to be regulated by the laws of the lender's state, regardless of the residency of the borrower. This change also contributed to the expansion of general-purpose credit cards. See Burhouse (2003). Deregulation also has played an important role. Wray (2007) links specific regulatory changes to expansion of mortgage credit, especially to subprime borrowers.

they finance good risks at low interest rates and the bad ones at high interest rates. Therefore, if the improvement of credit reporting technologies made distinguishing between good and bad credit risks easier, credit should have become more accessible to everyone.¹⁷

The share of total consumer debt made up by revolving debt, which consists primarily of credit card balances, increased steadily up until 1998 when it reached about 46 percent. The number of consumers who have access to revolving credit has increased as well (Torralba 2006). Between 1970 and 1998, the proportion of all U.S. households that had at least one bank-type credit card grew from 16 percent to 68 percent. Torralba (2006) notes that not all cardholders use their cards to finance their purchases, but the proportion of households with at least one bank-type credit card that *do* carry a balance increased until the mid-1990s and then leveled off at about 55 percent.

Furthermore, having a credit card has become widespread among consumers at all levels of income. Between 1970 and 1998, card ownership in the lowest income quintile went from 2 percent to over 25 percent, and the highest quintile went from 33 percent to 95 percent. The increase in the proportion of card owners who carry a balance has been the largest among the poorest quintile—about 32 percentage points according to Torralba (2006).

Mortgage finance also changed dramatically in the last quarter of the 20th century. As discussed in Carroll (1992), quasi-governmental agencies such as Fannie Mae facilitated the expansion of the mortgage-backed securities markets. The increased liquidity of mortgage loans apparently encouraged banks to relax credit standards for loans they originated. Tax law changes have also affected the market for household debt. In particular, the Tax Reform Act of 1986 eliminated the income tax deduction for most categories of interest expense, but famously retained the deductibility of home mortgage interest. Initially, home equity credit lines became a simple way to shift interest payments on traditional consumer debt, car loans for example, from a non-deductible to a deductible expense. But once the home equity line is in place, it becomes much easier for home owners to borrow for any purpose, including non-durable expenditure: institutional change transforms financial norms.¹⁸

In addition, mortgage refinancing to exploit interest rate movements has become much more common (Hurst and Stafford 2004, Wray 2007). It is not

¹⁷Burhouse (2003) makes similar points and argues that new credit scoring technologies in the 1990s contributed to the risk-based pricing that both expanded credit availability to a broader class of households (including subprime households) and facilitated securitization.

¹⁸Debelle (2004, page 60) writes “The ability of households to extract equity has been considerably strengthened by the greater availability of products such as home equity loans, and the lower transaction costs of using those products.”

surprising that falling interest rates would boost consumption as households refinance and their debt service payments decline. But the fall in refinancing transaction costs and the greater awareness among households about refinancing opportunities have magnified this effect. In addition, the emergence of “cash-out” refinancing has encouraged households to exploit the benefits of a lower mortgage interest rate with a large upfront cash infusion rather than a reduction in monthly debt service payments. In the context of the pressure toward higher spending discussed earlier, cash out refinancing that raises loan principal but keeps payments constant, due to lower interest rates, seems likely to have boosted consumption much faster than a more conservative refinancing approach that raises monthly household cash flow by keeping the loan balance constant and reducing the monthly payment. Furthermore, an environment of falling interest rates that presents these consumption-increasing opportunities will raise consumption norms, suggesting that the rise in spending caused by falling rates will not be reversed symmetrically when rates rise.

C. CONSUMER CREDIT: CHANGING ATTITUDES

Psychological factors have also played a role in the transformation of household finance. The vast majority of adult household decision makers from the end of World War 2 to the 1970s either had to confront the financial challenges of the Great Depression themselves or had parents who managed household budgets during this bleak period. These people have an aversion to consumer debt. The Depression is two generations removed for baby boomers, however, and they have been much more willing to borrow aggressively to get what they want.¹⁹ Indeed, this phenomenon spreads through social reference groups in ways that parallel the evolution of consumption norms. When the behavior of one’s neighbor suggests that a home equity credit line can easily finance a vacation or home improvement, the social stigma associated with debt begins to erode. The dramatic rise in the consumption-income ratio corresponds to the period in which the baby-boom generation, with its relatively relaxed attitude about debt, has become the dominant force in American consumption.

These arguments resemble a claim that household liquidity constraints have relaxed (see Carroll 1992, for example), but there is a subtle difference. In a conventional life-cycle consumption model with liquidity constraints, households have a feasible, optimal plan that they would follow in the absence of constraints, but the constraint prevents current consumption from reaching this desired level. When greater access to credit relaxes the constraint, households

¹⁹Malmendier and Nagel (2007) find evidence that “Depression Babies” are more risk averse than younger cohorts when making financial decisions.

raise debt and consumption toward the level derived from the optimal plan. These actions can be understood by looking at a representative household in isolation, without reference to broader social forces. In our context, in contrast, we view consumption *and* debt choices as driven to an important extent by social interaction.²⁰ A family, in isolation, might choose a more conservative financial path, but the influence of neighbors, both those who have a physical presence and those whose lifestyles are piped in through the media, drives both consumption and debt higher.

This behavior may be myopic relative to the results of a standard life-cycle model with liquidity constraints, perhaps myopic in the sense of the time-inconsistent behaviors (e.g. hyperbolic discounting) found in behavioral economics research.²¹ The result could be that households take on debt that lowers their welfare over some horizon. Laibson (1997) provides a formal model of the *costs* of financial innovation, whereby better access to credit can actually reduce welfare because illiquid assets (and credit constraints more generally) can serve as important sources of self-control for hyperbolic discounters. The social influences on household finance also likely reflect the uncertainty households face about the future. They are not really sure what kind of financial plan is feasible, but there is a perceived “safety in numbers.” If others borrow heavily to consume a lot now, both higher consumption and the higher debt necessary to finance it seem like the “thing to do.”²²

Regardless of the underlying reasons, a quick look at aggregate household financial statistics demonstrates the dramatic rise in consumer debt. Figure 2 shows total household and mortgage debt outstanding (Federal Reserve Flow of Funds data) as a share of GDP. This ratio has been rising for decades, likely due in part to financial innovations in household lending. The ratio shows some acceleration in the mid to late 1980s, roughly the beginning of the consumption boom. The growth in debt accelerates dramatically after 2000, entirely due to the rapid rise in mortgage debt. Something new is happening in recent years.

²⁰Akerlof (2007) quotes Max Weber’s *Protestant Ethic and the Spirit of Capitalism* on the point that people save, and presumably avoid debt, to live up to a religious ideal. This religious norm of virtue in material sacrifice may have been a powerful constraint on spending and debt in the U.S. during the first half of the 20th century, but that part of the social norm has likely changed in recent decades. In particular, the emergence of “televangelists” and “mega churches” do not seem to be examples of religion-inspired frugality.

²¹Consider the case of Benjamin Franklin Baggett who filed for bankruptcy in 2003. “We came to rely on credit as part of our income. I looked at \$1,000 on my credit card as disposable income.” (“Extra Credit: Lagging Behind the Wealthy, Many Use Debt to Catch Up,” *Wall Street Journal*, May 17, 2005, page A1).

²²Crotty (1994, page 120) writes “because they are fully human, agents have a deep psychological need to create the illusion of order and continuity even where these things may not exist.”

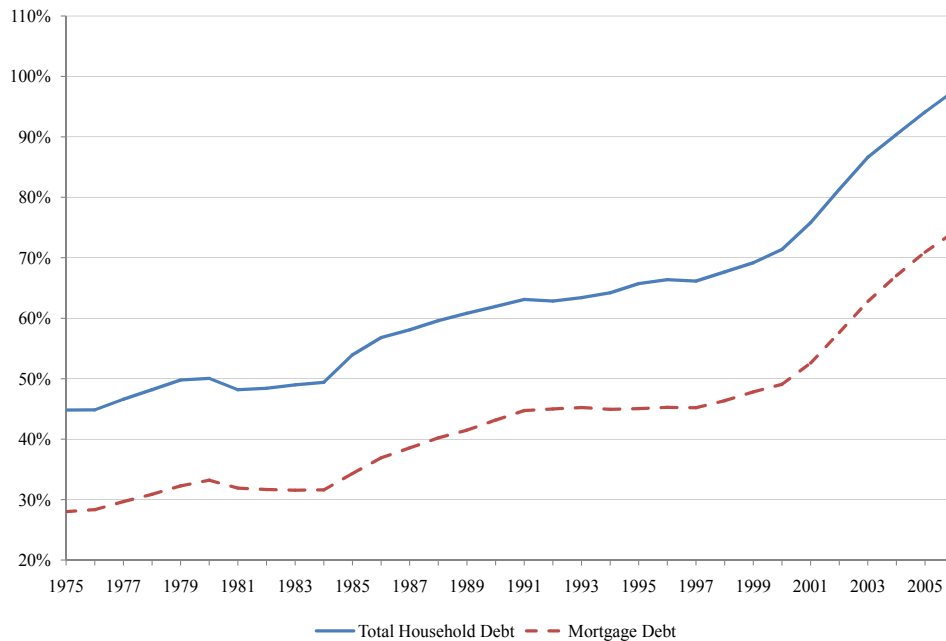


Figure 2: Household Debt Outstanding as Share of GDP

To appreciate the significance of this event, and its potential implications for the future, we need to take a macroeconomic perspective.

IV. CONSUMPTION, DEBT, AND U.S. MACROECONOMIC PERFORMANCE

To this point, we have focused on how the microeconomics of consumer behavior has led to higher consumption and rising debt in the U.S. since the middle 1980s. We now turn to explore the macroeconomic implications of modern American consumer culture.

A. MILD RECESSIONS AND STRONG AGGREGATE GROWTH (AT LEAST FOR A WHILE)

By 2006, consumption constituted over 70 percent of U.S. aggregate demand. According to Keynesian macroeconomic theory, strong consumption growth causes high output growth and low unemployment. From this perspective, therefore, the dramatic rise in American consumption has created substantial

macroeconomic stimulus. To assess this claim, first consider the dynamics of recent recessions in 1990–91 and 2001 compared with recessions in 1974–75 and 1981–82. The conventional wisdom is that U.S. recessions since the early 1980s have been “mild,” contributing to the widely accepted view that the U.S. economy has experienced a “Great Moderation.” The broadest measure of economic activity, real GDP, supports this view. The peak-to-trough declines in real GDP were 3.1 percent and 2.9 percent in 1974–75 and 1981–82 respectively.²³ During the worst individual quarters of these periods, GDP contracted at annualized rates of 4.7 percent (1975:1), 3.8 percent (1974:3), 7.8 percent (1980:2), and 6.4 percent (1982:1). In contrast, during the 1990–91 recession GDP fell by just 1.3 percent from peak to trough with annualized contractions during the worst quarters of 3.0 percent (1990:4) and 2.0 percent (1991:1). In 2001, there was barely any peak-to-trough decline (just 0.2 percent), and no single quarter was worse than the 1.4 percent annualized contraction in 2001:3.

Consider figure 1 again that shows the ratio of personal outlays to disposable income. The average “propensity to consume” proxied by this ratio obviously collapsed in both the 1974–75 and 1980–82 periods, significantly magnifying the severity of the economic weakness. During the early 1990s recession, the growth of the consumption-income ratio that started in the mid 1980s took a pause, but any decline was hardly noticeable compared with the earlier recession periods. In 2001, the consumption-income ratio *continued to grow* in spite of the dramatic collapse of the late 1990s bubble in technology stock prices and the fallout from the September 11, 2001 terrorist attacks.²⁴ This evidence implies that consumption has provided a substantial cushion for the aggregate economy in recent decades, and this cushion has helped to contain recession dynamics.

Although the claim is more controversial, we also argue that the American consumption boom has been an important engine of demand-led growth for U.S. economy over the medium term. According to conventional macro theory, high aggregate demand growth affects macro performance only at “short-run” frequencies relevant for business cycles, over a few quarters for example. In the long run, however, supply-side forces are supposed to dominate growth as wage and price adjustments offset demand factors and the economy converges to full

²³There was what has been conventionally identified as a separate recession in 1980. Real GDP fell by 2.2 percent between 1980:1 and 1980:3.

²⁴Also see Kotz (2008). The unusual nature of this phenomenon is noted by Burhouse (2003): “consumer spending and borrowing patterns during and after the 2001 recession departed significantly from historic norms. U.S. households in 2002 continue to spend and borrow at a record pace even as personal bankruptcy filings reached record levels.”

employment of its resources or “potential output.”²⁵ Yet, there is little evidence that the U.S. economy faced supply constraints at the margin in recent years. Inflation was on a downward trend from the early 1980s through the early 2000s, rebounding only a little in the face of huge recent increases in energy costs. Unemployment also tested multi-decade lows in the late 1990s with no adverse effects on inflation. These facts suggest that potential output has stayed ahead of demand, and that demand growth, therefore, has been the proximate cause of output growth over a relatively long period of time. In addition, the U.S. has performed very well relative to the rest of the developed world, especially during the extended 1990s boom. Because consumption has been such an important part of demand growth, we attribute a major part of this relative success to the strong growth of American consumption. International evidence supports this claim. U.S. economic growth was much stronger than growth in the two most comparable economies, the Euro area and Japan. From 1992 to 2000, Japan grew at an average annual rate of just 1.2 percent while Europe averaged 2.1 percent. The U.S. grew at 3.7 percent from 1992 to 2000. Over the same period, the annualized rates of real consumption growth in Japan and Europe were 1.4 and 1.2 percent, respectively. The U.S. consumption boom led to a 4.0 percent annualized growth rate of real expenditures from 1992 to 2000. Of course, correlation does not prove causation. If the U.S. economy grew faster for supply-side reasons, consumption would likely grow faster too as consumers perceived higher income and wealth. But because there is little evidence that the supply side imposed binding constraints on output in any of these countries during this period, we argue that an important channel of causation goes from consumption growth to aggregate demand and output growth.²⁶

Part of the credit for the relatively good U.S. economic performance in recent years goes to strong consumption and part of the blame for anemic growth in Europe and Japan lies on the shoulders of their frugal citizens. Indeed, this comparison is strengthened by considering international trade. Other countries siphoned off a significant portion of the U.S. consumption boom as indicated by the massive and rising U.S. trade deficit, a non-trivial portion of which went

²⁵According to this standard macroeconomic model, high consumption relative to income actually reduces the growth of potential output because high consumption reduces saving, which lowers investment, the capital stock, and labor productivity. Both the theoretical and empirical foundations of this part of the standard model are fragile, however. A detailed analysis of this debate lies outside the scope of this paper. For discussion and further references see Fazzari, Ferri, and Greenberg (1998), Fazzari (2004), and Palley (2007).

²⁶Borio and Filardo (2006) present evidence that globalization has greatly relaxed worldwide capacity constraints with the result that global, rather than national, measures of economic slack better explain inflation performance. This point strengthens the case that U.S. growth was not supply constrained in recent years.

to Europe and Japan. Thus, the American consumption boom not only raised U.S. growth, it also raised foreign growth.²⁷

B. RISING HOUSEHOLD DEBT: THE “DARK SIDE” OF THE AMERICAN CONSUMPTION BOOM

To the extent that strong demand leads to higher GDP growth, employment and living standards, Americans, and the rest of the world, have benefited from the macroeconomic effects of rising consumption norms and the associated U.S. consumer culture. But, as section III.C documents, the consumption boom has been accompanied by an unprecedented rise in household debt that threatens the continuation of strong growth, both for the domestic U.S. economy and a world economy that has come to depend on Americans as “consumers of last resort.”

The financial Keynesian theory of Hyman Minsky provides a framework for analyzing the dynamics of these phenomena.²⁸ This perspective emphasizes the two-sided character of debt-financed spending. In the growth phase of the aggregate business cycle, the creation of debt boosts demand that provides economic stimulus. But Minsky argues that as debt continues to grow during the boom phase of the cycle the financial system will eventually become more fragile. As Kindleberger (1989, page 33) writes: “Optimistic expectations and the incessant drive for profit in the lending industry by finding ever more creative ways to generate volume continue to fuel the growth of borrowing and lending during the expansion. Financial institutions accept liability structures that decrease liquidity, and that in a more sober climate they would have rejected.” As good performance creates optimism in asset markets, it prompts speculation, and the resulting increase in asset prices fuels the euphoria and helps to support more credit and more spending. But debt ratios rise, as in figure 2. Also, rising nominal interest rates due to actual higher inflation, or fears at the central bank of higher inflation, raise debt service relative to income. Eventually, the boom can no longer be sustained. Greater financial fragility increases the vulnerability of the economy to negative shocks: a negative event that would not create financial problems when debt is modest relative to income

²⁷Analysis of world economic conditions in the press supports this view. For example, the *Wall Street Journal* “Outlook” column (March 20, 2006, page A1) states that global growth has depended on “the American consumer, whose willingness to borrow and spend has been a primary driver of world growth for the past five years.”

²⁸See, in particular, Minsky (1985, pages 37-50). Dymski and Pollin (1992) provide a summary of the Minsky financial cycle theory. Wray (2007) provides a detailed application of the Minsky framework to recent developments in mortgage markets.

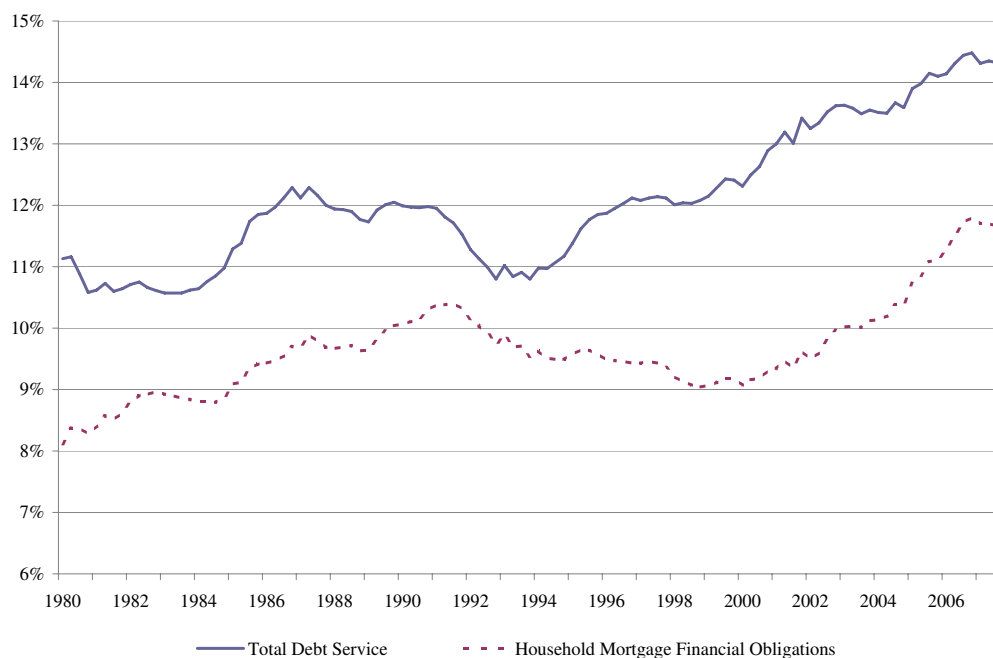


Figure 3: Debt Service as Share of Disposable Income

may cause more widespread delinquency and default in a heavily leveraged financial system. Lenders become more cautious, tightening credit standards and raising risk premia. Borrowers are deterred by both the higher cost of credit and the emergence of financial instability. Emerging financial problems affect asset prices, undermining both collateral values and confidence. Debt creation contracts which shuts down the engine of aggregate demand growth and the economy slows or even enters a recession. Furthermore, the more fragile the financial system at the peak of the boom, possibly due to speculation and the associated asset price “bubbles” that can arise in the mature phase of an expansion, the more severe the contraction that follows it is likely to be.

The household debt ratios in figure 2 clearly show this rising fragility in recent years in general terms. More specifically, parallels to the recent U.S. housing boom and mortgage-based lending explosion are hard to avoid. Figure 3 provides additional evidence. The figure plots total and mortgage debt service payments (Flow of Funds data) as a share of disposable income. In the early 1990s, the interest payment ratio declined substantially at a time when the economy went through a recession and interest rates fell significantly. By the mid 1990s, the debt service ratios began to rise again. Some of this rise took place in an environment of modest interest rate increases as the Fed attempted to rein in the strong growth of the late 1990s in a pre-emptive strike against

inflation. But starting in early 2001, the economy weakened substantially and the Fed began cutting interest rates aggressively. One would expect, based on the experience of the early 1990s recession, that the mortgage interest payment ratio would have declined significantly as the 2001 recession cooled the demand for mortgages and lower interest rates reduced the cost of servicing existing debt. Figure 3 shows, however, that the ratio hardly fell at all during the period of historically low interest rates from late 2001 through mid 2003. Furthermore, the ratio begins to explode upward at the end of 2004. This evidence supports the view that the finances of the household sector have recently become more fragile (and, in some cases even dishonest: see Ben-David, 2007 and Wray, 2007), in line with the basic Minsky theory.²⁹

Note the correspondence between, first, the result from the previous subsection that strong consumption cushioned recessions and contributed to strong secular growth in the U.S. over recent decades and, second, the rising financial fragility of the household sector. These are two sides of the same underlying phenomenon, which suggests that the consumption boom may have sowed the seeds of its own destruction. According to the Minsky cycle theory, rising financial fragility eventually leads to events that will reverse the credit-financed boom. Because of its massive debt, the household sector will be more sensitive to unexpected movements in interest rates and to changes in income.

As of this writing, financial fragility in the U.S. consumer sector appears to have reached a Minsky peak. In addition to warning signals flashed by broad measures of consumer debt, what many observers labeled a speculative bubble in the housing sector has collapsed in spectacular fashion. After rising at annual rate of just under one percent from 1975 to 1997, average U.S. home prices, adjusted for CPI inflation, rose at an annual rate of almost 6 percent between 1997 and 2006. Some “hot” geographic regions experienced much faster appreciation. During the same period, real household disposable income grew at an annual rate of only 3 percent. To afford the rapidly rising home prices, households took on increasingly “creative” mortgages that reduced up-front debt service costs at the expense of greater leverage, contractual increases in debt service costs when “teaser” rates expire, or the need to re-finance in the near future with much uncertainty about terms borrowers would face. These features of mortgage finance are the manifestation of Minsky’s financial fragility at the beginning of the 21st century. Weak home construction became a significant drag on growth in 2006, and the residential construction is in a depression

²⁹Although the evolution of consumer finance in recent decades has created new potential for financial instability in the household sector, such instability is hardly new. Olney (1999) argues that belt tightening in 1930 by consumers anxious to avoid the costs of default on installment credit turned what would have been a minor recession into the Great Depression.

in early 2008. The greater macroeconomic risk from these events, however, is that what had been a strong source of finance for demand growth will turn abruptly into a drag on consumption. The estimates presented in Greenspan and Kennedy (2005) imply that net home equity extraction was equal to 6.9 percent of disposable income (5.1 percent of GDP) in 2004. Updated figures suggest similar magnitudes of extraction in 2005 and 2006. The consequences for the economy would be bad enough if it were to lose much of this stimulus due to weak conditions in the housing market. If problems in housing and mortgage finance force homeowners to *inject* net equity (to pay down debt), however, conventional forecasts of a mild recession during 2008 will turn out to be much too optimistic. Consider the following summary of the views expressed by Alan Greenspan in August, 2005: “rising house and stock prices have made many people feel more wealthy and have helped to support consumer spending. However, Greenspan said, people shouldn’t count on that paper wealth, which can evaporate if conditions deteriorate rapidly.”³⁰

V. CONCLUSION: GENERAL FINANCIAL CYCLES IN HISTORICALLY SPECIFIC FORMS

American consumption and household finance have undergone a fundamental transformation in the past quarter century. We argue that to understand these phenomena one must consider how consumption preferences evolve for households situated in a social context. Consumer behavior is driven to an important extent by norms that are produced by references to neighbors, co-workers, and models provided by the mass media. Household financial behavior also depends on norms that have changed substantially in recent years, in part due to institutional change in consumer finance. These changes have unleashed behavioral forces that significantly raised household spending relative to income and caused measures of consumer debt to skyrocket.

The second part of this paper explores the macroeconomic effects of these trends. From a Keynesian perspective, we propose that strong American consumption has reduced the severity of recessions, contributing to the “great moderation” since the mid 1980s that has received much attention in modern macro research. In addition, our analysis implies that consumption has been an important, perhaps the dominant, source of U.S. aggregate demand growth in the medium run, which helps explain the good relative macro performance

³⁰From Jeannine Aversa (Associated Press), “Greenspan’s Words are a Warning,” *St. Louis Post-Dispatch*, August 27, 2005, page 3 biz.

of the U.S. since the 1980s, compared with other major economies, and the rising U.S. trade deficit that has been a major recent engine of global demand.

This macro stimulus, however, rests on the shaky foundation of rising household debt that threatens to undercut American prosperity. We interpret both the consumption boom, and the possibility of a coming bust, in the framework of financial instability presented by Hyman Minsky. From this perspective, a broad boom-bust pattern driven by finance is an unavoidable general characteristic of modern capitalism. Furthermore, the threat to the economy is more than just a reaction to some excessive lending practices in subprime mortgage markets during the early 2000s. We could be witnessing the end of nearly a quarter century run of strong growth fueled in large part by American consumers and their willingness to borrow.

While Minsky's theory identifies a deep family resemblance across financial cycles, the specific form of any particular cycle depends on unique historical circumstances. Minsky's writings, although they mention consumption and household debt, focus primarily on business finance and investment. We propose that innovation in consumer finance and the associated evolution of household financial norms over recent decades has shifted the locus of financial instability to the consumer sector. Note the connection between the behavioral foundations for household consumption and debt practices, described in sections II and III, and the potential macro instability discussed in section IV. In our view, the standard life-cycle model, with its narrow focus on consumption smoothing subject to a hard intertemporal budget constraint, does not adequately describe household spending and borrowing decisions in the past quarter century. We argue instead that, in the context of uncertainty, households base their decisions on a wide variety of evolving social cues about consumption and financial behavior. With financial innovation and greater access to debt, the year-by-year budget constraint has become soft. Families likely do not have a detailed plan for how they will service their debts in all states of the world that could arise from well understood probability distributions. Rather, households mimic the behaviors they observe around them, from both real people and media models, assuaging their uncertainty in the perceived comfort of acting like others in their social reference groups. In the specific circumstances of the past two decades, increasingly indebted families stayed afloat financially not so much as the result of a careful intertemporal financial plan, but simply by finding a way to service or refinance current debt, perhaps on fortuitous terms in a particularly favorable historical environment. Such "good luck" keeps the spending and debt boom going. It may be unrealistic for households to believe that the favorable macroeconomic trends will continue indefinitely that are necessary for them to "validate" their finan-

cial positions, which could include falling interest rates, easier lending terms, and rapidly appreciating home prices.³¹ But such a systemic perspective lies outside of the bounded information set of the typical household. Families can observe their neighbors, but they cannot be expected to appreciate the complex macroeconomics of emergent financial instability. A similar point likely applies to lenders. Their relaxed credit standards may have created excessive systemic risk, but the short-term environment made risky loans very profitable for a while. Managers and investors see the money that can be made in the short run, but they do not adequately perceive macroeconomic risks that emerge in new ways compared with earlier financial disturbances.

Until recently, the specific historical conditions of the past two decades in the U.S. have created a remarkably good environment for high consumption and rising household debt. These conditions included low energy costs, large tax cuts, a stock market boom, a historic decline in interest rates, a home price boom, and financial innovation that opened new doors for consumer lending. In classic Minsky fashion, however, these favorable conditions encourage more aggressive financial practices until they have reached a breaking point. With falling home prices and retrenchment in mortgage lending, conditions have reversed. The U.S. economy may have reached what the financial press has called a “Minsky moment,” that threatens U.S. and global demand growth in ways not anticipated by mainstream theory or the conventional forecasts based on that theory.

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³¹Minsky (1986) uses “validate” to describe the process of meeting contractual debt service obligations. Also see Wray (2007).

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