

UNCERTAINTY, RISK, AND TRUST: RUSSIAN AND AMERICAN CREDIT CARD MARKETS COMPARED

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The strategies that Russian and American banks use to evaluate the creditworthiness of prospective credit card holders are compared. Drawing on Knight's theory of risk and uncertainty, the authors argue that uncertainty, inherent in any credit transaction, can only be reduced to measurable risk if there are institutions that create stability over time, categorize events properly, and allow for verification and accumulation of information. In the United States, the gradual evolution of institutions underpinning rational calculation permits the transformation of uncertainty into risk. In Russia, however, such institutions are absent, and a great degree of uncertainty prevails in consumer credit. Using data from original fieldwork in Moscow, this study demonstrates that when actors face uncertainty and are unable to calculate risk, they rely on trust. Russian banks use and extend their existing social ties, or in some cases build new ties. They also exploit cardholders' own networks, unrelated to the bank, to increase their accountability through anchoring. These strategies, however, keep the market embedded, limited in size, and uninsurable. The authors conclude that calculation of probabilities (and economic rationality in its formal sense) is not an innate human ability but a social capacity that exists courtesy of institutional arrangements.

COMPARED with the American credit card market, which is the world's oldest and largest, the Russian market is much younger and significantly smaller. It is also surprising in at least two ways. First, although the Russian credit card market has grown rapidly since its origin in 1991, only

a small portion of the cards issued actually extend credit to consumers. Companies in Russia can and do borrow, often excessively, but consumer credit remains limited. We contend that the main obstacle the Russian credit card market faces is the uncertainty that is inherent in commercial credit transactions. Unless uncertainty is transformed into risk so that rational calculation becomes possible, general-purpose, revolving consumer credit cannot develop on a mass scale. The fact that the credit card market in Russia is developing at all is also surprising. Russian banks master uncertainty by using trust. This strategy sustains the market but also creates a natural limitation on its size.

Our argument proceeds as follows. First, we explain why *ex post* sanctions, stressed by economic theory, cannot alone solve the problem of uncertainty, and why banks unavoidably have to employ *ex ante* screening of applicants. Next, we develop a theory of trust, drawing upon Knight's ([1921] 1957)

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distinction between risk and uncertainty. We then describe how the problem of trusting the borrower was eventually solved in the United States by the development of institutions that reduce the uncertainties of lending to calculable risk. We show that in the Russian credit card market, conditions for successfully converting uncertainty to risk are missing. Finally, we analyze the strategies that Russian banks use to reduce and master uncertainty in lending and contrast those with American practices.

THE THEORETICAL PROBLEM

CREDIT, SANCTIONING, AND SCREENING

When banks lend money, they cannot be certain their loans will be repaid. To protect themselves from defaulting customers (1) they can select borrowers carefully before lending money, and (2) they can make default costly by punishing nonpayers.¹ Ex post sanctioning relies on collection agencies and legal institutions to recover damages and punish guilty customers, and it uses credit bureaus to damage delinquent borrowers' future chances of obtaining credit.

In Russia, neither of these sanctioning options is available. There are no collection agencies and the legal system is corrupt, tardy, and undependable.² In addition, recovering damages would be all but hopeless because most people have no property other than their apartments, and evicting people is almost impossible. No credit bureaus exist, therefore, putting nonpaying customers on a bank's blacklist does not prevent them from opening new accounts in other banks.³ (In

¹ Another option—raising interest rates—poses the problem of adverse selection (Stiglitz 2000) and reduces market size.

² Although in Russia semilegal protection agencies are often called upon to settle accounts and collect debts (Varese 1994; Volkov 1999), we saw no evidence that banks used such agencies to collect credit card debts. It most likely would not be worth jeopardizing their legitimacy to collect relatively small amounts from individual cardholders.

³ Some banks do engage in a primitive form of credit reporting: a selective, bilateral, and voluntary exchange of negative information at the level of the card security departments that evaluate ap-

small towns, this exit option is often limited by the local bank's monopoly status.)

Sanctioning alone is not a viable strategy, even in the United States, with its much more effective system of credit bureaus, collection agencies, and legal enforcement. Recovering damages and punishing guilty customers is costly. Appealing to credit agencies in the hope of undermining customers' future chances of obtaining credit is cheaper but hardly cost-free as banks receive no compensation for their losses. American banks learned this lesson in the 1950s and 1960s when they began mass mailing unsolicited credit cards. This attempt to completely forgo prescreening resulted in rampant fraud and defaults that left the banks with serious losses (Krumme 1987; Mandell 1990; Nocera 1994; Shepherdson 1991).

Because sanctioning can neither prevent defaults nor guarantee full recovery of every loss gratis, both American and Russian banks resort to ex ante screening. How the screening is done depends on whether banks face uncertainty or whether they face risk.

UNCERTAINTY, RISK, AND INSTITUTIONS

Mainstream economic theory does not distinguish between uncertainty and risk. Actors, it is claimed, can always reduce uncertainty to calculable risk by forming subjective probability judgments (Arrow 1968; Friedman and Savage 1948; Hirshleifer and Shapiro 1977; Schoemaker 1982). In its simplest form, the standard theorem of expected utility maximization, at the heart of rationality as construed by economics, posits the following relationship. People maximize their utility (U) by aggregating the utilities that reflect their subjective preferences attached to each possible outcome (X), each weighted by its probability (p):

$$E(U) = \sum_{i=1}^n p_i U(X_i), \text{ where}$$

$$\sum_{i=1}^n p_i = 1, \text{ and}$$

$$0 \leq p_i \leq 1.$$

plications of prospective cardholders. The success of such exchanges relies greatly on personal trust between individual bank officials.

Various amendments have been made to this model (Machina 1987:132), but all assume not only that people are able to evaluate things (find $U(X_i)$) and have clear and consistent preferences (Hausman 1992:13–27), but also that they are able to render judgment on the probability of future outcomes (establish the values of p_i). Economists are often agnostic about preferences (Stigler and Becker 1977) and concede the problem to sociologists (Becker 1986; Parsons 1937). Unlike sociologists, however, economists rarely acknowledge that the ability to reach probability judgments also depends on social context. The vast literature on the sociology of risk argues just that, but it focuses on uncertain disasters, either natural or technological (Beck 1992; Clarke and Short 1993; Giddens 1990; Luhmann 1993; Tierney 1999). As a result, (dis)utilities and probabilities are often blurred, as the term risk is used to mean both harm and uncertainty (Douglas 1992: 24–25). Our interest here is in quotidian economic transactions where uncertainty emerges from decisions of individuals (whether or not they honor their debts) and where utilities seem fairly straightforward (the amount of money they owe). Starting from expected utility theory allows us to analytically separate uncertainties about the value of an outcome from uncertainties about whether the outcome occurs.

The economic view of uncertainty is founded on a subjectivist notion of probability (Friedman and Savage 1948; Savage 1954). This view maintains that because any form of uncertainty is ignorance, and ignorance is a state of mind, “probability measures the confidence that a particular individual has in the truth of a particular proposition” (Savage 1954:3). Thus, with some introspection, we can always arrive at a likelihood estimate that expresses our uncertainty in the form of risk.

This argument has two serious flaws: It leads to infinite regress, and it ignores the problem of coordination. The first flaw arises because even when we are able to come up with a probability judgment, we may still be uncertain about the validity of the judgment. For example, after scrutinizing our feelings, we may give a stranger who wants to borrow from us a 60 percent

chance of making the repayment, but we may be doubtful that this 60 percent is an accurate estimate. This invites a second-order probability judgment that estimates the probability of our 60 percent guess being correct. Now a third-order probability judgment is called for, and thus we have stepped onto the escalator of an infinite regress (Savage 1954:58).⁴

The second flaw emerges as soon as we move beyond a Robinson Crusoe economy (in which Crusoe lends his money to Friday, whom he observes directly). Once we encounter the simplest form of social organization (such as a single department in a single bank), there must be some coordination of probability judgments so that people can understand, monitor, dispute, and build on others’ decisions. Subjective probability theory may be able to reduce the inconsistency of probability judgments in the case of a single person’s mind, but it cannot reduce such inconsistencies *across* individuals (High 1990). Thus, although it may be possible as a cognitive exercise to reduce uncertainty to some calculus of risk all the time,⁵ whether this is an exercise in futility or utility depends on certain *institutional* conditions.⁶

⁴ The psychological literature shows that there is no empirical relationship between the accuracy of a probability judgment and our confidence that the judgment was correct (Plous 1993:217–30).

⁵ Extension of the subjectivist model to real uncertainty yields optimizing rules that are not unique (Arrow and Hurwicz 1972; Gilboa and Schmeidler 1989; Wald 1950). In real life, the fact that there is no single best solution further exacerbates the coordination problem.

⁶ The idea that institutions are the cure for bounded rationality is an underlying principle of new institutional economics (NIE) (Williamson 1975, 1993). Our analysis diverges from mainstream NIE in three ways. First, we do not share its functionalist belief (already jettisoned by its historical wing [see North 1990]) that existing institutions necessarily minimize transaction cost. We also disagree with the view that institutions are patches for market failures. Market success is equally based on institutions. Finally, we part ways with NIE on the issue of calculability. NIE starts from bounded rationality, but then either insists that the problem is solved by institutions or places it outside the scope of economics.

To specify these conditions, we turn to Knight's ([1921] 1957) classic work, *Risk, Uncertainty and Profit* (also see Keynes [1921] 1973). Knight argues that in situations of risk, the decision-maker is able to assign useful probabilities to future events on the basis of the known distribution of outcomes in a group of trials; in situations of uncertainty, such probabilities cannot be assigned in any meaningful way (Beckert 1996; Langlois and Cosgel 1993). He distinguishes between a priori probabilities, calculated for a group of homogeneous instances when the probability of an outcome is known in advance because it is the same for all sets of outcomes (e.g., in a game of fair dice), and statistical probabilities, calculated a posteriori, based on relative frequencies of empirical observations in situations in which instances are homogeneous but their probabilities are not known in advance (Runde 1998).

When "there is *no valid basis of any kind* for classifying instances" (Knight [1921] 1957:225, emphasis in original); when homogeneity cannot be achieved, actors must resort to "estimates." These correspond to the situation of uncertainty. Thus, the main distinction between risk and uncertainty lies in the possibility of classifying and homogenizing instances (Carruthers and Stinchcombe 1999). Knight contends that while probabilities can be insured, "estimates" cannot.

To reduce uncertainty to risk, three conditions must be present. The first two pertain to the validity of probability estimates; the third to their reliability: (1) similarity across cases; (2) similarity over time; and (3) sufficiently large numbers of past observations.

Similarity across cases means that the event to be predicted is available to us in a proper classification as a member of a larger class of similar events. For credit cards, other previous cardholders must be classified so that the current applicant can be seen as highly comparable with one subset. That subset's past behavior then provides an indication of this applicant's future behavior. This requires standardization, which, in turn, calls for institutions that gather and verify data, and affix and maintain standardized labels. Similarity across time means that the subset's future behavior

is consistent with what it was in the past, making it possible to meaningfully extrapolate the future from past experience. This requires stability, such that the world today and yesterday is not much different from what it will be tomorrow. Again, it is institutions that ensure stability and comparability of the future to the past (Rona-Tas 1997:17). The third condition, a large number of past observations, ensures that individual idiosyncrasies will cancel each other out, thus increasing the reliability of the calculations.

In the credit card market, the first two conditions, standardization and stability, can be provided by appropriate institutions. For example, in the United States, banks can rely on commercial enterprises (such as other banks and credit reporting agencies) that gather and standardize information about customers. Moreover, banks can depend on employers and the Internal Revenue Service to confirm the veracity of income information provided on a credit application. The American economy's stability allows for inferences from the past to the future. Thus, banks are able to calculate the chances they take when they extend credit to new customers; they can then factor those probabilities into their prices. Thus, to a large extent, American banks are able to turn uncertainty into calculable risk.

In Russia, however, institutions that could homogenize past empirical observations and maintain stability over time are weak or nonexistent. Not one credit-reporting agency has yet been founded, and credit-scoring techniques are hardly used. In addition, because the market is small and fragmented among various banks, the third condition, large numbers of past observations, is also absent. As a result, Russian banks are not faced with risk. Instead, they are faced with radical uncertainty, a form of ignorance that does not allow for calculation.

TRUST

Whenever uncertainty cannot be reduced to calculable risk, economic actors must rely on trust to sustain cooperation and economic transactions. Rational choice sociology and mainstream new institutional economics treat trust as a subclass of risk assessment

(Coleman 1990:98–104; Williamson 1993)⁷ that often pertains to the likelihood of beneficial cooperation (Gambetta 1988:217; R. Hardin 1991). This approach shares the flaws of the expected utility and subjective probability theories discussed above. Cultural approaches emphasize historically shaped values and beliefs at the community level that underpin unselfish behavior (Fukuyama 1995; Misztal 1996; Platteau 1994a, 1994b; Putnam 1993; Sztompka 1999). The main question of these approaches is not why people trust rather than calculate, but why others are trustworthy.

Luhmann's (1979) functionalist analysis, which defines trust as a way of coping with complexity, obscures the fact that this same definition also fits rationality. Because both share the same function, they are not recognized as fundamentally different processes (Luhmann 1979:38). Theories of modernity that posit trust as a central category also view it as a response to increasing complexity (Simmel 1950:313). Giddens (1990) distinguishes between trust in persons and trust in systems. Some systems, such as banking, he characterizes as highly rationalized "expert systems." But nowhere does he systematically contrast decision-making by experts and by lay people, and when he does compare the two the accent is on their similarities (Giddens 1990:87; Giddens and Pierson 1998:103–14).

We define trust as positive expectations in the face of uncertainty emerging from social relations. These expectations are good intent, competence (ability), and accountability (availability of the object of trust for sanctioning) (Barber 1983; Sztompka 1999; also see Yamagishi and Yamagishi 1994, who, based on these three expectations, distinguish between trust, confidence, and assurance, respectively). Our notion of trust contrasts with the usual conception of formalized rational calculation. Our goal is to highlight the precise difficulty that rational choice approaches—and by extension economic theory—confront in our empirical case (intractable probabilities), and to establish an opening for sociological inquiry that

cannot, even in principle, be reduced to a rational choice explanation. We do not claim that trust is always blind (Simmel 1950:318). Trust is not calculative, but it can be "studied" (Sabel 1992). Decision-makers (both people and institutions) seek good information whenever possible, but both know that following rigid rules to calculate risk would not lead to good results.

The decision-making process based on trust, as amply demonstrated by economic sociology, relies on social networks (Carruthers and Babb 2000:53–55; Granovetter 1985; 1994:463–64; Portes 1994:430; Powell and Smith-Doerr 1994:385; Uzzi 1996). It gathers diagnostic information about dissimilar cases and renders case-specific decisions in the form of individual judgments, reducing complexity only in the act of making the decision. The transactions resulting from trust-based decision-making are embedded and low in number, making breach of trust noninsurable and nontradable. Rational calculation, on the other hand, relies on formal institutions. It is based on survey information about homogeneous cases, and the decision is usually specific to a group of cases. The actual decision-making may be much more complex than in the case of trust-based judgments, but because it takes the form of routinized calculations (e.g., complex statistical models), the complexity is reduced at the stage of framing the decision. Rational calculation results in disembodied and numerous transactions, which can be insured and commodified—they can be bought and sold on secondary markets (Table 1).

In the U.S. credit card market, the availability of institutions to transform uncertainty into risk made trust between banks and cardholders mostly irrelevant.⁸ The economic relationship is largely disembodied from social relations. Banks bombard strangers daily with credit card offers and issue cards on the basis of a few pieces of information and without personal contact. As much as 84 percent of credit cards held by U.S. households in 1995 were issued by banks with which the cardholder had no

⁷ Williamson (1994:97) acknowledges that noncalculative trust exists but claims that it is outside the purview of economic analysis.

⁸ Trust is not wholly obsolete, however. Bank officers still must trust the institutions that make rational calculation possible.

Table 1. Lending Decisions: Summary of the Differences between Rational Calculation and Trust

Aspects of Lending	Rational Calculation	Trust
Form of ignorance	Risk	Uncertainty
Preconditions	Formal institutions	Social networks
<i>Decision-Making</i>		
Cases	Homogenous, classifiable	Heterogeneous, dissimilar, unique
Information	Width, survey	Depth, diagnostic
Reduction of complexity	In framing the problem	In solving the problem
Process	Routinized, calculation	Judgment, discretion
Decision	Group specific	Case specific
<i>Resulting Transactions</i>		
Quantity	High	Low
Nature	Disembedded	Embedded
Loss	Insurable	Noninsurable
Commodification (secondary markets)	Possible	Impossible

other banking relationship (Evans and Schmalensee 1999:50).

By contrast, in Russia, trust remains an important part of the lending decision. The main question, then, is how a credit card market can function in Russia where, as it has been argued by many, little trust exists beyond one's kinship and friendship networks (Fukuyama 1995; Inglehart 1997; McDaniel 1996; Nichols 1996). What is feeble in Russia is "generalized trust"—a positive cognitive bias in the evaluation of strangers (Yamagishi and Yamagishi 1994:139). What does exist in abundance is embedded trust, that is, trust based on stable relationships of varying levels of personal commitment. Unlike generalized trust, embedded trust has a restricted scope (Yamagishi, Cook, and Watabe 1998:166), which makes it an awkward tool for building a mass market. Therefore, the Russian credit card market remains socially embedded and limited.

DATA AND METHODS

Our empirical research is based on fieldwork conducted in summer 1998 and fall 1999 in Moscow, Russia.⁹ We interviewed represen-

⁹ Although Moscow residents make up only 6 percent of the total population of Russia, more

tatives of 17 Moscow-based banks, including the two largest credit card issuers, the Central Bank of Russia, representatives of the Association of Russian Banks (ARB), and four credit card networks. We also interviewed personnel in several related organizations, including managers in two processing companies, the largest of which covers about 80 percent of the Russian market; a company head who organizes annual national conferences on issues of credit card security; and journalists and independent analysts who specialize in card markets. Interviews lasted between one and three hours.

In addition to conducting interviews, we attended the Second International Payment Cards Forum, organized by the ARB in Moscow in October 1999, and several training seminars for bank employees and store cashiers on accepting applications for cards, servicing cards, and identifying fraud and counterfeit. Finally, we were given access to the archives of all three Russian specialized plastic card publications for the last several years (two monthly journals and a daily electronic bulletin). We supplemented our analysis with information about cards and the card

than a third of Russia's banks are located in this city (Rustamov 1999:11), and among the 30 leading banks only 2 are not based in Moscow (*Finansovye Izvestiya*, February 12, 1998, p. 3).

market that appeared in major Russian periodicals.

The discussion of the American case is based primarily on secondary materials. Among the available sources, we relied on accounts by business historians and economists, industry periodicals, manuals, and other professional literature intended for credit officers, and the growing body of sociological literature on various aspects of credit. We also interviewed loan officers at four San Diego-based banks and at one credit union.

A comparison between Russia and the United States is justified if the U.S. credit card market is viewed as an "active ideal type." It is an ideal type (Weber [1922] 1978) because it has achieved the highest level of rationalization and because it is regarded as the "normal" form by most economists. It is an active ideal type because the U.S. credit card market today serves as the model for other countries, including Russia, because of its longer history, larger size, and its role in creating and sustaining the two largest credit card multinationals, Visa and MasterCard. Until recently, Visa did not even acknowledge the need for a differentiated approach to markets in other countries. All its products were universal, with the American market serving as the blueprint, and Russian banks expected to emulate American practices.¹⁰

HISTORICAL OVERVIEW OF THE TWO CREDIT CARD MARKETS

THE UNITED STATES

The American credit card market developed under unique conditions in an era of political stability and prosperity. Four developments were directly responsible for facilitating the spread of credit cards: (1) the preceding development of consumer credit and the previous availability of store-specific payment cards; (2) the establishment of

¹⁰ The situation could change with Visa's recent move to implement the Visa COPAC (Chip Off-Line Pre-Authorized Card) program, a program designed for consumers in countries with fledgling credit cultures and underdeveloped telecommunications infrastructures (see "Visa COPAC" 1997).

credit reporting; (3) the introduction of travel and entertainment (T&E) cards; and (4) the development of credit-scoring techniques. These trends indicate a gradual shift whereby the rational calculation of risk came to replace trust as the basis for granting credit.

Consumer credit in the United States has been actively developing since the middle of the nineteenth century, a time when merchants and manufacturers began offering installment plans to sell furniture, household items, and consumer durables like pianos, sewing machines, and stoves (Calder 1999; Mandell 1990; Nugent 1939). This credit was embedded in social relations, as merchants kept open-book accounts for long-term and well-known customers. By the early 1950s, the majority of Americans used as many as a dozen or more different credit lines, including those offered by gas companies, department stores, airlines, and car dealers (Nocera 1994). Some of these retailers started to issue vendor-specific cards to their most loyal customers—first to the wealthiest ones and later to a wider audience (Evans and Schmalensee 1999; Mandell 1990; Nocera 1994; Shepherdson 1991).

The institution of credit reporting, also a nineteenth-century development, established the practice of collecting information on borrowers. Initially, this practice, too, was deeply embedded in social relations; the information was gathered from community members (attorneys, bank clerks, postmasters) as well as from the friends and neighbors of credit borrowers (Atherton 1946; Cohen 1999; Foulke 1941; Lovett 1975; Madison 1974; Olegario 1999). Most of this intelligence focused on character and habits, and only to a lesser extent did it address the borrower's financial situation. Because credit reporting was embedded in local community networks, its scale was limited. A significant step toward disembedding credit reporting from social relations was made in 1965 when Credit Data Corporation (CDC), using a large volume of information supplied by several California banks, organized the first nationwide, computer-based credit bureau (Jordan 1967; Miller 1971; Rule, Caplovitz, and Barker 1969, U.S. House 1968). Today, there are three nationwide repositories of credit his-

ories in the United States: Experian, Trans Union, and Equifax.¹¹

In 1950, the immediate precursor of bank credit cards was born—the Diners Club card. This travel and entertainment card introduced a new concept, namely, the possibility of paying for purchases in different places using a single card (Evans and Schmalensee 1999; Mandell 1990; Nocera 1994; Shepherdson 1991).¹² The Diners Club card brought a third party into the previously exclusive (and often embedded) relationship between merchants and clients. While this permitted a larger credit card market, it complicated the problem of trust. Earlier, only retailers had to grapple with this issue. As the merchants accumulated information about accounts, they could refuse a subsequent credit purchase if the customer's existing bill was too high or if no payments had been made recently. With universal cards, decisions on card-issuing and information about the accounts were no longer the province of retailers, and this change weakened the personal ties between merchants and clients.

In the early 1960s, just a few years after the first mass issuing of bank credit cards, Fair, Isaac and Company developed credit-scoring techniques. Credit scoring became the ultimate mechanism for transforming uncertainty into calculable risk (Lewis 1992) and represented the final move toward disembedding lender-borrower relationships in the credit card market from social ties. Credit scoring revolutionized *ex ante* screening of card applicants by replacing the discretion of individual loan officers with the power and rationality of statistical analysis. It also allowed banks to process a much larger number of applications. Rationality and efficiency do not, however, guarantee validity. The scoring of credit rests on three

¹¹ Each of the three national credit-reporting systems maintains about 190 million credit files. Two billion pieces of data are entered monthly into their credit records, and about 1 billion credit reports are used annually in the United States (Associated Credit Bureaus, Inc. 2001).

¹² The Diners Club program had a limited scope compared with the bank credit cards introduced several years later. The cards were marketed toward well-to-do professionals and could only be used in restaurants.

necessary conditions, none of which is inherent in the scoring itself: that the information used is truthful, that it is suitably standardized, and that the future is comparable with the past. All three conditions are supplied by existing institutions—those that verify and code information to be scored, and those that guarantee overall stability and continuity between the past and the future.

In sum, the arrival of bank credit cards in the United States was heralded by the growth of consumer lending, the spread of credit reporting, and the development of statistical methods for credit scoring.¹³ Credit transactions became disembedded from social relations, and credit decisions based on trust (retailers' open-book accounts and community-based credit reporting) gave way to those made on the basis of rational calculation (nationwide credit bureaus and credit-scoring methods). These changes, however, affected credit card markets much more than they did other forms of lending (Petersen and Rajan 1994; Uzzi 1999).

RUSSIA

In Russia, the credit card market was conceived with none of its logical precursors present. Payment cards were unheard of in the Soviet era, consumer credit was in an embryonic stage, and credit reporting did not exist. Moreover, commercial banks, not much older than the credit card market itself, periodically engaged in internecine wars. As a result, bank officials are reluctant to pool the information necessary to create a credit-reporting bureau. Finally, ongoing economic instability and the unpredictability of Russia's recent reforms make future extrapolations on the basis of the past extremely difficult.

Consumer credit existed in the Soviet Union on a limited scale and in a peculiar form. State employers could request formal bank loans on behalf of individual workers, and employers would then automatically de-

¹³ Nevertheless, restrictions on branches and on interstate banking initially prevented a nationwide credit card market from developing as few banks could attract enough card members and merchants for a program to make economic sense (Evans and Schmalensee 1999:40).

duct monthly payments from the borrower's paycheck. The paternalistic role enterprises played in people's lives (providing housing, health care, and daycare) and a rigid mechanism of administrative control—*propiska* (registration at the place of residence with the local police [Popov 1995])—limited mobility across companies and geographic areas and made it virtually impossible for an individual borrower to disappear. But most Soviet consumers simply bypassed formal credit channels altogether. Interest-free informal borrowing was vigorous and widespread. Pavlov (1975) reports that almost 75 percent of the Soviet people regularly borrowed money from one another. Those loans were made solely on personal trust, many being paid later than originally promised, and some never repaid.

If commercial credit is new in Russia, so is commercial banking. The state lifted its monopoly on banking in 1988, and from the early 1990s, commercial banks began to spring up like mushrooms after a rain. Many banks exploited their exclusive connections in the government and competed fiercely for access to the accounts of the state budget (Shadalin 1997) or, beginning in 1995, for shares of large privatized enterprises (Johnson 1997).¹⁴ Often this competition took the form of attacks launched through the mass media. Rival banks released compromising information about one another's financial condition (Dinello 1998). The damage done to individual banks' reputations further reduced the general public's already limited collective trust in the financial sector as a whole.¹⁵ Moreover, the internecine wars have made Russian bankers extremely wary of forming institutions designed to collect, verify, and standardize information. They worry that pooling financial information would result in attempts by rivals to lure away their best customers. They also fear that financial data would find its way both

to organized crime (against which the state gives little protection) and to federal tax inspectors. Without standardized and shared information, however, banks cannot hope to accurately calculate risk in credit transactions.

The easy profits that spurred the growth of commercial banking in the early-to-mid-1990s exacted a high toll just a few years later. Initially, profits compensated for the frequent poor management decisions made by ill-trained and inexperienced bankers, and profits obviated the need for improving banking technologies and providing better training. When the early gains steadily eroded, the number of bank failures proved as impressive as the number of banks founded. The total number of registered banks declined from over 2,500 in 1996 to about 1,600 by the middle of 1998. Between 1994 and 1997, 922 banks had their licenses revoked (Smirnov 1998:10). Some bank closings resulted from periodic financial crises—a dramatic ruble exchange-value crash in October 1994, an interbank crisis in August 1995, and a state bond market crash and subsequent ruble devaluation (by more than 50 percent) in August 1998. As part of Central Bank-imposed regulations in the wake of the August 1998 crisis, 720 banks were put on "death row," potentially reducing the country's total number of banks to less than 900.

The Russian state also has been a source of instability and much uncertainty. Over the last several years, it initiated a series of disastrous policies, including bank note exchanges in 1991 and 1993,¹⁶ and the devaluation of bank deposits in 1992. These interventions wiped out the savings of millions of Russians.

In summary, circumstances in Russia were hardly ideal for the advent of a credit card market. Not only did Russians have little or no experience with consumer credit and commercial banking, but the lack of cooperation among banks prevented the formation of the institutions needed for reducing

¹⁴ Banks were offered shares of important, previously state-owned enterprises in exchange for loans they provided to the state.

¹⁵ This is a clear case of the tragedy of the commons. Individual banks were willing to damage public trust in banking in order to attain marginal gains over their competitors (G. Hardin 1968).

¹⁶ The exchange was unexpected, and only a limited amount of "old money" could be exchanged for new during a short period. Intended to target "dirty" criminal money, the move caused panic and chaos.

uncertainty to calculable risk. Moreover, economic instability seriously undermined the possibility of extrapolating the future on the basis of past observations.

CURRENT MARKETS

THE UNITED STATES

According to the Associated Credit Bureaus, Inc. (2001) there are about 1 billion credit cards in circulation in the United States today. The American market's largest segment, which covers unsecured credit cards, is geared toward consumers with an established credit history. Prospective applicants are evaluated using credit history databanks and algorithms for calculating risk. The application process is fairly standardized, and in most cases, it is completely impersonal (for a review of the current U.S. market, see Evans and Schmalensee 1999, chaps. 7 and 9). A smaller segment of the American market covers credit cards that require a security deposit. These cards are geared toward those who do not have an established credit history (e.g., immigrants and divorced women) and those who have a bad credit history. In appearance and function, secured cards are no different from unsecured ones. But when banks lack the information necessary to predict their customers' future behavior, or when they are aware that this information is negative, they seek to offset this uncertainty by requiring a security deposit and by charging higher fees and interest.

The American credit card market is able to protect itself against defaults because it can transform uncertainty into risk. The primary method is pricing: Losses from bad accounts can be covered from profits on good ones. But risk calculations also permit commodification of credit card debts on secondary markets. Banks can sell bundles of card debts to other banks, thus diversifying their debt portfolios. Since 1986, banks have been issuing securities (usually bonds) backed by credit card debt. This process of securitizing credit card receivables is designed principally to raise funds for the bank, but it also shifts some risk to investors (Rosenthal and Ocampo 1988). The calculation of the risk of a security on the secondary market rests on the primary calculation

of the risk of the card debt portfolio. Commodification of credit card debts makes the link between the cardholder and the de facto creditor even more attenuated and impersonal.

RUSSIA

The "plastic cards" market in Russia has grown rapidly in recent years (Table 2 and Figure 1). The first mass release of Visa cards in Russia occurred in 1991.¹⁷ By 1997, Russia had become the first country in Eastern Europe in which Visa's annual sales reached 1 billion U.S. dollars (Visa 1998:1). Sales grew another 18.5 percent in 1998, the year the Russian economy collapsed, and added yet another 253 million U.S. dollars in the first third of 1999 (*Card On-Line*, May 12, 1999).

"Plastic cards" is, however, an umbrella term covering several different kinds of cards.¹⁸ Equivalents of American unsecured and secured credit cards are rare in Russia. Officials at most banks in our study denied issuing such cards on a large scale but admitted extending credit to a limited number of "special" customers.¹⁹ A much more common type of card is one with what bank employees call an "unauthorized overdraft" (*s nerazreshennym overdraftom*). Such cards are superficially similar to the debit cards American banks issue. Holders of cards with unauthorized overdrafts are required to open a demand deposit account to cover their purchases and cash withdrawals. Still, the cushion of an implicit overdraft allows for overspending, which typically is not possible with U.S.-style debit cards. Unauthorized overdrafts usually result in heavy penalties.

¹⁷ The first cards were issued to a limited number of Politburo members and their families in 1988–1989.

¹⁸ Strictly speaking, the differences are not among the cards themselves but among the cards' credit arrangements, or the "card products." Cards do not display any information about the payment agreement between bank and client.

¹⁹ Unsecured cards are not openly advertised, and they are issued to a limited circle of people. In Moscow in 1998, only two banks advertised secured credit cards. One of the two demanded a security deposit twice the size of the card's credit limit.

Table 2. Characteristics of Cards of International Networks Issued by Russian Banks: Russia, 1996 to 1998

Characteristic	Visa International			Europay International (MasterCard)			Diners Club			Total ^a				
	1996	1997	Percent Growth 1996-98	1996	1997	Percent Growth 1996-98	1996	1997	1998	Percent Growth 1996-98	1996	1997	1998	Percent Growth 1996-98
Number of cards issued in 1,000s)	389.0	828.0	217.8	367.1	878.0	329.6	.6	.7	1.3	116.7	756.7	1,706.7	2,814.1	271.9
Number of transactions of Russian card-holders (in 1,000s)	2,384.0	4,861.3	239.8	2,696.0	5,851.3	226.7	9.5	10.0	6.5	-31.6	5,175.4	10,812.6	16,915.1	226.8
Sales on Russian-issued cards (in \$1 million U.S.)	586.5	1,012.0	104.4	190.4	567.4	284.8	.06	.9	1.9	3,066.7	777.0	1,580.2	1,933.5	148.9
Number of merchants	7,000	11,000	157.1	4,600	9,230	269.6	5,000	5,570	5,100	2.0	— ^a	— ^a	— ^a	— ^a
Number of ATM machines	300	582	480.0	300	434	460.3	0	0	0	0	— ^a	— ^a	— ^a	— ^a
Number of places where cash can be obtained from tellers	No data	3,444	5.1 ^b	1,498	2,176	277.8	No data	50	1,005	2,010.0 ^b	— ^a	— ^a	— ^a	— ^a

Sources: *Platezhi. Sistemy. Kartochki.* (1998, p. 10; 1999, pp. 6-7); *Card On-Line* May 12, 1999; and authors' calculations.
 Note: Some other international cards (e.g., AmEx, JCB) exist in Russia, but they are rare. Comparable data for them are not available.
^a The same merchants, ATM machines, and tellers usually serve more than one card company. Therefore, totals are not provided.
^b Percentage growth is for 1997-98.

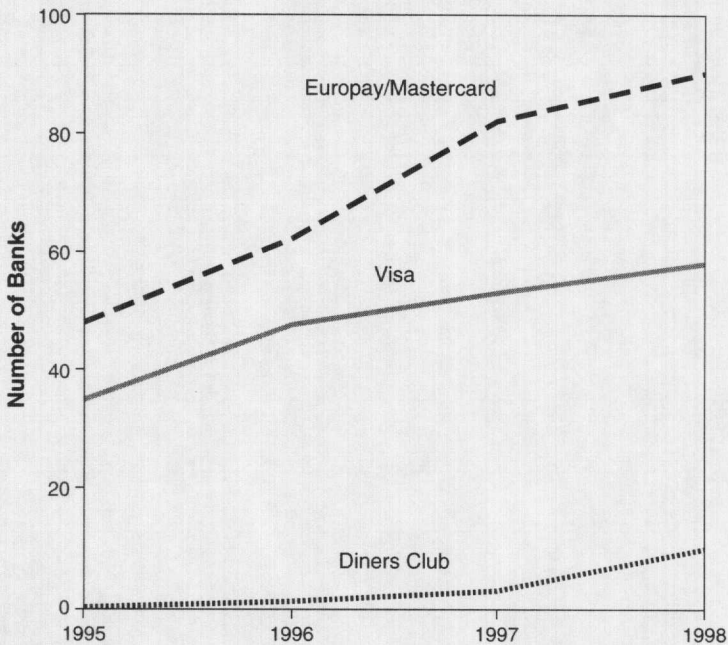


Figure 1. Number of Banks with Membership in International Card Networks in 1995–1998

Sources: Platezhi. *Sistemy. Kartochki*. (1998, p. 3; 1999, p. 6).

If cardholders ask in advance, however, banks sometimes agree to open a temporary credit line (decisions are made on a case-by-case basis).

Russian bankers fear overdrafts and often require security deposits in addition to demand deposit accounts,²⁰ thus creating secured debit-but-potentially-credit cards. Overdrafts on “unauthorized overdraft” cards are possible largely because of substandard technology. The majority of Russian merchants use imprinters rather than the more expensive electronic point-of-sale terminals. Paper slips are filled out by the merchant and signed by the customer. Slips are then submitted by the merchant’s bank to the processing company, which reimburses the merchant’s account (minus the discount rate—the fee merchants pay for accepting charge purchases). Information on transactions is compiled by the processing company

and forwarded to the issuing bank, which reimburses the processing company and debits the customer’s account. Because slips are submitted only at the end of the business day (or, among smaller merchants, once or twice a week), there is a gap between the time of purchase and the time of payment. Under certain circumstances, this gap may be as large as one month.

Outmoded technology is not the only factor in unauthorized overdraft, however. Overdrafts could be avoided without the help of point-of-sale terminals if each and every purchase were authorized by the bank that issued the card. In principle, merchants using imprinters could call the issuing bank and verify the availability of funds to cover the purchase. In reality, since authorization is time-consuming for the merchant and costly for the processing company, it is not required for purchases that fall below a certain amount (“floor limit”). Russian merchants have low floor limits, but in some Western hotels, floor limits for holders of Russian Visa cards and MasterCard may be as high as \$1,000 (interview with a high-ranking employee of a processing company, June 24, 1998). Fraud schemes based on

²⁰ Security deposits usually are insufficient to cover intentional defaults and fraud, highlighting the importance of prescreening applicants. In addition, because of increased competition, many large banks have been significantly lowering or completely eliminating security deposits.

Table 3. Number and Type of Cards Issued by Visa International and Europay/MasterCard International: Russia, 1998

Type of Card	Visa		Europay/Mastercard	
	Number of cards	Percentage	Number of cards	Percentage
Gold	12,500	1.01	12,370	.78
Business ^a	4,900	.40	1,807	.11
Classic/Mass	133,000	10.75	43,766	2.78
Debit (Visa Electron or Maestro)	1,086,000	87.84	1,518,490	96.33
Total	1,236,400	100.00	1,576,433	100.00

Source: Platezhi. *Sistemy. Kartochki*. (1999, pp. 6, 8); and authors' calculations.

^a Business cards are issued to companies rather than individuals and thus pose less uncertainty. These cards are used by employees to pay for company-related expenses.

making a large number of purchases on pre-limit amounts within a short period of time (usually one day) are well known. For purchases that do require authorization, approval does not necessarily come from the issuing bank. Instead, authorization is issued by the processing company, using a database provided by the bank (so-called off-line authorization). Because this involves no immediate debiting of the cardholder's account at the issuing bank, it is possible for the sum of all purchases for the day (or for a several-day period) to be larger than the balance on the account, resulting in an overdraft.

Unsecured and secured credit cards, as well as cards with unauthorized overdraft, allow for a time gap between purchase and payment and the (voluntary or involuntary) crediting of the customer's account by the bank. Thus, all of these cards pose a similar problem of *ex ante* screening and trust. Such cards represent a fairly small proportion of the Russian market, however (Table 3). Visa's "Classic" and MasterCard's "Mass" are usually "unauthorized overdraft" cards. In 1998, there were 133,000 Classic cards and almost 44,000 Mass cards issued in Russia (10.75 percent and 2.78 percent of all cards, respectively). Gold cards are usually real credit cards, either secured or unsecured; in 1998, approximately 12,500 gold cards were issued by each of the credit card networks.

A majority of Russian cards are debit cards: specifically, Visa Electron and Maestro (the latter is issued by Europay/

Mastercard). They always require 100 percent on-line authorization from the issuing bank, making overdrafts virtually impossible. As Table 3 shows, by the end of 1998, Russian banks had issued over 1 million Visa Electron and over 1.5 million Maestro cards.

BANKS' STRATEGIES IN REDUCING UNCERTAINTY

The U.S. market developed institutions for transforming uncertainty into risk, and as a result, it has grown large and almost completely disembedded. The Russian market has not yet accomplished this transformation—it remains embedded and limited in size. What strategies do Russian and American banks employ to reduce the uncertainty inherent in credit transactions? The choice of strategies reflects the presence or absence of facilitating institutions. There are two major strategies for reducing uncertainty: avoiding it and mastering it.

AVOIDING UNCERTAINTY

SHORTENING THE TIME BETWEEN PURCHASE AND PAYMENT. For American banks, the goal of the credit card business is to extend for as long as possible the period during which interest is charged on a purchase, as interest is the richest source of profit. Although cardholders who pay their balances in full each month are often thought of as paragons of discipline and self-control,

they are in fact free riders,²¹ receiving interest-free loans for up to 55 days (billing cycle plus an average 25-day grace period). Thus, interest rates for those who carry balances longer must be high enough to compensate for the free riders in the system.

Russian banks take the opposite approach: They try to avoid uncertainty by shortening the time between purchase and payment. Although this time gap often remains substantial (owing to outmoded technologies), by requiring cardholders to open demand deposit accounts, banks take the responsibility for paying bills away from cardholders, and they essentially discourage credit. Where overdrafts are allowed, they must be paid off in no more than two billing cycles. Russian banks give up the opportunity to earn interest on credit balances, settling instead for the low-interest use of cardholders' deposits as their primary source of revenues.

SHIFTING UNCERTAINTY ONTO CARDHOLDERS. To offset the very real possibility of unsanctioned overdrafts, Russian banks require security deposits. However, because bank accounts in Russia currently are not insured,²² this strategy amounts to shifting uncertainty from the banks to their customers. American credit card holders, even those with secured cards or direct payment systems, take virtually no chances: Deposits in U.S. banks are protected by the Federal Deposit Insurance Corporation (FDIC).²³ Russian bank customers, by contrast, have good

²¹ Credit card issuers also collect fees from merchants (usually 2 to 3 percent of every sale), but finance charges paid by cardholders make up almost four-fifths of banks' revenues (*Credit Card News*, April 1, 1998, quoted in Evans and Schmalensee 1999:164-65).

²² The draft law "About Guaranteeing Citizens' Deposits in Banks" (*O Garantirovani Vkladov Grazhdan*) has been under revision in the State Duma since 1995. In the latest version of the law, a deposit insurance fund would provide 100-percent compensation for deposits under 1,660 rubles (\$65.50 for September 22, 1999), 90-percent compensation for deposits under 21,000 rubles (\$828.40), and 50-percent compensation for deposits under 83,000 rubles (\$3,274.20) (Granik 1999).

²³ The FDIC, established by the Banking Act of 1933, compensates bank account holders up to \$100,000 per account (FDIC 1984; Kindleberger 1996).

reason to be nervous. The high rate of "mortality" in the Russian banking sector includes even the largest and most well-known banks. In 1998, Inkombank, the country's third largest commercial bank, ceased to exist. Just two years earlier, together with five other banks, it had controlled 95 percent of Russia's Visa market (*Card On-Line*, June 13, 1996). The pioneer of credit cards—Kredobank—crashed in 1996. Other large banks with well-known card programs—Mytishchinsky Bank and Tveruniversalbank—also went bankrupt and annulled their programs. Many cardholders were never refunded their lost security deposits.

MASTERING UNCERTAINTY

CALCULATING RISK. In the U.S. credit card market, the leading strategy for reducing uncertainty is risk calculation. The process of issuing cards is highly standardized and largely impersonal. Individuals typically apply by mailing in completed application forms. With the exception of the customers of some small community banks and credit unions, applicants never meet with the staff of the issuing bank. Many current cardholders do not even know where (i.e., in which state) their issuing bank is located. To assess prospective cardholders' creditworthiness, American banks tap a variety of sources. In addition to data gleaned from the application forms (e.g., occupation, length of current residence, and so on), banks acquire the applicants' credit histories from one of the three national credit bureaus. If necessary, income can be verified directly through employers, or indirectly through the Internal Revenue Service. This information is then entered into credit-scoring models.

A typical scoring model uses observed empirical data from past and current accounts (both "good" and "bad") classified into homogeneous groups based on meaningful criteria—occupation, type of residency, age, time at present address, extent of financial indebtedness, and so on. The goal is to estimate the probability of applicants' chances of defaulting given their jobs and residential and financial histories.²⁴ The

²⁴ This approach suffers from a twofold problem of endogeneity. First, there is a selection

process renders decisions specific to groups and is completely routinized.

Although credit-scoring models can differ from one bank to another, most of them combine three kinds of predictions. Ability to pay is assessed as a combination of the amount of current indebtedness and income. Intent to pay is gauged through previous payment history, including late payments, bankruptcies, and accounts turned over for collection. Finally, the applicant's occupation and the length of time spent with the current employer and at the current residence are used as a proxy for how likely it is that he or she could be sanctioned or held accountable, if needed. Homeownership is considered to signal higher accountability as well as greater ability to pay—homeowners can be traced more easily than renters.

Each characteristic of the applicant is assigned a score. All scores are summed, and a final score is compared to a preset cutoff point. An applicant whose score is below the cutoff is rejected. We do not mean to suggest that the choice of variables, the way they are categorized, and the weight assigned to each category are natural or unproblematic.²⁵ They are socially constructed but uncontested within the American card industry.

Scoring ensures that uncertainty is reduced to the maximum extent possible and that the decision rendered is perfectly rational, in line with standard economic theories of rational choice. Ironically, rationality is achieved at the cost of choice. Loan officers and bank managers lose discretion over the process, and this loss of discretion solves the coordination problem of probability judgments.²⁶ Of course, perfect rationality does

bias. For those not approved, there are no data on the dependent variable (defaulting versus not defaulting on the loan). Moreover, past approvals for loans are counted as signs of creditworthiness, and past rejections are seen as red flags. This approach can lock people into virtuous or vicious circles that are independent of their exogenous characteristics.

²⁵ For a discussion of credit scoring in Britain, see Leyshon and Thrift (1999) and Batt and Fowkes (1972).

²⁶ In fact, one of the early and successful attempts to develop a scoring model (on a limited scale) was made during World War II by a

not always prevail. Sometimes loan officers are allowed to override scoring decisions that fall near the cutoff point. Overrides are usually justified because of new information about the applicant that was not included in the scoring (e.g., recent changes) or that seriously challenges data provided by the credit bureau (Lewis 1992:89–92). Thus, despite the standardized, impersonal, and calculated nature of prescreening and card-issuing processes in the United States, trust (or distrust) also occasionally plays a role.

In the absence of credit-reporting agencies, the only information Russian banks can acquire about a potential customer comes from the application form, visual impression of the applicant²⁷ and (occasionally) informal recommendations. Given the high level of uncertainty, it would seem logical for banks to ask applicants as many questions as possible. However, Russian application forms tend to be very short.²⁸ The reason for this is simple: The information that can be gathered from such forms is largely unreliable and unverifiable. For example, people often lie about or simply don't know their income. Tax returns or pay stubs are useless for checking up on people who routinely dodge income taxes, whose employers underreport their salaries (to reduce payroll taxes), who often don't get their salaries for months, and who frequently make most of their money in the shadow economy. Better-off Russian consumers—who are the primary target of banks that issue Western plastic cards—try especially hard to conceal their real incomes from the state and tax authorities, from organized crime and even from their business competitors. In addition, even if truthful, income data would be unreliable. Everyone in contemporary Russia

banker who wanted to replace his drafted loan officers (Lewis 1992:19).

²⁷ At a training session for the card department staff from the provincial offices of a large Moscow bank, the instructor encouraged listeners to be "reasonably suspicious" when accepting applications.

²⁸ We interviewed staff in a bank with a short-lived credit card program in which the application form in use was unusually long and was written in both English and Russian. Apparently, it had been taken from an American bank by its American-trained president.

Table 4. Form to Verify Information Supplied by Card Applicant in Russia

Question	Answer
Are the place of residence reported (<i>mesto prozhivaniya</i>) and the place of registration (<i>mesto propiski</i>) the same?	Yes/No
Is the telephone registered to the applicant?	Yes/No
Is the company where the applicant works located in an office as opposed to a private home?	Yes/No
Is the applicant's work phone registered to the company?	Yes/No
Are the work place and the job title indicated correctly?	Yes/No
Does a secretary answer the work phone? ^a	Yes/No
Is the applicant recommended (in writing) by another client with the bank's card?	Yes/No
Does the applicant already have a card from another bank?	Yes/No

Note: The form must be signed by four people: a bank employee, the head of the credit card department, an officer who carries out the verification, and the deputy chief accountant.

^aThis is an indicator of the company's and applicant's prestige.

faces the risk of suddenly losing all sources of income in the wake of unforeseeable macroeconomic (or political) crises.

Because credit scoring reduces skill and experience requirements for loan officers (Leyshon and Thrift 1999:445), it would be a perfect strategy for Russian banks, with their comparatively large numbers of untrained and inexperienced employees. Many of our interviewees indicated that they were already familiar with credit scoring from publications in professional journals. Nevertheless, formal methods of scoring are not used in Russia because the absence or weakness of facilitating institutions and the overall institutional instability preclude the standardization and continuity necessary to reduce uncertainty to a calculable risk. In only one bank (one that specializes in issuing secured credit cards) did we encounter a system of primitive credit scoring. This bank developed its system using an application form no more elaborate than the type used in other banks (Table 4). Applicants' answers to eight questions are assessed; a favorable decision requires that at least five responses be positive.

RELYING ON TRUST. As Russian banks are unable to calculate risk, they must rely on trust in issuing credit cards. But no bank—least of all one operating in a society

like Russia's—can depend solely on norms of generalized trust. Thus, banks use and stretch their own existing personal ties or build new ones. They also exploit their customers' networks as outsiders to increase cardholders' accountability.

Reliance on existing networks of trust allows Russian banks to issue cards to families and friends of top bank executives (also see Ledeneva 1998:211).²⁹ Here the borrower-creditor relationship is intermingled with close social bonds that serve as an additional guarantee and a channel of information. For instance, one interviewee was granted an American Express card by his friend, a high-ranking employee of AmEx in Moscow. Relying exclusively on personal relations necessarily limits the number of potential cardholders, however. The credit card market turns into an elite membership club, hardly a desirable market for a product whose profitability (and calculability) resides in its numbers.

Another solution is to stretch direct, personal ties. Trust is transitive. Friends and

²⁹Looting by employees is possible but is held in check by the workers' desire to retain their jobs, which, by Russian standards, are well paid positions. When banks are looted, it is usually through large, nonperforming business loans.

relatives of banks' top executives and long-term customers often recommend potential cardholders, both formally and informally. However, because the strength of trust decreases with each degree of separation, the rule of thumb is that there should not be more than one person separating a bank officer and an applicant (interview with a bank employee on June 20, 1998, and with a vice president of a small bank on October 22, 1999). So even this credit-granting strategy is limiting.

Because banks cannot rely exclusively on existing trust, they must build trust as well. One way to do this is to recruit new cardholders from among long-term customers. A bank that issues Visa Gold and Visa Classic cards unsecured for the first \$300 (applicants who desire a higher credit limit must cover the remainder with a security deposit) might, for example, offer these cards to customers who already have a debit card issued under a salary project³⁰ or to authorized users of a business Visa card or MasterCard. Yet this solution, too, is problematic because most of these potential new recruits do not have *credit* histories—only experiences with savings accounts or debit cards. Besides, because information about customers is accumulated by individual banks and not by an outside agency, these records do not survive if the bank fails. Finally, even when banks remain stable, drawing only from discrete pools of existing customers makes for a slow expansion of the market.

Therefore, banks must also offer cards to strangers, who may lose interest if the application process threatens to be overly long or complex. In Russia, most people apply in person in their local branch offices, where they fill out the necessary forms. The information is then verified by a special division of the bank, aptly named the "security department" (*otdel bezopasnosti*).³¹ Staff in

³⁰ Such cards are distributed to all employees of an enterprise, and card accounts are regularly replenished through directly deposited salaries.

³¹ The tasks of the security department, a necessary part of every Russian bank, include verifying the initial application information, deciding whether to issue a card, tracking and investigating possible cases of fraud, solving interbank charge-back problems, and working with "prob-

lematic" accounts and clients. this department might, for example, call the work number supplied by the applicant to determine whether the company listed as employer actually exists. Some applicants may be invited for another interview, during which bank employees may assess the applicant's need for a card. They might ask whether the person travels abroad often, and if he or she does not, suggest opening an account for a local card (as opposed to a card from Visa or MasterCard), which is usually less risky for the bank. Final decisions tend to be made on a case-by-case basis. Unlike in the United States, in Russia verification requires "an individual approach on the level of art" (interview with a bank security department employee on September 22, 1999). Sometimes bank clerks or security department staff get suspicious if the client is offering to make an opening deposit that is too high for their claimed occupation,³² but often officials must rely on more intuitive factors. As one security department employee bluntly explained, "We have to stare the applicants intently in the eyes, trying to guess whether they are telling the truth and whether they should be issued a card" (interview with a bank security department employee on September 20, 1999).

One important judgment bank officers in both the United States and Russia must make is how likely it is that if the cardholder fails to pay, a solution can be worked out, or if that fails, that sanctions can be levied. The advantage of lending through existing networks is that debtors cannot easily disappear. In both countries, cardholders' accountability is established by *anchoring* ap-

lematic" accounts and clients.

³² The concern is that the client is applying for a card that then will be used by someone else. Card specialists used the following example to describe this type of fraud to us. A student is hired by a small company. As his first task, he is asked to acquire a credit card in his name and is given a couple of thousand dollars with which to open an account at a bank. The "employer" then takes the card and disappears. When the account is overdrawn, the student can be easily traced, but he knows nothing about the "employer" and has no money with which to compensate the bank (interview with an ARB expert, September 9, 1999, and with a representative of Diners Club in Moscow, September 17, 1999).

plicants in a set of social networks that also serve as channels of communication that banks can use to negotiate, exchange information, apply pressure, threaten, and so on.³³ In the United States, applications for secured credit cards often require the applicant to provide the name of a relative or a local friend. Russian banks do not consider such individuals reliable as anchors; instead, they anchor card applicants in the organizations where they work.³⁴

The individuals or groups who function as anchors do not have to be legally liable for the potential misdeeds of applicants. Nor do the anchors themselves have to sanction offenders. Simply making individuals available for sanctions is enough to increase the bank's trust.³⁵ The difference between lending through networks (discussed earlier) and anchoring is that the former uses networks of bank insiders, while the latter takes advantage of the applicant's own networks, which are unconnected to the bank. In fact, our concept of anchoring specifically implies that the bank is not linked to the customer and (usually) has no access to in-depth diagnostic information.

When Russian banks issue cards that presuppose the highest level of uncertainty—those with an authorized overdraft and without a security deposit—they target people of a high social profile, for example, individuals holding positions of economic or political power or those who are famous. They are deemed trustworthy both because they tend

³³ Anchoring is similar to methods used in micro-lending programs. Micro-lending traditionally caters to poor communities whose members are denied regular bank loans because they lack the necessary collateral and are considered "bad risks." The borrowers' community membership and their membership in a group of co-borrowers makes defaults infrequent (Kamaluddin 1993; Rahman 1999).

³⁴ The most extreme example of this type of anchoring is the salary projects.

³⁵ Similar credit-granting approaches have been used in China, another developing market with great potential but similar problems, including the absence of credit reporting and banks' limited credit assessment ("Electronic Ignition" 1999). For example, American Express made cards available only to employees who were approved by their enterprises ("That'll Do Nicely" 1988).

to be affluent and because they are securely anchored at the top of the national social hierarchy. Because being in the public eye is a necessary part of their professions, they are unlikely to vanish without a trace.³⁶ One large bank that issues cards compiled (as an internal bank document) a list of positions designated as eligible for "privileged" credit cards—ones with an unsecured credit line of up to \$1,500. These include the bank's president and vice-presidents, heads of regional branches, the highest-ranked positions in the security department, presidents of several large companies and high positions within the state apparatus. Notably, the bank issues these "privileged" cards to *positions* rather than to particular people. When these cardholders leave their positions, they are asked to apply for new cards, issued on different terms. As of spring 1998, the bank had issued no more than 100 such cards (interview with a bank employee on June 11, 1998).³⁷

Meanwhile, applicants at the other end of the social anchoredness spectrum are rejected outright. These include university students, pensioners, homemakers, the temporarily unemployed, those in the military and employees of "small organizations without stable volume of operations and developed business" ("About the Issuing of Bank Cards," Moscow Sberbank internal letter #1703/4903, November 1, 1999, signed by Deputy head Nikolai Petrov, described in Prezhentsev 1999). These applicants are not rejected because of their low incomes, but because they are not reliably anchored. People with notoriously low wages and frequent wage arrears—*byudzhethniki* (those who are paid from state or municipal budgets, such as doctors, teachers, and college professors)—are *not* on this blacklist. As one of our informants explained, this is because despite their low or uncertain incomes, these individuals are "squeezed (*zazhaty*) in an organization," or, in our terminology, they are securely anchored (interview with a security department employee of Sberbank on September 22, 1999). In contrast, pensioners,

³⁶ These credit cards can also be used as bribes to elicit or reward political favors.

³⁷ Occasionally, the bank also issues "privileged" cards to famous artists and pop stars.

homemakers, and those between jobs have no enveloping organization. Students can graduate or drop out and move; military personnel can be relocated to a remote geographical location or they can retire from the service and move making contacting them difficult and costly. And "small organizations" are not adequate anchors because they are both new and potentially economically unstable (and thus may disappear overnight).

As the empirical story suggests, Russian banks do make use of some categorization in the course of making decisions about credit card applicants. But this homespun sorting is of a particular kind. The banks use hybrid categories that combine the properties of both networks and categories,³⁸ namely catnets and netcats. Catnet describes a group whose members are linked in a single network (e.g., Politburo or high-level employees at a bank) (White 1995:63). If members of a group are not linked in one network, but occupy the same position in relation to their separate but similar networks (e.g., presidents of large companies or students), the category is called a netcat. Note that these categories are justified not with reference to measurable prediction about defaulting (as they are in the United States), but rather by a plausible causal story about accountability.

CONCLUSION

Credit card operations, especially in a newly emerging market, involve a great deal of uncertainty. To reduce uncertainty to risk is to calculate probabilities of future events. A necessary condition for calculating probabilities is the presence of proper institutions. With the help of institutions, empirical data can be verified and classified into meaningful and homogeneous groups. In addition, institutional stability ensures that probabilities calculated on the basis of past observations can be applied to the future.

The American credit card market has been successful in developing these institutions, allowing American banks to (largely) reduce uncertainty to risk. As a result, the market is disembedded and has enjoyed phenomenal growth. In Russia, however, these institu-

tions are weak or absent, and uncertainty cannot be effectively transformed into calculable risk. Thus, Russian banks must resort to different strategies. They reduce uncertainty partly by cutting the card's credit-granting function. Specifically, they shorten the time between purchase and payment, thus sacrificing the profit to be gained from lending. In addition, banks require opening security deposits for plastic cards. This shifts uncertainty to customers in a zero-sum game because the banking institution itself is unstable and unreliable. Furthermore, in an overall low-trust society, Russian banks tap into existing sources of trust—those of close-knit familial and friendship networks—and try to build new trust as well. Finally, in granting trust, banks rely heavily on anchoring—the rooting of prospective cardholders in stable social networks that are not legally responsible for the individuals but which make them accountable by blocking their exit while keeping the "voice" option (Hirschman 1970) open to banks. The consequence of the absence of rational calculation is an embedded and limited market that cannot spin secondary markets for insurance.

It is unlikely that the Russian credit card market will simply grow out of its current form and craft the prerequisites for formal rational calculation on its own, or even with the help of multinationals. A more likely source of the needed institutions is a strong state that can create a credit bureau, oversee banks and force them to cooperate, enforce laws and contracts, and keep the economy above ground, on-the-books, and moving forward on a steady course. Whether the Russian state will be able to accomplish such feats remains to be seen.

What are the theoretical implications of our analysis? The central point of agreement in the diverse literature on economic sociology is the rejection of the calculating, rational individual as the microfoundation of theories of economic life (Beckert 1996; Smelser and Swedberg 1994; Swedberg 1998:22–28). We suggest that instead of focusing on the validity of the rationality assumption, it is more fruitful to take rationality as a variable (DiMaggio 1990; Hirsch, Michaels, and Friedman 1987; Stinchcombe 1990). The extent to which economic actors

³⁸ We thank an ASR reviewer for this insight.

are able to follow the strict principles of rationality depends on how the problem of uncertainty can be resolved (Beckert 1996).

Our main theoretical conclusion is that the calculation of probabilities, a key component of the rational-actor model, is not a universal, innate, cognitive, human ability. Not even the smartest, most well-trained bank employees can calculate usable probabilities of default under current conditions in Russia, despite the fact that many of our interviewees left a Soviet era career in mathematics and physics for better paying jobs in banking. Therefore, although focusing on the psychological aspects of probability computations (Dawes 1988; Kahneman, Slovic, and Tversky 1982) is useful in showing that people often fail to calculate rationally, even when uncertainty is transformed into risk for them by the experimenter, this approach ultimately takes us down the wrong road. In the final analysis, calculating risk is a social capacity (North 1990:126–27), and thus economic calculation becomes possible only when proper institutions are in place: no institutions, no formal economic rationality.

Markets do exist without quantifying uncertainty and can function on the basis of trust, but that difference may carry important consequences. Therefore, to insist that in all market transactions people act “as if” they used probability calculus is a theoretical equivalent of blind trust. Ubiquitous uncertainty and the ways people cope with it—constructing the preconditions for formal rational calculation or compensating for their absence—offer a unique credit line that card-carrying economic sociologists can draw upon to gain purchase on economic life.

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