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Four Popular Books on Consumer Debt: A Context for Quantitative Literacy

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Four Popular Books on Consumer Debt: A Context for Quantitative Literacy

Abstract

The topics of credit cards, mortgages, subprime lending, and fringe banking are rich sources of problems and discussions for classes focused on quantitative literacy. In this theme book review, we look at four recent books on the consumer debt industry: *Credit Card Nation*, by Robert Manning; *Maxed Out*, by James Scurlock; *Collateral Damaged*, by Charles Geisst; and *Broke, USA*, by Gary Rivlin. *Credit Card Nation* takes a scholarly look at the history of credit in America with a focus on the genesis and growth of the credit card industry up to the turn of the 20th century. *Maxed Out* also examines the credit card industry, but its approach is to highlight the stories of individuals struggling with debt and thereby examine some of the damaging effects of credit card debt in the United States. *Collateral Damaged* is a timely exploration of the root causes at the institutional level of the credit crisis that began in 2008. *Broke USA* focuses on high-cost financing (pawn shops, payday loans, title loans), describing the history of what Rivlin calls the "poverty industry" and the political and legal challenges critics have mounted against the industry. Each of these books has something to offer a wide variety of quantitative literacy classes, providing scenarios, statistics, and problems worthy of examination. After reviewing each of the four books, we provide several examples of such quantitative literacy applications and close with some thoughts on the relationship between financial literacy and quantitative literacy.

Keywords

consumer debt, financial literacy, quantitative literacy, quantitative reasoning, credit cards, fringe banking, social issues

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Cover Page Footnote

Andy Miller is an Assistant Professor of Mathematics at Belmont University in Nashville, Tenn. His interests include financial literacy, applications of mathematics to social justice issues, and service learning in mathematics.

Introduction

In 2008, consumer debt (including credit card debt, auto loans, and other installment loans but excluding mortgages) in the U.S. totaled \$2.5 trillion dollars. Total mortgage debt was \$15 trillion and U.S. government debt sat at \$10 trillion dollars.¹ This represents a total debt load per U.S. citizen of more than \$90,000. Clearly, debt is an inescapable part of life for the American consumer.

Successfully solving the problems posed by debt requires sophisticated quantitative skills. Consider the following situation. A homeowner has a first mortgage at 6.375% with an outstanding balance of \$151,000 and a second mortgage at 8.50% with an outstanding balance of \$9,000 on a home purchased at a price of \$205,000. He is currently three years into the 30-year term of the loan. His loan officer has offered to refinance the loans into a single mortgage at 5.00% for 30 years with estimated closing costs of \$3500. If the homeowner is willing to pay 1 point on the loan, the officer will lower the interest rate to 4.625%. The homeowner is currently low on cash, but his loan officer is willing to finance the closing costs (and point, if he pays it). What is the homeowner's best option?

As a related (but debt-free) example, consider the following homework problem from a textbook on business mathematics (Barnett et al. 2008):

Employees of a computer store can select either of two payment methods: a base salary of \$2000 per month plus an 8% commission on all sales over \$7000 during the month, or a base salary of \$3000 a month plus a 5% commission on all sales during the month. How would you advise an employee to make this selection?

For several years, I have been interested in raising college students' awareness of the complexity of situations like these and increasing their ability to solve such problems. This has led me to participate in several course development workshops and, ultimately, to design an interdisciplinary course on financial literacy and consumer credit. While developing these course materials, I have come across four recent books written for a general audience covering the history, sociology, and politics of consumer debt in the United States. I believe that each of these books can serve as a resource for a class that considers matters surrounding debt and finance. While some of these classes will be based in mathematics departments, at universities where quantitative literacy is taught "across the curriculum," these classes might also live in business, sociology, or political science departments. With their broad perspectives, these books—or the topics they treat—would serve well as a method of introducing quantitative thinking to a wide range of courses. In addition, as will be made clear later in the

¹ Consumer debt figures are available from the Federal Reserve Board (<http://www.federalreserve.gov/econresdata/default.htm>) ; government debt figures are available from the Bureau of the Public Debt (<http://www.publicdebt.treas.gov/index.htm>). (Both accessed December 8, 2010.)

paper, each of these books contains a variety of examples that can be converted into class discussions, exercises, or projects.

Each book is reviewed in turn, in enough detail so that I can draw out particularly interesting examples from each text and so that the reader can get a good sense of the content and tone of each book. Following the reviews, I describe some ways these books might be used in courses with a quantitative literacy focus; the reader who is most interested in such applications may skip to this section (titled “Using the Books in Class”) and return to the reviews as his or her interest dictates. Finally, I close the article with some thoughts on the nature of financial literacy and its relationship to quantitative literacy, revisiting the two problems introduced above.

Credit Card Nation

We begin with *Credit Card Nation: The Consequences of America’s Addiction to Credit* by Robert D. Manning (2000), presently a Research Fellow at the Filene Research Institute, a non-profit organization dedicated to research on consumer finance and credit unions. Previously, Manning was the director of the Center for Consumer Financial Services at the Rochester Institute of Technology. This book is a *tour de force*, tracing the historical, sociological, political, and economic roots of the boom in consumer use of revolving credit. Manning looks at how Americans’ use of and attitude towards credit have changed, beginning with the Puritan ethos of the early colonists and ending with the marketing-driven consumerist society of the 1970s and beyond.

In *Credit Card Nation’s* introductory section, we learn that the average credit card debt per cardholder grew from \$1032 in 1980 to \$3871 in 1990. Using Manning’s methodology and more recent data from the Federal Reserve and the U.S. Census Bureau, I estimate that in 2000, the average cardholder owed \$4850, and by 2008 that figure had risen to \$5357.² In this chapter, Manning sets up two themes that recur throughout the book: first, that “[t]he growing inequality in the cost and availability of credit to different social groups ... is generally consistent with larger patterns of contemporary American inequality” (p. 18); second, that popular judgment against credit card debtors is fueled by the erroneous view that bad spending habits are at the root of most credit card spending.

From here, the book takes a chapter-by-chapter look at all facets of credit card debt in America. Chapter Two describes the “three pillars of debt”: government debt, corporate debt, and consumer debt. Chapter Three is a historical look at the growth of the credit card industry, including the vital enabling role played by the legislative and judicial branches of the government, particularly a

² All of these amounts are given in 2008 dollars. Since 2008 there has been a drop in national revolving debt, but the numbers are still quite high.

1978 Supreme Court decision that allowed banks to “export” interest rates across interstate lines, thereby avoiding many states’ tight usury laws. Chapter Four is a moral and social history of debt in the U.S. One of the highlights of this chapter is the table on p. 122–123 delineating the different types of credit users (largely by socioeconomic class) and summarizing the type and cost of credit available to each type of consumer.

Chapter Five’s look at bankruptcy was, to me, one of the most interesting. Manning reports on the data collected by Harvard law professor Elizabeth Warren (chosen in September 2010 to be the first head of the Consumer Financial Protection Bureau) showing that the “bankrupt of convenience,” who uses bankruptcy to dodge obligations taken on by profligate spending, is, at most, a minor feature of reality. In fact, the typical bankrupt is a middle-class or lower-middle-class consumer who has recently faced a job loss, a divorce, or an expensive medical emergency. Moreover, bankruptcies are disproportionately declared by single mothers, African-Americans, and Latinos.

The next four chapters look at different classes of consumers in turn—college students, the poor, small business owners, and the elderly—detailing the particular socioeconomics of credit use in each population. Of particular relevance for college courses is the discussion of the intense marketing of credit cards to students. For example, we learn that in 1998, the University of Tennessee signed a \$16.5 million exclusive marketing agreement with credit card issuer First USA that included kickbacks for each new student account and a percentage of all retail charges on said accounts. Chapter Ten is a summary of Manning’s thesis—that America has suffered a “cognitive disconnect” between income and consumption—and a look ahead at what might be on the horizon for credit cards. Tellingly, Manning warns of the “opportunity costs” of banks’ focus on “unproductive” financing such as credit cards, derivatives, and leveraged buy-outs³ over “productive” financing for corporate expansion, public works, and home mortgages (p. 302–303). This unproductive financing has since been identified by many as one of the key causes of the debt crisis of 2008 (see the discussion of *Collateral Damaged* below).

Maxed Out

Maxed Out: Hard Times in the Age of Easy Credit (2007), by investor-turned-documentarian James Scurlock, is the “heart-on-its-sleeve” counterpart to the more “brainy” analysis of *Credit Card Nation*. Whereas Manning uses occasional stories of individual consumers to illustrate his points, Scurlock makes such tales the focus of his book. Scurlock’s subjects range from financial gurus (Dave

³ Were the book to be written in 2010, I’m sure Manning would have included collateralized debt obligations here.

Ramsey, Suze Orman) to celebrities (the Duchess of York) to everyday Americans struggling under crushing debt loads. Many of the stories he tells have dramatic and tragic ends, including three suicides, two of them college students; a triple homicide triggered in part by the stress of credit card debt; and a mentally challenged mother and son lured into refinancing their home to pay outstanding credit card debt.

All along, he writes with an acerbic wit, and so *Maxed Out* is often wryly humorous. Take, for example, his description of Sarah, Duchess of York as

what the credit card industry refers to as a “preferred customer”: young, unemployed, highly impressionable, confronting expenses grossly out of line with her salary. She also has rich relatives with an assumed interest in bailing her out, a definite plus. (p. 80)

This wit is tempered by compassion for the people he meets and a frustration with the societal factors that have contributed to Americans’ problems with credit card debt, and so his tone occasionally drifts into bitter sarcasm, such as in this description of the Federal Reserve:

Whenever the interests of the big banks and the American people collide, it is difficult to say whose interests the Fed will protect, but it has largely solved that problem by deciding that what is good for big banks is good for Americans, and therefore the interest of the big banks is the same as the national interest, and therefore there is never any conflict. (p. 69)

At times, Scurlock can be quite moving: at the end of Chapter Six, he sets the discovery of Yvonne Pavey’s car in the Ohio River, her dead body inside—an apparent suicide driven by guilt over credit card debt she had been hiding from her family—in poignant counterpoint to the successes of a startup collection agency.

Not all of Scurlock’s stories are so emotionally distressing. Elizabeth Warren shows up again, here playing a pivotal role in President Clinton’s veto of the bankruptcy reform bill in 2000.⁴ We also hear one of my favorite stories about Warren. She was once invited by Citigroup to help the company reduce their credit card losses. Armed with charts and graphs, Warren explained to a room full of executives that by taking into account the ability of their clients to pay before offering credit, they could dramatically reduce the number of charge-offs. One of the executives in the room pointed out that if they only gave credit to people who could pay it off, they’d never make any profit, and with that the meeting was over. This story highlights one of the themes that *Maxed Out* and *Credit Card Nation* have in common: many of the problems associated with consumer debt are exacerbated when lenders’ willingness to extend credit is divorced from their clients’ ability to pay.

⁴ The same bill would clear Congress and be signed into law, largely unchanged, in 2005.

My paperback edition of *Maxed Out* includes a reading guide in the back that could serve as the basis for class discussions. Several of the questions are provocative and touch on quantitative matters. For example, one question addresses “debt snowballing,” a strategy advocated by Dave Ramsey in which one pays off one’s credit cards in order of lowest balance to highest, asking “How do public misconceptions of ‘debt snowballing’ extend rather than curtail consumer debt?” Another question asks participants to bring in credit card statements and discuss any terms or conditions they find confusing. My own experience suggests that students have a very difficult time understanding all of the fine print on their credit card statements, so such an exercise can be quite revealing.

Although the book was released in late 2007, the research for *Maxed Out* (and the accompanying documentary of the same name) appears to have been completed largely in 2005 and 2006, before the onset of the recent credit crunch, mortgage meltdown, and Great Recession. Thus, Scurlock’s continual observations that “something isn’t right” and his predictions of dramatic fallout when the system can no longer sustain itself seem prescient. Scurlock could only predict the fallout; other authors would have to discern the patterns in the pieces.

Collateral Damaged

Charles Geisst’s *Collateral Damaged: The Marketing of Consumer Debt to America* (2009) is set after the collapse of the global credit market, when (in 2008) about one in five mortgages exceeded the home’s value and mortgage originations had dropped 30% from the previous year, to levels not seen since 2000. Geisst traces the roots of the crisis in part to consumer behavior, particularly to a penchant for “cannibal consumption,” his term for the phenomenon in which homeowners use home equity loans to pay off credit cards or fund other spending. In addition, and to a much larger degree than either Scurlock or Manning, Geisst explores the role played by large financial firms and Federal Reserve policies.

This is not a book for the economics neophyte. Although the book is apparently targeted at a general audience, Geisst uses terms like “freezing the yield curve” and “commercial paper” without definition, and I admit that, never having studied macroeconomics, I had a difficult time following his discussions of monetary and fiscal policy. A glossary would have been a valuable addition to *Collateral Damaged*. Other times, I felt like I must have missed Geisst’s point, such as when he declared that “[o]f all the causes of bankruptcy, the most common is having too much debt”⁵ (p. 78). Nevertheless, his viewpoint is a useful complement to the “ground level view” provided by the earlier texts.

⁵ Perhaps he was channeling Mark Twain.

For example, Geisst shows how many of the behaviors (and excesses) of credit-granting institutions can be explained by their drive to find ever more creative ways to generate income. One of the larger shifts in the financial landscape came from the growing use of securitization: rather than hold onto a loan and the income from its payments, institutions increasingly bundled loans into bonds and other instruments and sold them to investors. In this context, setting a low minimum monthly payment is a method of increasing the length of time a credit card account generates income, thus making it more attractive to bond buyers. If a bank has no plans to keep a mortgage, earning income only from the fees it collects from the homeowner and the investor who purchases the securitized loan, that bank has less incentive to ensure that the mortgage will eventually be repaid. A final example: many of these financial accounting maneuvers allow a mortgage lender to move a portion of its loans “off book,” decreasing the amount of assets it is required to have on hand to protect against losses. This increases the leverage the bank is able to use to make loans, increasing its profits but also dramatically increasing its exposure to risk.⁶

In addition to his examination of these institutional-level decisions by the banks, Geisst takes a look at the behaviors of mortgage brokers and the individual products they offer to consumers. His analysis is particularly interesting when he sets two debt instruments against one another in contrast. For example, a common rule of thumb is that it is unwise to take out a car loan with a term greater than three or four years; apply this to credit card loans, and we get a useful yardstick for whether a payment scheme or interest rate is exploitative.⁷ Another example comes from car dealerships: in negotiations with buyers who are financing their vehicles through the dealership, car salespeople often use a “four-square” worksheet, which contains one box for each of the trade-in value of the buyers’ vehicle, the purchase price of the new vehicle, the down payment, and the monthly payment on the purchase loan. As negotiations proceed, the salesperson can raise and lower the values in each square in order to please the potential buyer while still maintaining the same total profit for the dealership. Geisst sees parallels between such tactics and those used by mortgage brokers who push adjustable-rate or interest-only mortgages: in both cases the focus is often on the borrower’s monthly payment rather than the long-term costs or risks of the loan, manipulating financing terms to hit the borrower’s target. Notice, for example, that the four-square worksheet is missing a box for the total cost of the loan!

⁶ A particularly relevant example of these risks is that of millions of homes suddenly dropping in value.

⁷ Interestingly, the Credit CARD Act of 2009 requires credit card issuers to tell customers on each monthly statement how much they would need to pay each month to pay off the current balance in three years.

Though *Collateral Damaged* is focused on recent events, it does look briefly at the history of lending and, in particular, usury laws, going back all the way to ancient Rome. In this discussion, Geisst uses a very interesting rhetorical technique to present the history of debt in the U.S.: he examines the lives of four generations of the fictitious Consumo family (p. 18ff.). The Consumo family record extends from the 1920s to 2008 and illustrates the dramatic changes in debt levels in the past eighty years. For those interested in quantitative literacy, this passage is likely to be attention-grabbing, as it is an excellent way to tell a story with numbers.

Geisst closes his book (as do Scurlock and, to a lesser extent, Rivlin, whose *Broke USA* is reviewed below) with a description of several proposals to prevent a repeat of the last few years. These range from increased financial oversight and regulation to a call for the return of usury laws.

Broke USA

What if your credit history disqualifies you from even the highest-rate credit cards? Then in times of financial need, you turn to the growing “consumer finance” industry, with their payday loans (also known as cash advances), title loans, and pawn shops. This industry is the focus of Gary Rivlin in *Broke USA: From Pawnshops to Poverty, Inc.: How the Working Poor Became Big Business* (2010). And a big business it is: at one time there were more payday lenders in the U.S. than McDonald’s and Burger Kings combined. In 2008, more than one in ten American households used a payday lender, generating more than \$7 billion in fees for the industry (p. 27).

Rivlin takes an in-depth look at the history, products, criticisms, and recent political battles of the industry known variously as “fringe banking,” “consumer finance,” “the poverty business,” or “alternative financing.” Interestingly enough, modern payday lending, now ubiquitous in my current hometown of Nashville (as well as many other places across the country), got its start in the early 1990s in nearby Cleveland, Tenn. Subprime lending was also a shadow of its current self prior to 1990, so the history of these industries is a recent one. This means that Rivlin was able to interview many of the primary figures who speak both for and against these lending markets. As a result, the book is filled with rich character details and colorful quotes, giving Rivlin’s tale a sense of immediacy.

Broke USA documents the excesses of the consumer finance industry, including a surreal description of a Las Vegas convention that included a stage show, complete with scantily clad showgirls, depicting payday lenders as protectors of the nation’s poor against fee-hungry banks (p. 21). Rivlin also describes a large number of stunningly bad subprime loans and financial products, including a series of mortgage refinances that eventually totaled \$80,000 (one-

fourth of which were refinance fees) on a home worth \$37,000 (p. 249); income tax refund anticipation loans that charge a total of \$351 in fees along with 4% of the refund for a loan of a few weeks (p. 179); and prepaid credit cards that charge an \$11.95 setup fee, a \$6.95 monthly fee, and additional fees to “reload” them with money (p. 271).

There are many who defend the consumer finance industry by pointing out that consumers choose them of their own free will, and to Rivlin’s credit, he makes an effort to present this perspective fairly. As Lynn Devault, president of a payday lender trade group, puts it, “Customers are intelligent people who choose the lowest-cost alternative for themselves at a particular point in time” (p. 258). The higher-cost alternative, as the payday industry repeatedly argues, is often a bounced check fee or a credit card late fee. Millions of consumers have no access to a bank account or any sort of credit, and these consumers need ways to pay their bills and deal with short-term emergencies.

On the other side of the argument, Rivlin describes how payday and subprime lending thrive on aggressive marketing tactics, including soliciting referrals from auto mechanic shops and doctors’ offices. Cash advance shop managers for one chain were directed to call any customers who had not visited the shop in sixty days, encouraging them to drop by for some “extra money.” Some subprime lenders partnered with roofers or remodelers; the roofer would approach a homeowner, suggest he or she needs a new roof, and then direct the homeowner to the lender for a home equity loan to pay for the repairs. Subprime lenders would also package expensive (and often unnecessary) credit insurance with the loans and steer consumers into loans with higher rates than necessary. One *Wall Street Journal* study reported that more than half of subprime borrowers between 2000 and 2006 had credit scores high enough to qualify for a conventional loan (p. 300). Some of these unfortunate situations followed from the perverse incentive of “yield spread premiums,” a bonus paid to a mortgage broker for convincing a borrower to take out a loan at a higher rate.⁸ As a final note, numerous studies cited in *Broke USA* suggest that high-cost lending disproportionately and unfairly affects minorities. For example, according to one study, four in ten blacks with income above \$100,000 received subprime loans in 2005 and 2006; only one in ten white borrowers with similar incomes got subprime loans (p. 214).

A significant proportion of *Broke USA* is devoted to the individuals and organizations mounting battles against high-cost consumer financing. One prominent case study is that of the Self-Help Credit Union and the closely related Center for Responsible Lending. I found the story of the battle against high-cost loans in Ohio to be particularly interesting. In 2008, the Ohio state legislature

⁸ The Federal Reserve banned the practice of offering these premiums in August 2010..

passed a law limiting interest rates on all loans to 28% APR, effectively outlawing the payday loan business as it stood in the state. The payday lending industry quickly managed to get a state referendum to repeal the law on the next ballot. Despite spending \$13.8 million on the referendum campaign, compared to \$260 thousand spent by their consumer advocate opponents, payday lenders lost this particular battle: 64% of Ohio voters chose to uphold the interest rate cap.⁹ This story is told primarily in Chapters 13 and 15 of *Broke USA*.

The book closes with a brief mention of the newest high-cost products in the “poverty industry”: companies charging homeowners \$3500 to help them negotiate the federal government’s Making Home Affordable mortgage modification program, often unsuccessfully; and subprime student loans with 10% origination fees and 18% interest rates (p. 328–329). Thankfully, Rivlin includes an equally creative positive approach to lending to high-risk borrowers, challenging the very notion of risk-based pricing. Instead of charging less creditworthy borrowers for the higher risk of lending to them, a New Mexico nonprofit seeks to lower its borrowers’ credit risks through financial counseling and a savings program. “No one is born with poor credit,” says Mike Loftin, head of the nonprofit, “and teaching people how to manage their finances is a tool that has proven itself to work and to work over the long haul” (p. 328).

Using the Books in Class

There are a number of ways these books might find their ways into a variety of college courses that focus on quantitative or financial literacy. Of course, one way would be to assign them as a text or as supplemental reading for the class. I think that any one of *Credit Card Nation*, *Maxed Out*, or *Broke USA* would work well for this purpose. I found *Credit Card Nation* to be the most satisfying and eye-opening of the four, but due to its broad, interdisciplinary approach and scholarly nature, your students might agree with James Scurlock that it is “like Bob [Manning, the author], extremely thorough but sometimes very hard to follow” (Scurlock 2007, p. 61). I have sometimes had difficulty interesting my students in discussions of credit card debt and other financial topics; since it is so readable and does such a good job of telling individual creditors’ stories, *Maxed Out* might be an excellent invitation to such an audience. *Broke USA* would be an excellent choice for a class whose focus is on fringe banking or on credit issues facing (typically) lower-class populations. *Collateral Damaged* would need a much more sophisticated audience than any of the other three, and I feel that it works better as a source of supplemental material than as assigned reading for your typical undergraduate general education audience.

⁹ Since then, lenders have managed to stay in business by charging various fees not currently categorized as interest. Ohio legislators are currently trying to close these loopholes.

If using these books as required texts in your classroom, keep in mind their various points of view. Whereas *Credit Card Nation* and *Collateral Damaged* are fairly even-handed discussions of consumer debt and credit-granting institutions, *Maxed Out* and, to a lesser extent, *Broke USA* are quite critical of the credit card and payday lending industries. This is a problem that one often faces when addressing topics that have a social justice aspect to them, and I have always felt that it is important for the classroom environment for such discussions to be one in which opinions on any side of an issue are welcome. After all, as with other politically charged issues such as global climate change, most reasonable people agree that there is a problem in need of a solution, but reasonable people can disagree on what form those solutions should take. The emotional weight of stories about individual borrowers, such as those featured in *Maxed Out*, can be an obstacle to critical thinking on these issues. On the other hand, I have found that such stories can be powerful ways to draw students in and interest them in the issue at hand, so long as one knows how to direct the ensuing discussion.

Even without assigning any of these books as a text, there are a number of intriguing ways they might be useful. First, they are a great source of data in two forms: anecdotes about real situations faced by real people (with real numbers); and numerical data, such as statistics or data series describing the credit industry.

The anecdotes can be used to craft interesting exercises to strengthen quantitative skills in the context of credit. For example, in *Maxed Out* we hear the story of a young man who borrowed \$3300 on a credit card, had paid a total of \$6600, and still owed \$4400 (Scurlock 2007, p. xi). Students can be asked to reconstruct the interest rates and circumstances under which such a story could happen. Students can be given a number of scenarios from *Broke USA* as exercises for computing monthly payments and the total cost of a loan, such as that of an eighty-year old woman on fixed income who was given a home equity loan of \$6900 with an interest rate of 25.3% and charged an additional 22% in points and fees (Manning 2000, p. 41). Students can also turn a critical eye to some of the decisions detailed in the books, such as the young woman “betting that her condo will appreciate fast enough so that the equity she accumulates can be cashed out to make her future mortgage payments” (Scurlock 2007, p. 37) or the numerous cases of individuals taking out home equity loans to pay high-interest credit card debts, thereby exchanging unsecured debt for debt secured by their homes.

The numerical data in these books provide sources for one of my favorite quantitative literacy exercises: showing students a graph or table of numbers and asking them to tell me the story told by the data. Good examples from *Credit Card Nation* include a graph of the U.S. personal savings rate from 1929 to 2000 (Manning 2000, p. 100) and a graph comparing unemployment rates during 1980–2000 to the number of bankruptcy filings, showing that in the 1990s,

bankruptcy filings rose while unemployment fell (Manning 2000, p. 128). These graphs are recreated, with updated data, as Figures 1 and 2. *Collateral Damaged* is perhaps the best source for such data, though, as it contains six “Statistical Appendices” with data on consumer debt levels, bankruptcy filings, and numbers of mortgages, some stretching back to 1929, and most with monthly data. These data are available online from the Federal Reserve Board.¹⁰ Nevertheless, Geisst deserves credit for calling attention to it and for highlighting several interesting trends in the data, such as the seasonal nature of credit card debt levels (Fig. 3). The data in these books could also be the basis for interesting data collection exercises. All of the information in *Credit Card Nation* is based on pre-2000 debt statistics. Students could be tasked with updating Manning’s numbers and investigating whether the patterns and trends have changed since 2000. *Maxed Out* discusses the bankruptcy reform legislation of 2005 (Scurlock 2007, p. 155–175), but was written before its effects could be observed; students could be asked to follow up on Scurlock’s predictions of its effects on consumers.

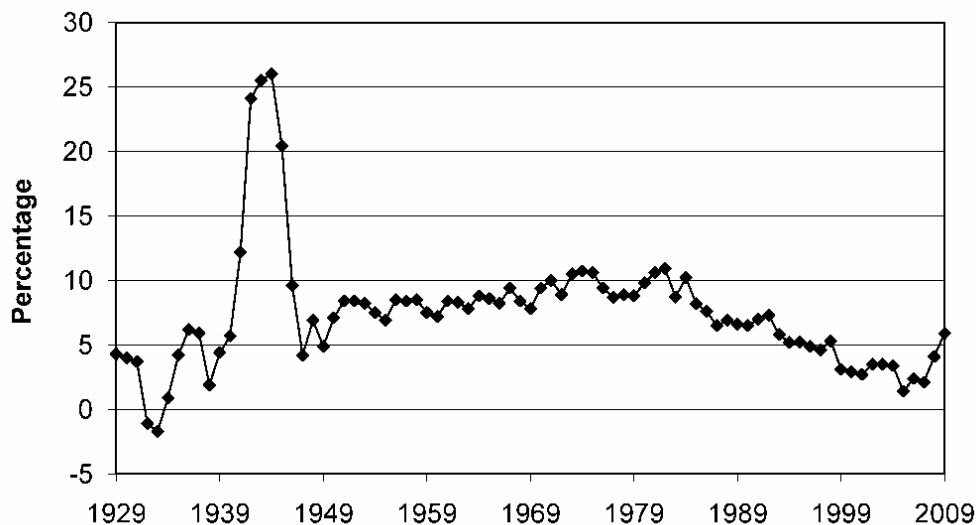


Figure 1. U.S. personal savings rate as a percentage of disposable income, 1929–2009. Source: U.S. Bureau of Economic Analysis, National Income and Product Accounts Tables. <http://www.bea.gov/> (accessed Dec. 8, 2010).

¹⁰ <http://www.federalreserve.gov/econresdata/releases/statisticsdata.htm> (accessed December 8, 2010)

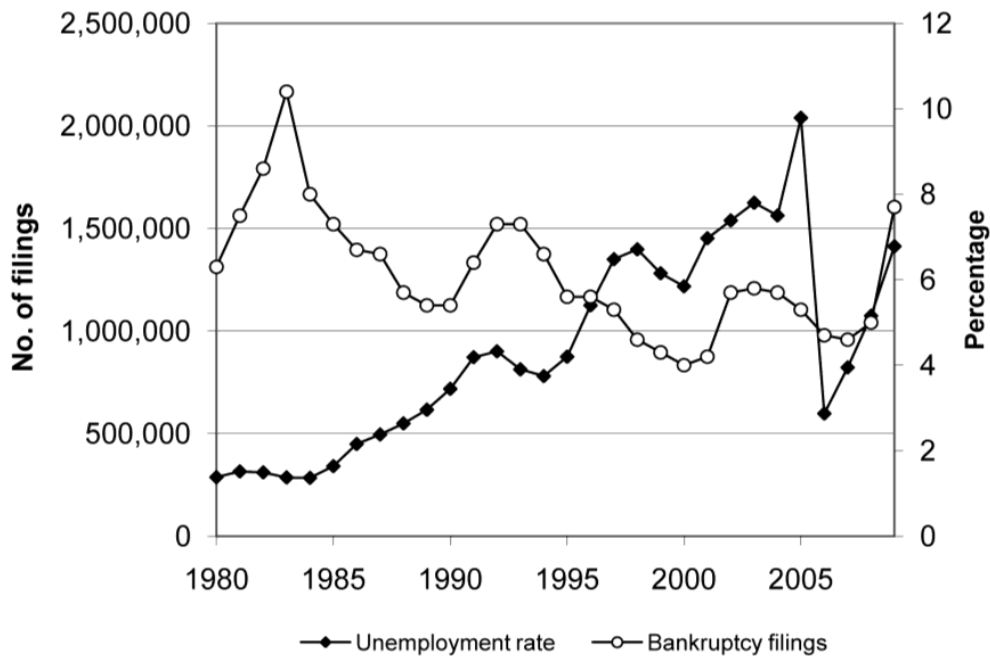


Figure 2. Annual U.S. bankruptcy filings and January unemployment rate, 1980–2009. Note the effect of the bankruptcy reforms of 2005 on both 2004 and 2005 filings. Sources: American Bankruptcy Institute (<http://www.abiworld.org/>), U.S. Bureau of Labor Statistics. (<http://www.stats.bls.gov/>) (Both accessed December 8, 2010.)

Quantitative reasoning can also be used to look at the economics of debt. Many courses that treat financial mathematics with an aim towards quantitative literacy will include the standard loan formula

$$L(1+i)^n = \frac{P[(1+i)^n - 1]}{i}. \tag{1}$$

In this formula, L is the amount borrowed, i is the interest rate per compounding period, P is the payment per compounding period, and n is the number of payments to be made. Using the contexts presented in the four texts under review, one can develop interesting applications of this formula that move beyond simply computing the terms of a single loan.

Consider, for example, three households looking to buy a house in late 2005, each with an income that could support an \$800 mortgage payment. The Wilsons plan to take out a conventional 30-year fixed rate loan at an interest rate of 6.5%.

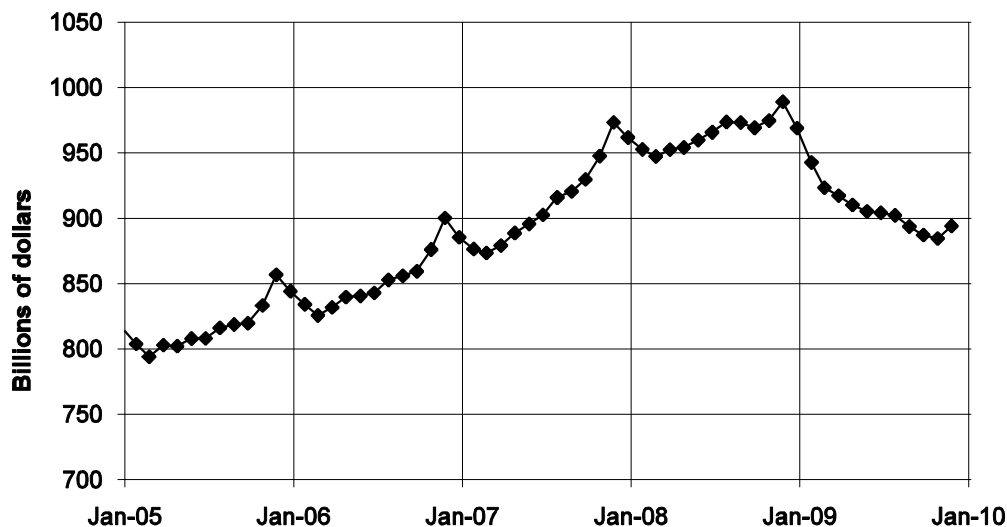


Figure 3. Total U.S. revolving consumer credit, 2005–2009, not seasonally adjusted. Note the local maximums each December. Source: U.S. Federal Reserve Board.
<http://www.federalreserve.gov/econresdata/releases/statisticsdata.htm> (accessed Dec. 10, 2010)

The Smiths will get a 5/1 adjustable rate mortgage¹¹ with an initial interest rate of 5.1%. Finally, the Jones family is particularly aggressive and will choose a 2/28 interest-only loan¹² at a rate of 5.5%. Equation (1) can be used to compute the total amount that the Wilsons and Smiths will be able to finance; the Jones' interest-only loan is governed by the simpler equation $P = Li$. Though the Wilsons, Smiths, and Jones will be making the same monthly payment, the amount they will be able to borrow ranges from \$127,000 for the Wilsons, to \$147,000 for the Smiths, to a whopping \$175,000 for the Jones. If these three families find themselves bidding on the same house, the Wilsons will clearly be at a disadvantage. This is true even if the conservative Wilsons make a hefty down payment: with a 20% down payment, the Wilsons would be able to purchase a house worth up to \$162,500; even if they put *no* money down, the Jones would be able to outbid the Wilsons. These calculations highlight a connection between the widespread availability of low-cost (at least, initially) loans and rising housing

¹¹ That is, their initial rate is good for 5 years and then resets each year thereafter for the rest of the 30-year term of the loan.

¹² In such a product, the borrower pays only interest—no principal—at a fixed rate for the first two years. After that, the loan converts to an adjustable-rate mortgage.

prices. Some have even pointed to this mechanism, using student loans instead of mortgage loans, as one factor driving the fast pace of college tuition increases.

Another interesting activity is to look at the basic business models of high-interest lenders. This can be an interesting way to approach the question, raised by *Broke USA* and many other reports on payday lenders, of whether these lenders overcharge their customers. For example, filings made by Check Into Cash to the Securities and Exchange Commission in advance of a planned public stock offering¹³ give some insight into the costs that go into the fee they charge on loans: in 1997, of the \$15 Check Into Cash charged for a \$100 loan, about \$0.44 went to the company's net interest expenses, \$0.84 covered the company's losses to bad debt, and \$8.33 went to store expenses (wages, rent, and so on). In the late 1990s, Check Into Cash maintained a net pre-tax profit margin of around 15–20%. These numbers give one quantitative way to address the question of whether these companies overcharge their customers and what effects proposed regulations (such as those passed in Ohio in 2008) might have on the viability of the industry. As another example, in *Broke USA*, we learn that a certain pawn shop, as a rule of thumb, loans one-third of the value of the collateral offered by customers and charges about 20% a month on the loans (Rivlin 2010, p. 332). At first glance, it appears that it would be financially more beneficial for pawn shops to encourage their borrowers to default and then sell the collateral. Students in a variety of disciplines could be asked to identify what additional variables we would need to take into account to fully understand this situation.

If you have a class that is interested in legal and regulatory matters surrounding debt (for example, a public policy class in a political science department), you might want to use these texts to lead into a discussion of usury laws. As mentioned above, Manning marks the Supreme Court decision allowing the exporting of interest rates across state lines as a watershed moment in the history of credit card debt in America. This court case effectively ended usury laws in the United States. Geisst describes legal limits in interest rates dating back to the ancient Romans, who prohibited loans with an interest rate above 10% (Geisst 2009, p. 14–15). Rivlin gives examples of several current regulatory definitions of “high interest” loans, such as a North Carolina state law that defines a high interest loan as one with a rate ten percentage points above the current Treasury bill rate (Rivlin 2010, p. 115) and a Federal Reserve guideline that sets the bar at eight percentage points above the rate on a T-bill (Rivlin 2010, p. 288). Given this wide range of limits, you might find it interesting to ask students what they feel is a “fair” interest rate.

A final example returns to a theme that I have seen arise repeatedly in scenarios relating economics to quantitative literacy: measurement. Matters of

¹³ Available through the SEC's online EDGAR system, <http://www.sec.gov/edgar.shtml> (accessed December 8, 2010).

measurement have been inextricably linked to debt at least since the Truth in Lending Act of 1968, which requires credit card and mortgage lenders to report the Annual Percentage Rate (APR) of their products. The APR, as defined in the Truth in Lending Act, is designed to take into account the nominal interest rate, certain fees, and the compounding schedule of a loan in order to give a single representative annual interest rate for the loan. For two loans of the same principal with the same compounding schedule, the loan with the lower APR will have the lowest total cost in interest and fees over the life of the loan. For loans with different compounding schedules, the situation is a little murkier.¹⁴

Most payday loans have an APR of more than 390%, but there is debate as to whether the APR is a fair measure of a payday loan's terms. To Billy Webster, co-founder of Advance America, saying that a payday loan has an APR of 391% is "like saying salmon costs \$15,980 per ton or advertising a hotel room as costing \$36,500 per year" and his decision to post the interest rate in his stores was a "gross misjudgment" (Rivlin 2010, p. 125). Many payday lenders compare their product to a credit card late fee or a utility reconnect fee, claiming that these fees correspond to an APR of about 1000%. Evaluating Webster's claims would, I think, make the basis for an interesting class discussion.¹⁵

Questions also arise when attempting to measure indebtedness of Americans. Elsewhere in this paper, I have mentioned statistics for average debt loads per household, various measures of which are presented in each of the books under review. Another prominent measurement of household debt is the Financial Obligations Ratio (FOR), reported by the Federal Reserve Board on a quarterly basis. The FOR is given as the percentage of household disposable income devoted to payments on mortgage or consumer debt, automobile leases, homeowners' insurance, housing rental costs (for renters), and property taxes. In late 2008, the homeowner FOR reached a peak of nearly 18%, declining since then to about 16%; the renter FOR is currently around 24%, and it has remained near that value for almost the entirety of the past thirty years (the renter FOR was elevated for a number of years in the early 2000s, hitting a maximum of about 31% in late 2001). As Geisst points out (2009, p. 28ff.), one could argue based on these numbers that consumer debt is not a widespread problem. For example, current debt-to-income lending guidelines indicate that debt payments of up to

¹⁴ The initial draft of this paper overlooked some of the subtleties of the APR; my thanks to a referee for calling my attention to these details. As an aside, an in-depth look into the definition and calculation of the APR, and a comparison to the Annual Percentage Yield (APY), would be an excellent quantitative literacy exercise.

¹⁵ For the record, I do not agree with Webster. For one thing, his analogy is flawed: there are contexts in which quoting the price of salmon on a per ton basis would be reasonable. For another, payday loans *are* loans, and thus deserve to be compared to loans on shared terms. In fact, the majority of payday borrowers roll their loans over at least once, and so in reality, payday loan charges act more like interest on a revolving loan than a one-time fee.

36% of a borrower's gross income are acceptable, and, as noted above, the FOR has remained well below that level since at least 1980. How do we reconcile high average credit card balances per household on the one hand with low Federal Reserve FORs on the other?

Personally, I see several weaknesses in using the FOR alone as an indicator of trouble with consumer debt. For one thing, as alluded to in the previous paragraph, it is difficult to reconcile with the experience of individual households. Take my personal experience for example: in 2009, my family had only a modest mortgage, a small car loan, and no credit card debt to speak of, and our "household FOR" was around 27%, well above the Federal Reserve FOR for 2009. More tellingly, the picture becomes quite different when we disaggregate the data: Manning reports on a 1999 study that shows that families in the top quintile of the income distribution had a mean-debt-to-mean-income ratio of 16.2%, whereas families in the bottom quintile had a mean-debt-to-mean-income ratio of 52.8% (Manning 2000, p. 200). Although I was unable to find an exact description of the calculation the Federal Reserve uses to compute the FOR, I suspect that it is a simple division of total American after-tax income divided by total payments to financial obligations. In the context of debt, the FOR, like the Gini coefficient for income inequality (Catalano et al. 2009), may be useful as a historical marker for detecting changing patterns of debt, but relatively meaningless in isolation.

Concluding Remarks

Let us return to the questions that opened this review: deciding whether to refinance a first and second mortgage and choosing between two sales payment plans. In my opinion, the correct answer to both questions is, "It depends." Refinancing with the lowest available rate (4.625%) will lower the monthly payment from about \$1050 to about \$850; however, it will also lower the loan-to-value ratio and restart the clock on the mortgage, pushing the final payoff date three years into the future. Since the refinance will lower the total loan payments from \$340,000 to \$316,000, most consumers would probably choose to refinance, but there may be situations in which extending the mortgage or lowering the borrower's equity in the house would be unacceptable. For example, if the house has not appreciated in value (or, worse, has depreciated) in the three years since its purchase, then the new mortgage balance will exceed 80% of the home's value, possibly requiring the borrower to pay mortgage insurance.

With the sales payment question, it is easy to calculate that if a worker expects to make more than \$52,000 in sales each month, then the payment schedule with the lower monthly base salary would be better. In the absence of other information, such as monthly sales averages at the store, it would be

difficult to know which payment schedule to recommend. Interestingly, when I assigned this exercise to my Quantitative Methods in Business class in Summer 2010, all but one of the students unequivocally recommended the pay schedule with the higher monthly salary and lower commission rate.

Both of these questions illustrate what I see as two important trends in financial literacy: first, it is very easy to be distracted by the immediate or short-term effects of a situation and thus neglect the long-term or global considerations. Such thinking is what leads a homeowner to take out an adjustable rate mortgage with a low teaser rate without considering what will happen when the rate readjusts or a shopper to purchase an unnecessary luxury on a credit card without considering how (or how much) he or she will ultimately pay for it. Second, the “correct” option in most financial dilemmas is heavily context-dependent. Though most borrowers are best served by a fixed rate mortgage, one can find situations in which other mortgage options, from adjustable rate to interest-only, are a good choice. Credit cards, though easy to abuse, can be very handy financial tools. There may even be times when, in the absence of other options, a payday loan makes sense.

In these ways, financial literacy shares much with quantitative literacy: reliance on basic mathematical and financial notions (e.g., percentages, interest rates, exponential growth, amortization, typical credit card terms), rich contexts, and the vital importance of knowing the right questions to ask. Financial literacy differs from general quantitative literacy, I think, in its constant focus on long-term planning, whether looking at loans, careers, budgeting, insurance, or investing. In fact, were I to offer a definition of financial literacy, it would be this: *the knowledge and skills necessary to marshal current resources to meet current and future monetary and fiscal needs*. As with definitions of quantitative literacy, there are almost certain to be individuals who disagree with this definition. Furthermore, since an in-depth financial literacy education would likely include details of various financial products and economic ideas that would be excessive in a broad-based quantitative literacy program, there is room for debate on exactly how large of an intersection there is between quantitative literacy, financial literacy, and mathematical literacy. I hope to hear more conversation on these points within the quantitative literacy community.

However these conversations turn out, I see one key point of intersection between financial literacy and quantitative literacy: their importance for 21st century citizenship. Students in college today face a future in which their financial security depends vitally on the choices they make and in which they may not be able to depend on a social safety net to catch them if they make mistakes. They will need to determine the course of future regulations of the lending industry, and they will need to know what pitfalls to avoid in those cases when regulations are unnecessary or ineffective. Finally, our students will need to empathize with those

in society who, whether through lack of education, lack of opportunity, or lack of resources, do not have access to the same options as they. For these reasons and more, I believe that the sort of conversations sparked by *Credit Card Nation*, *Maxed Out*, *Collateral Damaged*, and *Broke USA* are important ingredients in meeting the goals of our quantitative literacy programs and in fulfilling the social mission of our higher education institutions.

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