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Credit Card Policy in a Globalized World

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CREDIT CARD POLICY IN A GLOBALIZED WORLD

Ronald J. Mann*

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CREDIT CARD POLICY IN A GLOBALIZED WORLD

I. INTRODUCTION¹

Since they first appeared in the middle of the last century, card-based payment systems – credit cards, debit cards, charge cards, etc. – have transformed the practice of retail payment. Their growth throughout the developed world has raised widespread policy concerns. For example, many in this country argue that widespread use of credit cards can contribute to excess consumption, and ultimately to an undue incidence of financial distress.² Regulators in other countries have not focused on that problem, but instead have focused on features of retail pricing to consumers. Specifically, they have been concerned that a system in which consumers pay the same price whether they use cash or a credit card forces consumers that do not use cards to subsidize those who do, producing an increase in retail prices for all.³

In many respects, of course, sharply different patterns of usage in various countries suggest that each country's payment card is a creature of its local environment. On the other hand, the breadth of a growth trend that has altered customary practices in so many countries suggests that much can be learned from a careful analysis of the various cultural, legal, and institutional factors that affect their use can contribute to a nuanced understanding of how they affect economic activity. This paper takes up the challenge of that more optimistic perspective. I organize the discussion around three broad inquiries: the causes of failure and success of payment cards, the effects of payment cards when they succeed, and potential policy responses to those effects.

On the first point, I take advantage of a substantial body of existing historical work and public data.⁴ I also rely on a great deal of proprietary data,⁵ information I collected during substantial stays in Japan (at the Bank of Japan's Institute for Monetary and Economic Studies)⁶ and in Great Britain (with assistance from the Bank of

¹ Although I have read an early draft of Oren Bar-Gill, *Seduction by Plastic*, I do not refer to that manuscript in the references to this paper because that manuscript has not yet widely been circulated.

² Ellis 1998; Lawless 2002; Stavins 2000; Warren 1998.

³ Subpart IV(B) discusses regulatory initiatives that present that concern in Australia, the European Union, and the United Kingdom.

⁴ Much of the data for other countries is publicly available from the Bank for International Settlements, Web sites for central banks, and publications of local industry trade groups (particularly APACS in the United Kingdom). The Data Appendix details the sources of my statistics on each of the countries discussed in the paper.

⁵ Most of the information about the United States, for example, is gleaned from proprietary sources such as *The Nilson Report* and *Carddata*.

⁶ Mann 2002 presents details from the study of Japan.

England),⁷ and private data provided to me by central banks in a number of other countries.⁸ That part of the paper does two things. First, it provides an overview of variations in the usage of payment cards in various countries, disentangling the related histories of credit cards, charge cards, and debit cards. Second, it provides a general explanation of the factors that are (and are not) relevant to the success and failure of credit cards. Many factors are important in explaining particular parts of the story, some legal, some cultural, and some that are general features of the institutional background. The basic theme is that the most important single factor in the rise of the credit card is the deployment of information technology capable of sophisticated analysis of information about the creditworthiness of particular cardholders. Much of the timing and variation of growth in credit cards can be traced to the availability of that technology. On the other hand, the pattern of usage and the data I have collected suggests a much less general role for other commonly asserted explanations. The most prominent are cultural aversions to borrowing, that might constrain credit card use in particular, and legal protections for card users or fear of crime, both of which might foster card use generally.

The second part of the paper turns from questions about what people do and why they do it to consider the effects of credit card use. I present analysis of two important questions. First, I present a regression of time-series data from four countries (Australia, Canada, the United Kingdom, and the United States) to analyze the relation between credit card use, on the one hand, and bankruptcy on the other. The purpose of that analysis is to examine whether there is something special about borrowing with credit cards that is more likely to result in prodigal spending than other types of borrowing. The data generally support the notion that credit card debt is uniquely likely to contribute to a higher rate of financial distress. Specifically, controlling for the general level of consumer debt, an increase in credit card debt is related to a cognizable rise in consumer bankruptcy filings. To put the point simply, bankruptcies will rise substantially after an increase in credit card debt, even if the overall level of consumer borrowing remains unchanged.

I then consider the possibility that credit card spending's effect on a nation's economy is so pervasive that it can affect the legal system that governs creditor's rights. Specifically, I present data showing a high correlation between credit card spending, on the one hand, and a more lenient bankruptcy discharge on the other. The data suggest that countries in which heavy credit card spending develops are led to alter their bankruptcy systems so as to provide a relatively lenient discharge to consumers.

The final part of the paper considers a variety of policy responses to card use. The problem is a difficult one because of the important beneficial features of card use – as an inexpensive both for making payments and for obtaining unsecured credit. The best

⁷ The study of Great Britain was accomplished in a 2003 visit to London that included interviews with a variety of regulatory bodies and industry executives. It is not yet reflected in a separate paper.

⁸ I am grateful for assistance provided to me by central banks in Belgium, Canada, France, Italy, Japan, and the United Kingdom.

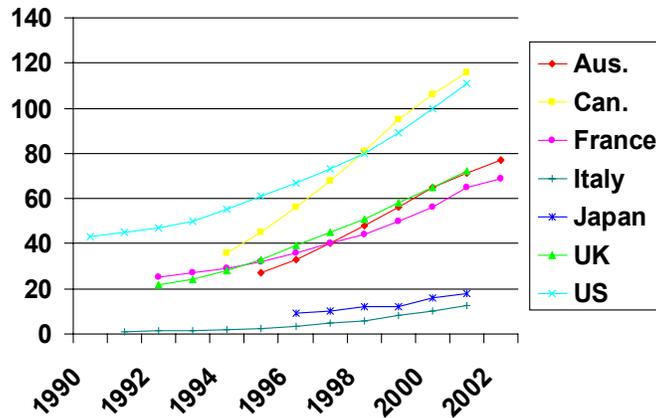
policy responses will be those that are most likely to stem the prodigal behavior that causes the adverse effects discussed in Part III and least likely to prohibit or render impractical the value-increasing borrowing transactions that make credit cards valuable to so many businesses and consumers. After a cautionary tale based on Japan's experience about the perils of blunt exclusion of banks from the credit-card market, I consider two classes of proposals: regulation of the various prices charged at the various stages of a credit card transaction, and regulation of information provided to potential users. On the first point, I criticize the regulation of interchange fees currently underway in several other countries, preferring instead initiatives that would directly validate credit-card surcharges by merchants. More ambitiously (and tentatively), I also suggest a ban on affinity programs (cash-back and airline-miles programs being the most obvious), because they give cardholders an unduly large incentive to use credit cards.

On the second point, I recommend a flat ban on marketing to minors and college students, extending a similar ban that already exists in UK law. Finally, and most importantly, I recommend a general reorganization of the disclosure regime in the Truth in Lending Act. The current disclosure system focuses on disclosures at the time of the application or the time the cardholder reads the monthly bill. The analysis in Part III, however, suggests that the point of the problem is the point at which cardholders borrow. Accordingly, I recommend regulations requiring issuers to disclose *at the point of sale* the balance, available credit, and any applicable overlimit fees. As I explain, I think those particular reforms best balance the goal of limiting prodigal behavior against the possibility of imposing prohibitory or impractical constraints on the valuable aspects of card transactions.

II. FAILURE AND SUCCESS

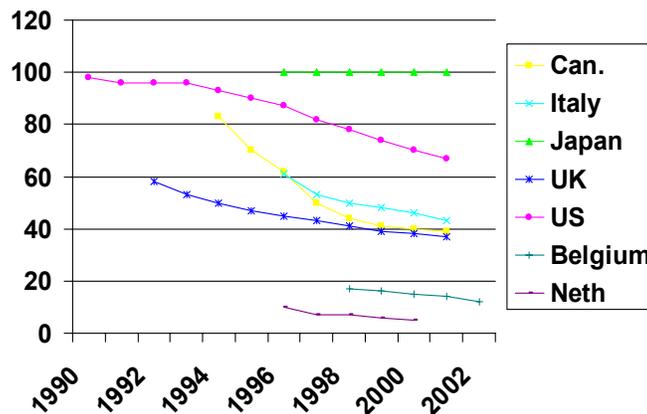
The rapid rise of payment cards has been widespread, but it has been far from uniform. The stark variation in three metrics of their impact is illustrative. The first metric is retail card usage, excluding cash withdrawals at ATMs. Figure One illustrates a major increase in card usage over the last decade, but the rates of usage vary widely, from less than 20 transactions per person per year in Japan and Italy to more than 100 transactions per person in Canada and the United States.

Figure One Card Transactions Per Capita



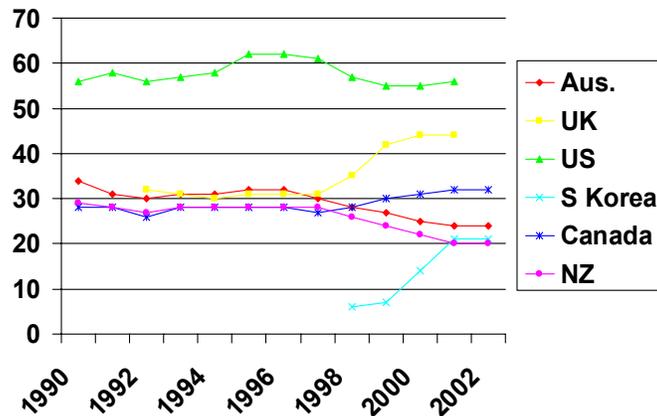
Another important question is the type of card that cardholders use. As **Figure Two** shows, the relative share of credit and debit card usage ranges from countries like Japan and the United States, where credit cards are used much more frequently than debit cards, to countries like Belgium and the Netherlands, where credit cards are rarely used.

Figure Two: Credit Card Trans./ Card Transactions



The third metric is the most important for the purposes of this paper, the share of borrowing, which I measure by the ratio of credit card debt to credit card volume.⁹ As **Figure Three** shows, the amount of borrowing ranges from about 20% in New Zealand and South Korea to more than 50% in the United States.

Figure Three: Credit Card Debt/
Credit Card Volume



The wide variations suggest that the first step in any major inquiry into the policy significance of the payment-card phenomenon is to consider why the patterns of usage are so different in different countries. The myriad reasons that might affect the use of credit and debit cards in any particular country make any inquiry complex. Among other things, the specific level of usage in any particular country is likely to be influenced at least in part by the interplay among legal rules that foster or retard card usage, cultural norms that support or inhibit the practice of using cards, and more general institutional factors that facilitate or block the development of a robust card market.

I respond to that maze of considerations in two steps. The first section of this part sets out a general picture of the rise of payment cards, delineating what seem to me the principal factors that have driven the success and failure of credit cards and debit cards in

⁹ Media often assess this concern by reporting the share of cardholders that “consistently” pay off their bills each month. As of the end of 2002, that metric was at 39.10 for bank-issued credit cards in the United States. It rose steadily from 28.60 in 1990 to 44.4 in 2000, but has fallen each of the last two years. See CardData, *Bank Credit Card Convenience Usage – Current*, available at http://www.cardweb.com/carddata/charts/convenience_usage.amp (last visited Nov. 24, 2003) (subscription required). Aside from the difficulty of knowing precisely what that means, it is not possible to obtain that statistic for any country other than the United States. The metric reported in the text is one that I can calculate readily for other countries.

the major markets. The basic theme of that part is that the single most important factor distinguishing between the success of credit cards and the failure of credit cards has been the availability of sophisticated systems for assessing the creditworthiness of potential cardholders. As those systems have developed, card-based lending has become more successful. Where those systems are not available, card-based lending has been less successful.

The second section then considers a variety of explanations to which I assign more marginal importance. The most prominent subjects of that section are legal rules protecting cardholders, cultural norms that respond to the fear of crime or an aversion to borrowing, and miscellaneous institutional factors such as the relative size of merchants, telecommunication costs, and the size of the national economy. Although most of those factors probably have some explanatory value in some countries, I find them less useful in explaining the overall global pattern.

A. The Basic Story

The best way to understand the most salient variations in card usage is to understand the path by which payment cards have developed. That development has had three major stages. The first stage was the successful deployment of payment cards without the significant extension of credit. The second was the successful development by financial institutions of the revolving credit product that historically has been the principal basis of the card's profitability. Networks and issuers have deployed the profits from that product to provide the incentives that have led merchants and consumers to use the credit card with increasing frequency. Finally, in the third stage, the availability of POS PIN technology has made a sophisticated debit card product feasible. The development of that technology has resulted in the rapid growth of that product. The growth of the debit card, in turn, is substantially lessening the relevance of credit to the cards market. The policy implications of that trend, and of institutional arrangements that might slow that trend, are central to the discussion of Parts II and III.

Because much of the history (particularly the early history in the United States) has been discussed in detail in general histories of the credit card,¹⁰ there is no reason for me to recount it in detail. Accordingly, my discussion focuses on the features that have not been central in prior treatments, the particular institutional factors that made development initially feasible in the United States, and the reasons why differing institutional environments in other countries generally foreclosed the path followed in the United States.

1. The Age of the Payment Card

When the payment card first came into significant use in the 1950's in the United States, it served a payment function quite different from the function it serves now. The

¹⁰ Evans & Schmalensee 1999; Manning 2000; Ritzer 1995

dominant product was the Diners Club card, what we would now call a travel and entertainment card or a charge card.¹¹ Its primary use was for the traveler purchasing food and accommodations from distant merchants. Because of the difficulty of making any informed assessment of the likelihood that the traveler's bank would honor a check, those merchants justifiably would be reluctant to accept a non-local check from the traveler. The problems of creditworthiness were only aggravated by the long clearance times prevalent for non-local checks before the Expedited Funds Availability Act.¹²

As a response to that problem, the payment card was a brilliant invention. Diners Club (and those that followed in its steps) wanted to issue the cards because it could profit from the fees it charged to merchants for guaranteeing payment by cardholders. Merchants were willing to accept the cards because the costs that they would pay in interchange would not exceed substantially the costs that they faced from the acceptance of checks. Those costs included not only delay in payment, but also losses from nonpayment and the costs (including the indignity and hassle) of credit assessment of their customers. Those costs also included, of course, the costs of business turned away when the merchant refused to accept a check and no other payment system was available. Finally, customers wanted to use the cards because it made the process of obtaining accommodations and other services in remote locations much simpler. Because the payment card did not involve a protracted extension of credit, and because the product had relatively little competition, Diners Club was able to make a profit off the product even without the technological advances on which the broader uses of payment cards in more recent years have depended.¹³

For comparative purposes, two aspects of the institutional environment in which that product competed bear mention. The first is the simple fact that the United States is a relatively large country and that during the 1950's – with the rise of the interstate highway system and the postwar economic boom – there was a significant mass of business travelers at distances remote from their homes. The second factor relates to the United States banking market. One of the reasons that non-local checks were so expensive and time-consuming for merchants to collect is the fractionated nature of that market. For good reasons or bad, the United States banking industry – by comparison to the banking industries of other countries – has been quite unconcentrated. In 1952, for example, when the credit card was invented, there were 14,000 commercial banks in the United States.¹⁴ That is to some degree generally related to a persistent populist

¹¹ Simmons 1995.

¹² Until Congress's 1987 enactment of the Expedited Funds Availability Act, 12 U.S.C. §§ 4001-4010, "the check-clearing process too often lagged, taking days or even weeks to complete." *Bank One Chicago, N.A. v. Midwest Bank & Trust Co.*, 516 U.S. 264, 266 (1996). For a brief discussion of that statute, see Mann 2003.

¹³ Simmons 1995 is the best source for that period.

¹⁴ JOINT COMMITTEE ON CHECK COLLECTION SYSTEM, STUDY OF CHECK COLLECTION SYSTEM (1954) (presented to American Bankers Association, Association of Reserve City Bankers, and Conference of Presidents of the Federal Reserve Banks).

suspicion of large financial enterprises.¹⁵ It also probably is specifically related to the WWI-era decision of the Federal Reserve to support the collection of checks at par, which advantaged small banks over the large.¹⁶ In this context, the deep fractionation of the banking market means that a relatively large portion of checks accepted by the types of merchants that deal with out-of-town business travelers would be drawn on banks that did not have a presence in the area in which the check was presented.

Those factors are important in understanding the relatively early rise of payment cards in the United States, because they help to explain why payment cards did not arise to any significant degree in any other country until much later. In few other countries would a business traveler have considered traveling to a remote destination and using anything other than cash as a payment system. And to the extent that they would, a concentrated banking system predictably would lead – as in England – to procedures by which checks readily could be accepted for such transactions throughout the country.

Thus, in England a check-guarantee card developed early on, usable throughout the country. The check-guarantee card solved the same problem as the Diners Club card in this country, but did not lead to the early development of a payment-card network.¹⁷ The key to that product was the concentrated banking system. England has only a small number of significant banks (less than five at all relevant times), all of whom have some market presence throughout the country. Thus, a business traveler in a remote part of the country presenting a check for payment, backed by a check guarantee card, had the benefit of a local bank assuring payment. Business travelers in the United States have not had that kind of support for the acceptance of their checks.

2. *The Age of Revolving Credit*

Recognizing the potential for profiting from the issuance of payment cards, a significant number of banks (led most prominently by Bank of America) began to offer similar products in the 1960's. The banks, however, soon transformed the cards into something entirely new: a general-purpose payment card that could be used to access a substantial line of revolving credit. As others have recounted, it was difficult in the early days to profit from this product.¹⁸ I have argued before that banks introduced revolving credit cards as a loss leader, with the hope that the market eventually would grow large enough to make the product profitable, as in fact has happened.¹⁹ Because applicable regulations at the time prevented banks from competing by offering a higher price

¹⁵ Roe 1994.

¹⁶ Gilbert 2000.

¹⁷ The details of the rise of the check-guarantee card are based on interviews with UK regulators and industry executives.

¹⁸ Manning 2000.

¹⁹ Mann 2002; *Credit Cards Pioneer Dies*, CARDS INTERNATIONAL, 16 Dec. 2003, at 6 (obituary for Joseph Williams, who fashioned that campaign for Bank of America and was fired because of the losses the bank sustained in its early credit card operations).

(interest rate) for deposits, providing this product as a form of lagniappe was a natural way to compete for customers.²⁰

The depositary relations banks had with their customers gave banks an advantage in assessing the creditworthiness of potential cardholders. In the absence of the information or technology for any more sophisticated assessment of creditworthiness than the information readily available from the depositary relationship, non-bank entities (such as Diners Club and American Express) were not able to compete in that market.²¹ Similarly, in countries where banks were not permitted to issue cards (Japan being the obvious example), the arrival of the credit card market was delayed by decades.²²

During the next three decades (from about 1965 to 1995), the revolving credit product became the dominant card product in North America and began to spread rapidly into many countries elsewhere. Two related institutional factors were central both to the success of the product in the United States and to the spread of the product to other countries. The first was the rise of national credit sharing bureaus, which gave lenders much more extensive information about potential cardholders – not only negative information about defaults and arrearages, but also positive information that helped lenders to make sophisticated determinations about the likely performance of potential cardholders.²³ Those bureaus came into being in the 1950's, shortly before credit cards first appeared in the American market.²⁴

Related to that development was the advent of computerized information processing – software products that allowed lenders to analyze credit information in increasingly sophisticated ways, culminating in the credit scoring products that dominate modern consumer credit underwriting. The rise of sophisticated information processing has altered the credit card market fundamentally. For one thing, it has made underwriting vastly more accurate. One recent Federal-Reserve researcher, for example, estimated that automated credit assessment through credit scoring reduced bank loan losses on consumer credit by \$5 *billion* per year.²⁵

More broadly, however, it has completely altered the competitive landscape of the issuing process. In a system where a depositary bank is the only entity that profitably can issue a credit card, there is little competition on the terms on which the card is to be issued: the cardholder will use the card if the terms on which his bank offers the card

²⁰ Mann 2002.

²¹ Simmons 1995; Friedman & Meehan 1992.

²² Mann 2002.

²³ Hunt 2002.

²⁴ Pagano & Jappelli 1993 (discussing the rise of credit bureaus without making any link to credit cards).

²⁵ Hunt 2002. That result is consistent with typical models of screening costs in the consumer credit industry, such as Khalil & Parigi 2001.

make it valuable for him to use the card. However, where a bank's ability to offer profitable card products depends on its information technology more than its depository relationships, *any* bank can compete for the customer's business. Thus, we see in the United States the rise of monoline banks – banks without substantial depository businesses that focus primarily on the credit card market. The competition that they bring to the card market is so pervasive that by the late 1990's more than 80% of active credit card accounts in the United States were with banks that do not have a depository relationship with the customer.²⁶

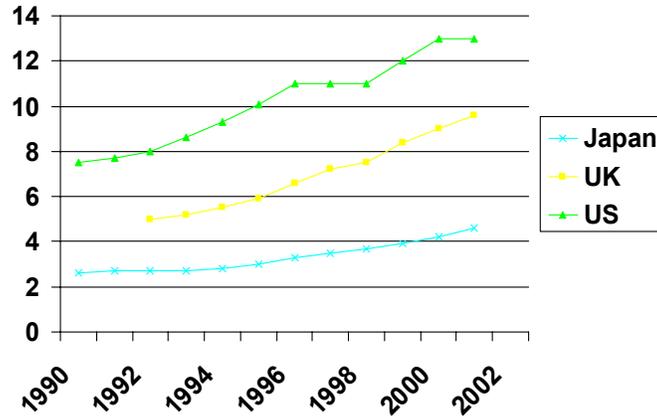
That understanding of the American market has profound implications for the rise of credit card markets in other countries, because many other countries have impediments that prevent their market from developing along that path. As mentioned above, Japan for decades prevented banks from being involved with revolving credit card products, which helped to stifle any substantial credit card market until the early 1990's when those restrictions began to be repealed. Japan is marked even to this day by a stunted revolving credit market. In Japan, every card is tied to a specific deposit account. When you purchase with a credit card, the system operates on the assumption that you will pay for the first transaction in the first billing cycle (“ikkai barai”). If you do not change that assumption, payment for your purchases will be debited from your account automatically once a month, in much the same way that we can arrange to have recurring payments taken automatically from our accounts. If you do not want to have payment for the purchase taken from your account in that way, you have to orally request a different payment plan, essentially advising the retail clerk and any customers who happen to be nearby that you do not plan to pay off your credit card bill the next month.²⁷ It is not surprising that the public assertion of borrowing required to take advantage of Japanese revolving credit has not been common.²⁸

²⁶ Evans & Schmalensee 1999. I have never used a credit card issued by a bank at which I had a deposit account.

²⁷ Another debilitating feature of Japanese revolving credit is that you must select from a menu of repayment schedules while at the counter. Typically, you could agree to pay for the transaction in 2, 3, 4, 5, or 10 months, or from your next annual bonus. Mann 2002. Although that menu is a long one, it does not provide the flexibility American cardholders have, to pay each month for whatever share of the transaction appears best at the time.

²⁸ Mann 2002.

Figure Four: Credit-Card Spending/GDP (Japan)



A more common obstacle relates to the information on which banks rely for accurate underwriting. The bank's use of that information is profoundly offensive to the privacy customs in most of the developed world – particularly mainland Europe. Thus, although the Fair Credit Reporting Act might be a high point in the largely ineffectual protections American law provides for personal data, that statute provides much less protection than the European Data Privacy Directive, to which all countries in the European Union are obligated to conform.²⁹ Under that Directive, the storage and transmission of identifiable credit information to third parties without the specific knowledge and consent of the customer would be plainly illegal.³⁰ Hence, in countries adhering to such a regime, it is not possible for a lender to obtain the kind of broad-ranging positive and negative information on which American-style credit scoring depends.³¹ If the absence of such information would have the negative effects on the profitability of the American industry that observers suggest,³² it is easy to see how great an obstacle the general absence of such information poses to the expansion of the credit card in those countries. Empirical work by European academics finds a strong causal connection: the inability of lenders to obtain both positive and negative information about

²⁹ Mann & Winn 2002.

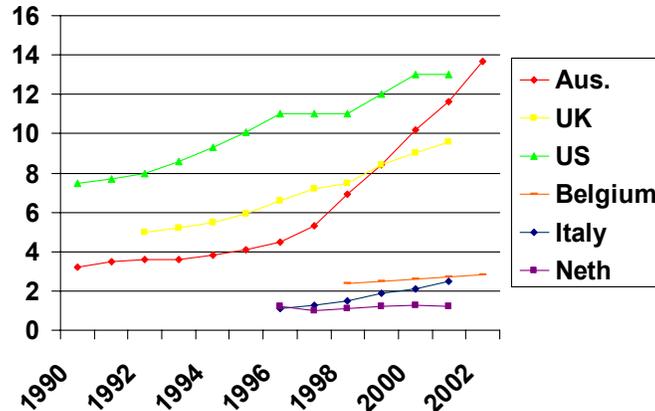
³⁰ Data Protection Directive arts. 7, 15. Those provisions are implemented into law in the UK in the Data Protection Act, §§ 4 (and Schedule 1), 11.

³¹ Jentzsch 2001.

³² Hunt 2002.

borrowers appears to correlate with smaller consumer lending markets.³³ Thus, except for the United Kingdom (which has developed a complex program to avoid this problem),³⁴ credit-card spending is quite low in the European Union.

Figure Five: Credit Card Spending/GDP (EU)



The issue has come to the fore in the EU in the last year, as proposed revisions to the European Consumer Credit Directive would make it all but impossible for monoline issuers to operate in Europe.³⁵ Among other things, that directive would require personalized counseling about the pros and cons of various lending products that is antithetical to the lean staffing traditional for a successful monoline bank.³⁶ As discussed

³³ Jappelli & Pagano 2000; Jappelli & Pagano 2000a; Jentzsch & Riestra 2003; Padilla & Pagano 1999.

³⁴ The ability of the UK to develop a substantial credit card market in the last few years rests on the UK's willingness to tolerate a complicated system that allows credit card issuers to work around the constraints of the Directive. Under that system, credit bureaus permit issuers to evaluate files of individuals stripped of identifying information. After the issuers determine which files reflect credit histories suitable for their marketing, the issuers can send solicitations to the individuals reflected in those files. Interview with Experian's Bureau in the UK.

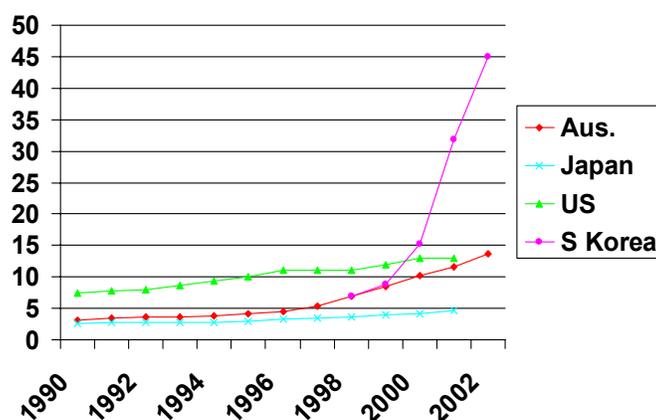
³⁵ Proposal for a Directive of the European Parliament and of the Council on the Harmonization of the Law, Regulations and Administrative Provisions of the Member States Concerning Credit for Consumers, COM (2002) 443 (Sept. 11, 2002).

³⁶ Among other things, Article 6.3 of the proposed Directive would require lenders to provide advice to customers about the proper product for the customer's particular use. That requirement would be burdensome for credit cards generally because of the difficulty of predicting at the time of the application how the card ultimately will be used. It would be

above, regulations that make it difficult for monoline issuers to operate are likely to have the inevitable effect of stifling innovation by limiting competition so that for most cardholders the only plausible issuer is the bank at which the cardholder maintains the primary deposit account. That is particularly important in the UK, where the advent of American monoline issuers in the late 1990's seems to be connected with the recent growth of credit card debt illustrated in **Figure Three**.³⁷

To illustrate the same point in a more somber way, consider the cautionary tale of South Korea. Issuers in that country recently have engaged in heavy marketing and issuance of revolving credit cards, despite the absence of the kind of credit-assessment system customary in the United States. At first, those efforts were successful, as shown by the rapid increase in credit card spending that Figure Six displays.

Figure Six: Credit Card Spending/GDP (South Korea)



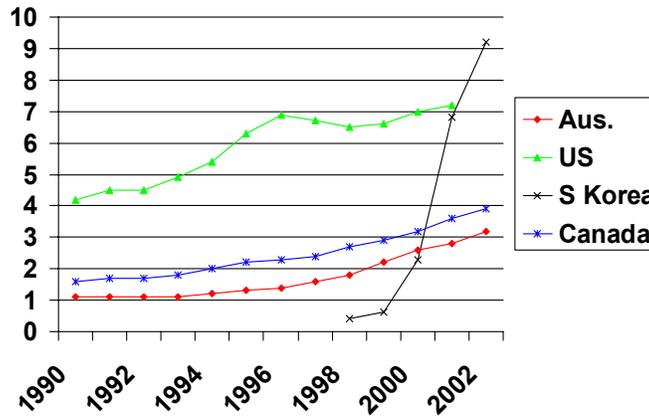
Those transactions also, however, led to an unnatural increase in the volume of credit card lending. The natural consequence of lending without appropriate information, unfortunately, is an unacceptable rate of defaults. In the case of South Korea, it led in 2003 to delinquencies by ten million cardholders (in a country with a population of less than 50 million). Those delinquencies eventually required a \$4 billion government

particularly difficult for monoline issuers that do not ordinarily maintain staff to engage in personalized discussions with each customer. For a general discussion from the perspective of the industry, see APACS, *The Proposed Consumer Credit Directive (Com (2002) 443) & Its Potential Consequences for the UK Credit Card Market* (Apr. 23, 2003).

³⁷ Interviews with British credit card executives.

bailout of the major credit card issuers. Only after the crisis have issuers had access to positive (“white”) data as a tool to assess the creditworthiness of potential cardholders.

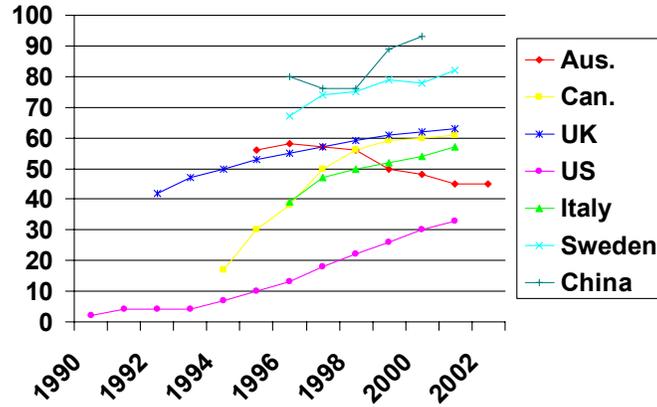
Figure Seven: Credit Card Debt/GDP (South Korea)



3. The Age of the Debit Card

Recognizing that it is difficult to speak with perspective about events that are so recent, the most prominent trend of the last ten years has been the rapid rise of the debit card, which threatens to eclipse the credit card in its dominance of the industry. As **Figure Eight** illustrates, the share of debit cards in all card transactions has risen significantly since the early 1990's in countries as different as the United States, Italy, Sweden, and China.

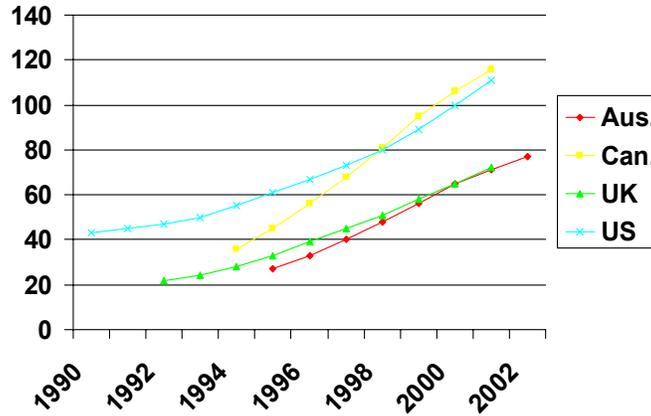
Figure Eight: Debit Card Transactions/Card Transactions



In some countries, that increase reflects the first major influx of card use. For example, in the UK, Australia, and Canada card transactions per capita rose from about 30 in the early 1990's to much larger numbers by the end of the decade (about 80 for the UK and Australia, and 120 for Canada). **Figure Nine.** Except for the case of Australia (which I discuss below), debit cards drove most of that growth. In countries in which the revolving credit model described above never succeeded, technological advances offered a separate route to a burgeoning card industry, leapfrogging the revolving credit stage. Here, the specific infrastructure development was the continuing decline in the cost of POS terminals, which has made it cost-effective in many countries for all but the smallest merchants to accept debit cards at the POS. The business case for the card in that situation – typified by England – was as a replacement for the check. Essentially, the debit card served as a convenient vehicle for fostering a switch from expensive paper-based transactions to cheaper electronic transactions.³⁸

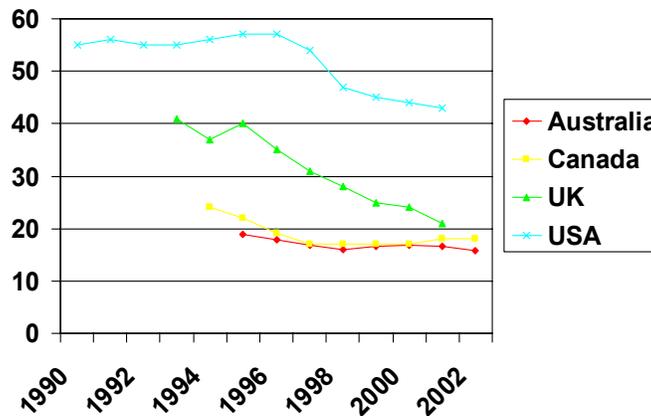
³⁸ Interviews with British credit card executives and regulators.

Figure Nine: Card Transactions Per Capita (Commonwealth)



Canada is the most notable example of that trend: card transactions in Canada have grown even more rapidly than in the United States, so that since 1998 there actually have been more card transactions per capita in Canada than in the United States. As a latecomer to those transactions, though, Canada has maintained a persistently low rate of borrowing in its credit card transactions. Thus, the overall ratio of card debt to card value is now about 20%, roughly half the rate in the United States. **Figure Ten**

Figure Ten: Credit Card Debt/ Card Value



Similarly in the UK, the ready technological availability of the debit card in the late 1990's came shortly after the wide deployment of the revolving credit card in the early 1990's. As a result, British credit card debt as a share of card transactions began to fall shortly after its appearance, with a result similar to Canada's: a ratio of card debt to card value of about 20% at the turn of the millennium.

Australia offers a slightly different example, because a disproportionately large share of its growth has come from credit card transactions, rather than debit card transactions. As shown in Figure Eight, Australia is perhaps the only country in the world in which the relative share of credit card transactions grew during the 1990's. Nevertheless, even in Australia, debit card transactions have grown rapidly, and the rate of borrowing on credit cards has fallen steadily, so that the absolute share of debt as a portion of total card value has fallen to about the same level in Australia as in the UK and Canada.

The rise in use of the debit card is somewhat harder to understand in the United States. In the United States, the debit card in many ways is inferior from the perspective of a hypothetical rational consumer. For one thing, the consumer must pay for the purchase immediately, without the flexibility and float that the revolving credit card provides. For another, the consumer is much less likely to receive affinity benefits. The marketing strategies of credit card issuers suggest that those benefits attract a significant number of consumers. Last, as discussed below, the consumer receives fewer legal protections for problems with debit transactions than it does for credit card transactions.³⁹

Still, it is easy to see strong reasons for the rise in use of the card. First, even in the United States, a significant part of the population does not have credit cards. Estimates vary, but about 25% of the adult population does not have a credit card.⁴⁰ For those individuals, debit cards are the only available payment card.

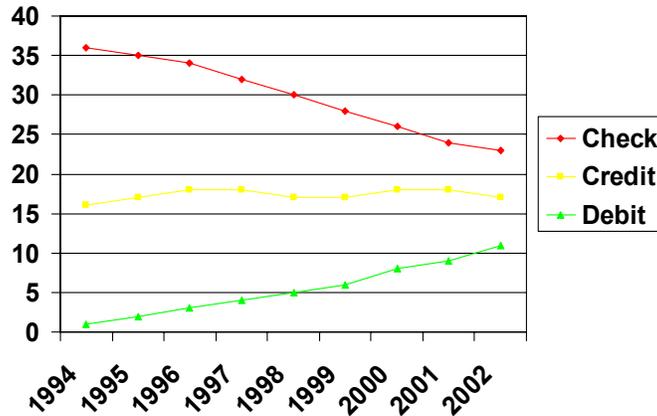
Another explanation looks more broadly at the payment systems market. From that perspective, the appropriate comparison is not between the credit card and the debit card, but between the debit card and the check. In function, the debit card is a close substitute for the check, allowing a purchaser to pay for goods by authorizing his bank to disburse funds from a deposit account directly to the merchant. The principal difference is that the customer makes the authorization electronically (with the card) rather than by paper (with a check). It is plausible to view the growth of debit cards in the United States not as a shift from credit cards, but rather as the growth of a new cards market by purchasers who are abandoning checks in favor of debit cards. That explanation is supported by statistics on retail use of payment systems. As Figure 11 shows, that data indicate that the use of credit cards has remained more or less constant at 16-18% of

³⁹ That is even more likely to be true outside the United States, where protections for debit cards are relatively uncommon.

⁴⁰ Demos

transactions since 1994. The growth of debit cards during that same period from about 1% to 11% has closely matched a fall of checks from 36% to 23%.⁴¹

Figure 11: Transactions Shares of Noncash Consumer Payment Systems (U.S.)



A more general explanation rests on standard types of quasi-rational behavior by cardholders. Most obviously, some cardholders might prefer to use a debit card because it provides a pre-commitment against spending in excess of a present income stream.⁴² Of course, a rational consumer could make the same purchases with a credit card and gain the additional financial benefits that come with that product in the United States market. Still, anecdotal evidence – primarily frequent conversations with debit card users among my students – suggests that a desire to avoid the temptation of borrowing is behind a significant part of the rise of the debit card in the United States. That story resonates strongly with the story about “budgetism” that Lendol Calder famously uses to explain the attractiveness of consumer credit in the first instance in this country.⁴³

The discussion above helps to explain the unusual failure of the debit card in Japan. Introduced with great fanfare in the spring of 2000, the product has not made any significant progress in the market: the most recent statistics indicate far less than one transaction per capita per year. Because Japan is a country in which cards are not used for borrowing, the failure of the debit card at first puzzled me. Eventually I concluded that it had failed for two reasons. First, unlike the UK and the Commonwealth countries

⁴¹ Nilson Report 799.

⁴² Thaler 1991.

⁴³ Calder 1999.

discussed above, there is no market impetus to promote debit cards to save the costs of checks; Japanese consumers do not use checks.⁴⁴ Nor is there any need to use the product to precommit against borrowing.⁴⁵ Japan's odd credit card already had filled the market niche for the debit card. The *ikkai barai* product discussed above provides automatic payment from the account for all but the most inveterate of consumer borrowers. That arrangement gives the precommitted cardholder enough support to refrain from borrowing. Thus, if the market niche for the debit card rests on a fear of borrowing coupled with a desire to precommit to avoid excessive borrowing, the existing Japanese products already fill the niche adequately. From that perspective, the Japanese debit card has failed because its marketers have failed to produce a business case that can persuade cardholders to switch to the card.

B. Marginal Explanations

1. Legal Protections for Users

In the numerous conversations I have had during recent years about precisely why credit and debit cards are so much more popular in some countries than they are in others, one of the most common suggestions is that consumers use those cards because of the legislative protections that governments give to the transactions. In the United States, for example, the Truth in Lending Act and the Electronic Funds Transfer Act provide protection for cardholders against unauthorized transactions on credit or debit cards.⁴⁶ The Truth in Lending Act goes even further for credit cards, also providing, among other things, a right to withhold payment that allows the cardholder, in appropriate circumstances, to present against the card issuer any defense that the cardholder had against the merchant from which the cardholder purchased the goods or services in question.⁴⁷ Thus, for example, if a cardholder purchases a book from an online bookseller and the book never arrives, the cardholder is not obligated to pay the credit card bill associated with that transaction; it is up to the issuer to recover from the bookseller.⁴⁸

Those protections are not unique to the United States. England⁴⁹ and Canada⁵⁰ have similar though somewhat narrower protections for credit cards. Japan has a

⁴⁴ Mann 2002.

⁴⁵ I discuss the second explanation at length in Mann 2002.

⁴⁶ TILA § 133; EFTA § 909.

⁴⁷ TILA § 170.

⁴⁸ Mann 2003.

⁴⁹ Section 75 of the Consumer Credit Act imposes liability on the issuer for defects in goods and services purchased with a credit card (parallel to TILA § 170 in the United States. Sections 83 and 84 limit the issuer's ability to charge the customer for unauthorized transactions (parallel to TILA § 133). Stephenson 1993.

somewhat similar, though even narrower, protection.⁵¹ None of those countries, however, has substantial protections for debit cards.⁵²

At first glance, the argument seems powerful, primarily because the United States has both one of the most generous consumer-protection statutes for credit cards and also one of the highest rates of credit card use in the world. A closer examination of the available evidence, however, makes it hard to put much weight on the consumer protection statutes as the cause of card use.

The first point is not an empirical one, but rather an argument from common understandings of the behavior of consumers. The most obvious difficulty with the argument that consumer-protection statutes are an important factor in the success of card-based payment systems is that the statutes can affect the behavior of consumers in a substantial way only if a complicated series of unlikely events come true. First, the statutes can motivate consumer behavior only if consumers are sufficiently familiar with them to understand the protections they afford. That seems most unlikely. Is it plausible, for example, that the average American consumer understands the difference in legal protections that arises from the use of a debit card rather than a credit card?⁵³

Second, even if consumers in fact do understand the protections that the statutes afford, those protections can motivate consumers only if consumers accurately weigh the risks against which those statutes protect them when they select a payment system. Common behavioral biases that limit rational consideration of uncommon unfortunate events suggest that for many consumers those problems will not be given due weight.⁵⁴

Third, even if consumers do understand the statutes and do give due rational weight to them, in many cases the protections would not affect their use of the card. Protections against unauthorized transactions, for example, should not be particularly useful in motivating card use if the use is one that is not likely to affect result in unauthorized transactions. For example, why would protections against unauthorized

⁵⁰ Canada limits liability for \$50 for unauthorized transactions that occur before notification of the creditor, but does not protect telephone-order or Internet transactions at all. Cost of Borrowing Regulations § 12; Geva 2003.

⁵¹ Japan has a limited protection against unauthorized transactions (parallel to TILA § 133) in Article 30 of the Installment Sales Law [Kappu hanbaihō], Law No. 159 of 1961. That law, however, only applies to *kappu* transactions; it excludes the overwhelming majority of transactions that are accomplished through *ikkai barai*. Mann 2002.

⁵² Voluntary codes among banks in Australia, Canada, and the United Kingdom provides protection for unauthorized debit card transactions where the cardholder is not negligent, but assign responsibility to negligent cardholders. Geva 2003; Stephenson 1993.

⁵³ This problem has gotten much more serious as multiple credit and debit functions have begun to reside on a single card and as terminals progressively have lost the ability to accurately interpret those functions. I address those problems in Mann 2004 and Mann 2004a.

⁵⁴ Thaler 1991.

credit card use motivate cardholders to use their card in an ordinary face-to-face transaction? Perhaps, you could say, the statute allows the cardholder to overcome the fear that the shopkeeper might be stealing the card number. For example, the handheld wireless payment terminals common in Europe apparently are designed to assuage the concerns of cardholders that a waiter might write down the cardholder's card number if the waiter took the card out of the cardholder's sight. It is difficult to believe, however, that a concern about that problem is driving the use of cards generally.

Those commonsense understandings are buttressed by the available empirical evidence about use of cards, which does not seem to be influenced in any obvious way by the extent of legal protections. For example, the statutory protections for credit card transactions in the United Kingdom and Canada are relatively similar, while Australia has no similar protections. Yet, the rates of credit card usage per capita (shown in Figure One) are almost twice as high in Australia and Canada as they are in the United Kingdom. Similarly, rates of credit card usage have increased significantly over the last ten years in many countries, but none of those countries recently has strengthened the statutory protections for credit cards in any cognizable way.

Finally, and most importantly, the facts of debit card usage are profoundly inconsistent with the legal-support hypothesis. The United States has by far the most effective consumer protections for debit cards. Yet as Figure Two shows, debit cards in the United States have an unusually low share of all card transactions, lower than their share in countries like Canada, and the United Kingdom, both of which have much more favorable protections for credit card transactions than they do for debit card transactions.⁵⁵

I do not intend to suggest that legal rules are irrelevant. The evidence discussed above is entirely consistent with the premise that legal rules have some effect on credit card usage. I merely suggest that the effect of the legal rules appears to be so small that differences in legal rules do not account for any substantial part of the differing rates of credit card usage.

2. *Cultural Norms of Usage*

Another common topic in conversations about differing rates of credit card usage is differing cultural norms. Some of those norms plainly are important in explaining card usage in particular places. For example, I am completely persuaded by the suggestion that Islamic rules that forbid the payment of interest have stifled the development of credit in countries like Saudi Arabia.⁵⁶

It is more difficult, however, to develop compelling stories of norms that have general explanatory power. To illustrate that problem, this section considers the two most common cultural arguments that I have encountered in my research. First, it is

⁵⁵ See *supra* note 52.

⁵⁶ Euromonitor 2002.

often asserted that particular countries have such a strong cultural disapproval of borrowing that the revolving credit available on a credit card is not an attractive product. I encountered this “frugality” hypothesis myself while studying the Japanese card market.⁵⁷ It is not, however, limited to that market; observers also attribute low rates of card use in southern Europe to a similar norm.⁵⁸ Under this view, the general rise of credit cards can be attributed to the gradual assimilation of a global norm that includes the prodigality characteristic of American society. The other potential norm is a propensity to use cash that some link to comparatively safe urban environments. This “fear-of-crime” hypothesis is advanced to explain why cardholders in Japan use cards relatively little in their safe urban environments, while cards are used much more commonly in the relatively unsafe United States.⁵⁹ It is even argued that recent growth of cards in Latin America can be explained by the lack of safety in some Latin American countries.⁶⁰

(a) Frugality

From my perspective, the basic problem with the frugality hypothesis is that it rests on a parochial view that cultural resistance to consumer borrowing is an artifact of any particular culture. The stories I heard in Japan about disapproving ancestors sounded very similar to me to the explanations my grandmother offered to me when I was younger as to why it was always bad to borrow money. The large role of consumer credit in most developed countries suggests to me an alternative explanation, that a substantial amount of consumer credit is a natural attribute of a fully developed economy, and that only some substantial institutional obstacle will prevent that market from developing.⁶¹ To illustrate that point, Table One shows the ratio of consumer credit to GDP for 2000 for 19 countries.

⁵⁷ Mann 2002.

⁵⁸ Euromonitor 2002.

⁵⁹ Mann 2002.

⁶⁰ Euromonitor 2002.

⁶¹ Rajan & Zingales 2003.

Table One: Consumer Credit/GDP⁶²

COUNTRY	CONS. CREDIT/GDP (%)
Canada	17.8
USA	16.4
UK	15.9
Singapore	15.1
Japan	14.4
France	12.0
South Korea	11.7
Australia	11.6
Netherlands	10.4
Hong Kong	9.1
Taiwan	8.0
Germany	7.0
Belgium	4.8
Brazil	4.7
Italy	3.9
Spain	3.5
Argentina	3.3
India	2.1
Mexico	0.5

Several things about that table chart are illuminating. First, with respect to the idea that credit cards are necessary for a high level of consumer credit, consider two countries that have similar cultures, but strikingly different levels of credit card usage: the United States at the high end with more than 70 transactions per capita per year and the UK at the low range with around 20 transactions per year. Both the United States and the UK are near the top of the consumer credit chart, both with over 15%. Similarly, with respect to the idea that cultural differences might be driving rates of borrowing, notice how the continental EU countries (most of which have very low rates of credit card use) are scattered throughout the distribution, from Spain and Italy at the bottom through Belgium and Germany in the midrange, to the Netherlands and France near the top.

What I see of importance in the chart, however, is that lesser developed countries are likely to have a lower level of consumer credit: the three lowest countries are Mexico, India, and Argentina, doubtless the three least developed countries in that dataset). To get a sense for what the chart says about more fully developed countries, consider the

⁶² Based on data from Morgan Stanley.

example of Japan, which appears near the top of the chart despite a low rate of credit card borrowing. The answer for Japan in my view is that the policy limitations in Japan that have limited credit card borrowing have resulted in a shift of the consumer credit market (at least as compared to other countries) to less savory non-bank lenders such as *sarakin* and *yenya*. Those lenders are considerably more likely to rely on extra-legal means of enforcing their loans than the banks that have been prevented from developing a credit card market. In the end, the consumer credit market is about the same size as in other developed countries. It is just less hospitable to the borrowers that use it.

Of course, the suggestion that consumer credit is more common in countries at an advanced stage of development is not inconsistent with the view that consumer borrowing has risen as the frugality characteristic of countries in a natural state is overcome by the norm of American prodigality that accompanies globalization. If credit card use has risen generally throughout the world, perhaps the reason is that the pressures of globalization⁶³ during the last decade have contributed to the development of a single homogenized culture, of which credit card usage is a significant part. For example, my studies in both Japan and the United Kingdom make it clear that the leading marketers of modern revolving credit cards are either American companies or businesses that consciously adopt the business practices of American companies.⁶⁴

One problem with the globalization hypothesis is that the data discussed at the beginning of this part do not seem to indicate a convergence toward United States practices. On most of the metrics illustrated in the tables above, the United States is an outlier, not a trendsetter. That evidence buttresses the historical explanation provided above, which suggests that the situation of the United States depends on attributes of its history that other countries do not share. If that explanation is correct, then there is little reason to believe that other countries will end up with same patterns of usage as the United States. Thus, although the spread of American cultural norms may support the growth of the credit card to some degree, there is plenty of room for variation that speeds or retards the rate of growth.

The conflicting intuitions about the data suggested an empirical test to assess whether the factor that relates to a high level of consumer credit is a high level of economic development or assimilation of global culture. Accordingly, I regressed the data above related to consumer credit against indicators of economic development and globalization. For economic development, I used the level of GDP/capita. For globalization, I used the globalization index published periodically by *Foreign Policy*.⁶⁵ When those metrics were analyzed separately, each was significantly related to the level

⁶³ For a general account of those pressures, see Friedman 1999.

⁶⁴ Mann 2002.

⁶⁵ That index combines normalized data on a variety of things, including trade, foreign investment, personal contact (through tourism and international travel), international telephone traffic, and cross-border remittances. *See How the Index is Calculated, available at http://www.foreignpolicy.com/issue_janfeb_2003/gindexsidebar.html* (last visited Dec. 2, 2003).

of consumer credit as a share of GDP.⁶⁶ When I combined both metrics in an OLS regression, however, the globalization index lost its significance. Thus, only the level of economic development retained any independent explanatory value.⁶⁷ Although the evidence of course is rough, and limited to a small number of countries, it does support the view that the institutional infrastructure associated with economic development is more likely to explain the level of consumer credit than the decline of cultural aversion to borrowing.

(b) Fear of Crime

The other major cultural hypothesis is the fear-of-crime hypothesis, the idea that card use is less common in countries where public places are sufficiently safe to make ordinary people feel secure in carrying large amounts of cash. Although there may be something to that hypothesis, it is difficult to believe that it is a major determinant of variations in card usage.

Several things make it difficult to test that thesis directly. First, because the thesis relies on a perception of crime that makes individuals reluctant to carry cash, hard statistical evidence about the frequency of crime cannot respond directly to the thesis. Recent research by Sara Sun Beale underscores that point, showing that perceptions of crime and safety are in major part constructed by the media without regard to the reality of the underlying problems.⁶⁸

Second, it is difficult to disentangle that thesis from related cultural norms about cash. For example, one reason people might pay with cash in some countries and credit cards in others is the status significance the payment has. In the United States, for example, credit card issuers have succeeded in creating a norm, perhaps less powerful than it once was, that payment with a credit card can be a sign of status, especially if the payment is made with a card of a particular color: gold, then platinum, and soon some rare earth like yttrium I would expect. A payment of \$1000 for a restaurant bill in the United States surely would appear suspicious, if not incriminating evidence of money laundering. In other countries – Japan being the obvious case – payments with cash carry a similar status. My time in Japan suggests that there clearly is an element of status in the ability to disburse large sums of cash to pay for such transactions. It may be that the duration of such a cash status norm in Japan has links to the relatively large role in the Japanese economy of underreporting of income and the relative significance of organized crime in Japan.⁶⁹ Anecdotal evidence in some sources suggests that a similar pattern might explain the duration of the use of cash – and the related slow uptake of credit cards

⁶⁶ Each was significant at the 1% level.

⁶⁷ In the multiple regression, GDP per capita was significant at the 5% level. The adjusted R-squared of the model was 43%. For further details, refer to the Statistical Appendix.

⁶⁸ Beale 1997; Beale 2001

⁶⁹ Milhaupt & West 2000

– in Italy.⁷⁰ For whatever reason, however, while that norm persists it is difficult to separate its effects on card usage from the effects of crime.

Finally, the data available to compare crime rates in different countries are problematic in a number of ways. First, they typically rely on police reports and thus inevitably understate the true amount of crime. Thus, if the amount by which crime is understated differs by country, then comparisons may be inaccurate.⁷¹ Second, because the data depend on reports of local enforcement activity, they are based on local definitions of the various crimes. Those definitions are likely to differ substantially from country to country.⁷² Finally, it is not clear which types of crimes would be most likely to support or undermine the insecurity thesis, because it is not clear what particular crimes foster the feeling of insecurity that might make the consumer reluctant to carry cash. On the one hand, property crimes would seem to relate most closely to the actual risk created by carrying cash. On the other hand, violent crimes like murder are more likely to be publicized in a way that would cause consumers to become insecure about their overall safety.

With those caveats in mind, it is still instructive to look at the available data, if only because data relevant to the thesis are available. To that end, I collected data from Interpol about crimes in five countries where I also have a substantial time series of data about credit card spending (Japan, Australia, Canada, the UK, and the United States). I used two different indices of crime: the total number of crimes/capita reported to Interpol and the number of murders reported to Interpol. One problem with the Interpol data on total crimes is that other scholars who have examined the data have confirmed that the differential underreporting problem discussed above is particularly serious for this data.⁷³ The data on murders perhaps are not subject to that problem, but the crime of murder is not a particularly ideal predictor for the crimes that would cause a person to be wary of carrying cash. Overall, however, it may be a useful proxy for the hypothesis in question.

The results of the analysis are inconclusive. As I expected, there is no correlation between the number of total crimes and credit card spending. Given the problems of data collection discussed above, that result is not remarkable. However, an initial analysis of the murder data suggests a positive correlation between murders and credit card spending.⁷⁴ For several reasons, however, the data do not suggest a causal link between murders and credit card spending. For one thing, the data suggested a significant negative relationship for the United States and Canada, contrary to the positive

⁷⁰ Euromonitor

⁷¹ GLOBAL REPORT ON CRIME AND JUSTICE (noting that problem).

⁷² GLOBAL REPORT ON CRIME AND JUSTICE (noting that problem).

⁷³ GLOBAL REPORT ON CRIME AND JUSTICE (noting that problem).

⁷⁴ This was analyzed with a regression with robust standard errors to control for autocorrelation in the time-series data. The relation was significant at the 5% level, with an R-squared of 36%. The Statistical Appendix includes details.

relationship for the data as a whole. For another, a correlation of the changes of the variables from year to year with a one-year lag – testing whether credit card spending would rise or fall one year after changes in the murder rate suggested that the relation was essentially random.⁷⁵ In sum, although the data cannot conclusively disprove the crime hypothesis, they certainly provide little support for it.

* * * * *

To be clear, I do not mean to suggest that cultural norms are unimportant. More contextualized studies doubtless would reveal a number of cultural practices as powerful as the Islamic aversion to borrowing. I am skeptical, however, that cultural practices can provide sufficiently powerful generalizations to be useful in explaining the major currents of variation and development.

3. *Miscellaneous Institutional Precursors*

Finally, I address three miscellaneous institutional precursors: merchant size, economies of scale, and telecommunications costs. Although each of these is likely to affect in some degree to the success of a cards network, they seem unlikely to be of sufficient importance to drive the big picture of the success or failure of cards in a large number of countries.

The first of these is merchant size. I previously suggested that merchant size might be relevant based solely on the correlation that Japan generally has smaller merchants than the United States and also lower credit card acceptance.⁷⁶ That would make sense as an explanatory factor if there were high fixed costs in merchant acceptance of the card. The larger the merchant, the more readily profits from potential card transactions might persuade the merchant to join the network. The more merchants in the network, of course, the more successful the network. I do not think, however, that those costs are high enough to limit merchant acceptance. Essentially, the fixed costs are the costs incurred in buying the terminal. Those costs are at most only a few hundred dollars. The fixed costs likely would be exceeded by the profits associated with accepting credit cards for all but the smallest merchants in any market in which cards are widely used. Thus, I attribute the limited card acceptance in Japan not to the relatively small size of merchants, but rather to the limited value of accepting cards, driven by the relatively small value cards provide cardholders in that country.

I also suggested that economies of scale in the size of the country's card market might explain the failure of Japan's card market to grow more rapidly.⁷⁷ Again, that

⁷⁵ The t-statistic was -0.71 and $P > |t|$ was 0.514. The Statistical Appendix includes details.

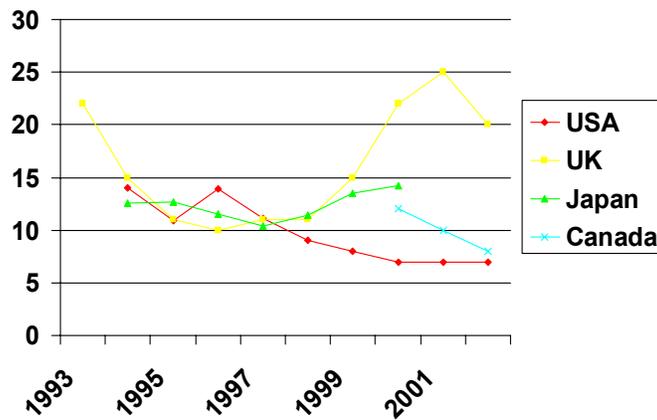
⁷⁶ Mann 2002. That is largely an artifact of specific Japanese regulation of large retail stores, as I discuss there.

⁷⁷ Mann 2002.

concern seems to have been overstated, largely because of the absence of any fixed costs that would make market size crucial to entry. Moreover, particularly at this late date, the business model for implementing a successful payment card is obvious, so there is little in the way of country-specific planning to be done to introduce cards to a new market that is any different from the marketing a new issuer does in trying to enter an existing market.

Third, telecommunications costs seem unlikely to be of crucial structural importance. Telecommunication costs are likely to be related to fraud, because high telecommunication costs make it more expensive to do online transactions. When transactions are authorized online, a real-time verification of the transaction by the issuer's computer lessens the risk of fraud. But the costs of fraud are too small compared to interchange costs to be a likely cause of credit card success as a whole (however likely they might be to explain competition among different card products). For example, as Figure Twelve illustrates, even relatively high fraud levels recently experienced in the UK and Japan have remained below 0.25 percent. For comparison purposes, the interchange rates in Japan are about one percentage point above those in the United States.⁷⁸ The interchange rates in the United States, in turn, are about one percentage point above those in the United Kingdom.⁷⁹ Given those much larger interchange-related cost differentials, it seems unlikely that telecommunication costs that might contribute to high fraud losses are contributing in a major way to the success or failure of the system.

Figure 12: Credit Card Fraud



⁷⁸ Mann 2002.

⁷⁹ Interviews with UK industry executives (describing UK credit-card interchange rates in the range of one percent).

III. CREDIT CARDS AND PRODIGALITY

A. The Problem of Prodigality

It is one thing to know that credit and debit cards are used differently in different countries. It is another to have some sense of why those differences arise. Once those questions have been examined, it is natural to inquire what effects credit and debit cards have on broader aspects of the economy. Those questions are difficult because of the immense number of variables that affect national and global economic performance in ways that also might affect the use of credit and debit cards. Still, it is useful to look at the available data to determine the extent to which they support or undermine concerns about credit card usage.

Because of the credit function, credit cards potentially have effects on consumers and the economy as a whole beyond their role as a payment device. Credit card lending is beneficial to the economy if it substitutes for lending that is less effective or more expensive. Credit card lending also potentially benefits the economy if lower costs facilitate the use of credit for value-increasing transactions. Because the transaction costs for credit card lending are so much lower than they are for competing forms of lending to small businesses⁸⁰ and individuals, those effects are important. To put the point more generally, a robust consumer credit market can substantially increase consumer welfare and contribute to overall economic growth. It was not *entirely* insane for the South Korean government to conclude several years ago that it could increase the growth of its economy by fostering the increased consumer spending that would come from more ready availability of consumer credit.⁸¹

On the other hand, credit card lending might adversely affect the economy in several ways. The most problematic is that it might cause excessively prodigal spending patterns that ultimately lead to financial distress.⁸² Specifically, the concern is that the credit card might be *too* convenient: by making borrowing so convenient that borrowers do not give adequate concern to the risks of a borrowing transaction, a credit card might have a unique⁸³ ability to foster prodigal behavior.

⁸⁰ Mann 1997

⁸¹ Cards International South Korea Country Report

⁸² Another possibility is that excessive credit card spending or debt might adversely affect the savings rate. Regressions of my data on that question were not conclusive. Those regressions did produce a negative coefficient – suggesting that the rate of savings does decline with increases in credit card spending per capita – but the relation explained little of the variation in rates of savings (8%) and the findings were not statistically significant even at a 10% level. Details appear in the Statistical Appendix.

⁸³ The idea that this is “unique” might be a slight exaggeration. Sullivan, Warren & Westbrook suggest that the rise of second home mortgages might lead to similar problems by tying up an excessive portion of future income streams. Sullivan, Warren & Westbrook 2000;

Prodigal spending, in turn, plausibly might lead to an increase in financial distress. The intuition is that credit cards might increase the size of the group of people who have put themselves in a position where the family unit is unable to withstand some material adverse change of circumstances – a loss of employment, medical crisis, or the like.⁸⁴ This could be attributable to several features of credit card borrowing that make it categorically more convenient and less reflective than conventional borrowing. Among other things, the extension of the line of credit is separated from the occasion for borrowing. Thus, the credit card is issued at one time, based on a statistical assessment of the cardholder's ability to repay that provides adequate protection to the lender's interest in repayment of future loans. The borrowing, however, takes place later, when even the minimal formalities of signing the original credit card application are long in the past.⁸⁵

The product's tendency to minimize present-day awareness of the borrowing is underscored by low minimum payment amounts. Because the monthly payment amounts associated with initial purchases are so low, some consumers might fail to appreciate the future significance of the aggregate amount of credit that has been extended. Human nature suggests that undue use of credit might arise when we couple the elimination of a focusing event like a loan closing with the tendency to underestimate the true costs of adverse future events of low probability.⁸⁶ The experience of Japan is illustrative, where credit card borrowing appears to be stifled in significant part by a practice requiring the borrower to state an oral intention to borrow to use a revolving credit feature of a credit card.⁸⁷ Similarly, if Calder is right in thinking that beneficial effects of installment credit arise from the constraining effect of fixed installment payments, the credit card model's departure from that practice arguably undermines its normative attractiveness.⁸⁸

If this concern is true, credit card borrowing is not just a convenient part of consumer credit; it is a uniquely troublesome piece of the consumer credit puzzle because it reflects a type of borrowing that is uniquely likely to contribute to an increase in the risk of financial distress. Assessing the policy implications of that problem is difficult because of the different perspectives from which the problem can be seen. For example, a straightforward normative perspective might condemn any increase of financial distress attendant on credit cards solely because of the human pain and suffering that comes with financial distress. My goal here is to take a more narrowly economic perspective. From

Warren & Tyagi 2003. Underscoring that possibility, data presented in Demos (2003):11 indicate that between 1998 and 2001 a large amount of credit card debt was transferred to home equity loans. Hence, reductions in credit card receivables attributable to those transactions do not reflect ability to repay the debt, simply a transfer of the debt to a different lender.

⁸⁴ Warren & Tyagi 2003.

⁸⁵ Sullivan, Warren & Westbrook 2000.

⁸⁶ Thaler 1991.

⁸⁷ Mann 2002.

⁸⁸ Calder 1999.

that perspective, the problem is that financial distress generates substantial external costs for the economy, costs that are not borne entirely by the lenders whose debts are not repaid or by the borrowers that fail to repay them.⁸⁹ It may be that a system for dealing with consumer bankruptcy can mitigate those costs. By lowering the costs of financial distress, bankruptcy systems can foster a variety of activities – including small-business formation⁹⁰ – that are crucial to innovation and economic development as a whole.⁹¹ But bankruptcy systems do not eradicate the costs of financial distress, they only lessen them.⁹²

One of the biggest problems in analyzing the role of credit cards is the difficulty in obtaining data that captures the key concern – the possibility that credit cards foster a prodigal impulse that leads to financial distress. For example, it is easy to obtain data about delinquency rates on credit card accounts and to show that those rates correlate with consumer bankruptcy filings.⁹³ That is hardly surprising. I expect that careful analysis would confirm that delinquency rates on automobile loans and home mortgages also correlate highly with consumer bankruptcy filings.⁹⁴ But the causal link is highly debatable. It is at least as likely that the same economic conditions that lead to consumer bankruptcies also lead to credit card delinquencies as it is that delinquencies on credit cards *cause* consumer bankruptcies.

As the previous part suggests, it is possible to obtain aggregate data about credit card spending and credit card debt from various countries. That evidence, however, cannot provide direct evidence about the dimensions of that problem. Different economies could have the same aggregate amount of credit card spending and debt. If it were distributed in a less responsible (more regressive) way, it would put more people at risk, and thus have a larger effect on bankruptcy rates. Conversely, if the spending and debt appears in a more responsible (more progressive) pattern, the same amount of

⁸⁹ Little Dorrit

⁹⁰ Efrat 2002; Efrat 2002a.

⁹¹ Rajan & Zingales 2003.

⁹² In addition, there is the possibility that bankruptcy systems create costs of their own, principally by lowering the supply of credit. The most prominent of the inconclusive empirical literature attempting to demonstrate such an effect includes Grant 2001, White 2002 (both arguing that lenders supply less credit in states with high bankruptcy exemptions). There also is a body of empirical literature arguing that the costs of bankruptcy are increasing in size, as the “stigma” of bankruptcy filing declines. Gross & Souleles (1998). To the extent data is relevant to that claim, data showing that the economic position of consumer bankrupts in this country has been worsening over the last decade strongly undermines the claim that the stigma of bankruptcy has been declining. Warren & Tyagi 2003. In any event, the plausibility of that literature is beyond the scope of this project, which rests on the commonsense premise that financial distress for consumers is costly to the economy.

⁹³ Ausubel 1997; Stavins 2000.

⁹⁴ Lawless 2002, for example, suggests that total nonfarm mortgage debt correlates highly with consumer bankruptcy filings.

spending and debt might have no significant effect on bankruptcy rates. To look at it from the familial perspective, the problem is worse when the aggregate amount of credit card debt is concentrated on a smaller number of families that have borrowed to the brink than it is when it is spread more uniformly across a large number of families in more manageable amounts.

Another difficulty with relying on aggregate data to assess the conditions of individual family units is the large variation in the circumstances and behaviors of individual family units. For example, we know that a large number of families have *both* substantial amounts of liquid assets *and* substantial amounts of credit card debts.⁹⁵ Thus, it is not fair to assume that substantial credit card debt always indicates exposure to financial distress. It also is clear that the rate of adverse impact from credit card spending and debt might shift over time if (as seems to be true in the United States) the pool of credit card users becomes more risky as the market matures.⁹⁶

The basic difficulty is that it is not easy to use aggregate data on credit-card debt to separate out the specific reasons that people might have large amounts of that debt. To understand the problem in an anecdotal way, consider a number of different narratives that might explain the existing data indicating that people in bankruptcy are likely to have more credit card debt than people not in bankruptcy.⁹⁷ Because the different ways in which people might have incurred the debt have differing degrees of relevance to my thesis, the difficulty of disentangling them renders it difficult to resolve the problem through analysis of data.

For example, some people irresponsibly have spent themselves directly into bankruptcy, with credit cards being the vehicle. That conduct might be condemnable as a moral matter, but many would think that it would be inappropriate to “blame” the credit cards rather than the borrower. Nor is it caused in any significant degree by the borrower’s failure to appreciate consequences of borrowing; the behavior suggests a calculated indifference to consequences. The available data, however, suggests that those cases are not a major part of consumer bankruptcies, at least in this country.⁹⁸

Another group of bankruptcy cases will be associated with a catastrophic family crisis such as a divorce, loss of job, or medical event. Data from the Consumer Bankruptcy Project, for example, indicates that one of those three events is present in 87% of bankruptcies involving families with children.⁹⁹ Evidence of credit card borrowing in the files of those cases cuts in two directions. First, high credit card

⁹⁵ For efforts to explain that problem, see Gross & Souleles 2000; Bertaut & Haliassos 2002; Haliassos & Reiter 2003.

⁹⁶ Black & Morgan 1999.

⁹⁷ Sullivan, Warren & Westbrook 2000.

⁹⁸ Sullivan, Warren & Westbrook 1989; Sullivan, Warren & Westbrook 2000; Warren & Tyagi 2003; Sullivan, Warren & Westbrook 2003:281.

⁹⁹ Warren & Tyagi 2003; Jacoby, Sullivan & Warren 2001.

borrowing might reflect rational *post-crisis* borrowing as a response to the tragedy. For those families – and even more for the families that resembled them but managed to avoid bankruptcy – the special features of credit card borrowing might have eased the difficulty. After all, a rational lender faced with a loan application *after* the crisis has come might have declined to extend the credit that the family can obtain so easily from the existing credit cards. Moreover, there doubtless is a large group of families similar to those, who engage in heavy crisis-related credit-card borrowing but manage to turn things around and avoid bankruptcy. For those families, the credit card can be the lifeline by which they pull themselves out of distress. That borrowing is not profligate in its failure to consider the future. It is a reasoned reaction to an adverse situation.

Another group of cases involves people who have used credit cards to borrow enough to put themselves in an unstable position, which left them unable to withstand a catastrophic event that they otherwise could have weathered.¹⁰⁰ Those cases are an example of the specific problem that is relevant to my thesis. When a family borrows to the hilt, it does not have any discretionary cash flow available to apply to respond to the adverse event. Moreover, because by hypothesis the family already has used the credit that a prudent lender would have extended to it while times were good, it will be difficult to obtain additional credit to respond to adversity. Although the line between those cases and the cases of pure recklessness will depend on the perspective of the observer, the data suggest that a large number of cases will fall here. Those cases are important, because it is much more plausible from the outside to view the credit cards as a significant part of the problem.

The aggregate data may be imperfect tools for examining the question, but they clearly are the best tools available. The only way to examine that question directly would be to examine a dataset with detailed information about the financial position of individual family units. Unfortunately, to my knowledge, no such dataset exists for any country outside the United States. Moreover, even the data available from the United States is problematic for several reasons. First, if the unique circumstances of the United States discussed in Part I of this paper make the relation between credit card spending and consumer bankruptcy in the United States unrepresentative, the United States evidence will be of little value in assessing how credit cards work generally as opposed to how they work here.

Moreover, the data from the United States – data from the Survey of Consumer Finances – is not particularly valuable for the questions I have posed. That data is derived from consumer responses to questionnaires about the financing position of their family. Accordingly, it is by definition quite imprecise, and is likely to be particularly inaccurate for the families in which I am most interested – those that are on the borders of financial distress because of an inadequate ability to understand the significance of the amounts that they are spending and borrowing.¹⁰¹ Unfortunately, what little we do know

¹⁰⁰ Warren & Tyagi 2003.

¹⁰¹ Having said that, scholars have examined that data to develop explanations for the causes of bankruptcy. *E.g.*, Domowitz & Sartain (1999) (finding that families with high credit

about that data makes it clear that those families do understate their prodigality. For example, Warren & Tyagi report that a sample from the Survey of Consumer Finances understates the expected rates of personal bankruptcy by about 50%.¹⁰² Similarly, a careful analysis by *Demos* of growth in American credit-card usage during the 1990's notes that data from the Survey of Consumer Finances appear to understate credit-card receivables by about 25%.¹⁰³ Given those large disparities between the self-reported data and data collected directly, the most productive approach is to examine data about aggregate national patterns of borrowing and bankruptcy.

B. The Relation Between Credit Card Debt and Bankruptcy

Acting with the trepidation appropriate in light of that relatively pessimistic introduction, I compiled a dataset of aggregate nation-level data on credit card spending, credit card debt, and overall consumer debt. The inquiry had two major purposes. The first was to separate the specific causal links of credit card use and general consumer borrowing, to assess the plausibility of the claim that there is a unique problem with credit card debt. The second was more general, to see how those causal links hold up on a broader basis, by looking at data outside the United States. If there is nothing to the prodigality hypothesis – if all debt is equally likely to foster prodigality – then a carefully constructed statistical model that includes both overall consumer credit and variables for credit card use would indicate that credit cards have no separate effect on the likelihood of bankruptcy. More colloquially, the data would disprove my hypothesis if the data indicate that bankruptcy rates would remain the same at a specific level of overall consumer borrowing even in the face of increases or declines in the specific amount of credit-card debt included in that aggregate consumer borrowing. On the other hand, if credit cards foster prodigality, then we should see a positive relation between credit card debt and consumer bankruptcy filings, even if consumer credit is held constant.

The statistical analysis is complicated, because we know from some existing work¹⁰⁴ that both credit card debt and consumer credit in this country correlate quite well

card and medical debts are overrepresented in bankruptcy). That kind of data, however, can tell us little about the earlier stages of the process of prodigality – the slippage from credit card spending to excessive credit card debt. One paper that makes interesting use of that data is Lupton & Stafford (2000) (suggesting that a specific portion of the sample becomes increasingly mired in credit card debt as it grows older).

¹⁰² Warren & Tyagi 2003.

¹⁰³ *Demos* 2003:10.

¹⁰⁴ Ellis 1998; Lawless 2002; Warren 1998. Mester 2002 suggests a strong correlation with the debt-service burden. Zywicki 2003 argues that there is a poor correlation with debt burden, which to him suggests that household financial difficulties are not related to bankruptcy filings. Based on the discussion in Lawless 2002 I doubt the reliability of the Federal Reserve data on that point. {Zywicki notes Lawless's concern but does not rebut it.} Moreover, I cannot obtain such data from any of the other countries that I have been examining. In any event, debt-service burden for my purposes would really be a proxy for consumer credit, because it would

with bankruptcy rates.¹⁰⁵ However, none of the existing studies has attempted to disentangle those relationships with statistical care.¹⁰⁶ In addition, except for a few comments about Canada not amplified by quantitative analysis,¹⁰⁷ to my knowledge none of the literature has considered whether similar or different correlations might hold true in other countries. Accordingly, I have examined those relationships not only for the United States, but also for the other three countries for which I have been able to collect a time series of data on consumer bankruptcy and those three variables: the United Kingdom, Canada, and Australia.

As with most of the data analyzed in this project, there are great difficulties in constructing a useful data set. For one thing, it is quite difficult – even in this country – to obtain meaningful data about credit card use. There are no official government statistics about credit card use and borrowing in this country.¹⁰⁸ I rely entirely on proprietary industry sources such as the Nilson Report. For other countries, a protracted effort assisted by the intense labors of two of the best law libraries in the country has not produced even *five* years of data on the relevant variables for any country other than the

correlate directly with total consumer credit. My purpose is to inquire whether some specific component of consumer behavior can explain prodigality better than total indebtedness.

¹⁰⁵ Jones & Zywicki 1999:223 criticizes research on the correlation between debt and bankruptcy, arguing that the correlation is likely to be spurious because it does not show a decreased effect related with interest-rate drops in the late 1990's. The most likely explanation for that phenomenon is that the interest rates charged to credit card borrowers that actually are paying substantial sums of interest probably have not fallen so far, both because those rates are relatively "sticky," Zywicki 2000, and because of the substantial shift of credit card portfolios to riskier borrowers during the 1990's.

¹⁰⁶ The closest is Stavins 2000, which shows that total credit card debt correlates more closely with bankruptcy rates in a particular region of the United States than total consumer credit. But none of the previous studies has even examined the possibility that even credit card spending – apart from debt – might have any explanatory power. Moreover, the three previous studies that have examined trends at a national level (Ellis 1998; Lawless 2002; and Mester 2002) do not control for autocorrelation in the time-series coefficients that they reported and do not investigate the possibility that lag times might enhance the explanatory power of the analysis. More broadly, none of those studies has done multiple regressions or attempted to control for the obvious multicollinearity of the independent variables (credit card debt and consumer credit).

I have obtained a time-series of state-level credit card debt data from cardflash.com. I plan to analyze that data against a time series of state-level bankruptcy data. Because I do not have state-level consumer credit data, however, I will not be able to use that analysis to further my main project here, which is to disentangle the effects of consumer credit generally and of credit card debt in particular.

¹⁰⁷ Ellis 1998.

¹⁰⁸ The FDIC publishes some statistics, but they include only data about bank-issued cards, which excludes American Express, Discover, and a significant amount of store cards. The store cards are important for my research because they reflect a disproportionately high amount of borrowing as a share of spending.

four mentioned above. I would not have the data on those countries without the assistance of the central banks in the United Kingdom and Canada. Finally, even for the four countries that I examine, I cannot use extended periods of data, because the data is meaningful only for periods during which credit card use has existed at a level of sufficient magnitude for it to have any plausible relation to the economy as a whole. In any event, *even in the United States* I have not been able to obtain reliable data on credit card use for periods before 1990. Accordingly, I necessarily am working with quite a small dataset.

Continuing with the pessimistic tone, serious problems complicate analysis of the data that I do have. Most obviously, bankruptcy, the dependent variable for my analysis, means something quite different in the four countries for which I have been able to collect data. Among other things, the United States consumer bankruptcy system surely is more generous than the systems in the other countries. Those differences introduce considerable “noise” into the data, which should make it difficult to discern any effects that credit card use might have on bankruptcy filings.

Subject to all of those problems, the results of the analysis are remarkable. Not surprisingly, credit card debt and consumer credit correlate highly with rates of bankruptcy filing. At the same time, with those variables held constant, credit card spending correlates negatively with bankruptcy filing. The reason for that apparently is that rising spending without an increase in debt should indicate an increase in the ability to pay for expenditures, a strong indicator of financial strength. What was surprising was how successful a model could be that tried to explain consumer bankruptcies with just the three variables of consumer credit, credit card debt, and credit card spending. Using just those three independent variables, a regression with robust standard errors, with the rate of bankruptcy filing lagged by one year, predicted a full 83% of the variation in the consumer bankruptcy filing rates in those countries. The likelihood that the relations would arise randomly was less than one percent.¹⁰⁹

Most interesting of all, the regression model provides standardized coefficients that allow me to assess whether the different variables have a distinct impact in affecting bankruptcy rates.¹¹⁰ Those coefficients support the prodigality hypothesis. To be sure, consumer credit as a whole affects consumer bankruptcy *more* than credit card debt. That is common sense. An increase of total debt by \$1 million – with credit card debt held constant – will increase the rate of bankruptcy by more than an increase of credit card debt of \$1 million – with total debt held constant. What is important to me, however, is the strong effect of credit card debt. An increase of credit card debt by \$1 million will increase consumer bankruptcies substantially, even with consumer credit held constant.

¹⁰⁹ More details appear in the Statistical Appendix.

¹¹⁰ The problem of multicollinearity was solved by pooling the various countries into a single dataset, which lowered the variance inflation factor to about 10. The problem of autocorrelation was solved by using a robust estimation of standard errors.

The use of a time lag in my model – the model suggests that bankruptcy rates rise one year after the increase in borrowing – is particularly instructive with respect to my willingness to infer something about causation from the results. It is plausible to think that an increase in credit card debt *causes* an increase in bankruptcy filings one year later. It is not plausible, however, to think that the causation arrow runs in the reverse direction, that an increase in bankruptcy filings causes an increase in consumer debt one year earlier.

Accordingly, I conclude that my data provides strong support for the notion that there is something uniquely prodigal about credit card borrowing.¹¹¹ The most plausible counterargument – presented by Todd Zywicki – is that credit card borrowing actually rises in anticipation of bankruptcy. From that perspective, families borrow excessively because they expect that bankruptcy will come and they know that they will not have to repay it.¹¹² My data tends to undercut that hypothesis because the time lag that produced the best correlations was a year – the bankruptcies lagged the increase in credit card debt and consumer credit by a year. Zywicki’s thesis would be more plausible with a lag of a few months at most.¹¹³

C. Looking Forward: Credit Card Use and Bankruptcy Law

I close this section with one final point of inquiry: the relation between credit card use and bankruptcy systems. Rafael Efrat in particular has pressed the idea that bankruptcy systems are dependent on the nature of the economy of a particular country.¹¹⁴ He argues generally that a country with a more significant entrepreneurial sector, or with a less robust safety net, will need to adopt a bankruptcy system that provides a more generous discharge. That argument resonates with the argument in recent work by Raghuram Rajan and Luigi Zingales, who generally argue that it is

¹¹¹ Zywicki 2003 argues forcefully that the rise in bankruptcy filings since 1978 is caused by changes in the bankruptcy system in 1978 and by institutional responses to those changes. *See also* Jones & Zywicki 1999:210-15. There certainly is some truth to that argument. For example, it surely is the case that the bankruptcy system is both more efficient and more generous than it was before 1978, and it would be surprising if that had not had some effect on bankruptcy filing rates. But that point seems to me logically unrelated to the analysis that I present here, which suggests that external economic conditions have an effect on the filings made each year *while the nature of the system is held more or less constant*, as it is in each of the jurisdictions during the time periods that I examine.

¹¹² Zywicki 2003.

¹¹³ Because my data is year-by-year only, I cannot test lags of less than a year. But the fact that the one-year lag fits better than no lag suggests that the “truth” of the matter is much closer to a year than it is to a few months.

¹¹⁴ Efrat 2002; 2002a.

difficult for a free-market system to maintain political viability without safety valves that lower the harm to those people who are disadvantaged by the system.¹¹⁵

Applying those insights to the problem of credit card usage, we can hypothesize that high levels of credit card use would be associated with a greater likelihood that a country would provide a generous bankruptcy discharge.¹¹⁶ Jay Westbrook and his co-authors Terry Sullivan and Elizabeth Warren have advanced a similar hypothesis in an anecdotal way with respect to consumer credit more generally.¹¹⁷ Drawing on evidence about the recent spread of consumer bankruptcy protections in Europe, they argue that the rise of consumer credit has made it necessary to expand the forgiveness available to overextended consumers.¹¹⁸

The data I have collected suggests considerable support for that hypothesis. I have divided the countries for which I have substantial data on credit card spending into three groups,¹¹⁹ based on whether a consumer discharge is automatic,¹²⁰ discretionary,¹²¹ or not available at all.¹²² **Figure Thirteen** groups those countries based on the ratio of credit card spending to GDP. As that figure shows, there is a striking correlation: countries with more credit card spending are more likely to have an automatic discharge, those with somewhat less are likely to have a discretionary discharge, and those with the least credit card spending are likely to have no discharge at all.

¹¹⁵ Rajan & Zingales 2003.

¹¹⁶ There is of course a substantial controversy in this country about whether the bankruptcy system for consumers should be made more onerous to increase the incentive for consumers to repay substantial amounts of credit card debt. Proposals to that effect – so-called “means-testing” for consumer bankruptcy – are central to the proposed bankruptcy reform bill that has been passed in various forms by the House and Senate over the last several years. I am deeply skeptical of the value of those reforms, based on the empirical evidence that strongly suggests that the administrative costs of those reforms (borne largely by the judicial system and taxpayers) will dwarf any recoveries by creditors. *Compare* Culhane & White 1999 *with* Jones & Zywicki 1999:189. The question is complicated because, among other things, of the likelihood that some of the people pushed into Chapter 13 by the new program might have a greater than average change to complete their plans. Jones & Zywicki 1999.

¹¹⁷ Westbrook 1998; Sullivan, Warren & Westbrook 2001.

¹¹⁸ Niemi-Kiesiläinen 1997; Westbrook 1998; Warren & Westbrook 2001.

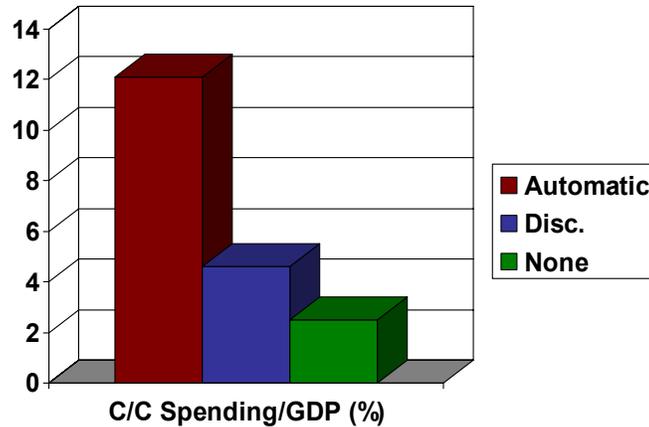
¹¹⁹ The framework of the three groups is drawn from Efrat 2002. I have not, however, relied on his categorization of the countries, but instead have independently assessed the nature of the discharge in each of the relevant countries. The data appendix reports sources that justify my sorting of the countries into the relevant categories.

¹²⁰ Australia, Canada, the Netherlands, New Zealand, the United Kingdom, and the United States.

¹²¹ Japan, South Africa, and Sweden.

¹²² Belgium and Italy.

Figure Thirteen: Discharge and C/C Spending



Statistical analysis of the data confirms the significance of the disparity suggested by that simple figure. Pairwise T-tests comparing each of the three categories found a distinction, statistically significant at the 5% level, between the automatic category and each of the other two categories.¹²³ Even between the discretionary and no-discharge categories, the distinction was significant at just above the 5% level.¹²⁴ Given the small number of observations (only five for that last test), the relation is highly suggestive.

It is not immediately obvious how to interpret that relationship. For one thing, the absence of a discharge could simply be another aspect of the same legal cultures that tend to limit credit card spending. As discussed above, legal systems that limit the free flow of consumer credit information tend to have low levels of consumer credit generally and credit card debt specifically. It is possible that those same cultures simply find the idea of a bankruptcy discharge distasteful. From this perspective, the common grant of a discharge by Anglo-American countries¹²⁵ is just another part of the legal heritage that coincidentally results in high rates of credit card spending. The recent spread of

¹²³ The analysis indicated that the chances that the results were random was 0.041 (comparing automatic to discretionary) and 0.035 (comparing automatic to no discharge). The statistical appendix reports more details of the analysis.

¹²⁴ The analysis indicated that the chances that the results were random was 0.055. The statistical appendix reports more details of the analysis.

¹²⁵ Efrat 2002 makes the Anglo-American link explicitly.

bankruptcy in Europe, however, following shortly upon the rise of consumer credit in those countries, however, makes it difficult to give that concern decisive weight.¹²⁶

There are, of course, other possibilities. For example, one possibility is that a country might think that it could lower credit card debt by stiffening or removing its bankruptcy discharge entirely. That seems most unlikely. As discussed above, there are a number of reasons for the spread of the credit card, and the availability of a bankruptcy discharge seems unlikely to be an important one. On a transaction-by-transaction basis, the value to the typical consumer of a bankruptcy discharge – even in a conspicuously profligate country like the United States – cannot be a fraction of the value to the consumer of such attributes of the transaction as the easy availability of credit or the affinity benefits I discuss below. So the removal of a bankruptcy discharge seems most unlikely to alter the spending habits of the country as a whole.

A more plausible possibility is that a country that experiences large amounts of consumer credit delinquencies would feel compelled to enact some form of discharge as the only practical method of dealing with the problem. In addition to the recent evidence from Europe discussed above, Bruce Mann's work on colonial America provides more contextualized support for that idea. He explains how the pressures of business failure in a growing entrepreneurial class led up to the passage of the first national bankruptcy act in 1800.¹²⁷

The results reported in this section are only suggestive. Much more information needs to be collected to form a complete understanding of the relation among credit card use, consumer credit, and bankruptcy systems. Most obviously, it would aid in understanding the political ramifications of *not* having a bankruptcy system if we knew more about exactly what happens to distressed debtors in countries that do not provide a discharge. At the same time, the rapid shift in the demographics of bankrupt debtors here¹²⁸ suggests that it would be useful to know more about the demographics of bankruptcy debtors in other countries. Greater knowledge about that point would make it much easier to assess the influence on public policy of the distress those debtors are experiencing.

IV. POLICY RESPONSES

Despite the difficulty in locating decisive data about the positive and negative effects of credit cards, many countries have implemented a variety of regulatory proposals designed to limit the negative effects the cards are thought to have. This part of the paper discusses some of the most obvious responses that are suggested by existing practices and literature, as well as a few new proposals of my own. Because of the highly

¹²⁶ Niemi-Kiesiläinen 1997; Westbrook 1998; Warren & Westbrook 2001.

¹²⁷ Mann 2002

¹²⁸ Warren & Tyagi 2003.

normative focus of the discussion that follows, it is important at the outset to explain the perspective from which I evaluate those proposals.

First, as I have mentioned more than once, a complete account of the economic effects of the credit card must recognize the positive contributions the credit card makes to a market economy. As a payment system, it doubtless is one of the most efficient vehicles ever devised. For one thing, because transaction authorization, processing, and payment proceeds on an almost entirely electronic basis, it is an order of magnitude cheaper than the traditional paper-based payment systems (such as checks) that it has supplanted. Given the difficulties market actors have had in building sufficient networks to penetrate the consumer market with electronic payment systems that are not card-based, it is a testament to the value that the credit card provides that it has penetrated that market so pervasively.

The benefits of electronic processing are even more striking for the credit transactions effectuated with the card. If a credit card is a lot cheaper for a bank to process than a check, consider how much cheaper it is for a consumer to borrow \$300 with a credit card than it would be to borrow the same amount of money through a conventional bank loan. Putting aside the fees that the bank loan would involve, the activities of traveling to the bank, explaining the purpose of the purchase, and verifying the consumer's creditworthiness are likely to be tens if not hundreds of times as time-consuming as the parallel credit card process, even if we include the time spent filling out the limited amount of information required on a modern American credit card application.

Similarly, repeating a point made earlier, the separation between the point of underwriting and the point of borrowing makes credit card lending particularly valuable as a safety net for consumers in distress. Distressed families can use credit cards to respond to financial crises even after the crises has occurred. It is much less likely that they could obtain conventional bank financing at such a time.

It is difficult to balance those benefits against the costs of credit cards discussed in the preceding part of this paper. Accordingly, it is at least possible that the costs discussed in the preceding part of this paper exceed the benefits of credit cards by such a degree that it would be appropriate to ban credit cards entirely. My intuitive sense, however, is that those benefits are quite substantial in relation to the costs. Hence, I reject reforms that would have the purpose or effect of banning particular credit card transactions. Thus, my goal is to design reforms that are likely to respond directly to the problem identified above – prodigal borrowing. Generally, I am trying to design reforms will alter the decisions of consumer borrowers so as to avoid imprudent borrowing, without at the same time removing the ability of the product to provide the benefits that come with it.

I am sensitive to the risk that I might fall into the easy compromise – so typical of American consumer regulation – of adopting purely informational protections that expend resources without altering consumer behavior in any noticeable way. I hope that the discussion that follows evinces adequate concern to design reforms that can target the

transactions that are problematic, without hindering the value-increasing transactions for which cards are used. The discussion proceeds in three parts: crude reforms that exclude banks from the market; price regulation, imposing a government-determined price at one or more steps in the credit card process; and marketing and information regulation, limiting the types of programs issuers can use to stimulate consumer use of their products, with a view to stimulating more rational use of cards.

A. *Excluding Banks from the Market*

The broadest policy response would be to exclude banks from the market for credit cards. I have argued above that banks are uniquely situated in the early stages of a credit card market to introduce and deploy a profitable credit card product. If that is true, then an exclusion of banks from the market could slow or prevent the broad growth of credit cards.

That possibility is suggested by the example of Japan. As I have explained in prior work, Japan directly excluded banks from offering revolving credit products until quite recently.¹²⁹ Parallel to that policy is a strikingly slow rate of growth for cards. As **Figure Nine** shows, rates of card usage in Japan are far below what would be expected for such a thoroughly globalized economy.

To be sure, the evidence suggests that Japan took that course not because it wanted to discourage credit cards, but because it wanted to ensure that finance companies rather than banks would earn the profits from such operations.¹³⁰ Still, the example offers empirical evidence of the effects of such a policy. The basic message of that evidence is that such a policy might slow credit card use, but it seems unlikely to have a substantial effect on the growth of consumer credit. As **Figure Eight** shows, the ratio of consumer credit to GDP in Japan is comparable to that of other developed countries, notwithstanding its very low rate of credit card use.

Thus, the principal effect of that policy in Japan has not been to slow the growth of consumer credit overall, but simply to slow the use of credit cards. The analysis discussed above suggests that a shift from credit card borrowing to other means of borrowing might stem the financial distress that otherwise might arise from the relevant borrowings. In this case, however, the policy arguably has had other deleterious effects. Specifically, it seems to have shifted the providers of consumer credit. Instead of thoroughly regulated banks, the consumer credit is provided by less regulated, less savory lenders in groups such as *sarakin* [pay-day lenders] and *yenya* [moneydealers], for whom the primary enforcement mechanism is not Japan's notoriously lenient judicial system, but the less forgiving organized crime groups such as the *yakuza*. It should be no surprise that the long-run effect of a regulation-driven market vacuum would not be the absence of products, but instead a prompt inrush of other competitors to whom the regulatory

¹²⁹ Mann 2002.

¹³⁰ Mann 2002; Ramseyer & Rosenbluth (1993).

exclusion did not apply. That suggests that simple exclusion of banks from the market is not likely to be an effective response.

B. Regulating Prices

A second class of regulatory responses responds to the price structure of the credit-card network, particularly the differential prices that merchants face when they accept credit cards rather than other competing payment systems. In other countries, regulators have imposed a variety of constraints – primarily with regulations directly setting prices merchants (and their banks) pay to issuers for credit card services. This section discusses the general problem and then a series of possible policy responses.

1. The Problem

One problem that has persistently troubled regulators in the credit card market has been the relation between the costs merchants bear when they accept credit cards and the prices they pay their customers. Specifically, regulators in Australia, the EU, and the UK have reasoned that credit cards are much more expensive for merchants to accept than competing payment systems, and that the failure of merchants to pass on those charges to credit card users results in a cross-subsidization of credit card users by other customers.¹³¹ The result, in that line of reasoning, is that merchants charge higher prices to *all* customers to cover the costs of accepting credit cards from *some* of their customers.¹³² The problem is that if the different payment systems have different costs to the merchant, but similar costs to the purchaser (effectively no cost to the purchaser), the purchaser's choices will not match the merchant's preferences.

Affinity programs (frequent-flier miles, cash-back programs, and the like) make the problem worse than that framework suggests. Many users will choose a product because of the opportunity to receive cash back or airline miles for their use of that

¹³¹ Office of Fair Trading (2003); Reserve Bank of Australia (2002); Commission Decision of 24 July 2002 (Case No. COMP/29.373); Commission Decision of 9 August 2001 (Case No. COMP/29.373) (the Visa litigation). The EU Commission recently initiated a similar case against MasterCard. CI309:3

¹³² A number of economists have developed models indicating that this should not be a problem in a competitive market. Those models often predict a separating equilibrium in which merchants will sell either to credit card consumers or to non credit card consumers, but not to both. Chakravorti & Emmons 2003; Wright 2003. As discussed below, that prediction does not match the reality in existing markets. Rochet & Tirole 2002 present a more promising model, which assumes that issuers have market power but that acquirers are perfectly competitive. That model is inconclusive as to the economic effect of permitting merchant surcharges and discounts, generally because it is difficult to predict whether such a rule will increase or decrease the success of the network. The basic premise of that model, however, is that the "efficient" outcome is the outcome that maximizes the size of the card network. Because the purpose of this part of the paper generally is to assess the appropriate policies that flow from rejection of that premise, the model is not particularly useful for my purposes.

product. It is understandable that the users do not take account in that choice of the higher costs that merchants pay for the credit card.

At the outset, it is important to note that the factual premise of that argument is unclear. There is to my knowledge no reliable data on the actual “all-in” costs that merchants pay for accepting varying forms of payment.¹³³ As an electronic payment method in which the issuer bears the risk of unauthorized transaction, the credit card has the difficulty that all of the costs that the merchant pays are transparently priced in a single fee – in the range of 1.5 to 2% for high-quality retail merchants in the United States, but significantly higher and lower in other countries. In Japan, for example, the rate typically is 3% or more.¹³⁴ In the EU, in contrast, the rate generally is below 1%.¹³⁵

It is clear that debit cards – especially PIN-based debit cards – are considerably cheaper for merchants; this is easy to see because their pricing is as transparent as the pricing of credit cards.¹³⁶ But debit cards continue to be dwarfed in the United States at least by checks and by cash.¹³⁷ It is not nearly so clear how much it costs merchants to accept those instruments. In the case of checks, for example, merchants commonly incur fees in the range of one-half of a percent to verify the check. That service does not include a guarantee of payment, but only a check of the item against a “hot-check” list of known bad-check writers and, in a few cases, against an expert-system program designed to detect questionable patterns of check use that suggest fraud. Thus, even after that payment, merchants bear some residual risk of loss from dishonored checks and, in some cases, from unauthorized items.¹³⁸ Merchants also often will pay fees to their banks on a per-item basis when they deposit checks.¹³⁹ Most importantly, checks are the most time-consuming payment system to process – they slow checkout lines in a way that imposes costs difficult to evaluate, but certainly important to merchants. Therefore, it is hard to be sure precisely how much more it costs merchants to accept a credit card than a check.

¹³³ A growing body of literature attempts to assess the social costs of the various systems. *E.g.*, Humphrey & Berger 1988 (the basic paper). A glance at the categories of costs that are included, however, makes it clear that the data to make those determinations is not readily available. For example, the accepted estimate for credit cards relies on 1985 data about float times and processing costs.

¹³⁴ Mann 2002.

¹³⁵ Interviews with British regulators and credit card executives. For the EU generally, the rates are discussed in the Commission Decisions of 24 July 2002 and 9 August 2001 (both in Case No. COMP/29.373).

¹³⁶ See Peter Lucas, *Online Debit's Revised Sales Pitch*, CREDIT CARD MANAGEMENT, Feb. 2002, at 17 (quoting interchange rates for various debit-card networks).

¹³⁷ See Figure 11.

¹³⁸ Nilson Report 791, 765, 761

¹³⁹ Bank executive interviews.

Similarly, even cash is not entirely free as a payment system for merchants. Merchants that receive payments in cash are much more vulnerable to theft – cash is, of course, near the top of the list of the most convenient assets from which thieves can profit. Thus, merchants presumably bear higher expenses in security procedures for the cash. Also, although I have not been able to locate data quantifying this point, I understand that commercial customers typically pay fees to their bank for depositing large amounts of cash.¹⁴⁰

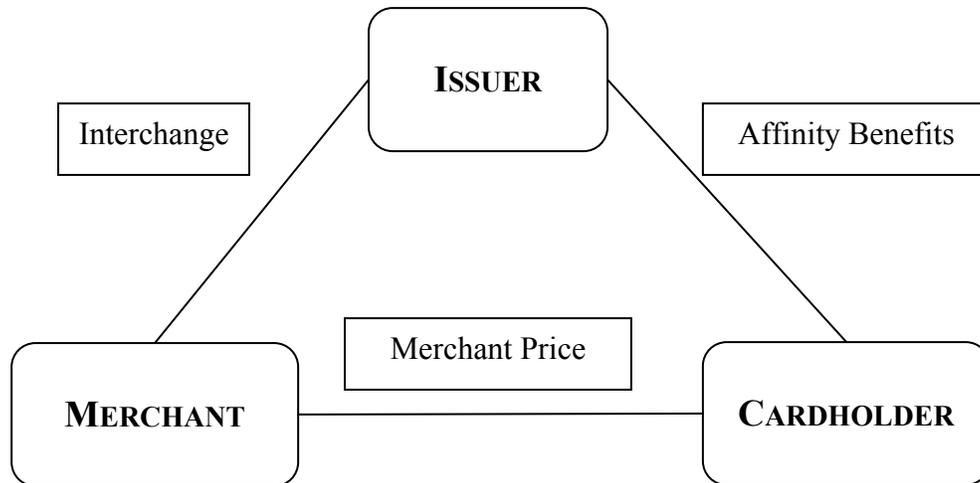
Still, despite those quibbles, it seems likely that the net costs of merchants are greater when they receive payment by credit card than they are when they receive payment in other ways. Thus, assuming that merchants do not charge differentially (more) for credit card payments than they do for other payments, there is a problem. In one sense, the problem might be that those who pay with cash, checks, and debit cards are subsidizing those who pay with credit cards. Tying the matter back to the preceding part of the article, however, the problem might be seen more seriously as a situation in which consumers have an inappropriately high incentive to use credit cards. The natural question, then, is whether there is any useful policy that might respond to that problem.

2. Responses

The most logical way to think about that question is to consider the prices charged among the various parties to a credit card transaction. Looking at the credit card system in its simplest form, there are three different pricing interfaces: the interface between the customer and the merchant; the interface between the merchant and the credit-card issuer (or network); and the interface between the credit-card issuer and the customer. Plausible policy responses could address any of those three interfaces.

FIGURE 14: PRICING INTERFACES

¹⁴⁰ Bank executive interviews.



(a) *Merchant Price Discrimination*

The simplest response to that problem would be for merchants to charge customers different prices based on the payment system with which customers pay. That would address the problem of cross-subsidization directly. Furthermore, if merchants could price differentially based on the amount each card charged them, that practice might lead to greater competition in the market for the rates merchants pay when they accept cards. Finally, with respect to the issues raised in the preceding part, higher charges for card use might stem casual use to some degree. The existing evidence – from a policy in Norway that caused banks to charge customers per-item fees for checks, but not debit card transactions – suggests that customers are highly sensitive to such charges and would switch payment systems quickly to avoid such charges.¹⁴¹ The natural question, then, is why in a competitive retail market – something that certainly exists in this country – merchants do not charge their customers differentially based on the payment system that they select.

One answer in the United States is a wrongheaded legal system. For a time, federal law actually barred any price discrimination at all between cash and credit card transactions.¹⁴² Current law has reversed that policy in part – TILA § 167 bars card issuers from any policy that would prevent merchants from granting discounts for payments by methods other than a credit card. Thus, *discounts* for non credit card payments are now lawful. That change has only a limited practical effect, however, because the card networks have rules that prevent merchants from imposing *surcharges* on credit card use. At first glance, that would seem only a detail. But the problem is that a surcharge-only system requires merchants to price all credit card transactions in the same way – it does not permit, for example, distinctions between different types of credit

¹⁴¹ Humphrey, Kim & Vale 2001.

¹⁴² Carlton & Frankel 1995; Frankel 1998.

cards based on distinctions in their merchant-discount rates.¹⁴³ A more speculative reason offered by Frankel is that it may be more acceptable in the retail marketplace for a merchant to charge for credit card use – a service offered the customer for which the merchant must pay – than to discount for cash, which could suggest to the casual consumer that the merchant's price might have an unduly high margin of profit.¹⁴⁴

Whatever the reason, the legislative history of TILA suggests that credit card issuers fought hard for the right to bar surcharges, which suggests that the right is valuable to them.¹⁴⁵ Assuming that they were rational in fighting that battle, it is plausible to think that the battle the credit card issuers won amounts to a substantial restraint on the practical ability of merchants to discriminate in pricing. If that is so, then the existing statutory policy does not really go far enough to foster full competition at the point of sale in merchant-discount rates.

Another reason why we see so little price discrimination is the costs of implementing it. It is not costless for merchants to construct a system that subtracts a specified discount from transactions that are made with cash or other non-credit payment systems. Decisions must be made about the appropriate size of the discounts and the transactions to which they will apply – will checks be covered or will their higher costs justify a smaller discount? Sales terminals must be programmed to reflect the new program. Customers must be educated about the program. Those costs may not be overwhelming, but if they are substantial, and if merchants worry that customers will rebel (as experience suggests they will) at paying more to use a credit card, then merchants rationally might forgo investment in such programs.

Although the recent decision in the *Wal-Mart* case will increase competition among payment systems at retail, it does not respond to this particular problem at all. In that case, Visa and MasterCard agreed to pay several *billion* dollars to settle antitrust allegations brought by leading retailers that generally had required any retailer that accepts a Visa or MasterCard credit card also to accept the debit cards offered by Visa and MasterCard.¹⁴⁶ The remedies also permit those retailers henceforth to refuse to accept the debit card products.¹⁴⁷ Recent news stories suggest, for example, that Wal-Mart soon will stop accepting the MasterCard debit product (MasterMoney).¹⁴⁸ The expected result is some combination of a drop in the market share of those products or a

¹⁴³ Kitch 1990. Kitch points out that the distinction between discounts and surcharges was important in the history of the statute, which suggests that Congress recognized it was substantially limiting the effect of the statute by validating only discounts but not surcharges.

¹⁴⁴ Frankel 1998; Thaler 1991 .

¹⁴⁵ Kitch 1990.

¹⁴⁶ Robert A. Bennett, *The Retailers' Home Run*, CREDIT CARD MANAGEMENT, July 2003, at 24.

¹⁴⁷ Bennett, *supra* note 146.

¹⁴⁸ *Walmartization Hits Card Industry*, NILSON REP., Issue 800 (Dec. 2003), at 1.

significant decline in the prices that Visa and MasterCard can charge merchants that accept them. But that litigation did not challenge the anti-surcharge provisions of the agreements Visa and MasterCard have with those merchants. Indeed, if anything, the litigation illustrates the market power that Visa and MasterCard have in setting the terms of those agreements. Accordingly, the persistence of anti-surcharge provisions in those agreements tells us nothing about the optimality of those provisions.

On the other side of the topic, there is one obvious problem with encouraging payment-system price discrimination, the historical evidence about the circumstances in which that discrimination exists currently. To the extent charges for credit card use appear in present circumstances, they tend to be in circumstances where merchants as a practical matter have high amounts of bargaining power, so that the fees are simply used to extract a greater share of the surplus from a particular transaction.¹⁴⁹ To offer an anecdotal example, in England (where credit card surcharges are permitted), it is common for taxicabs that accept credit cards to charge substantial service fees to do so (in the range of 10% of the transaction amount). Those examples should give us pause before acting vigorously to cause more of that kind of conduct. My impression, however, is that in most important contexts in this country consumers have enough choices in merchants and payment mechanisms that unreasonably high surcharges will not lead to customers paying extortionate fees; they will lead to customers selecting different merchants or non-credit payment systems.

This discussion suggests two things about merchant price discrimination as a policy lever. First, it is at least plausible that a major reason that merchant-price discrimination is not common is because it is not profitable for most merchants. If that is true, then it is difficult to imagine a change in the legal system that would cause merchants generally to begin charging such fees. At the same time, there is some reason to believe that we would see more merchant price discrimination if legislatures invalidated network rules that prohibited surcharges. To the extent that kind of price discrimination would result in consumer choices more responsive to the true costs of the choices, it is probably a good thing, even if it occurs only incrementally. It is difficult to discern substantial adverse effects. On balance, then, a reform to permit credit card surcharges seems appropriate.

(b) Interchange Rates

A second approach would be to remove or lessen the differential, by regulation of the rates that merchants pay. To that end, a common policy initiative proposed in recent years has been the regulation of interchange rates.¹⁵⁰ The Reserve Bank of Australia

¹⁴⁹ Wright 2000.

¹⁵⁰ Interchange rates technically are the rates that card issuers receive from the financial institution that acquires the transaction from the merchant (often the merchant's bank). The merchant discount is the charge that the acquirer imposes on the merchant. Because the merchant discount charge normally is slightly higher than the interchange fee (so that the acquirer can recover the costs of its business), and because in most countries the market for acquisition is

recently has implemented rules that lowered interchange substantially for Visa and MasterCard transactions.¹⁵¹ After litigation before the European Commission, Visa has settled a dispute resulting in substantially lower interchange rates for cross-border transactions.¹⁵² The Office of Fair Trading in the United Kingdom¹⁵³ is in the final stages of proceedings that will result in the imposition of a much lower interchange rate on MasterCard transactions in that country (with inevitable subsequent proceedings against Visa).¹⁵⁴

The premise of those initiatives is straightforward. The view is that the interchange rate is a fee that the issuer of a credit card charges the merchant (or the merchant's financial institution) for extending credit, for processing the transaction, and for bearing the risk that the transaction is unauthorized. Those initiatives call upon the networks to provide data about the extent to which the costs that the issuers bear exceed their non-interchange revenues. The regulators then attempt to set an interchange fee that matches the excess costs that the issuers can document. The economic justification for the intervention generally is the one discussed above: that the high costs of credit cards to merchants, coupled with the absence of meaningful merchant-price discrimination, results in a generally higher level of retail prices for all consumers, even those that do not use credit cards.

There are two major problems with those initiatives. The first is that it is difficult to reconcile them with the economics literature about the role of interchange fees in payment-card networks.¹⁵⁵ The principal writers are Schmalensee (at MIT), Wright (in New Zealand), and Rochet and Tirole (in France). Generally, those writers have focused on the economics of payment-card networks as a multi-sided platform that can become successful only through arrangements that make the card profitable for issuers, merchants, and consumers. The literature suggests that a complex array of factors would

relatively competitive, regulation of interchange fees is expected indirectly to lower the costs that merchants pay. For simplicity, the discussion in the text ignores the role of the acquirer.

¹⁵¹ RESERVE BANK OF AUSTRALIA (2002)

¹⁵² Decisions of 24 July 2002 and 9 August 2001 (both in Case No. COMP/29-373).

¹⁵³ It is a peculiar feature of the United States regulatory landscape that regulation of credit cards is assigned to the central bank – the Federal Reserve – but that the Federal Reserve has little proclivity for regulation of any aspect except those related to the stability of the payment system. Like the Bank of England, the Federal Reserve's primary focus is on the stability of the payment systems. Because the Federal Trade Commission thus has considerably less authority in this area than the parallel Office of Fair Trading in the United Kingdom, the result has been something of a regulatory vacuum in this country. For a discussion of some historical background – arguing that TILA regulation was assigned to the Federal Reserve precisely because it would be less vigorous than the FTC – see Rubin 1991.

¹⁵⁴ Office of Fair Trading (2003); OFT Interviews.

¹⁵⁵ To my mind, the literature discussed in the paragraphs that follow entirely supersedes the argument in Frankel 1998 that merchants that participate in credit card networks receive no benefits from interchange fees.

be relevant in determining the optimal interchange rate. First, as the network grows, interchange generally should fall. The increasing volume of users and merchant acceptors allows economies of scale in transaction processing, which lowers the percentage rate necessary to cover the costs of processing the transactions. Thus, interchange rates have fallen in the United States from 6% when the payment card began to the vicinity of 2% now.

Similarly, interchange rates reflect the general structure of the network. If the network is one in which borrowing rates are relatively high, the profits of providing credit provide substantial revenues to issuers, which lower the need for a high interchange rate. Conversely, the absence of such revenues requires a higher interchange rate. That is why interchange rates for American Express in the United States are still about 3% and why interchange rates in Japan are 3% despite the relatively large size of its market.¹⁵⁶

A final set of factors are probably the most controversial and difficult to analyze. Specifically, a sophisticated network could use the interchange rate to balance the need to make the product more attractive to merchants and to users. The rate would rise in markets where merchant penetration was so high that the marginal effects of higher interchange would have a low effect on merchant acceptance. The rate would fall in markets where lower interchange might spur increased merchant penetration. Conversely, interchange would rise in markets where lowering the costs to consumers could increase cardholder usage.¹⁵⁷ Thus, in the United States where merchant penetration is almost universal, interchange rates are substantially higher (close to 2%) than in countries like the UK, Australia, and the continental EU, where rates are closer to 1%, even in markets without any substantial amount of credit card debt. The need to foster merchant acceptance in those countries makes it imprudent to raise interchange rates any higher.

Assessing the propriety of those rates, the literature generally suggests that the market would result in an optimal rate, at least if there were adequate competition among retail merchants.¹⁵⁸ That assumption is particularly problematic, because the expectation is that adequate competition would result in “frictionless merchant surcharging” that would dissipate the ability of issuers to build a network through the use of excessive interchange fees.¹⁵⁹ Generally, the idea is that if interchange rates were too high, some merchants would charge lower prices for non-card transactions, which would lead to lower card usage, which would cause the networks to lower the interchange rates to make

¹⁵⁶ Mann 2002.

¹⁵⁷ Baxter 1983; Gans & King 2001; Gans & King 2003; Rochet & Tirole 2002a; Schmalensee 2002; Wright 2001.

¹⁵⁸ Gans & King 2001; Katz 2001; Rochet & Tirole 2002a; Schmalensee 2002; Wright 2001.

¹⁵⁹ Katz 2001.

the cards more attractive to merchants. As discussed above, we certainly do not see frictionless merchant surcharging at this time.

Another possibility – not one that the models emphasize – is that competition between card networks could result in appropriate interchange rates.¹⁶⁰ The idea is that a network that did a poor job of setting the interchange fee would lose business – either merchants, cardholders, or both – to a competing network that had a more optimal fee structure. Thus, the networks would be highly motivated to develop optimal fee structures. It is difficult to assess that concern, but it is plain that in all markets competition among card networks occurs – if at all – in a highly concentrated setting. It also is plain that the rates that Visa and MasterCard charge are quite similar. This does not prove that there is no competition – there are frequent anecdotal reports of significant competition on interchange fees between American Express, on the one hand, and Visa and MasterCard on the other.¹⁶¹ But that competition tends to be in the nature of Visa and MasterCard convincing merchants to stop taking American Express because of its higher interchange fees. It is not clear that there is substantial competition over interchange fees between Visa and MasterCard. Indeed, evidence adduced in the recent litigation over cross-border currency fees suggests the likelihood of a high degree of conscious parallelism in price setting by the two leading networks.¹⁶²

Thus, a fair reading of the economics literature would justify regulators in concluding that the existing interchange rates are not validated as “efficient” or “correct” by the fact that the marketplace has created them. That does not mean, however, that rates selected by the regulators are likely to be superior to the rates that exist in the marketplace. For one thing, the economics literature strongly suggests that the purpose of the interchange fees is not to allow issuers to recoup out-of-pocket costs for transaction processing. The purpose of the interchange fees is to balance the relative marginal attractiveness of the products to the classes of merchants and consumers that use the cards. It would be only happenstance if that balance happened to match any accounting-based analysis of the costs of the issuers or the networks. Second, the complexity of the relevant variables suggests that it would be a fruitless task for regulators to undertake to set an interchange rate based on the economic analysis. It is doubtful that even the credit card networks can do a perfect job of setting that rate. It is hard to believe that regulators can do it better than poorly.

More generally, the discussion in Part II suggests a broader problem almost entirely absent from either the existing initiatives or the literature that criticize them: the

¹⁶⁰ A recent paper that considers inter-network competition is Manenti & Somma 2003. They conclude that the level of interchange fees will be affected more by inter-network competition than by intra-network competition.

¹⁶¹ Evans & Schmalensee 1999; see also Simmons 1995 (discussing aggressive competition between Diners Club and its competitors in the 1950s and 1960s).

¹⁶² *In re Currency Conversion Fee Antitrust Litigation*, 265 F. Supp. 2d 385 (S.D.N.Y. 2003); *Schwartz v. Visa Internat'l Corp.*, 2003 WL 1870370 (Cal. Super. Ct. Apr. 7, 2003).

possibility that credit card use has adverse effects entirely apart from its effect on retail pricing. Given the general unwillingness of merchants to price discriminate, the likelihood that consumer prices are elevated to any substantial degree by the arguable cross-subsidization of credit card purchasers seems less important than the plain and quantifiable correlations between credit card spending and bankruptcy discussed in the previous section. If there is a substantial adverse social cost to credit cards, that social cost surely lies in the problem of prodigality discussed in the previous section, not in their effect on retail pricing.

That problem is entirely absent from the analysis of the economic models. The models do not even purport to justify interchange fees with respect to that issue. Their goal is to derive an interchange fee that is optimal in the sense that it maximizes the value of the credit card network, generally by maximizing usage of the network. If increasing usage of the network imposes social costs on third parties – as it would if credit card debt causes prodigality – then maximizing usage of the network is not an appropriate benchmark by which to judge the appropriate level of the interchange fee.

That problem only aggravates the difficulty that regulators face in developing an appropriate interchange rate. To me, the intractability of those questions suggests that regulators are not focused on the right interface. Their concern is at the interface between the acquiring bank and the merchant, where a high interchange rate results in a higher level of retail prices. Part II suggests that the more serious problem is at the interface between the consumer and the merchant, where the divergence between the social and the private costs leads the consumer to select the credit card. I have suggested above one reform designed to make it more likely that merchants will elevate the costs they charge at that point. I turn now to another way to address that problem.

(c) Affinity Programs

The discussion above suggests – at least as a fruitful avenue for inquiry – an entirely new approach. If the key problem is the divergence of private and social cost for the consumer at the point of purchase, then perhaps one appropriate regulatory response is to mitigate that divergence by taking away the carrot that gives the credit card a significantly negative cost for the consumer that uses it. Specifically, why not prohibit affinity programs? All of them – cashback,¹⁶³ airline miles,¹⁶⁴ anything that is a tangible benefit that a third party awards to the consumer based on the consumer's choice to borrow at the point of sale. These programs are a major part of the competition by which different issuers retain customers and encourage them to spend.¹⁶⁵ The variety of the

¹⁶³ CCM1002:54.

¹⁶⁴ Airline miles are one of the most successful benefits. CCM1201:50; CCM0503:14. To get a sense for their value, airline miles are sold in a secondary market at about 2.75 cents per mile. CCM1201:50.

¹⁶⁵ CCM0802:30. 77 out of 84 (92%) banks responding to a recent Federal Reserve survey of card terms have such a program. www.federalreserve.gov/pubs/shop/tab1wb.pdf.

programs is increasing rapidly, as technological advances permit ever greater differentiation of benefits.¹⁶⁶ For example, a burgeoning product that is closely related to the products that I discuss here provide benefits not to the consumer but to a third party organization of interest to the consumer; a recent program by Provident issues Democratic National Party credit cards.¹⁶⁷ A prohibition of those programs would directly increase the cost to the consumer of using a credit card and thus would do much to mitigate the cross-subsidization problem that has troubled overseas regulators so much.

It is less clear precisely what the effect would be on the prodigality problem that is the focus of this paper. It does seem likely that a ban on affinity programs would reduce credit card usage. First, the fact that debit card usage is rising so rapidly even in the United States – where affinity programs are pervasive for credit cards and uncommon for debit cards – suggests that consumers in fact perceive a cost to them in accepting the credit offered on a credit card. *See Figure Eight.* Second, as discussed above, the limited available evidence suggests that consumers are highly sensitive even to small per-item transaction charges. In this context, for example, one recent story trumpeted the market advantages of a program that provides affinity benefits as a device to help persuade tenants in Manhattan to use credit cards to pay their rent.¹⁶⁸ Thus, a shift in the relative advantages of different payment systems – lowering the per-transaction attractiveness of the credit card by approximately 1% – might shift consumers away from credit cards in a significant way.

But a reduction in credit card usage does not directly match a reduction in imprudent credit card borrowing. The best evidence on the effect such a reform might have on credit card borrowing could come from Germany. Press reports suggest that the 2001 repeal of a similar law in Germany have been followed by rapid increases in credit card usage.¹⁶⁹ It is not clear yet, however, whether that increase in usage will lead to a substantial increase in credit card debt.¹⁷⁰

There is one narrow group of affinity programs, however, that do not raise that problem, a rising group of programs that condition the affinity benefits on a cardholder's bill-payment practices. Specifically, those program provide affinity benefits only to

¹⁶⁶ CCM0602:26 (discussing benefits provided at the register based on the profile of the particular customer).

¹⁶⁷ Jennifer Bayot, *Credit Card Lets Democrats Shop with Party Loyalty*, NEW YORK TIMES, Jan. 20, 2004, at C8.

¹⁶⁸ Rachele Garbarine, *Paying Rent by Credit Card, and Dreaming of Waikiki*, NEW YORK TIMES, Dec. 29, 2003, at A17. Lest there be any doubt about it, there is some reason to think that the credit card issuers pressing these programs expect that *some* of the payments will not be repaid during the first billing cycle.

¹⁶⁹ CCM0103:16 (statement of Visa executive that “Germany is going loyalty-made since [the repeal of the so-called Rabattgesetz law]).

¹⁷⁰ Unfortunately, despite correspondence with the German central bank, I have not been able to obtain data about credit card debt in Germany.

cardholders that do not repay their bills completely each month.¹⁷¹ Another variant (offered by American Express) increases the amount of the normal affinity benefit for those cardholders that carry a monthly balance.¹⁷² In a sense, those programs provide affinity benefits out of the interest revenues earned by the issuers. Because they are tied directly to borrowing, they do not present the problem discussed above. Thus, prohibition of those programs would both respond to the cross-subsidization problem and the prodigality problem.

At first glance, of course, such a program seems politically insane, because it suggests a statute designed to protect consumers by taking away from them something that they like. But that should not be surprising. The basis for regulatory intervention would be frankly paternalistic: that consumers do not accurately understand the costs of credit extended to them and that they are particularly vulnerable to prodigality when the credit is extended through the convenience of a credit card.

Another obvious concern is that eliminating affinity programs would simply make credit card issuing even more profitable than it is now. To understand that point, consider data from Australia, where affinity programs are much less pervasive than they are here: there, affinity programs cost about forty-six cents per transaction, about 20% of all of the expenses of issuers on their card programs.¹⁷³ Removing those costs would raise the profits of card issuers substantially. But that assumes that all of the pricing is entirely independent, and that removal of affinity expenses would have no effects on the prices set at the other exchange points in the network.

As discussed above, that is a naïve view of the economics of credit card networks. It is much more plausible to think that credit card markets are relatively competitive despite the highly oligopolistic structure.¹⁷⁴ Data from Australia, for example, suggests that the amount by which issuer revenues exceed the costs of their operations and a reasonable profit is almost exactly the amount by which they subsidize their cardholders with affinity programs.¹⁷⁵ That suggests that in the relative near-term a ban on affinity programs would result in a drop in interchange rates through the simple press of competition, as outlined in the economic models about the rational operation of a card

¹⁷¹ Lieber 2003.

¹⁷² CCM1002:54.

¹⁷³ Gans & King 2001.

¹⁷⁴ The most persuasive empirical evidence is an analysis of the cost efficiency of credit card banks, which suggests that they are generally as competitive as other American banks. Kulasekaran & Shaffer 2002. Studies relying on data from industry profits and pricing practices have drawn markedly inconsistent conclusions. *Compare* Brito & Hartley 1995 (favorable assessment of competitiveness of American credit card industry); Jones & Zywicki 1999 (same); Zywicki 2000 (same), *with* Ausubel 1991 (reasoning that the American credit card industry is not competitive because credit card interest rates do not drop when the cost of funds in the industry falls).

¹⁷⁵ Gans & King 2001.

network. If that occurs, then the cross-subsidization problem would be mitigated from a second side, reducing the cost differential that merchants face (as well as the negative cost that attracts consumers).

This proposal is a tentative one, primarily a suggestion for exploration. There are quite a number of details that would have to be worked out in the process of implementation. For example, the proposal at the beginning of this section refers to benefits provided by third parties. I doubt it would be useful for the proposal to apply to retailer cards. In the context of retailer cards, an affinity program is simply a discount for volume purchasing. Because the seller receives all of the revenue from the covered sales transaction, those cards do not raise the same price-discrimination problems as those raised by third-party cards.¹⁷⁶ Similarly, card issuers (especially those in the high-end market) often provide a variety of nonmonetary benefits to cardholders that often are not tied directly to purchases (access to travel counselors, personal shoppers, concierge assistance, etc.)¹⁷⁷ The logic of the proposal suggests that it should be limited to consideration that is directly attributable to a particular purchase or group of purchases; that problem raises some definitional challenges.

In the end, the plausibility of this proposal probably depends on the perspective of the regulator in question. A regulator highly motivated to solve the cross-subsidization problem might view the broad proposal as an important option. A regulator less interested in that problem and more troubled by the prodigality problem discussed in Part II might be concerned that the proposal interferes with market transactions that are not tied with sufficient directness to the problem. A regulator that both thinks the prodigality problem is serious and is convinced that any decline in credit card spending would mitigate the prodigality problem should think this proposal is quite valuable. Finally, any regulator that takes the prodigality problem seriously should want to prohibit affinity programs that reward carrying a monthly balance. Thus, those programs offer a good place to start any such prohibition.

C. Regulating Information

A final group of proposals related to the regulation of the information available to consumers. If the problem of prodigality in fact rests on a failure to appreciate the “true” risks of credit card borrowing, then regulation of information can be productive. Indeed, because regulation of information often can be implemented without directly barring transactions in which parties wish to engage, information regulation has the value of being less paternalistic than direct prohibition of suspect transactions. As discussed above, the difficulty of separating “good” borrowing from “bad” borrowing makes those kinds of direct prohibitions difficult to design in a useful way. Moreover, there always is the risk mentioned above, that “information” regulation will be adopted as a compromise

¹⁷⁶ I assume that regulations could specify how the provision would apply to cards issued by entities that are distinct from the retailer, but under common control with the retailer.

¹⁷⁷ CCM0203:46.

because of a failure of the political will to adopt direct substantive reforms. I discuss here a narrow rule that would ban marketing to minors and also more ambitious reforms generally designed to enhance disclosure at the point of sale.

1. *Special Rules for Minors*

The simplest possibility is to establish special rules for minors. If the concern about credit cards is that consumers use them without fully appreciating the costs and risks associated with incurring substantial amounts of debt, then we might be particularly concerned about transactions in which minors are involved. The law in other contexts often relies on the possible susceptibility of minors to articulate special paternalistic rules designed to protect minors from their own mistakes. Consider for example rules invalidating certain contracts made by minors and rules validating spendthrift trusts.¹⁷⁸ In this context, some parallels are apparent. Most obviously, Section 50 of Britain's Consumer Credit Act flatly prohibits direct marketing of credit cards to persons under the age of 18.¹⁷⁹

There is good reason to think in this country that credit card institutions are devoting a substantial amount of effort to marketing targeted at minors. For example, recent news stories discuss initiatives in which major card issuers, with the approval of university administrators, implement card-issuance programs directly on University campuses.¹⁸⁰ Such programs are most effective. For example, recent surveys suggest that 78% of college students that have student loans also have credit cards, that about half of all college students do not pay off their balances each month, and that the average undergraduate student is carrying \$2,748 in credit card debt.¹⁸¹ Even more sobering is a recent CitiBank product, which offers 3% cash-back to minors based on their purchases – but only if they do not repay their bills in full each month.¹⁸² The parallel to the efforts of cigarette manufacturers to get a foothold with young customers is eerie.

¹⁷⁸ Nor is it unheard of to extend those rules to credit cards. For example, MONT. CODE ANN. 31-1-115 bars the issuance of a credit card to a minor without first obtaining consent to the issuance from the minor's parent or legal guardian. As discussed above, I am reluctant to recommend reforms that actually prohibit transactions. Accordingly, this section recommends the lesser reform of barring marketing to minors rather than the greater prohibition of barring the issuance to minors entirely.

¹⁷⁹ Stephenson 1993.

¹⁸⁰ Fitzgerald 2003.

¹⁸¹ Cleaver 2002.

¹⁸² Lieber 2003. I proposed in the previous section that such products be prohibited even when they target adults.

A simple and direct response to this problem is obvious. Congress readily could add to the Truth in Lending Act a provision based on Section 50 of the British statute.¹⁸³ Given the particularities of the American marketing practice, it almost might make sense to extend the provision to include college students. It is difficult to imagine broad-ranging opposition to such a provision.

2. *Contemporaneous Disclosures*

The discussion in the previous part links the prodigality problem to the ease of credit card borrowing and to the failure of consumers to appreciate the risks of borrowing in which they engage. This is not a new problem. Indeed, the core policy of the Truth in Lending Act is to respond to unwise borrowing. The specific response, of course, is not by prohibition of the unwise transactions, but instead by the less paternalistic response of requiring the issuer to provide more information to the cardholder.

The problem with that response generally is that the existing disclosure system is for the most part a waste of money. It produces complicated paper disclosures of information that is not comprehensible to the typical consumer and not particularly useful, such as the total amount of interest that will be paid over time. Consumers are unlikely even to read those disclosures. More importantly for my purposes, much of the information is offered at the time that the credit card application is sent and the account is opened.¹⁸⁴ That is not a time at which increased information is likely to be useful.¹⁸⁵ As discussed above, a salient feature of the credit card system is the separation between the time of the credit card application and the time of the borrowing. TILA does not require any disclosure of information at the time of the specific borrowing transaction.¹⁸⁶ If the

¹⁸³ A more forceful response would be to bar the issuance of cards to minors entirely. As discussed above, however, I am not inclined to favor proposals that directly bar transactions from the marketplace.

¹⁸⁴ Regulation Z, 12 CFR § 226.5a (describing requirements for applications and solicitations), 226.6 (describing required initial disclosures).

¹⁸⁵ I am more ambivalent about disclosures that might affect the decision to select a monthly payment amount. Low minimum payments join with the fees discussed in the text as part of a system that can lead to aggregate outstanding balances far in excess of the original borrowed amount. I am quite skeptical of the need to impose a larger minimum-payment requirement by statute, largely because cardholders in distress can obtain benefits from low minimum payments just as surely as they can abuse them by repaying their balances too slow. I must admit, however, that a disclosure of information about minimum payments delivered to a cardholder with a monthly statement does come at the appropriate time if the purpose is to influence the cardholder to select the payment amount in a responsible way. I am not, however, persuaded that irresponsibility in the selection of payment amounts is nearly so big a problem as the prodigality in borrowing in the first instance that I discuss in the text. Accordingly, I am inclined to think that additional disclosures about the significance of low payment amounts would be a waste of resources.

¹⁸⁶ Compare Regulation E, 12 CFR § 205.9(a) (requiring contemporaneous receipt in electronic point-of-sale transactions).

point of borrowing is the point at which borrowers are failing to appreciate the significance of their actions, then disclosures at the point of borrowing might be more effective. The existing disclosures for the most part are largely a waste of resources that would be better expended in other ways.¹⁸⁷

The plausibility of this point is underscored by widely noted shifts in the revenue models of credit card issuers. Two traditional revenue sources – annual fees and interest revenues – have declined substantially in importance by comparison to fees for such things as late charges and overlimit transactions. For example, between 1994 and 1998, interest income rose by about 70% (from \$34 billion to \$58 billion), while penalty charges rose by about 125% (from \$8 billion to \$18 billion) and late fees rose by more than 300% (from \$1.7 billion to \$7.3 billion).¹⁸⁸ I have not located statistics about the current revenues from those sources, but it is clear that the amounts of the fees are increasing. Current industry statistics indicate that the average late fee among large issuers is now more than \$30,¹⁸⁹ and the average overlimit fee is now over \$29.¹⁹⁰

Based on experience in my household (which has paid a significant amount of late fees over the last few years), it seems quite likely that a substantial amount of those fees does not reflect financial distress, but an imperfect ability to manage information related to the credit card. The payment is not late because the money is not there, but because of an imperfect effort to time the payment to fall on the latest possible day. The transaction does not go over the limit because of a crisis-driven need to borrow to the hilt, but because of a lack of information as to exactly how much is outstanding on any particular card at any particular time. The validity of that point of course is an empirical question. I do not really know what share of late charges and overlimit fees accrue on accounts that

¹⁸⁷ Thus, I find the recent legislation promoting so-called “Schumer boxes” an aggravation of the existing problem, not an improvement. 15 U.S.C. § 1637(c), 12 CFR § 226.5a(b). England’s pending decision to adopt a similar disclosure requirement is equally unfortunate. See <http://news.bbc.co.uk/2/hi/business/3293707.stm> (Dec. 8, 2003) (discussing the British government’s recent proposal to require Schumer boxes in British card solicitations).

¹⁸⁸ Demos 2003:35-36.

¹⁸⁹ http://www.cardweb.com/carddata/charts/latepayment_fees.amp. The amount has increased by 45% since 1998 and 176% since 1993. Dec. 5, 2003 CardFlash. Part of the cause of the increased revenue from late payment fees doubtless is the persistent shortening of grace periods. The average grace period has fallen from 29.7 days in 1990 to 21.5 days at the end of 2001. http://www.cardweb.com/carddata/charts/grace_periods_endofyear_averages.amp. There also appears to be an increasingly technical approach that credit card companies use to determining when payments arrive. See Liz Pulliam Weston, *More Games the Credit-Card Companies Play*, available at <http://moneycentral.msn.com/content/Banking/Yourcreditrating/P51865.asp> (discussing practices under which payments are not treated as received on the date that they reach the credit card issuer’s processing center).

¹⁹⁰ http://www.cardweb.com/carddata/charts/overlimit_fees.amp. That amount is 42% larger than the comparable 1998 figure and 141% higher than the comparable 1993 figure. Dec. 5, 2003 CardFlash.

are not generally in default, but that is my point. If we knew that a substantial amount of those fees were incurred because of mistakes rather than a “true” need for the funds, it would be an indictment of the business model that relies on those fees so heavily.

As an informational matter, that problem resonates with much of the discussion in this article. We in fact know very little empirically about the operation of the card system in this country. It is an embarrassment that the regulatory authorities in other countries (Australia and the UK in particular) have so much more accurate historical and current information about payment systems in their countries than we have in this country. If these issues present problems of concern to policymakers, a first step that should encounter little opposition would be for some agency of the government to begin collecting some minimal amounts of information about the subject. On questions of particular interest, targeted government data collection seems appropriate. The relation between late and penalty fees and financial distress seems an obvious candidate.

That discussion suggests that a disclosure system keyed to the point of borrowing could be more effective than the existing disclosure system keyed to the point at which the line of credit is authorized. Specifically, I suggest that it would alter the actions of cardholders in a substantial way if they were advised at the time of each transaction as to the amount of their credit line, the amount of credit available at the time of the transaction, and any overlimit or other fees that would be charged to them for engaging in the transaction in question. In transactions that are authorized “online” with a contemporaneous electronic communication from the issuer, the relevant information could be transmitted to the merchant along with the authorization; the merchant’s payment terminal could display the information to the cardholder before the cardholder finally approves the transaction. The EFTA already requires a paper receipt in electronic point-of-sale payments.¹⁹¹ Essentially, this would be similar to the common screen requiring the cardholder to approve a fee charged by an out-of-system ATM machine before the transaction proceeds.

As with the proposal related to affinity fees, this proposal would require considerable delineation before it could be enacted. Thus, it would not be practical for Congress to articulate the details of the proposal. Among other things, the proposal would depend on alterations in the method by which terminals process transactions. Details about such things could be ironed out only after consultation with affected industry groups – terminal manufacturers, issuers, acquirers, and merchants. Moreover, it well might be impractical to extend the proposal to the small share of transactions that are cleared without contemporaneous electronic authorization.¹⁹² Those details should be left to the Federal Reserve for implementation through amendments to Regulation Z. The

¹⁹¹ Regulation E, 12 CFR § 205.9(a).

¹⁹² In countries that clear a smaller share of their transactions electronically (a category that includes most if not all countries other than the United States), this proposal would impose much greater costs and thus be much less practical.

broad outlines discussed above, however, would be suitable for implementation through amendments to the Truth in Lending Act.

V. CONCLUSION

The major thread of this paper is that credit cards are a global phenomenon, an aspect of globalization that we all must observe with the same combination of trepidation and admiration as we do most aspects of globalization. I have suggested a number of specific statutory reforms – rules permitting merchants to impose surcharges for credit card use, limiting affinity programs, barring marketing that targets minors, and revamping the disclosure system. But my broader goal is to further a general understanding of that phenomenon. I certainly would not suggest that I have solved the basic problem of the credit card. I do hope, however, that I have provided some food for thought about it.

BIBLIOGRAPHY

Rob Alessie, Stefan Hochguertel & Guglielmo Weber, *Consumer Credit: Evidence from Italian Micro Data* (Oct. 2001)

G. Ardizzi, *Cost Efficiency in the Retail Payment Networks: First Evidence from the Italian Credit Card System* (Temi di discussione del Servizio Studi, Banca d'Italia) (June 2003)

G. Ardizzi & G. Coppola, *The Italian Case Study: Interchange Fee, Market Structure and Cost Efficiency in the Retail Payment System* (unpublished 2002 manuscript)

Lawrence M. Ausubel, *The Failure of Competition in the Credit Card Market*, 81 AM. ECON. REV. 50, 71 (1991)

Lawrence M. Ausubel, *Credit Card Defaults, Credit Card Profits, and Bankruptcy*, 71 AM. BANKR. L.J. (1997)

Lawrence M. Ausubel, *Adverse Selection in the Credit Card Market* (1999)

Lawrence M. Ausubel, *Personal Bankruptcies Begin Sharp Decline: Millennium Data Update* (Jan. 2000)

William F. Baxter, *Bank Interchange of Transactional Paper: Legal and Economic Perspectives*, 26 J.L. & ECON. 541 (1983)

Sara Sun Beale, *The Political, Social, Psychological and Other Non-Legal Factors Influencing the Development of (Federal) Criminal Law*, 1 BUFFALO CRIM. L. REV. 23 (1997)

Sara Sun Beale, *Economic Pressures and Internal Structure Shape the U.S. Media's Treatment of Crime: Do They Also Shape U.S. Criminal Justice Policy?* (Nov. 2001)

Eric E. Bergsten, *Credit Cards – A Prelude to the Cashless Society*, 8 B.C. INDUS. & COMM. L. REV. 485 (1966)

Carol C. Bertaut & Michael Haliassos, *Debt Revolvers for Self Control* (June 2002 draft)

Sandra E. Black & Donald P. Morgan, *Meet the New Borrowers*, CURRENT ISSUES IN ECON. & FIN. (Fed. Res. Bank of New York), Feb. 1999

Dagobert L. Brito & Per R. Hartley, *Consumer Rationality and Credit Cards*, 103 J. POL. ECON. 400 (1995)

LENDOL CALDER, *FINANCING THE AMERICAN DREAM: A CULTURAL HISTORY OF SECURED CREDIT* (1999)

Paul S. Calem & Loretta J. Mester, *Consumer Behavior and the Stickiness of Credit Card Interest Rates*, 85 AM. ECON. REV. 1327 (1995)

Dennis W. Carlton & Alan S. Frankel, *The Antitrust Economics of Credit Card Networks*, 63 ANTITRUST L.J. 643 (1995)

Sujit Chakravorti, *Theory of Credit Card Networks: A Survey of the Literature*, 2 REV. NETWORK ECON., June 2003, at 50

Sujit Chakravorti & William R. Emmons, *Who Pays for Credit Cards?*, Emerging Payments Occasional Paper Series February 2001 (EPS-2001-1) (Fed. Res. Bank Chicago)

Sujit Chakravorti and Alpa Shah, *A Study of the Interrelated Bilateral Transactions in Credit Card Networks*, Emerging Payments Occasional Paper Series July 2001 (EPS-2001-2) (Fed. Res. Bank Chicago)

Sukrit Chakravorti & Ted To, *Toward a Merchant Theory of Credit Card Acceptance* (1999) (Working Papers Series, Research Dep't, WP-99-16) (Fed. Res. Bank Chi.)

SAMPRIK CHATTERJEE & BERTRAM PRICE, *REGRESSION ANALYSIS BY EXAMPLE* (2d ed. 1991)

Joanne Y. Cleaver, *The Challenges of College Collections*, CREDIT CARD MANAGEMENT, June 2002, at 28

Jonathan Crook, *The Demand and Supply for Household Debt: A Cross Country Comparison* (May 2003 draft)

Marianne B. Culhane & Michaela M. White, *Taking the New Consumer Bankruptcy Model for a Test Drive: Means Testing Real Chapter 7 Debtors*, 7 AM. BANKR. INST. L. REV. 27 (1999).

Demos, *Borrowing to Make Ends Meet: The Growth of Credit Card Debt in the 90's*, available at http://www.demos-usa.org/demos/debt_assets/borrowing.pdf

Nuria Diez Guardia, *Consumer Credit in the European Union* (ECRI Research Report No. 1) (Feb. 2000)

John F. Dolan, *Impersonating the Drawer: A Comment on Professor Geva's "Consumer Liability in Unauthorized Electronic Funds Transfers"*, 38 CAN. BUS. L.J. 282 (2003)

Ian Domowitz & Robert L. Sartin, *Determinants of the Consumer Bankruptcy Decision*, 54 J. FIN. 403 (1999)

Rafael Efrat, *The Rise and Fall of Entrepreneurs: An Empirical Study of Individual Bankruptcy Petitioners in Israel* 7 STAN. J.L., BUS. & FIN. 162 (2002)

Rafael Efrat, *Global Trends in Personal Bankruptcy*, 76 AM. BANKR. L.J. 81 (2002)

Diane Ellis, *The Effect of Consumer Interest Rate Deregulation on Credit Card Volumes, Charge-offs, and the Personal Bankruptcy Rate*, Bank Trends 98-05 (FDIC, Div. of Ins., Mar. 1998)

EUROMONITOR, WORLD MARKET FOR FINANCIAL CARDS (2002)

DAVID EVANS & RICHARD SCHMALENSSEE, PAYING WITH PLASTIC: THE DIGITAL REVOLUTION IN BUYING AND BORROWING (1999)

Gerald R. Faulhaber, *Cross-Subsidization: Pricing in Public Enterprises*, 65 AM. ECON. REV. 966 (1975)

Kate Fitzgerald, *They're Baaaaaack: Card Marketers on Campus*, CREDIT CARD MANAGEMENT, June 2003, at 18

Alan S. Frankel, *Monopoly and Competition in the Supply and Exchange of Money*, 66 ANTITRUST L.J. 313 (1998)

JON FRIEDMAN & JOHN MEEHAN, HOUSE OF CARDS: INSIDE THE TROUBLED EMPIRE OF AMERICAN EXPRESS (1992)

THOMAS L. FRIEDMAN, THE LEXUS AND THE OLIVE TREE: UNDERSTANDING GLOBALIZATION (1999)

Joshua S. Gans & Stephen P. King, *The Role of Interchange Fees in Credit Card Associations: Competitive Analysis and Regulatory Issues*, 20 AUSTRALIAN BUS. LAW REV. 94 (2001)

Joshua S. Gans & Stephen P. King, *The Neutrality of the Interchange Fees in the Payment Systems*, TOPICS IN ECONOMIC ANALYSIS & POLITICS, 3, 1, Article 1

Benjamin Geva, *Consumer Liability in Unauthorized Electronic Funds Transfers*, 38 CANADIAN BUS. L.J. 207 (2003)

R. Alton Gilbert, *The Advent of the Federal Reserve and the Efficiency of the Payments Systems: The Collection of Checks, 1915-1930*, 37 EXPLORATIONS IN ECON. HIST. 121 (2000).

GLOBAL REPORT ON CRIME AND JUSTICE (G. Newman ed. 1999)

Charles Grant, *Consumer Bankruptcy Law, Credit Constraints and Insurance: Some Empirics*, 2001 GERMAN WORKING PAPERS IN LAW AND ECONOMICS, Article 3

David B. Gross & Nicholas S. Souleles, *An Empirical Analysis of Personal Bankruptcy and Delinquency*, Wharton Financial Institutions Center Working Paper 98-28-B

David B. Gross & Nicholas S. Souleles, *Consumer Response to Changes in Credit Supply: Evidence from Credit Card Data* (2/4/00 draft)

Luigi Guiso, *Consumer Credit & Household Loans Markets Across Italian Regions* (May 2002 slides)

Michael Haliassos and Michael Reiter, *Credit Card Debt Puzzles* (May 2003 draft)

David B. Humphrey & Allen N. Berger, *Market Failure and Resource Use: Economic Incentives to Use Different Instruments*, in THE U.S. PAYMENT SYSTEM: EFFICIENCY, RISK, AND THE ROLE OF THE FEDERAL RESERVE 45 (1988)

David B. Humphrey, Moshe Kim & Bent Vale, *Realizing the Gains from Electronic Payments: Costs, Pricing, and Payment Choice*, 33 J. MONEY, CREDIT & BANKING 216 (2001)

Robert J. Hunt, *The Development and Regulation of Consumer Credit Reporting in America* (Fed. Res. Bank of Phil. Working Paper 02-21) (Nov. 2002)

Melissa B. Jacoby, Teresa A. Sullivan & Elizabeth Warren, *Rethinking the Debates over Health-Care Financing: Evidence from the Bankruptcy Courts*, 76 NYU L. REV. 375 (2001)

Tullio Jappelli & Marco Pagano, *Information Sharing, Lending and Defaults: Cross Country Evidence* (CSEF Working Paper No. 22) (Mar. 2000)

Tullio Jappelli and Marco Pagano, *Information Sharing in Credit Markets: A Survey* (Centre for Studies in Economics and Financing Working Paper No. 36) (March 2000)

Nicola Jentzsch, *The Economics and Regulation of Financial Privacy – A Comparative Analysis of the United States and Europe* (JFK Working Paper No. 128/2001)

Nicola Jentzsch, *The Implications of the New Consumer Credit Directive for EU Credit Market Integration* (2003 draft)

Nicola Jentzsch & Amparo San Jose Riestra, *Information Sharing and Its Implications for Consumer Credit Markets: United States v. Europe* (May 2003 draft)

Edith H. Jones & Todd J. Zywicki, *It's Time for Means-Testing*, 1999 BYU L. REV. 177

Michael L. Katz, *Reform of Credit Card Schemes in Australia* (Commissioned Report for the Reserve Bank of Australia) (2001)

Fahad Khalil & Bruno M. Parigi, *Screening, Monitoring and Consumer Credit* (Oct. 2001)

Edmund W. Kitch, *The Framing Hypothesis: Is It Supported by Credit card Issuer Opposition to a Surcharge on a Cash Price?*, 6 J.L., ECON. & ORG. 217 (1990).

Kim Kowaleski, *Personal Bankruptcy: A Literature Review* (CBO Paper Sept. 2000)

Sivakumar Kulasekaran & Sherrill Shaffer, *Cost Efficiency Among Credit Card Banks*, 54 J. Econ. & Bus. 54 (2002)

Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer & Robert W. Vishny, *Law and Finance*, 106 J. POL. ECON. 1113 (1998)

Robert M. Lawless, *The Relationship Between Nonbusiness Bankruptcy Filings and Various Basic Measures of Consumer Debt* (2002 e-article)

Ron Lieber, *A Bonus for Blowing Off Your Bills*, WALL ST. J., Sept. 16, 2003, at D1

Joseph Lupton & Frank Stafford, *Five Years Older: Much Richer or Deeper in Debt?* (Jan. 2000)

Fabio M. Manenti & Ernesto Somma, *Plastic Clashes: Competition Among Closed and Open Systems in the Credit Card Industry* (Oct. 2003 manuscript)

BRUCE MANN, REPUBLIC OF DEBTORS: BANKRUPTCY IN THE AGE OF AMERICAN INDEPENDENCE (2002)

Ronald J. Mann, *Credit Cards and Debit Cards in the United States and Japan*, 55 VAND. L. REV. 1055 (2002)

Ronald J. Mann, *Regulating Internet Payment Intermediaries*, 82 TEXAS L. REV. (forthcoming 2004)

Ronald J. Mann, *A Payments Policy for the Information Age* (forthcoming 2004)

RONALD J. MANN, PAYMENT SYSTEMS (2d ed. 2003)

Ronald J. Mann, *The Role of Secured Credit in Small-Business Lending*, 86 GEORGETOWN L.J. 1 (1997)

- RONALD J. MANN & JANE KAUFMAN WINN, *ELECTRONIC COMMERCE* (2002)
- ROBERT D. MANNING, *CREDIT CARD NATION: THE CONSEQUENCES OF AMERICA'S ADDICTION TO CREDIT* (2000)
- Loretta J. Mester, *Is the Personal Bankruptcy System Bankrupt?*, *BUS. REV.*, 1st Qu. 2002, at 31 (Phil. Fed. Res.)
- Curtis J. Milhaupt & Mark D. West, *The Dark Side of Private Ordering: An Institutional and Empirical Analysis of Organized Crime*, 67 *U. CHI. L. REV.* 41 (2000)
- Johanna Niemi-Kiesiläinen, *Changing Directions in Consumer Bankruptcy Law and Practice in Europe and USA*, 20 *J. CONSUMER POL'Y* 133 (1997).
- Office of Fair Trading, *MasterCard Interchange Fees: Preliminary Conclusions* (Feb. 2003)
- Jorge A. Padilla & Marco Pagano, *Sharing Default Information as a Borrower Discipline Device* (1999 draft) (forthcoming in *EUROPEAN ECON. REV.*)
- Marco Pagano & Tullio Jappelli, *Information Sharing in Credit Markets*, 48 *J. FIN.* 1693 (1993)
- RAGHURAM G. RAJAN & LUIGI ZINGALES, *SAVING CAPITALISM FROM THE CAPITALISTS* (2003)
- J. MARK RAMSEYER & FRANCES MCCALL ROSENBLUTH, *JAPAN'S POLITICAL MARKETPLACE* (1993)
- RESERVE BANK OF AUSTRALIA, *REFORM OF CREDIT CARD SCHEMES IN AUSTRALIA: FINAL REFORMS AND REGULATORY IMPACT STATEMENT* (Aug. 2002)
- GEORGE RITZER, *EXPRESSING AMERICA: A CRITIQUE OF THE GLOBAL CREDIT CARD SOCIETY* (1995)
- Jean-Charles Rochet & Jean Tirole, *Cooperation Among Competitors: Some Economics of Payment Card Associations*, 33 *RAND J. ECON.* 549 (2002)
- Jean-Charles Rochet & Jean Tirole, *Platform Competition in Two-Sided Markets* (Dec. 2002)
- MARK J. ROE, *STRONG MANAGERS, WEAK OWNERS: THE POLITICAL ROOTS OF AMERICAN CORPORATE FINANCE* (1994)
- Edward L. Rubin, *Legislative Methodology: Some Lessons from the Truth in Lending Act*, 80 *GEORGETOWN L.J.* 233 (1991)
- Richard Schmalensee, *Payment Systems and Interchange Fees*, 50 *J. INDUS. ECON.* 103 (2002)

- MATTY SIMMONS, *THE CREDIT CARD CATASTROPHE* (1995)
- Joanna Stavins, *Credit Card Borrowing, Delinquency, and Personal Bankruptcy*, NEW ENGLAND ECON. REV., July/Aug. 2000, at 15
- GRAHAM STEPHENSON, *CREDIT, DEBIT & CHEQUE CARDS: LAW & PRACTICE* (1993)
- TERESA SULLIVAN, ELIZABETH WARREN & JAY WESTBROOK, *AS WE FORGIVE OUR DEBTORS* (1989)
- TERESA SULLIVAN, ELIZABETH WARREN & JAY WESTBROOK, *THE FRAGILE MIDDLE CLASS* (2000)
- Teresa A. Sullivan, Elizabeth Warren & Jay Lawrence Westbrook, *Who Uses Chapter 13?*, in 269 (2003)
- RICHARD H. THALER, *QUASI RATIONAL ECONOMICS* (1991)
- UNITED NATIONS OFFICE FOR DRUG CONTROL AND CRIME PREVENTION, *GLOBAL REPORT ON CRIME AND JUSTICE* (1999)
- Elizabeth Warren, *The Bankruptcy Crisis*, 73 IND. L.J. 1079 (1998)
- ELIZABETH WARREN AND AMELIA WARREN TYAGI, *THE TWO-INCOME TRAP: WHY MIDDLE-CLASS MOTHERS AND FATHERS ARE BROKE* (2003)
- Jay Westbrook, *Local Legal Culture and the Fear of Abuse*, 6 AMERICAN BANKR. INST. L. REV. 25 (1998)
- Michelle J. White, *Bankruptcy and Consumer Credit in the United States* (2002 manuscript)
- Julian Wright, *An Economic Analysis of a Card Payment Network* (Dec. 2000)
- Julian Wright, *The Determinants of Optimal Interchange Fees in Payment Systems* (July 2001)
- Julian Wright, *Optimal Card Payment Systems*, 47 EUR. ECON. REV. 587 (2003)
- Todd J. Zywicki, *The Economics of Credit Cards*, 3 CHAPMAN L. REV. 79 (2000)
- Todd J. Zywicki, *Why So Many Bankruptcies and What to Do About It: An Economic Analysis of Consumer Bankruptcy Law and Bankruptcy Reform* (2003 manuscript, available at www.ssrn.com)

DATA APPENDIX

The purpose of this appendix is to summarize the sources of the data in the figures. Section 1 starts with some general descriptions of the major sources on which I relied for the payment card information and then continues with a detailed listing of the sources for each of the countries. Section 2 discusses sources for the nature of the bankruptcy discharge in various countries.

Section 1: Payment Card Data

Nilson Report: The *Nilson Report* is a proprietary periodical that reports detailed information about all aspects of credit and debit card transactions in the United States and a variety of information about other countries. Because it is proprietary, it is not clear exactly how it is collected. It is, however, plainly the best source for the United States, in the absence of any substantial public statistical source.

BIS Data: The most general source of data is the Bank for International Settlements' series *Statistics on Payment and Settlement Systems in Selected Countries* and *Statistics on Payment Systems in the Group of Ten Countries*. The first of those (the so-called "Red Book") now includes information on Belgium, Canada, France, Germany, Hong Kong, Italy, Japan, Netherlands, Singapore, Sweden, and Switzerland. The G-10 series includes information on Belgium, Canada, France, Germany, Hong Kong, Italy, Japan, Netherlands, Sweden, Switzerland, the United Kingdom, and the United States.

The information typically includes whatever information is available about the number and value of credit and debit card transactions, as well as matching information about GDP, population, and exchange rate. The data are obtained from the central banks of the respective nations. The problem with relying on the data is that they are inconsistent, in the sense that different publications report different data for the same year. For example, the 1999, 2000, and 2001 G-10 publications all might report different numbers for 1998 credit card transactions in Japan. The data also (as with Canada) commonly include such serious discontinuities in the data as to suggest a shift in data collection techniques. Because the data come from central banks, I do not think I should dismiss them as unreliable. I do not, however, use them whenever I have better data sources available.

Euromonitor: Euromonitor publishes an extensive set of information about a large number of countries. Ultimately, however, I decided that the data has too many errors to make it reliable. The difficulty is that in the few countries where I am confident that I have reliable information directly from central banks (Canada and the UK, for example), the Euromonitor data is widely off (much lower than the central bank data).

Australia: Australia has the best collection of information in the world. Substantially all of the relevant information is on the Royal Bank's Web site at www.rba.gov.au. From that site I collected information on the number and value of credit and debit card transactions, as well as information about credit card debt. I collected information on population, GDP, and exchange rates from the World Bank's

WDI database. Because they were not available at WDI, I collected 2002 information on population from www.abs.gov.au/ausstats, GDP from www.rba.gov.au, and exchange rate from www.xe.com.

Belgium: The National Bank of Belgium provided information on the number and amount of credit card and debit card transactions. I collected information on population and GDP from the World Bank's WDI database.

Canada: I have collected data on Canada from a variety of sources. Data on the number of credit card and debit card transactions has been compiled from the *Nilson Report*, a proprietary periodical, supplemented with data from Interac (Canada's local debit-card system), www.interac.org. For information on credit card debt, and on ratios of credit card debt to credit card volume, I have accepted the advice of the Bank of Canada and rely on data about Visa and MasterCard transactions, which the Bank has provided to me. Data on fraud are from epaynews.com. I collected information on population, GDP, and exchange rate from the World Bank's WDI database. Because 2002 information was not in WDI, I collected 2002 population from CIA World Factbook (www.cia.gov) and the 2002 exchange rate from www.x-rates.com.

China: I collected information on the value and number of credit and debit card transactions, population, GDP, and exchange rates from *Payment Systems in EMEAP Countries*, published in July 2002 by the Working Group on Payment and Settlement Systems of the Executives' Meeting of East Asia-Pacific Central Banks and Monetary Authorities (EMEAP). This publication is modeled on the BIS publications, but includes information on a number of East Asian countries.

France: Data on France is hard to acquire, because the system is dominated by the Cartes Bancaires card, offered by a consortium of banks. It is easy to obtain statistics about that system, but not about the card products offered outside that system. I used Cartes Bancaires data for the figure on total card transactions. I collected information on population from the World Bank's WDI database.

Italy: I collected data on the value and amount of credit and debit card transactions, population, GDP, and exchange rates from the BIS publications.

Japan: I collected data on credit and debit card transactions from the BIS publications. Data on fraud are from the Japan Consumer Credit Industry Association's annual yearbook. I collected information on population and GDP from the World Bank's WDI database.

Netherlands: I collected data on population, GDP, and the number and amount of credit and debit card transactions from the BIS publications.

New Zealand: I collected information on credit card debt and volume from the central bank's Web site at www.rbnz.govt.nz.

South Korea: For information on credit card debt and credit card volume, I rely on information published in *Cards International*, supplemented with related unpublished

data collected by Anthony O'Brien. I collected information on GDP from the World Bank's WDI database. I collected information on exchange rates from www.x-rates.com (because it was not available in the WDI database).

Sweden: I collected information on the value and amount of debit and credit card transactions, population, GDP, and exchange rates from the BIS publications.

UK: The most general source of information is APACS (the Association for Payment Clearing Services), www.apacs.org.uk. I have relied on APACS's *Plastic Card Review 2002* for information about the number and amount of credit and debit card transactions. Data on fraud are from Cardwatch (an arm of APACS), www.cardwatch.org.uk. For credit card debt, I rely on information provided to me by the Bank of England. I collected information on population, GDP, and exchange rates from the World Bank's WDI database.

USA: There is no general governmental source for information about credit-card and debit-card transactions in the United States. The most widely used source is the *Nilson Report*. I have compiled from various issues of that periodical data about the number and amount of credit and debit card transactions and about credit card debt. Data on fraud are from epaynews.com. I collected information on population and GDP from the World Bank's WDI database. The information in Figure 11 about noncash consumer payment systems also is from the *Nilson Report*.

Section 2: Bankruptcy Discharges

There obviously is a considerable degree of subjectivity in assigning countries to the specific categories. I am heartened, however, by the consensus between the two major scholars that have thought about this question (Ziegel and Efrat) as to the underlying significance of the distinctions. *See, e.g., Ziegel (2003):147-49.*

Mandatory Discharges:

Australia: Bankruptcy Act, 1966, § 149 (Austl.). For secondary discussion, see LEWIS' AUSTRALIAN BANKRUPTCY LAW 240-44 (11th ed. 1999 D. Rose).

Canada: Bankruptcy and Insolvency Act, 1985, § 170. For secondary discussion, see JACOB S. ZIEGEL, COMPARATIVE CONSUMER INSOLVENCY REGIMES—A CANADIAN PERSPECTIVE 38-39 (2003)

Netherlands: PETER J.M. CECLERQ, NETHERLANDS INSOLVENCY LAW: THE NETHERLANDS BANKRUPTCY ACT AND THE MOST IMPORTANT LEGAL CONCEPTS 3 (2002)

New Zealand: Insolvency Act 1967, § 107(1). For secondary discussion, see Paul Heath, *Consumer Bankruptcies: A New Zealand Perspective*, 37 OSGOODE HALL L.J. 427, 436 (1999).

UK: Insolvency Act 1986, § 279(1). For secondary discussion, see THE INSOLVENCY SERVICE, DEPARTMENT OF TRADE AND INDUSTRY, BANKRUPTCY: A FRESH START (2000) 16; Michael Adler, *The Overseas Dimension: What Can Canada and the United States Learn from the United Kingdom*, 37 OSGOODE HALL L.J. 415, 416 (1999)

USA: 11 U.S.C. § 727.

Discretionary Discharges:

Japan: Bankruptcy Act art. 366.

South Africa: Insolvencies Act § 129(1)(b). For secondary discussion, see HOCKLEY'S INSOLVENCY LAW 147-48 (6th ed. 1996 R. Sharrock et al.)

Sweden: Johanna Niemi-Kiesiläinen, *Consumer Bankruptcy in Comparison: Do We Cure a Market Failure or a Social Problem*, 37 OSGOODE HALL L.J. 473, 495-96 (1999)

No Discharge:

Belgium: Bernard Hanotiau, *Concordat and Bankruptcy in Belgium*, 2002 ANN. SURV. OF BANKR. LAW 367. This information also was confirmed in correspondence with the National Bank of Belgium.

Italy: IAN F. FLETCHER, THE LAW OF INSOLVENCY 7 (1st ed. 1990)

STATISTICAL APPENDIX

A. The Relative Significance of Economic Development and Globalization

For this analysis, consumer credit/GDP was the dependent variable. I used two independent variables. The first was GDP/capita, as an index of economic development. The second was a globalization index constructed by *Foreign Policy* magazine. {A 1 is the best score (for most globalized); higher numbers reflect less globalization.}

The data is set out in the following table.

COUNTRY	GDP/POP*	CONC/GDP**	GLOB. INDEX
USA	33.5	16.4	11
Canada	22.2	17.9	7
UK	24.1	15.9	9
Germany	23.2	7.0	17
France	21.8	12.0	12
Italy	18.1	3.9	24
Spain	10.8	3.5	18
Netherlands	21.7	10.4	5
Belgium	22.9	4.8	n/a
Argentina	7.7	3.3	48
Mexico	5.9	0.5	49
Brazil	3.6	4.7	57
Australia	16.8	11.6	21
India	0.5	2.1	56
Japan	36.0	14.4	35
Hong Kong	23.6	9.1	n/a
Taiwan	14.3	8.0	34
South Korea	9.0	11.7	28
Singapore	23.3	15.1	4

*Thousands of United States dollars.

** Consumer Credit/Gross Domestic Product (Percentage).

Source: 2000 data. GDP and Consumer Credit from Morgan Stanley. Population from World Bank.

Summary results follow.

R	R ²	Adj. R ²	Stand. Error
.819	.670	.623	3.3366

Model	Sum Of Square	df	Mean Square	F	Sig.
Regression	316.918	2	158.459	14.233	.000
Residual	155.862	14	11.133		
Total	472.780	16			

Model	Unstandardized B	Unstandardized Stand. Error	Standardized Beta	T	Sig.
(Constant)	6.511	3.466		1.879	.041
Globalization Index	-.098	.065	-.326	-1.520	.76
GDP/POP	.303	.116	.558	2.602	.011

The globalization index was not statistically significant at any level. GDP/POP was significant at the 5% level (one-tailed). GDP/POP and the globalization index together explain 62% of the variance on consumer credit/GDP.

B. Crime and Credit Card Spending

The following tables report results comparing credit-card spending to the total number of reported crimes.

Obs.	30
F (1, 4)	0.38
Prob > F	0.5704
R ²	0.0296
Root MSE	926.82

CCSPEND	Coef.	Robust Std. Err.	t	P > t	95% Conf. Interval	
TOTCRIME	.0544117	.0881258	0.62	0.570	-.1902648	.2990883
Cons	1697.515	854.0428	1.99	0.118	-673.6882	4068.718

The following tables report results comparing credit-card spending to murders.

Obs.	30
F (1, 4)	10.30
Prob > F	0.0326
R ²	0.3626
Root MSE	751.12

CCSPEND	Coef.	Robust Std. Err.	t	P > t	95% Conf. Interval	
MURDERS	274.7776	85.63776	3.21	0.033	37.0904	512.5461
Cons	1075.766	307.6455	3.50	0.025	221.6055	1929.927

Although that initial analysis suggested a significant relationship, further examination indicated the relationship was spurious. Models by country showed a significant negative relationship for both US and Canada, but for the remaining countries a positive though statistically insignificant relationship. Removing the U.S. and Canada from analysis and fitting a model on the remaining pooled country data failed to change the overall positive relationship. We can probably conclude that this relation is not causal insofar as higher spending is associated with higher murder rates. Murder rates decline over time for the U.S., U.K., and Canada with other countries showing no trend over time. At the same time consumer spending shows a marked increase over time for all countries. Therefore, those three countries might be driving the association.

A further assessment checks on how changes in spending respond to changes in murder rate. The model is

$$DY = DX + e$$

where $DY = Y_t - Y_{(t-1)}$ and $DX = X_{(t-2)} - X_{(t-1)}$, where Y is spending and X is murder rate and t is year. Note that change in murder rate is lagged by one year. There is no evidence that change in spending is responsive to change in murder rates.

Δ SPEND	Coef.	Robust Std. Err.	t	P > t	95% Conf. Interval	
Δ CRIME	-29.37247	41.10587	-0.71	0.514	-143.5006	84.75571
Cons	175.0893	43.11618	4.06	0.015	55.37961	294.799

C. Credit Card Debt and Savings

The data was analyzed by an OLS regression with robust standard errors. The first formulation used the ratio of credit-card spending to gross domestic product as the independent variable. The dependent variable is savings. A summary of the results follows.

Obs.	43
F (1, 3)	3.22
Prob > F	0.1707
R ²	0.0780
Root MSE	2.9306

SAVE	Coef.	Robust Std. Err.	t	P > t	95% Conf. Interval	
CCSPEND	-.0009197	.0005126	-1.79	0.171	.0025511	.0007116
Cons	21.03085	1.593569	13.20	0.001	15.9594	26.1023

An alternate formulation used the ratio of credit-card debt to gross domestic product as the independent variable. It was similarly inconclusive.

Obs.	45
F (1, 3)	3.43
Prob > F	0.1612
R ²	0.1099
Root MSE	2.916

SAVE	Coef.	Robust Std. Err.	T	P > t	95% Conf. Interval	
CCGDP	-.554191	.2993293	-1.85	0.161	-1.506791	.3984084
Cons	20.81035	2.093589	9.94	0.002	14.14762	27.47308

D. Credit Card Debt, Consumer Credit & Bankruptcy

On this topic, I used a multivariate analysis of consumer bankruptcies as a function of credit card spending, credit card debt, and consumer credit. I used the four countries for which I was able to obtain a time series of data on all four of those data points: Australia, Canada, USA, UK. The consumer bankruptcy variable was lagged by one year in the analysis.

PROBLEMS

The goal was to determine the separate effects of the independent variables on bankruptcies. Because of the high correlation among the independent variables, it is not easy to draw inferences about their effects. That high correlation can lead to conditions of near linear dependence or multicollinearity in a multivariate analysis. Another potential problem is that the data points are not independent due to the repeated measures (I have a cross-sectional time series), which can lead to autocorrelation in the outcome variable and in the error terms. Both the multicollinearity and autocorrelation problems can lead to invalid inferences from standard linear (OLS) regressions.

Accounting for Multicollinearity

I use a variance inflation factor (vif) to evaluate the seriousness of the multicollinearity problem. Analysis of the data on a country-by-country basis produced unacceptably high measures of vif (more than 30). See CHATTERJEE AND PRICE (1991). When the data were pooled across countries, however, the vif fell to 10, which satisfies a more conservative standard of multicollinearity. Concerns about multicollinearity also are less serious when covariate effects are statistically significant. As discussed below, the covariate variables have statistically significant effects, even after adjusting for the presence of autocorrelation. Accordingly, I ultimately concluded that multicollinearity is not a serious problem.

Accounting for Autocorrelation

Because autocorrelation is a form of heteroscedasticity – observations may have different error variances instead of the constant variance assumed by OLS estimates – it affects the standard errors of the model estimates. What that means is that the standard estimates are unbiased, but the standard errors are generally smaller. That raises the risk of rejecting a null hypothesis that is in fact true. To approach this problem, I estimate the model using the robust (heteroscedastic-consistent) variance estimator of Huber and White based on groupwise heteroscedasticity. The groups in this case are the four countries for which I have repeated measures. Thus, the procedure to obtain variances of estimates explicitly accounts for the lack of independent observations within groups. Because this analysis produces larger standard errors than OLS would report, I obtain more conservative significance tests on the parameters of interest, and reduce the chance of falsely rejecting a true null hypothesis.

RESULTS

Source	SS	df	MS
Model	8030773.3	3	26776294.4
Residual	16354959.3	40	408873.982
Total	96685732.5	43	2248505.41

Obs.	44
F (3, 40)	65.49
Prob > F	0.0000
R ²	0.8308
Adj. R ²	0.8182
Root MSE	639.43

SAVE	Coef.	Robust Std. Err.	T	Beta
CCDebt	1.437692	.6579	2.19	.6583197
ConCR	1.494524	.4708	3.17	1.167568
CCSpend	-1.478452	.9583	-1.54	-.9567691
CONST	-2348.675	622.63	-3.77	

Credit card spending (CCSpend) is not significant, while credit card debt (CCDebt) and overall consumer credit (ConCR) are. The model explains more than 80% of the variation in bankruptcy rates.

E. Credit Card Spending and Consumer Bankruptcy Discharges

GROUP STATISTICS

Discharge	N	Mean	Std. Deviation	Std. Error Mean
No	2	2.6	.14142	.10000
Yes	6	10.0000	4.51088	1.84156
Discretionary	3	4.4667	1.10604	.63857

INDEPENDENT SAMPLES TEST

Yes versus Discretionary

Equal Variances	F*	Sig.*	T	df	Sig.	Mean Dif.	Std. Error Diff.	Interval of the Difference
Assumed	1.5962	.247	2.028	7	.041	5.5333	2.72799	-.9173311 .98399
Not Assumed	n/a	n/a	2.839	6.056	.015	5.5333	1.94913	.77462 10.29205

No versus Yes

Equal Variances	F*	Sig.*	T	df	Sig.	Mean Dif.	Std. Error Diff.	Interval of the Difference
Assumed	1.748	.234	-2.201	6	.035	-7.4000	3.36254	-15.62784 .82784
Not Assumed	n/a	n/a	-4.012	5.029	.005	-7.4000	1.84427	-12.13255 -2.66745

No versus Discretionary

Equal Variances	F*	Sig.*	T	df	Sig.	Mean Dif.	Std. Error Diff.	Interval of the Difference
Assumed	2.617	.204	-2.255	3	.055	-1.8667	.82776	-4.50097 .76763
Not Assumed	n/a	n/a	-2.888	2.097	.048	-1.8667	.64636	-4.52827 .79493

* Calculated using Levene's test for equality of variances

As the results indicate, the mean of credit card spending is significantly different (at the 5% level) for every category comparison except for No vs. Discretionary, which is quite close (.055) and well might meet the 5% level if the sample size were increased.