

Consumer Financial Protection**Paul Rothstein¹****1. INTRODUCTION**

The financial crisis that became most visible in 2008 has created great interest in consumer financial protection. Few people, including economists, are likely to be familiar with this subject, which takes a unified view of market failures and government policy in the markets for consumer financial products and services. The term “consumer financial protection” itself is somewhat provocative and raises the questions, “which consumers are we talking about, and why do they need protection?” This chapter provides a brief introduction to this broad subject.

For purposes of this chapter, consumer financial protection refers to federal laws and activities, apart from competition policy, that address consumer credit products and certain closely related services.² The analysis focuses on a particular set of federal statutes and regulations, defined below, that regulate these products and services. The government activities are principally enforcement of these laws, rulemaking, market research, consumer education and

¹ Senior Economist, Consumer Financial Protection Bureau. The views expressed are those of the author and do not necessarily reflect those of the Consumer Financial Protection Bureau or the United States. I thank two anonymous reviewers and Professor Pat McCoy, Connecticut Mutual Professor of Law, University of Connecticut, for their contributions and assistance. All errors are my own. Contact Information: paul.rothstein@cfpb.gov

² Consumer protection traditionally excludes competition policy; see Pautler (2008), p. 91. For consistency, consumer financial protection should as well.

consumer outreach. The relevant consumer credit products are principally credit cards, mortgage loans, student loans, auto loans, and “small dollar” loans like payday loans. The related services are principally loan origination, loan servicing and loan modification; credit reporting; and debt collection and debt settlement.

Consumer credit products are just one component of the vast consumer financial services sector. These services include all of the means through which people make payments, manage risk, borrow, save and invest. Campbell, Jackson, Madrian and Tufano (2010, 2011) present an authoritative overview of consumer financial services and consumer financial protection. They also provide a general framework for analyzing market failures and regulation in the consumer financial services sector.

This chapter builds directly on their framework. However, consumer credit is distinctive in providing immediate benefits and requiring future sacrifice. Excessive borrowing is a more common problem than excessive savings or over-insurance. It is difficult, absent credit, to use savings, investment or insurance products to produce delinquency, default and bankruptcy. Credit reporting agencies, loan servicers and debt collectors have no comparable role or counterparts in the other financial services markets. The general framework in Campbell et al. (2010) provides a useful starting point for studying any consumer financial service, but an analysis focusing on consumer credit invariably provides additional insights into market failures and other rationales for consumer financial protection.

Consumer financial protection is also a timely subject. Recent legislation and agency rulemakings have had a significant impact on mortgage lending, payday lending and credit cards as well as debt settlement and mortgage loan renegotiation services. There is ongoing interest in the ways that consumer credit reports are used, the meaning and accuracy of the information

contained in these reports, and in the credit scores that summarize these reports. There is growing concern over many forms of household debt, including student loan debt and medical debt. A number of agencies, including the new Consumer Financial Protection Bureau (“CFPB”), are building new anonymized data sets with which to study personal finance, consumer lending, and household debt.³ These new policies and resources are likely to sustain research in consumer financial protection and the underlying credit products and markets for many years to come.

The first part of section 2 introduces the general subject of consumer financial protection by describing the responsibilities of the Consumer Financial Protection Bureau. Although its name may suggest otherwise, the CFPB’s authority does not span the entire consumer financial services sector. Its primary jurisdiction is over consumer credit products and closely related services, although it also has jurisdiction over deposit accounts and certain payment services. Section 2 also provides a rough characterization of the requirements provided in Federal consumer financial law on these products and services.

Section 3 then considers the types of market failures that may occur in the markets for consumer credit products and closely related services (hereinafter, “consumer financial services”) and uses the characterization developed in section 2 to analyze how regulations address these failures. One over-arching question is the economic rationale for mandating business activities that go well beyond providing consumers with information (“disclosures”). A related question is the economic rationale for requiring consumer benefits, including disclosures,

³ Two noteworthy examples are the consumer credit information panel (CFPB (2012b)) and the national mortgage database (CFPB (2012c)).

which providers of consumer financial services have incentives to provide without regulation. This section also includes a discussion of key models in behavioral economics and some of the implications for consumer financial protection.

Sections 2 and 3 are relatively informal. Section 4 offers a more rigorous analysis of consumer harm and economic inefficiency when consumers misperceive the cost of credit. I characterize the welfare loss that results and use this characterization to formalize a consumer's willingness to pay for consumer financial protection. This analysis complements some recent work by Posner and Weyl (2013) on mispricing in asset markets and adds to the framework for benefit-cost analysis of consumer financial protection regulation. Section 5 offers brief conclusions.

2. THE CFPB AND CONSUMER FINANCIAL PROTECTION

The Consumer Financial Protection Bureau was created by the Dodd Frank Wall Street Reform and Consumer Protection Act, also known as the Dodd-Frank Act (“DFA”).⁴ The Dodd-Frank Act gave the CFPB the general mandate, “to regulate consumer financial products or services under the Federal consumer financial laws.”⁵ The following discussion focuses on the CFPB as a convenient way to introduce the scope and nature of consumer financial protection. Other agencies, including the Federal Trade Commission and the prudential bank regulators,

⁴ See Title X of the Dodd-Frank Act (Public Law 111-203). The DFA was signed into law on July 21, 2010.

⁵ See DFA § 1011(a). DFA § 1002(5) defines consumer financial product or service and § 1002(14) defines Federal consumer financial law.

have significant responsibilities in this area but do not undertake the same breadth of activities as the CFPB.⁶

The budget of the CFPB provides a useful snapshot of its activities.⁷ The budget accounts for all expenses and staff under three main programs:⁸

- \$261 million (873 employees) for supervision, enforcement, and fair lending and equal opportunity.

⁶ For a discussion of the consumer financial protection responsibilities of other federal agencies prior to the DFA, see Bar-Gill and Warren (2008), pp. 79-97.

⁷ Funds for the CFPB come from transfers from the Board of Governors of the Federal Reserve. The Board is required to transfer, up to a cap, “the amount determined by the Director [of the CFPB] to be reasonably necessary to carry out the authorities of the Bureau under Federal consumer financial law...” (see DFA § 1017(a)(1)). For fiscal year 2013, the DFA sets the cap at 12 percent of the total operating expenses of the Federal Reserve System. The CFPB reports that the 2013 cap is about \$600 million (of which it estimates it will spend about \$448 million); see CFPB (2012a), p. 3 and p. 7. For subsequent years, the DFA sets the cap at the dollar amount of the 2013 cap adjusted annually for inflation (DFA § 1017(a)(2)(B)).

⁸ See CFPB (2012a), p. 3. Figures are estimates for Fiscal Year 2013. The funding and staff counts for the three program areas overstate the figures for the three corresponding Divisions of the Bureau since the program areas include an allocation of funding and personnel from other parts of the Bureau on a proportional basis.

- \$126 million (345 employees) for consumer education and engagement and for consumer response.
- \$61 million (141 employees) for research, markets, and regulations.

The CFPB has the authority to supervise (i.e., conduct examinations of and require reports from) insured depository institutions and credit unions with over \$10 billion in total assets and their affiliates.⁹ The purpose of CFPB supervision is to assess compliance with Federal consumer financial law and to detect and assess risks to consumers and to markets for consumer financial products and services. The agencies that used to supervise these large banks and credit unions continue to do so for safety and soundness purposes, but not for these consumer financial protection purposes.

The CFPB also has the authority to supervise certain non-depository providers of consumer financial products or services, for these same purposes. Prior to the Dodd-Frank Act, there was no federal supervision of non-depository providers of consumer financial products or services. Among the non-depository providers that the Bureau currently has authority to supervise are servicers of consumer mortgage loans, originators of private student loans and payday loans, and “larger participants” in the consumer reporting and debt collection markets. Through rulemaking, the CFPB can obtain the authority to supervise “larger participants” in other consumer financial product or service markets.

The CFPB has the authority to enforce (i.e., initiate sanctions or civil litigation regarding) Federal consumer financial law against insured depositories and credit unions with over \$10

⁹ This authority and the others described below are provided for in DFA §§ 1021(c), 1022, 1024, 1025, 1026(d)(1), 1031(a)-(b), 1054, and 1055.

billion in total assets and their affiliates and certain non-depository entities. Prior to the Dodd-Frank Act, only the Federal Trade Commission enforced these laws against these non-depository entities.

The CFPB collects, investigates and responds to consumer complaints regarding consumer financial products and services. Prior to the Dodd-Frank Act, no Federal agency had responsibility for helping individual consumers resolve these types of complaints. The CFPB conducts financial education programs and has a number of offices, including an Office of Service Member Affairs and an Office of Financial Protection for Older Americans, to undertake particular initiatives with these groups regarding financial decision-making and financial literacy.

The Dodd-Frank Act gave the CFPB a statutory responsibility to collect, research, monitor, and publish information regarding the markets for consumer financial products and services, the proper functioning of those markets, and the risks to consumers in those markets. The Bureau has a responsibility to research consumer behavior with respect to consumer financial products or services and to research consumer understanding of the costs, risks and benefits of these products and services.

Finally, the CFPB has the authority to write rules with market-wide coverage to implement the Federal consumer financial laws. The Dodd-Frank Act also gave the Bureau the authority to write rules to prevent unfair, deceptive or abusive acts or practices by a wide range of providers of consumer financial products and services in the provision of those products and services.

Section 3 below provides an initial economic analysis of the Federal consumer financial laws that regulate consumer credit products and certain closely related services.¹⁰ A necessary prerequisite is deriving a manageable description of what these laws require. A systematic way to proceed is to (a) divide consumer financial services into meaningful types of business activities, (b) divide the relevant Federal consumer financial laws into meaningful types of restrictions on business activities, and (c) examine how each type of regulatory restriction affects each type of business activity, as applicable. I do this in a very rudimentary way below. Even very broad groups provide structure to the economic analysis of how these regulations affect consumer financial services. Future research should develop other characterizations that would support further economic analysis.

The characterization of consumer financial services has four types of business activities: origination, standard loan servicing, special servicing for delinquent loans, and other business activities. Origination consists of all business activities with a potential borrower up to and including the extension of credit. Standard loan servicing consists of handling full and timely payments by the borrower and other standard activities like responding to inquiries. Special servicing for delinquent loans may include outreach, assistance and loss mitigation. Other business activities are heterogeneous and include loan modification, credit reporting, debt collection, and debt settlement.

¹⁰ I set aside the CFPB's authority to prevent unfair, deceptive or abusive acts or practices in certain types of transactions. It is not possible to discuss this "UDAAP" authority in the brief analysis presented here.

Characterizing the relevant Federal consumer financial laws is more difficult. The relationship between legal provisions and restrictions on business activities can be complicated and subtle. Again, however, the purpose of the characterization is to facilitate a basic economic analysis of consumer financial protection. With this in mind, the characterization of Federal consumer financial law has four types of requirements: standardized terminology, required disclosures, mandated benefits, and other requirements and prohibitions. Rather than define these requirements further, it is more useful to proceed directly to describing the types of business activities affected by each type of requirement.¹¹

Standardized terminology. Federal consumer financial law provides a standardized technical vocabulary for consumer financial services disclosures, including advertisements. Probably the best known standardized terms are “annual percentage rate” (or “APR”) and “finance charge.” These are defined in great detail in the regulations that implement the Truth in Lending Act (“TILA”). Numerous other terms for particular transactions are also defined, like “amount financed” and “total sale price” for closed end credit (e.g., mortgages) and “balance subject to interest” for open-end credit (e.g., a credit card).

Required disclosures. Probably the most common consumer financial protection policies are required disclosures. TILA requires numerous disclosures at account opening for open-end credit and before contractual obligation for closed-end credit. For mortgage loans, these disclosure requirements are reinforced by new and specific prohibitions against advertisements

¹¹ In the discussion below, citations are provided only for relatively new regulatory requirements. Complete citations are available on request. All references to the United States Code and Code of Federal Regulations are for 2013 unless otherwise indicated.

that misrepresent the terms of the loan.¹² If a lender offers less favorable terms on a loan or takes certain other adverse action on the basis of information in a credit report, then the Fair Credit Report Act (“FCRA”) requires the lender to provide the proper risk-based pricing or adverse action notice. These disclosures contain extensive information about the basis for the decision, urge the consumer to review her credit report, and describe additional actions the consumer might take. Lenders at origination must also provide borrowers with a privacy notice that reflects the lenders’ privacy policies and practices, under the Gramm-Leach-Bliley Act (“GLBA”).

The Federal consumer financial laws also require numerous disclosures after origination, as part of standard loan servicing. Under TILA, servicers must provide periodic statements and annual statements of billing rights on open-end credit. Recent amendments to TILA require a periodic statement for closed-end residential mortgage loans.¹³ TILA also requires a disclosure when the payment on an adjustable rate mortgage changes. Under the Real Estate Settlement Procedure Act (“RESPA”), servicers must provide an annual escrow account disclosure statement to mortgage holders who have escrow accounts. Under GLBA, servicers must provide borrowers an annual privacy notice.

The Federal consumer financial laws also impose specific disclosure requirements regarding delinquent loans. For example, new regulations require servicers to provide disclosures before charging delinquent borrowers for lender-placed (“force-placed”) insurance coverage.

¹² See 12 CFR part 1014.

¹³ See 78 Fed. Reg. 10902 (February 14, 2013), amending 12 CFR part 1026, and new § 1026.41 to take effect in 2014.

Servicers must also provide a delinquent borrower a written notice with information about loss mitigation options by the 45th day of delinquency.¹⁴

Many of the required disclosures have formatting requirements. TILA generally requires disclosures to be clear and conspicuous. However, certain disclosures must make certain items more conspicuous than others, put items in a particular order, group certain items together, use a tabular form, or be “substantially similar” to sample forms that are provided.

The formatting requirements may be especially prescriptive where fraud has been a problem. For example, in disclosures that providers of mortgage loan renegotiation services (“mortgage assistance relief services”) must give, the regulations require that in textual communications, “each letter of the disclosure shall be, at a minimum, the larger of 12-point type or one-half the size of the largest letter or numeral used in the name of the advertised Web site or telephone number to which consumers are referred to receive information.”¹⁵ The prescriptiveness serves to make consumers aware of the disclosures and, in the case of non-compliance, to provide a relatively easy basis for prosecuting providers who cause other harm.¹⁶

¹⁴ See 78 Fed. Reg. 10696 (February 14, 2013), amending 12 CFR part 1024, and new §§ 1024.37 and 1024.39 to take effect in 2014.

¹⁵ See 12 CFR § 1015.2.

¹⁶ In promulgating this rule (now 12 CFR part 1015), the Federal Trade Commission emphasized the widespread deceptive and unfair practices in this industry; see 75 Fed. Reg. 75092 (December 1, 2010), pp. 75102-75105.

Mandated benefits. Many mandated consumer benefits apply to loan servicing, but some apply to loan origination. Under TILA, mortgage loan borrowers have three days in which they can rescind the extension of credit. Under the FCRA, a lender who uses a credit report in response to a borrower's request for a loan and sees a fraud alert must use, "reasonable policies and procedures to form a reasonable belief"¹⁷ that the lender knows the identity of the prospective borrower. Lenders may obtain a list of names and addresses of individuals who meet specified credit worthiness criteria, but only if the lender agrees in advance to extend an offer of credit to all individuals on the list.

TILA and RESPA together impose numerous (non-disclosure) requirements on standard servicing activities. Overall, servicers are required to promptly credit payments; respond in a timely manner to assertions of error and to requests for information; and to retain various types of records, both to address consumer complaints and to prove compliance. As just one example, recent amendments to the implementing regulations to RESPA require that servicers must be capable of assemble a servicing file within five days. The file must contains a schedule of all transactions credited or debited to the mortgage loan, any notes created by servicer personnel reflecting communications with the borrower about the mortgage loan account, and copies of information provided by the borrower pursuant to error resolution procedures.¹⁸

Some of the strongest mandated benefits are in the recent requirements on mortgage loan servicers regarding delinquent loans. Mortgage loan servicers must have policies and procedures reasonably designed to achieve the objective of properly evaluating loss mitigation applications.

¹⁷ See 15 USC § 1681c-1(h)(1)(B)(i).

¹⁸ See new 12 CFR §1024.38, to take effect in 2014.

The objectives include identifying “with specificity” all loss mitigation options for which a delinquent borrower is eligible. Servicers must make good faith efforts to make live contact with a delinquent borrower not later than the 36th day of the borrower’s delinquency (the disclosure requirement at 45 days was noted above). Servicers must assign personnel to delinquent borrowers to answer questions, provide information about loss mitigation options available to the borrower, and provide information about actions the borrower must take to be evaluated for loss mitigation options. Servicers must follow detailed loss mitigation procedures, including not taking initial steps toward foreclosure until a borrower is more than 120 days delinquent and evaluating loss mitigation applications within certain timelines.¹⁹

Federal consumer financial law requires more than just the lender, originator and servicer to provide particular benefits. The FCRA imposes extensive obligations on consumer reporting agencies, including ensuring that reports are provided only for permissible purposes, only proper information is included, and errors and inquiries are properly addressed. The Fair Debt Collection Practices Act require debt collectors to have policies and procedures that meet certain requirements regarding contact and communication, the handling of disputed debts and proper application of payments in the case of multiple debts.

Other requirements and prohibitions. Finally, Federal consumer financial law contains numerous additional requirements and prohibitions that do not fall neatly into the previous categories. I mention a few here that pertain to compensation, fees, and ability to repay.

Amendments to TILA in 2010 prevent the compensation of mortgage loan originators from

¹⁹ See new 12 CFR §§ 1024.38(b)(2) and 1024.39-1024.41, to take effect in 2014.

depending on the interest rate of the loan.²⁰ The providers of mortgage loan renegotiation services cannot receive payment until the homeowner accepts a written agreement from the servicer.²¹ TILA prohibits late fees from triggering subsequent late fees on payments that are otherwise full and timely. TILA also requires payments on credit cards to be allocated to balances with the highest annual percentage rate.²² Amendments to TILA in the Dodd-Frank Act prohibit the origination of most mortgage loans without taking into account the consumer's ability to repay the loan.²³ A slightly earlier requirement on credit card issuers prohibited them from opening an account for a consumer without considering the consumer's ability to make the minimum periodic payments.²⁴

3. ECONOMIC ANALYSIS OF CONSUMER FINANCIAL PROTECTION

Having developed an overview of the requirements of the Federal consumer financial laws that regulate consumer credit products and certain closely related services, I now consider the extent to which these requirements address market failures. This analysis builds on the framework in Campbell et al. (2010) but with attention to the influential work on consumer protection and the regulation of consumer information in Beales, Craswell and Salop (1981). As

²⁰ See 12 CFR § 1026.36(d)-(e).

²¹ See 12 CFR § 1015.5. Similar restrictions on the timing of compensation apply to providers of debt settlement services and to credit repair organizations.

²² See 12 CFR § 1026.53(a).

²³ See 15 USC § 1639c.

²⁴ See 12 CFR § 1026.51.

stated above, a central question concerns the economic rationale for mandating business practices that go well beyond disclosure and mandating practices that are likely performed by any consumer financial services provider.

Information as a public good. Campbell et al. (2010) argue that the financial services provider is often the most efficient provider of the information consumers need to make informed decisions. Further, once acquired, information that is useful to many consumers can be shared for just the cost of distributing it. This public good aspect to information makes it likely that information is undersupplied and provides an economic rationale for required disclosures.

In general, the optimal amount of required disclosure depends on the cost to the financial services provider of acquiring and providing the information, the effectiveness of disclosures in improving consumer understanding and decision-making, and the benefit to the consumer of receiving the information.²⁵ Lenders and originators of credit products know the terms of the products they offer, so requiring these providers to disclose product terms does not require the collection of additional information. However, these providers likely know much more. Bar-Gill and Warren (2008) note the extensive collection and analysis of use pattern information, in the normal course of business, by providers of credit.²⁶ Some of this information might be useful to consumers if it provides insights into the long-term risks and general functionality of the product to individuals with similar characteristics. Sellers of other types of goods might have product use information by broad market segments, but credit products seem to be distinctive in that

²⁵ Beales, Craswell and Salop (1981) consider the efficiency of required disclosures in numerous specific settings.

²⁶ Bar-Gill and Warren (2008), pp. 23-25.

requiring disclosure of detailed information may not require any additional or expensive information collection.

The determinants of the optimal amount of required disclosure hold generally and not just for the origination of credit. An adverse action notice must be given when a consumer is denied employment because of information in a credit report. The notice makes the consumer aware that information in the report contributed to the decision and contains information about how to obtain a copy of the report and dispute inaccurate information in it. Similarly, the annual escrow account disclosure makes some consumers aware of failures by mortgage loan servicers to pay property tax or hazard insurance. Servicers have the information, providing it to consumers is likely inexpensive and the potential benefits from the disclosures may be significant.

Consider, however, required disclosures that providers of consumer financial services would generally provide without regulation. The discussion above presents many such disclosures. They meet basic customer expectations for communication and may also reduce other costs (e.g., from customer inquiries). The requirement to give these disclosures may therefore seem innocuous. However, consumer financial service providers must not only comply with regulations, they must also generally keep records that document compliance and perform audits and other activities to limit the risk of non-compliance. These additional activities are not costless.

The actual effectiveness of disclosures has been the subject of investigation and debate since the Truth in Lending Act of 1968 first required uniform disclosure of the APR.²⁷ It wasn't

²⁷ See Hogarth and Merry (2011); an early analysis of APR disclosure is Board of Governors of the Federal Reserve System (1987).

until 2004, however, that federal agencies began rigorous and systematic testing of the effectiveness of disclosures for consumer financial products.²⁸ This was true despite longstanding recognition of the difficulties in communicating information about financial products to consumers. Recent research shows that large numbers of consumers with adjustable rate mortgages do not know important loan characteristics (Bucks and Pence (2008)), that providing certain types of information can lead consumers to make worse decisions than they would without the information (Lacko and Pappalardo (2004)), but that it is possible to improve disclosure by adhering to certain general design principles and conducting serious consumer testing (Lacko and Pappalardo (2010)). The formatting requirements on disclosures described above to group and segregate certain items, to make some terms more prominent than others, and to use a tabular format, reflect increasing understanding of how to design effective disclosures.

Stango and Zinman (2011) study the effectiveness of the requirement in TILA to calculate and disclose the annual percentage rate on certain credit products. Using the Survey of Consumer Finance, the authors identify individuals who would have difficulty computing APRs from other loan terms; they refer these consumers as “biased” borrowers. They then examine the change in interest rates paid by biased borrowers as a result of an exogenous but selective weakening of TILA disclosure enforcement that occurred in the early 1980s.²⁹ Prior to the weakening of disclosure enforcement, whatever disadvantage these individuals faced relative to

²⁸ Hogarth and Merry (2011), p. 4. The CFPB must validate by consumer testing any model form it issues when disclosures are required; see DFA § 1032.

²⁹ The loans in their study were closed end loans used to finance the purchase of a household durable good.

other borrowers in securing loan terms was independent of the lender that biased borrowers faced since all lenders provided the required disclosures. After the selective weakening of disclosure enforcement, the disadvantage grows. Specifically, the sub-group of biased borrowers who borrowed from lenders who were likely to provide non-compliant disclosures incurred an additional cost that was roughly 400 basis points above the additional cost that non-biased borrowers paid when borrowing from these same lenders. The authors conclude that the APR disclosure had an economically meaningful impact on biased borrowers.

Consumer search and standardized terminology. Consumer search models provide an additional way to formally analyze the effects of improving the effectiveness of disclosures. In basic search models, consumers incur a cost to obtain a single piece of information (“price”) before purchasing a good. The additional cost that consumers incur to contact an additional supplier reduces the incentive to do so. The search literature is vast, but it generally establishes that this cost gives suppliers some market power. A costless or sufficiently inexpensive reduction in search costs reduces this market power, benefits consumers and enhances efficiency. Further, the benefits of lower search costs reach beyond the consumers who actually search. All borrowers benefit from the general reduction in borrowing costs that result from the reduction in market power.³⁰

One way for regulation to reduce search costs is to provide standardized terminology for important information. Consumers who search expend less time and effort obtaining this

³⁰ Stahl (1989) provides a well-known formal model of search and price dispersion that roughly captures this situation. In his model, reducing search costs increases consumer surplus, reduces producer surplus, and increases total surplus.

information if the same terms have the same meaning in different disclosures. Regulations may also require the disclosure of this information, as they do with the APR. The formatting requirements described above may also reduce search costs by putting information in the same location in different disclosures or making certain information relatively prominent.

Firms (either incumbents or new entrants), acting on their own, are unlikely to agree on standardized terminology. Individual firms have a strong incentive to manipulate terms and methods of measurements to make their own products look best. Thus, it has long been recognized that there is a role for government in defining and measuring product attributes.³¹

Of course, consumers often seek more than one piece of information when they search. Consumers cannot identify the best credit product without knowing origination fees, the credit limit (for open-end credit), the frequency of interest rate changes, the determinants of the new rate, the maximum amount by which it could change, and other features of the loan. These features are dimensions of quality insofar as consumers would generally agree, holding everything else constant, on the kinds of changes that are better.³² On the one hand, this complexity should increase the value of standardized terminology. On the other hand, complexity makes it difficult for policymakers to identify the information that is most useful to consumers and therefore the terms that should be standardized. These are longstanding issues in the analysis of disclosures. One solution is to develop and test different terms and see which ones measurably help consumer understanding and decision-making.

³¹ Beales, Craswell and Salop (1981), pp. 523-524.

³² See Armstrong and Chen (2009) and Milgrom (2008).

Consumer search and obfuscation. Recent research on the strategic uses of price complexity in search models provides a consumer welfare rationale for required disclosures.³³ Ellison and Wolitzky (2012) present a search model in which the time consumers spend acquiring information from a particular firm has both the standard fixed component and an endogenous component. By choosing complicated disclosures (“obfuscation”), a firm can increase the additional disutility that consumers incur from additional search. Ellison and Wolitzky show that the strategic use of obfuscation can increase search costs and prices for consumers. Further, competition does not eliminate obfuscation in equilibrium. These results are in their early stages, but they provide an additional rationale, at least in regards to consumer welfare, for standardized terminology and other restrictions that limit obfuscation.

Incomplete contracts. Over the course of a long term loan, the servicer must consistently undertake certain standard duties for performing loans and additional duties in case of delinquency and default. As Campbell et al. (2010) note, it is difficult to write contracts that handle every possible contingency over long periods of time. Long-term consumer credit contracts are necessarily incomplete.³⁴

To illustrate the relevance of incomplete contracts to consumer financial protection, suppose (for simplicity) that a consumer originates a mortgage loan with a lender who also services the loan. At origination, the reputation and interests of the lender encourage good servicing. However, these incentives can change over time. The lender might change its business model to focus on different investments or on growth, or the lender may be sold to an institution

³³ See Carlin (2009), Ellison and Wolitzsky (2012) and the references therein.

³⁴ Campbell et al. (2010), p. 7.

with different priorities, or it may hire less competent management. With incomplete contracts and no regulatory protections, the servicer might reduce performance in ways that the borrower never anticipated.

The incompleteness of long-term contracts can rationalize a wide range of consumer protections. The fact that lenders and other service providers may become less consumer-oriented or less competent over time provides a rationale for regulations that mandate disclosures and benefits that any lender or service provider generally provides. Required disclosures and mandated benefits may deter the erosion of services, or they may provide an easily detected basis for prosecuting providers who cause other harm. These requirements also support market functioning insofar as they encourage consumers to use these products and services. Little is known about the magnitude of these effects, however, or the relationship between regulatory requirements and consumer protections that are in fact difficult to write into contracts. These are important areas for further research.

Use of agents. The previous argument applies even more strongly when lenders use agents. Lenders need to learn about the creditworthiness of borrowers, to keep track of payments and disburse them to all relevant parties, to manage delinquency and work with delinquent borrowers, and to recover what they can in case of default. Lenders generally utilize agents for these functions, including consumer reporting agencies (“credit bureaus”), loan servicers, and debt collectors.

Lenders, of course, would like these agents to act as if they were also the owners of the loan. In reality, the relationships between lenders and these agents have some of the problems that occur in other agency relationships. There are hidden information and hidden action problems and only limited ways to use compensation and other incentives to correct them. It is

difficult for lenders to discern the quality of credit bureau data and scoring algorithms and compare this information across providers. Loan servicers may not work as diligently as lenders in preserving the value of distressed loans, despite contractual obligations to do so. Debt collectors may be more likely than lenders to attempt to collect from the wrong party or the wrong amount from the right party.

An additional aspect of the use of agents by lenders is that the agents can impose significant costs on borrowers but borrowers do not play any part in the selection of agents. It is of course important for lenders to be able to use agents, and the conflicting interests of lenders and borrowers means that borrowers have some interest in subverting the work of these agents. However, borrowers also have a willingness to pay for accurate consumer reports, good loan servicing and accurate debt collection. This willingness to pay is not fully captured in the contracting between the lenders and the agents, and there is a general absence of other avenues through which borrowers can impose consequential costs on these agents for failing to take these interests into account. Regarding servicing and debt collection, borrowers might not realize that in the event of delinquency they would be working with an agent and not the lender; they might seek to evaluate this agent prior to origination if they knew one might be used. In sum, the transactions between lenders and agents impose externalities on borrowers. These externalities provide an additional efficiency rationale for mandating certain disclosures and consumer benefits.

Product Complexity. Bar-Gill and Warren (2008) argue the complexity of consumer credit products is an important source of consumer harm. They argue that complexity makes it difficult for consumers to predict the interest and charges from different choices and therefore to use certain credit products optimally. Further, if these difficulties create a predictable demand for

products with certain features, lenders may be able to profit from these errors and may have an incentive to engineer them.³⁵

This line of thought raises at least three issues. First, difference among consumers in the ability to handle product complexity would seem to make this problem more of a welfare issue for certain consumers than an efficiency issue. Second, one would generally expect competition to make the profits from these errors temporary at best. Third, product complexity reflects many incentives. For unsecured debt, using real-time information (e.g., a missed payment, an overcharge) to adjust fees and terms may be necessary for the product to be available to anyone at all.

A somewhat notorious result in Agarwal et al. (2009) illustrates the first point. The authors have data from several “large financial institutions” that made balance transfer offers nationally. Transferred balances had a low interest rate for a six month promotional period while purchase balances carried a high interest rate. A key feature of the new card was that payments would be applied to the transferred balances first. Since it is never optimal to pay down the balance with the lowest interest rate first, consumers should use a different card (e.g., the old card) for purchases. Nevertheless, one-third used the card for making purchases throughout the promotional period. One-third never made purchases with the card and the remaining third made purchases for part of the period. Some consumers in the first group might have paid less interest without the card—this depends of course on the interest rate on other cards—but consumers who used the card optimally almost certainly would have paid more.

Gabaix and Laibson (2006) present a theoretical model that to some extent addresses the first two issues. They consider the market for a base good that has add-on goods that are

³⁵ Bar-Gill and Warren (2009), pp. 23-25.

expensive and avoidable. Add-ons include fees and penalties, like a charge for having less than a minimum balance, as long as the fee is avoidable. One type of consumers, the “sophisticates,” are aware of the add-ons and incur a cost (“effort”) to avoid them. The other type of consumer, the “myopes,” are unaware of the add-ons and take no precautions.

In the Gabaix-Laibson equilibrium, sophisticates avoid the add-ons and myopes incur the cost. Competition ensures that sellers use the fees paid by the myopes to subsidize the price of the base good. One might expect other sellers to have an incentive to educate (“de-bias”) the myopes in order to win their business, but unfortunately that is not what would happen. Transparent sellers cannot match the price of the base good sold by non-transparent sellers as long as there are some myopes subsidizing that price. Thus, de-biased myopes will not switch to transparent sellers; they will stay with non-transparent sellers, avoid the add-ons, and enjoy the base good at the subsidized price.

The equilibrium in this model is genuinely inefficient. Effort spent by sophisticates on avoiding the add-ons, which are costless to produce, is pure waste. The inefficiency is formally the same as that in simple models of theft, where the effort spent avoiding a costless pure transfer (i.e., theft) is also waste.³⁶ The cross subsidy in the model from less sophisticated to more sophisticated agents is quite striking and has some empirical support (e.g., Lusardi and Tufano (2009) and numerous references in Campbell et al. (2010)).

Behavioral models. The behavioral literature provides additional perspectives on consumer financial protection. This work suggests that there are important classes of consumers

³⁶ In contrast, the inefficiency illustrated in section 4 below results from basing consumption on a price that turns out to be incorrect.

for whom a lack of information about consumer credit products is not the source of their poor outcomes, either because they appear to have the product information they need (e.g., for payday loans) or because these outcomes are driven by systematically incorrect beliefs about their own future behavior. As Campbell et al. (2010) note, the government interventions in this literature are designed more to reorient consumer decision-making and correct biases than to proscribe business activities.³⁷ Some of these interventions change default alternatives and choice architecture, mandate the disclosure of information about the decisions of other consumers, and provide ways for consumers to constrain their own future behavior (Laibson (1997)).

DellaVigna and Malmendier (2004) present a formal model of problems with self-control.³⁸ All consumers are aware of the problem, but some are naïve about how their future selves will behave and have too much confidence in future self-control. Sophisticated individuals, on the other hand, recognize the true magnitude of the problem. This self-awareness allows them to recognize terms of use that support their need to control their future selves. Competition provides sophisticated consumers with such products, and they may be no worse off than if they had no self-control problem at all.³⁹ On the other hand, competition provides only limited help to naïve consumers, since it only provides them with products that they *believe* will help them sufficiently control their future selves. Competition drives down the profitability of

³⁷ Campbell et al. (2010), p. 9.

³⁸ Grubb (2009) and Heidhues and Koszegi (2010) study equilibrium contracts in closely related models.

³⁹ Proposition 3(i), DellaVigna and Malmendier (2004).

these products but the terms of use are still not optimal for naive consumers. As a result, naïve consumers achieve lower welfare relative to sophisticated consumers under competition.⁴⁰

Given the importance and complexity of this model, it is useful to consider the empirical support. As just one example, Skiba and Tobacman (2008) have detailed information on 50,000 individuals who use payday loans. Over the course of one year, 51% of users ultimately bounce the check they give the lender (the debt is actually written off for 30%). The typical user takes out 6.5 loans with an average size of \$318 before default. At \$15 per \$100 borrowed, these consumers pay fees equal to about 90% of the principal balance.

In purely financial terms, once a consumer knows she cannot repay a payday loan she should default. A rational consumer might delay somewhat if default is unpleasant, but the payments are also unpleasant, and the cumulative payment coupled with ultimate default suggests that something more is going on. The authors argue that the best fit to the use pattern information comes from a model in which consumers naively believe that, in the near future, they will have the self-discipline to default and end the rollover fees.⁴¹

Additional support for the model comes from striking discrepancies between ex post outcomes and ex post optimality. Agarwal et al. (2007) present data from a market experiment in which 40% of consumers, choosing between just two credit cards, select the card that is sub-optimal ex post. This behavior may of course be rational ex ante given uncertain income and spending needs, but the scale of the discrepancy is striking. Ausubel (1991) argues that in his data, the discrepancy was persistent enough that it allowed for persistent profits. Specifically,

⁴⁰ Proposition 3(iii), DellaVigna and Malmendier (2004).

⁴¹ Additional examples are in DellaVigna (2009).

Ausubel argues that bank credit cards in the 1980s were enormously profitable despite the presence of 4,000 competitors. His hypothesis is that competition did not bid down interest rates and reduce profits because a substantial number of consumers believed, ex post incorrectly, that they would not borrow and therefore did not need lower rates.⁴² The model cannot directly address whether these consumers are rational. However, the costs of switching cards would have to be high for a rational and risk-averse consumer to stay with a higher rate card when a lower rate card is offered.

Gabaix and Laibson (2006), DellaVigna and Malmendier (2004), and Agarwal et al. (2009) are all very skeptical about whether regulation can help the consumers they model. Gabaix and Laibson offer mild support for general warning labels. This is perhaps surprising given that a mandated disclosure is all the myopes need to become aware of the add-ons and protect themselves. DellaVigna and Malmendier argue against regulation to protect overconfident (or naïve) consumers. They note that the optimal policy would require precise information about consumer preferences and technology that the government is not likely to have. They also show that attempts to approximate the optimal policy might actually harm consumers, although they do not study the benefits of approximate policies in detail. They conclude that government should focus on educating naïve consumers and making them aware of their naivete.⁴³ Agarwal et al. (2009) discuss nine policy options but conclude that further research is needed to identify the best solutions.

⁴² Ausubel (1991), p. 70.

⁴³ DellaVigna and Malmendier (2004), pp. 372-373.

In contrast, Barr, Mullainathan and Shafir (2008) propose “behaviorally informed financial services regulation.” Under their proposal, a lender would have to offer a consumer a simple credit product first. If the consumer rejects the simple product then the lender could offer her other products. However, if the consumer then has a bad outcome, firms would still face greater scrutiny or penalties than if the bad outcome resulted from the simple product. In the authors’ terminology, the extra scrutiny makes the default “sticky.” The authors argue that a sticky default gives lenders the incentive to present all of the options clearly and honestly. They also argue that their proposal preserves innovation, since lenders can profit from innovative financial products provided that consumers who choose the products actually benefit from them. The authors suggest that behaviorally informed financial services regulation could replace regulations that require disclosures, mandate benefits, and prohibit business practices.

4. THE WILLINGNESS TO PAY FOR CONSUMER FINANCIAL PROTECTION

The previous sections are relatively informal and give general discussions of consumer harm and consumer financial protection. This section offers a more rigorous analysis of consumer harm and economic inefficiency when consumers misperceive the cost of credit. I characterize the welfare loss and use this characterization to formalize a consumer’s willingness to pay for consumer financial protection. This analysis complements some recent work by Posner and Weyl (2013).

Consider a consumer who has preferences over consumption today and consumption tomorrow. Her preferences are represented by a strictly quasi-concave utility function, $U(C_1, C_2)$. She receives no income in the first period; income in the second period is denoted Y_2 . Given an interest rate r , her budget constraint is $(1 + r)C_1 + C_2 = Y_2$. She maximizes utility subject to the

constraint. I always assume an interior solution. Thus, the consumer borrows against second-period income to fund first-period consumption.

I fix two interest rates, \bar{r} and r^* . These satisfy:

$$\bar{r} < r^*$$

If the consumer borrows at interest rate \bar{r} then her utility maximizing consumption choices are denoted (\bar{C}_1, \bar{C}_2) ; if she borrows at r^* then her utility maximizing consumption choices are denoted (C_1^*, C_2^*) . I assume consumption in each period is a normal good. Thus, $\bar{C}_1 > C_1^*$.⁴⁴

Now, what if the consumer *believes* she is borrowing at the lower rate when she will actually have to repay at the higher rate? For example, suppose the consumer has this belief because she is *inattentive* to certain terms of the loan.⁴⁵ The consumer plans to consume the bundle (\bar{C}_1, \bar{C}_2) and locks herself into this plan by spending \bar{C}_1 in the first period. In the second period she learns that she actually owes the lender $(1 + r^*)\bar{C}_1$ instead of the smaller amount $(1 + \bar{r})\bar{C}_1$. Second period consumption is now determined by the budget constraint:

$$\widehat{C}_2 = Y_2 - (1 + r^*)\bar{C}_1$$

⁴⁴ This uses the fact that the consumer has income in the second period only. Normality then implies that the income and substitution effects reinforce each other.

⁴⁵ This is just a convenient term. The consumer may be confused by complexity, as in Bar-Gill and Warren (2008), or deceived by a misrepresentation.

Thus, the consumer actually achieves utility $U(\bar{C}_1, \widehat{C}_2)$. Clearly $\widehat{C}_2 < \bar{C}_2$ and $U(\bar{C}_1, \widehat{C}_2) < U(C_1^*, C_2^*) < U(\bar{C}_1, \bar{C}_2)$.⁴⁶

These quantities are illustrated in Figure 18.1.⁴⁷

[Figure 18.1]

In contrast, an *attentive* consumer chooses the optimal consumption bundle from all the bundles that are truly feasible. She would therefore recognize if a low rate is a fraud, or is only available to borrowers with a better risk profile, or comes with undesirable terms (e.g., it only applies if the total balance is so low that she is better off accepting the higher rate). In these situations, the attentive consumer uses the higher interest rate r^* in her planning, pays the lender $(r^*)(C_1^*)$, and achieves utility $U(C_1^*, C_2^*)$. As shown above, the inattentive consumer does not recognize these problems with the low rate, pays the lender $(r^*)(\bar{C}_1)$, and achieves utility $U(\bar{C}_1, \widehat{C}_2)$. The inattentive consumer pays the lender the *additional interest*:

$$r^*(\bar{C}_1 - C_1^*) > 0$$

⁴⁶ $\widehat{C}_2 < Y_2 - (1 + \bar{r})\bar{C}_1 = \bar{C}_2$; $U(\bar{C}_1, \widehat{C}_2) < U(C_1^*, C_2^*)$ since both bundles are feasible at r^* but the latter is optimal.

⁴⁷ Figures 18.1 and 18.2 simulate the model using the utility function:

$$U(C_1, C_2) = [(\alpha C_1)^\rho + C_2^\rho]^{\frac{1}{\rho}}, \quad -\infty < \rho \leq 1$$

and parameters $\rho = -1$, $\alpha = 2$, $\bar{r} = .05$, $r^* = .75$, $Y_2 = \$100$. The parameter values were chosen to produce effective diagrams.

A different set of facts would lead the attentive consumer to actually obtain the lower interest rate while the inattentive consumer expects to receive it but does not. For example, the attentive consumer would know if a late payment triggers the higher rate and would, unless it is costly, make payments on time. In this scenario, the attentive consumer obtains the lower interest rate, pays the lender $(\bar{r})(\bar{C}_1)$, and achieves utility $U(\bar{C}_1, \bar{C}_2)$. The inattentive consumer again unexpectedly faces the higher rate, pays the lender $(r^*)(\bar{C}_1)$, and achieves utility $U(\bar{C}_1, \widehat{C}_2)$. The inattentive consumer now provides the lender with additional interest $\bar{C}_1(r^* - \bar{r}) > 0$.

The next step is to formalize the benefit to the inattentive consumer from consumer financial protection. Intuitively, consumer financial protection allows the inattentive consumer to plan and transact in the same relatively advantageous way as the attentive consumer. In the first case above, this means planning and transacting at r^* ; and in the second case, planning and transacting at \bar{r} . These benefits in turn may be formalized by the most amount of money the consumer would be willing to pay (the “total willingness to pay”) for the opportunity to plan and transact at those prices.⁴⁸

The standard way of expressing total willingness to pay is through the indirect utility function and expenditure function. The indirect utility function $V(1 + r^*, Y_2)$ results from maximizing utility subject to the budget constraint $(1 + r^*)C_1 + C_2 = Y_2$. The expenditure function $E[(1 + r^*), U(\bar{C}_1, \widehat{C}_2)]$ results from minimizing the budget constraint subject to the utility constraint $U(C_1, C_2) = U(\bar{C}_1, \widehat{C}_2)$. The total willingness to pay, denoted TWP , is the solution to the equation:

$$V(1 + r^*, Y_2 - TWP) = U(\bar{C}_1, \widehat{C}_2)$$

⁴⁸ Due to space limitations I consider the first case only.

Standard results for the expenditure function give:⁴⁹

$$TWP = Y_2 - E[(1 + r^*), U(\bar{C}_1, \widehat{C}_2)]$$

[Figure 18.2]

Figure 18.2 illustrates the case in which the inattentive consumer's total willingness to pay for consumer financial protection exceeds the additional interest she would pay the lender in the absence of consumer financial protection. From the steeper budget constraint we have $C_2^* - \widehat{C}_2 = (1 + r^*)(\bar{C}_1 - C_1^*)$ and by construction $a - \widehat{C}_2 = (\bar{C}_1 - C_1^*)$. Subtracting the second from the first gives $C_2^* - a = r^*(\bar{C}_1 - C_1^*)$. By construction, $C_2^* - b = TWP$. The distance $a - b = TWP - r^*(\bar{C}_1 - C_1^*)$ is positive as drawn and equals the benefit the consumer would obtain from consumer financial protection even after paying the lender the additional interest.

Intuitively, the example shows that distorting a consumer's inter-temporal consumption is an expensive way for the lender to get paid. This consumer would be strictly better off paying the lender the amount $r^*(\bar{C}_1 - C_1^*)$ lump-sum as long as she can plan and transact at the (higher) interest rate r^* . Consumer financial protection in this example is unambiguously efficiency enhancing.

Simulations show that this outcome does not always result, although the result appears to be fairly robust. Intuitively, when consumption in period 1 and period 2 are close substitutes, the over-spending in period 1 that results from the absence of consumer financial protection produces a small burden on the consumer. In this situation, it is possible that the consumer's total willingness to pay for consumer financial protection might be less than the additional interest

⁴⁹ This uses the relationships $E[1 + r^*, U(\bar{C}_1, \widehat{C}_2)] = E[1 + r^*, V(1 + r^*, Y_2 - TWP)] = Y_2 - TWP$.

that she pays the lender. Further research is needed to characterize the situations in which consumer financial protection is not strictly efficiency enhancing.⁵⁰

In very recent work, Posner and Weyl (2013) explore an analogous problem in a model of an asset market in which potential purchasers optimize with respect to the wrong rate of return on the asset. They work directly with demand curves and derive simple formulas that quantify various distortions in the market. However, this approach places the role of time and inter-temporal demand into the background of the analysis. They also use a number of approximations that require further exploration. The model provided here adds to the micro-foundations for their analysis and, with their work, contributes to the framework for benefit-cost analysis of consumer financial protection regulation.

Of course, attentive and inattentive consumers need not be the only ones present. There may be consumers who formulate a probability that they will face either \bar{r} or r^* in the second period. These consumers may even choose first-period consumption to maximize their expected utility. It is worth emphasizing that such consumers are different from the ones modeled here. It makes little sense to say that the first two types “should” be modeled like the third, much less that they should behave like the third or should realize the welfare of the third. Future analysis might model this heterogeneity and explore its implications.

5. CONCLUSION

⁵⁰ Assume the parameters $\rho = .8, \alpha = 1.1, \bar{r} = .05, r^* = .2, Y_2 = \100 . The simulations show $\bar{C}_1 = \$52$ and $C_1^* = \$34$, so the unexpected interest is about \$3.60. The simulations also show $E[(1 + r^*), U(\bar{C}_1, \widehat{C}_2)] = \98 , so total willingness to pay is about \$2.

This chapter provides an overview of consumer financial protection and explores the economic rationales for a particular set of federal laws that regulate consumer credit products and certain closely related services. Here I briefly summarize the results.

The market failures addressed by required disclosures and standardized terminology stem from the public good aspect of information, positive search costs, and the strategic manipulation of search costs (obfuscation). The optimal amount of disclosure for consumer financial products tends to be large given that lenders have a vast amount of data on product use, payments and other activities that could be disclosed, if helpful, at no additional cost of collection. Even so, requiring financial services providers to give disclosures that they would provide anyway is generally not efficient since the requirements impose costs (including the cost of proving compliance) with limited benefits. However, incomplete contracts and the use of agents by lenders imply that consumers might at times not receive these disclosures, especially over the course of a long-term contract. Of course, the information in these disclosures must also facilitate consumer decision-making and produce the intended benefits. This is a subject on which much more research is needed.

Similar arguments hold for many of the mandated benefits and other requirements and prohibitions discussed above. These requirements go well beyond providing consumers with information. Regulatory provisions for error resolution rights, timelines for responding to consumers, obligations to delinquent borrowers, obligations on users of credit reports, restrictions on the sources and timing of compensation of consumer financial services providers, etc., provide a wide range of consumer benefits and impose numerous costs. The previous analysis considers that these requirements might compensate for incomplete contracts in long-

term credit relationships, the use of agents by lenders, and in some cases for the complexity of consumer financial products.

The market failures and consumer injury identified in the behavioral economics literature have not led the most prominent researchers to recommend strongly proscribing certain business activities. Instead, the government interventions in this literature are designed more to reorient consumer decision-making and correct biases. This cautious approach likely reflects a general concern over unintended consequences given the lack of understanding about how to effectively help consumers optimize or exercise self-control. It seems fair to say that the most prescriptive regulatory requirements in recent years, like ability-to-repay requirements and limits on the sources of lender compensation and rules for loss mitigation, have been a reaction to consumer injury and not to recommendations from behavioral research.

Whether the requirements discussed above are aligned closely enough to the market failures to realize the potential efficiency and consumer welfare gains is a difficult empirical question. To answer it, much additional research is needed on the use of consumer credit products and related services and on the response of firms to consumer financial protection regulations. This research should improve existing regulations, inform new regulations regarding new products, and generally reduce the chances of crises and reactions that can rapidly change the regulatory landscape. This research will also support other policy arenas through a deeper understanding of the behavior of consumers and firms. New resources and datasets will support this important work.

REFERENCES

- Agarwal, Sumit, Souphala Chomsisengphet, Chunlin Liu, and Nicholas Souleles (2007), “Do Consumers Choose the Right Credit Contracts?”
- Agarwal, Sumit, John Driscoll, Xavier Gabaix, and David Laibson (2009), “The Age of Reason: Financial Decisions over the Life-Cycle with Implications for Regulation.”
- Armstrong, Mark and Yongmin Chen (2009), “Inattentive Consumers and Product Quality,” *Journal of the European Economic Association* 7(2-3): 411-422.
- Ausubel, Lawrence (1991), “The Failure of Competition in the Credit Card Market,” *American Economic Review*, 81(1): 50-81.
- Bar-Gill, Oren and Elizabeth Warren (2008), “Making Credit Safer,” *University of Pennsylvania Law Review*, 157(1): 1-101.
- Barr, Michael, Sendhil Mullainathan, and Eldar Shafir (2008), “Behaviorally Informed Financial Services Regulation,” *New America Foundation*.
- Beales, Howard, Richard Craswell, and Steven Salop (1981), “The Efficient Regulation of Consumer Information,” *Journal of Law and Economics*, 24 (December 1981): 491-539.
- Board of Governors of the Federal Reserve System (1987), “Annual Percentage Rate Demonstration Project.”
- Bucks, Brian and Karen Pence (2008), “Do Borrowers Know Their Mortgage Terms?” *Journal of Urban Economics*, 64(2): 218-233.
- Campbell, John, Howell Jackson, Brigitte Madrian, and Peter Tufano (2010), “The Regulation of Consumer Financial Products: An Introductory Essay with Four Case Studies.”
- Campbell, John, Howell Jackson, Brigitte Madrian, and Peter Tufano (2011), “Consumer Financial Protection,” *Journal of Economic Perspectives*, 25(1): 91-114.

Carlin, Bruce I. (2009), "Strategic Price Complexity in Retail Financial Markets," *Journal of Financial Economics*, 91(3): 278-287.

CFPB (2012a), "FY 2013 Budget Justification,"
<http://www.consumerfinance.gov/wp-content/uploads/2012/02/budget-justification.pdf>

CFPB (2012b), "Consumer Credit Information Panel," solicitation available at,
https://www.fbo.gov/index?s=opportunity&mode=form&id=6ab97636f05e436272cbd6f948de337b&tab=core&_cview=1

CFPB (2012c), press release available at,
<http://www.consumerfinance.gov/pressreleases/federal-housing-finance-agency-and-consumer-financial-protection-bureau-to-partner-on-development-of-national-mortgage-database/>

DellaVigna, Stefano (2009), "Psychology and Economics: Evidence from the Field," *Journal of Economic Literature*, 47(2): 315-372.

DellaVigna, Stefano and Ulrike Malmendier (2004), "Contract Design and Self-Control: Theory and Evidence," *Quarterly Journal of Economics*, 119(2): 353-402.

Ellison, Glenn and Alexander Wolitzky (2012), "A Search Cost Model of Obfuscation"

Gabaix, Xavier, and David Laibson (2006), "Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets," *Quarterly Journal of Economics*, 121(2): 505-540.

Grubb, Michael (2009), "Selling to Overconfident Consumers," *American Economic Review*, 99(5): 1770-1807.

Heidhues, Paul and Botond Koszegi (2010), "Exploiting Naivete About Self-Control in the Credit Market," *American Economic Review*, 100(5): 2279-2303.

- Hogarth, Jeanne and Ellen Merry (2011), “Designing Disclosures to Inform Consumer Financial Decisionmaking: Lessons Learned from Consumer Testing,” Federal Reserve Bulletin, 97(3).
- Lacko, James and Janis Pappalardo (2004), “The Effect of Mortgage Broker Compensation Disclosures on Consumers and Competition: a Controlled Experiment,” Federal Trade Commission Bureau of Economics Staff Report, <http://www.ftc.gov/os/2004/01/030123mortgagefullrpt.pdf>.
- Lacko, James and Janis Pappalardo (2010), “The Failure and Promise of Mandated Consumer Mortgage Disclosures: Evidence from Qualitative Interviews and a Controlled Experiment with Mortgage Borrowers,” American Economics Review, 100(2): 516-521.
- Laibson, David (1997), “Golden Eggs and Hyperbolic Discounting,” Quarterly Journal of Economics 112(2): 443-477.
- Lusardi, Annamaria and Peter Tufano (2009), “Debt Literacy, Financial Experiences, and Overindebtedness.”
- Milgrom, Paul (2008), “What the Seller Won’t Tell You: Persuasion and Disclosure in Markets,” Journal of Economic Perspectives, 22(2): 115-131.
- Posner, Eric and E. Glen Weyl (2013), “Benefit-Cost Analysis for Financial Regulation,” American Economic Review 103(3): 393-97.
- Pautler, Paul (2008), “Consumer Protection Policies, Economics, and Interactions with Competition Policy,” Competition Policy International 4(1): 83-96.
- Skiba, Paige and Jeremy Tobacman (2008), “Payday Loans, Uncertainty, and Discounting: Explaining Patterns of Borrowing, Repayment, and Default.”

Stahl, Dale O. II (1989), "Oligopolistic Pricing with Sequential Consumer Search," *American Economic Review* 79(4): 700-712.

Stango, Victor and Jonathan Zinman (2011), "Fuzzy Math, Disclosure Regulation, and Market Outcomes: Evidence from Truth-in-Lending Reform," *Review of Financial Studies*, 24(2): 507-534.

Figure 18.1

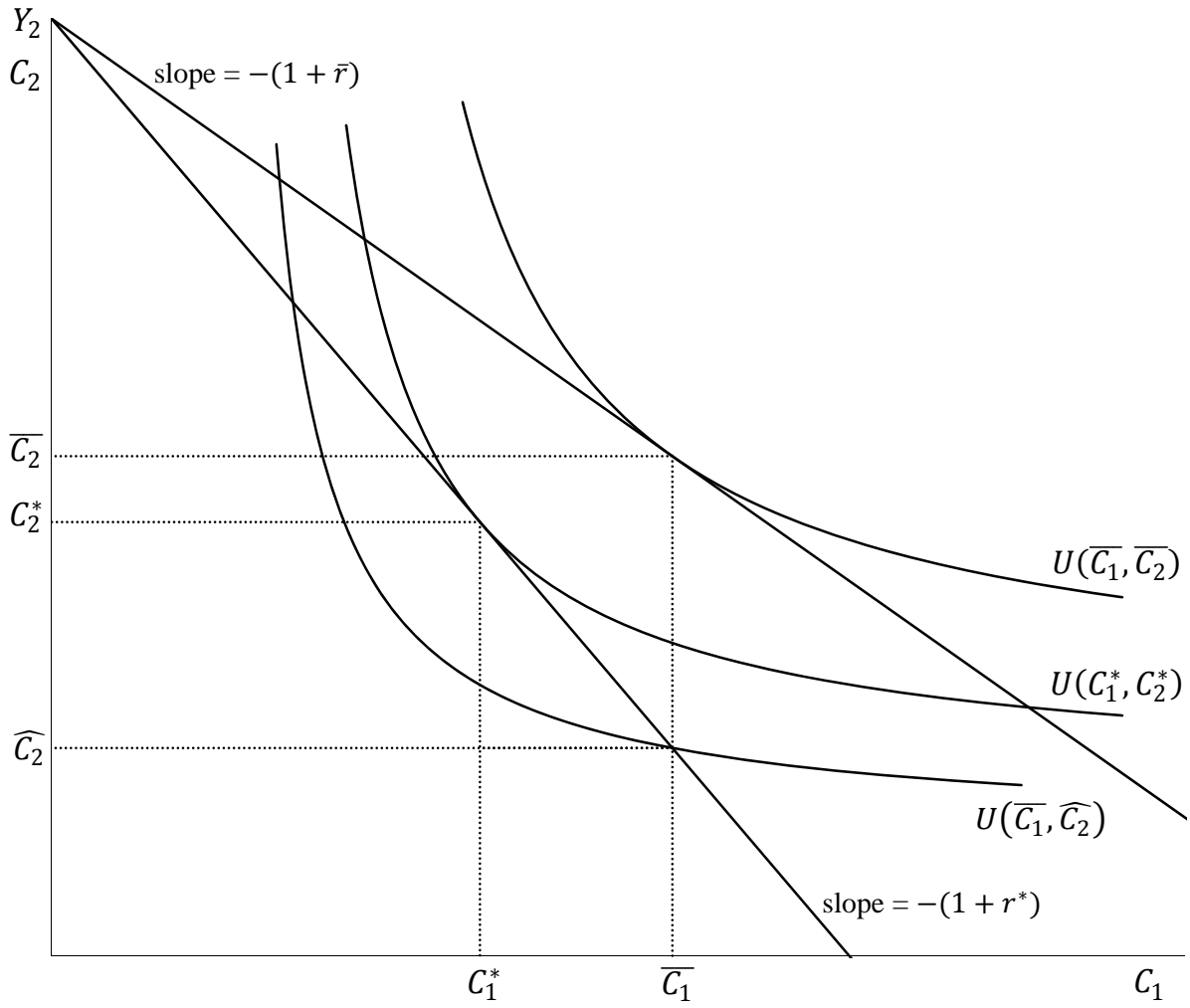


Figure 18.2

