Information and Consumer Credit in Central and Eastern Europe

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INTRODUCTION

The three central postulates of the Legal Theory of Finance (LTF) developed by Pistor in this volume (Pistor 2013 @@@) are the hierarchical nature of finance, the role of law in both ensuring and subverting the stability of credit markets, and the differential enforcement of laws (elasticity) with the core afforded much more consideration than the periphery. The need for elasticity follows from true uncertainty, and the way elasticity is distributed is related to the power each actor wields. The source of this power can be structural position in the hierarchy of finance, political influence or both.

In this paper, we apply some of the ideas of LTF to an area that is at the bottom of the hierarchy of finance in not one but two ways. Consumer credit in Eastern Europe is situated on the periphery both geographically, as the rules of international finance are written far away from Budapest, Moscow or Warsaw, but also because retail lending and individual borrowers are on the outer edges of the world of finance dominated by stock exchanges, currency markets and government debt. In fact, retail customers are at the bottom of the pecking order facing the hardest liquidity constraints. We will illustrate Pistor's theoretical arguments with empirical data from East European credit card markets, and then point to their limitations offering a set of complementary ideas.

The LTF treats law as an independent variable that explains how financial actors that are faced with an impending crisis attempt to enforce or renegotiate contracts that underlie credit transactions. We want to broaden the problem by stepping back in time, from contract enforcement to the point of contract origination. We frame the contract as a solution to a series

of uncertainties experienced by the lender and the borrower. We discuss enforcement as an extension of the uncertainty problem.

As developed by Pistor, LTF is a macro-level theory that approaches finance as a field with an overarching goal of explaining systemic failures. Our starting point of looking at contract origination necessitates that we zero in on the lender-borrower dyad, and requires that we complement LTF with a micro-level theory of economic action – a perspective that would account for our particular markets on the double periphery better than the ones currently on offer. Our first concern is how to construct a consumer loan contract that when signed best protects both lender and borrower. In consumer credit markets, legal contracts are typically written in a one-sided fashion: banks are contract-makers and consumers are contract-takers, who sign with little possibility of negotiating (and often without reading through or fully understanding the “fine print”).

Yet, problems of uncertainty are too deep to be fully resolved at the point of origination. Contracts, therefore, need to provide a certain amount of flexibility to adjust for later changes. Contracts with appropriate flexibility minimize risk not just to the two parties but they also reduce systemic risk. Nevertheless, there can be situations, where more is needed and the regulator must intervene by directly loosening obligations because unforeseen developments generate externalities and risk is no longer contained between the two parties but becomes systemic. Then, as the LTF posits, there is a need for elasticity in the enforcement of those contracts even if they seem optimal at the time.

In what is to follow, we present a critique of behavioral economics (BE), the theoretical approach that currently dominates new thinking about the regulation of consumer credit that focuses on contract origination. We develop a set of stylized arguments about information-related problems of consumer credit markets and their possible solutions drawing on another

approach to decision-making -- distributed cognition (DC) – that was developed by cognitive scientists in the 1980s, but gained in popularity only recently (Hutchins 2001). Then we look at the solutions to those problems in East European markets focusing separately on measures to protect lenders and those to protect consumers. Then, with help from LTF, we move from origination to enforcement of these contracts using the empirical case of Hungarian foreign exchange mortgage crisis.

THE THEORETICAL FRAMEWORK

The Trouble with Behavioral Economics

Recently, much of the new economic thinking about consumer credit on the micro-level takes behavioral economics (BE) as its point of departure. The Directorate General of the EU for Health and Consumers, the department of the European Commission responsible for reforming financial services has a special webpage on BE with useful links to studies on the topic deploying ideas from BE.[1] The influence of BE on the new Financial Consumer Protection Agency in the US is also hard to miss.[2] The popularity of BE is based on the conviction that the main problem with traditional economics is that it built its rational choice theory (RCT) on unrealistic ideas of how humans make decisions and act (Camerer et al. 2003, Kahneman and Tversky 2000). BE is expected to supply a more realistic individual psychology for our understanding of the economic world. Its research program aims at finding universal behavioral patterns, decision-making flaws and mental shortcuts that can replace the overly cerebral, autistic and

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1 http://ec.europa.eu/consumers/behavioural_economics/index_en.htm. See also Stark and Choplin 2010.

2 See http://blogs.wsj.com/economics/2011/05/11/behavioral-economist-heads-to-consumer-protection-agency/

amoral *homo oeconomicus*. Spearheaded by cognitive psychologists, BE earned its scientific stripes by conducting experiments, a revered scientific method that economics, having embraced the general philosophy of positivist scientific thinking, could not ignore. Its most famous achievements are cleverly contrived experiments, usually set up in a lab, where it can be shown that people deviate from rational thinking as depicted in RCT under the artificial circumstances presented to subjects by experimenters, and the pattern extracted from these experiments can be deployed as plausible explanations for some economic phenomenon in real life. BE is quite powerful demonstrating the limitations of the self-interested rational actor model. Moreover, as many works of (social) psychology, it supplies us with great stories to tell.

Yet moving beyond criticism, BE becomes as vulnerable as its arch nemesis. Take any of the discoveries of BE and you can think of countless exceptions (Kahneman et al. 1991, Cachon and Camerer 1996). Default bias claims that we have a tendency to stick with the *status quo*, but while certain people in certain situations do let the default rule dictate their choices, other people, or the same people in other situations, want to make their own decision. If default reigned supreme why are divorce rates on the rise, what would one make of converts to new religion, and why would anyone buy risky stocks or become an organ donor?[3] The theory of loss avoidance contends that given a loss and a gain of the same amount and likelihood, people will prefer avoiding the loss to pocketing the gain. Yes, it happens, it may happen often, but if this were to be a universal truth, no one would play the lottery. And the list goes on. BE is powerful because it is liberating compared to the prescriptive straightjacket of the RCT. In addition, its psychological approach makes the existence of the phenomena it describes available to quick and easy validation through introspection. What these experiments show us is

3 Unlike some of the European countries, in the US “opt-in” system, the default is not to be a donor.

that under certain circumstances people indeed CAN and often DO deviate from rational choice assumptions. What it does not show is that people are by nature predictably irrational (Ariely 2009).

This is important, because building a new world of regulations based on BE would be as flawed as the one grounded in the rational actor model. The proper lesson from BE is not that there is another universal, individualistic psychology that is better than what economics used to have. What BE teaches us is that there is variation in people's cognition, motivation and behavior depending on social circumstances.[4] The experiments conducted by BE impose a stylized social situation,[5] find a deviation from rationality and then claim that this is innate to human beings,

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4 Much of these experiments are directly descendent from social psychology of the 1950s and 1960s (Aronson 1972) without acknowledging the "social" in social psychology.

5 Take the famous experiment by Tversky and Kahneman (1986). We know that if an epidemic strikes our country, exactly 600 people will die. If we take action A, we will save for certain 200 people, if we take action B we know that with precisely one third probability all will be saved, and with two third probability none will be saved. Tversky and Kahneman found that most people choose action A. If the story is presented differently, and people are told that action A will result in the certain death of 400 people, and B in a one third probability of that nobody will die and two third probability that everyone dies, most people will choose B.

This is intriguing, as the two stories have identical analytic content and differ only in wording. Nevertheless, no real public health policy maker ever faced (or will face) such a clear, nicely quantified situation, one without alternative readings, with complete consensus that these are the right figures, where each life is equal, and no one proposes action C, D, or E with putatively better results. Our point is that the experiment introduces a SOCIAL situation: you must decide over human lives. Yet you are completely on your own: you are solely responsible for your decision, you cannot consult others, you cannot google the disease or look it up on Medline, you cannot even discuss the disease and your options with the psychologist conducting the experiment even though you are unlikely to know anything about epidemics and just have to take the word of some stranger for what the parameters and options are etc.

rather than a reaction to a particular artificial condition borne out by the experimental design. Its experimental methodology, isolating a single cause in a controlled environment at the expense of context construes decisions as individual, isolated acts. All causes that affect our decisions are in our head. BE is correct claiming that rationality is bounded, but it is bounded as much by social forces as by brain functions.

Individualistic cognition is not the only problem with BE. The experimental situation imposes another artificial constraint on decision-making: the choice is either a one-time decision or a game with fixed (and simple) rules. While this scientific design might capture some static or repetitive choice situations fairly well, it misconstrues lending, which is, in essence, dynamic. Credit is a long-term relationship that unfolds over time. This introduces a new set of uncertainties, as pay offs and rules may shift substantially during the lifetime of the loan in unanticipated ways. The credit contract itself is an effort to limit some of these changes and to distribute its risks between the lender and the borrower, and setting the interest, fees, and penalties etc., is an effort to put a price on these risks. Actors are aware that many things are unforeseeable at the time of signing the contract, and they know that they are better off keeping things flexible for themselves – in

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In REAL situations resembling this one you would first and foremost feel anxious as you should because you must decide about life and death without being competent making this decision. It comes as no surprise that you are looking for verbal clues because you cannot believe that the puzzle gives you everything you need to know and thus the wording matters. Normally, you would gather more information, consult knowledgeable people and may find out that the framing is a trick, and you should just toss a coin, as a rational person would. Or find option C that seems to yield better results.

By turning this experiment into a cognitive puzzle, BE makes social factors obscure. This way it becomes invisible that people are susceptible to alternative framing because they are faced not with a clear puzzle but with uncertainty, and that in real situations, they build their own beliefs about how many people will die, what actions can be taken, what the cost of those actions are and what results each action will bring.

effect, leaving a possibility change their mind later. The lack of flexibility in the contract can turn out to be a more important impediment to an optimal outcome for both parties than poor thinking at the time of signing the contract, and it can turn out to be so in unanticipated ways. Under certain circumstances, commitments agreed to earlier can lead only to bad outcomes for all involved, and the two parties must renegotiate or an all-powerful third party (in the lab, the scientist conducting the experiment) must change the available options.

Therefore, our critique of BE is two-pronged. While we agree with BE that RCT, in general, is unrealistic, BE is an improvement only up to a certain point. First, BE, like RCT, takes an overly individualistic approach to cognition, and, second, it ignores uncertainties rooted in dynamic processes. For the former, we will enlist help from theories of DC and for the latter, we will draw on ideas from LTF.

Cognition as a Distributed Process

BE correctly points out the limits of *homo oeconomicus* but it accepts its core assumption that cognition is individualistic and isolated. Yet our choices and actions do not simply follow our own brains or even our somatic system (Damasio 1994). Instead, they are also shaped by what other people think, and that comes to us in various forms: advice, rules, norms, peer pressure, stigma and sanctions, books, NPR and Google Scholar etc. As recent advances in cognitive science have demonstrated, thinking is a "distributed process," people think with the help of their social and physical environment and cognitive functions are often delegated to other people (e.g. experts, contrarians) or objects (e.g., one's desktop, computer or a blackboard). The growth of the internet has made this not just plainly

obvious but easier to study (Hollan et al 2000, Hutchins 2001, Kirsh 2009).[6] Distributed cognition (DC) implies that how actors think depends on their social and socially constructed material environments in which they are embedded and not so much on their individual cognitive capacities, which, according to DC, their environment can enormously enhance or hugely hamper.

While BE has been intent on demonstrating the lapses of rationality prevalent among consumers (borrowers), it has had little to say about the other side of the consumer credit market: lenders. Lenders do not seem to be suffering from failure to act rationally.[7] Banks are less likely to procrastinate, overemphasize losses or be prone to framing effects. This is because banks are bureaucratic organizations, and bureaucratic organizations are built to have a rational organizational architecture (March and Simon 1958, Simon 1981) that enables their rational calculation. The thinking of bank staff happens through the way roles, flow of information and physical space are organized, and the very same, exemplary bank clerks can do irrational things with their own money, outside the rational context of

6 Richard Epstein tries to save RCT by making this very same observation (Epstein 2006:361). He allows that people use helping devices to make up for their cognitive shortcomings and this, Epstein claims, leads to a second-order rationality. People may not be smart enough to know everything, but they know what they don't know and know how to compensate for their bounded rationality. There are two problems with Epstein's argument. First, people are not any more rational at this second level as they are at the first. Worse yet, now they have to be smart not once but twice. They must know their limitations and the literature on overconfidence demonstrates that they are bad at that (see e.g. Yates 1990, Massey and Thaler 2010 and in the context of credit Bar Gill 2004). They also must know what help they need, also a doubtful proposition in many contexts. Second, once we admit the importance of the role other people and devices play in aiding decisions, we leave the world of methodological individualism behind and enter the world of distributed cognition.

7 Needless to say, in some other markets, borrowers are more rational and lenders are less so. Take mutual funds, where lenders are more irrational and borrowers (companies) follow RCT better.

their place of employment. Our position is not that people are not rational. Sometimes they are, other times they are not. What makes them one or the other is the context that they think in and think with.

The psychological approach of BE raises another set of problems. Its focus on micro-level choices addresses the question of how to structure a decision at the point of the initiation of the contract given the information available, but says little about what happens afterwards apart from assuming that the good contract should be enforced. But changed circumstances may make it desirable to loosen or renegotiate the contract that at the point of origination seemed perfectly optimal.

Therefore, BE is an excellent tool to pinpoint irrational choices and behaviors, but to explain irrationality, specify the circumstances under which it takes place, and to offer policy to correct them, we have to go beyond individual cognition. We also need the Legal Theory of Finance to address situations when even good contracts may lead to bad outcomes and when we have to approach agreed upon rules elastically.

Legal Theory of Finance

The choice-theoretic approach assumes that lenders and borrower stick to the rules to which both agreed at the beginning. Borrowers are offered a set of credit products, each representing a set of mutual contractual obligations backed up by general laws. They make the choice which one to request. The lenders decide whether to honor the request. If the credit application is accepted by the lender, both parties must follow through on their obligations towards each other. Doing otherwise puts in motion enforcement and sanctioning mechanisms.

But when people are faced with true, fundamental uncertainty about the future, and they must judge processes that unfold in time, it may be more important that they be allowed to remake the decision as they learn

more, than to make the right decision at the outset, because the right choice is impossible to guess.

Elasticity of the law that LTF postulates is precisely about actors' ability to renegotiate the rules, i.e. to make decisions one seemingly forwent when entering a contract. Ordinarily, laws provide for credible commitments, stability and calculability in an otherwise uncertain world. In this sense, they reduce uncertainty. But when new powerful circumstances, unforeseen at the original point in time, emerge, the strict enforcement of the law can become counterproductive calling for elasticity.

Flexibility of contracts vs. elasticity of laws

The elasticity of the law is different from the flexibility of a contract. In credit contracts, each party is typically interested in preserving their own flexibility while forcing the other to commit. Borrowers are interested in having the capacity to renegotiate the loan if they encounter adverse circumstances, or to refinance the loan if better terms become available, all the while keeping lenders to their end of the bargain. Lenders, on the other hand, would like to be able to change the conditions of the loan: adjust interest rates, mete out new fees, demand additional collateral or immediate repayment if it seems to be in their interest, while expecting borrowers to deliver on their commitments.

While elasticity is the suspension of the contract or some of its provisions, contract flexibility can be written in as part of the contract. For instance, when lenders know more about a product, and have the ability to sanction non-payment, they can force borrowers to stick strictly to the terms of the contract while they can exercise discretion. In Central and Eastern Europe, this is true for many consumer loans (credit cards, purchase loans and even mortgages) where the lender retains the ability to unilaterally change some of the terms of the contract – for instance, raise interest rates,

change fees or penalties etc. Lenders can also refuse to disclose certain technical details, such as the way the outstanding balance on a credit card is calculated, the methodology used to adjust variable interest rates to rate changes in the market, the manner in which its borrowing cost is computed or risk of a borrower is assessed, claiming that those constitute business secrets. If later they change those, no one can hold them accountable. [8]

The asymmetry of commitment in such one-sided contracts is intended to remedy the information asymmetry problem and to redistribute the uncertainty it causes. The danger is that if one side is fully committed the other can act opportunistically. It is common for consumer lenders to adjust charges for borrowers upward when the lender's cost increases, but not to cut rates or fees when the cost falls. The borrowers are unaware of changes of the second kind and find out about the first only when it affects them adversely. The customer then, will not just absorb uncertainty, but will pay its costs and gets none of its benefits. If this kind of flexibility for the lender is coupled with early payment penalties, making it difficult for the borrower to exit the contract, the imbalance offers an irresistible opportunity for gouging customers. Flexibility of contracts is useful, but must be carefully structured and balanced: one side should not have all the discretion keeping the other fully constrained.

Flexibility of contract and elasticity of the law are related. Whenever contracts are insufficiently flexible or when flexibility is grossly out of balance, problems cannot be settled within the contract, and outside intervention becomes necessary to revise the contract itself.

We will now turn to consumer credit in Central and Eastern Europe[9] in the spirit of the DC and the socially embedded actor framework but with friendly help from BE. Because Central Europe is now a member of the EU,

8 These technical details are available only to supervising authorities but not to the public.

we will have to consider some of the EU rules, and because the US is the template for much of consumer credit elsewhere in the world, we will have to touch on the US, as well.

CONSUMER CREDIT

The main obstacle credit markets must contend with is uncertainty. The key question is the distribution of the consequences of uncertainty: who should bear the costs of unforeseen adverse events. Uncertainty afflicts both parties. Most of us can readily appreciate the uncertainties lenders face, especially when they lend *en mass* and to virtual strangers. Lenders are forced to contemplate whether borrowers have disclosed everything about themselves and their financial situation, whether they would stick to their end of the deal and pay on time and responsibly even if they face financial hurdles; or how likely the borrowers are to become insolvent given who they are and how they live.[10] Typically, no one lender can answer these questions easily or comprehensively on their own (unless the lender is a monopolist in a police state, where both information and control are centralized), and as we will argue in this paper, while some sort of cooperation between lenders is necessary, it is frequently impossible or very difficult to achieve due to lenders' competitiveness. In other words, it is important to protect lenders from uncertainty (really, from unscrupulous borrowers) as too many defaults can bring down not just the lender but the entire banking industry. Below we discuss steps and policies designed to protect lenders.

But the borrowers are, too, frequently unclear or confused about the conditions of the loan, their and the lenders' rights and responsibilities,

9 Central Europe is traditionally a reference to the Visegrad countries: Poland, Hungary, Czech Republic and Slovakia. Our research is mostly on the first three. Eastern Europe is usually the rest of what used to be the Soviet Bloc. We will focus on Ukraine and Russia.

10 This side of uncertainty is emphasized by the large literature on information asymmetry (Stiglitz and Weiss 1982, Akerlof 1970).

which may leave them feeling vulnerable. After all, lenders are large financial institutions – infinitely more powerful and with much more expertise than individual borrowers. The complex agreements with numerous contingency clauses that borrowers have to sign before getting a loan have been unilaterally drafted by the lenders (and their lawyers). The slogan of “buyers beware” is clearly insufficient, as borrowers must be protected not just from predatory lending, but also from making uninformed decisions that they will later regret. The situation with many borrowers unable to pay is both ruinous for the industry and devastating for society.

Thus, for a system of consumer credit to work, protections of creditors and borrowers have to be balanced because each party needs to be essentially protected from the other. We will first begin with creditor protection.

CREDITOR’S PROTECTION

Collateral

Lending is risky business and lenders must have some protection from unfortunate or opportunistic borrowers who cannot or would not pay. For centuries, lenders protected themselves by requiring collateral that the borrower forfeited if she failed to pay the loan back. Borrowing against collateral in consumer credit provides liquidity to the borrower, but it does not supply additional resources. While borrowing against liquid collateral rarely makes economic sense, lenders don’t much like to lend against illiquid collateral because then they have to appraise, often store and, in case of a default, sell the collateral. Another type of collateral-based lending is when use and ownership is separated, and ownership is secured by the lender while full use is granted to the borrower. Home mortgages are an example of that. One can move into a house and use it as if one owned it completely, even if 80 percent of it belongs to the bank providing the mortgage. This separation of use and ownership works only because when housing prices

are rising, use usually does not deplete the value of the home faster than the mortgage is paid off, and because the item is easy to recover by the lender if necessary.[11] This kind of lending is limited to a small set of physical property in rising markets and thus lending against collateral has its limitations in retail markets.

In the absence of collateral, lenders can do two things to protect against non-payment. The first is to screen them carefully before the loan is given. And the second is to go after people who default in the hopes of collecting the outstanding value of the loan.

Collection

For most consumer loans, collecting on them is expensive for the lender relative to their value, and therefore, no system can be built purely on collection after the fact.[12] Thus collection is often as much of a credible threat to the borrower to deter future defaults, as it is a means to recover the outstanding amount by the lender. If, however, collection can be made less costly, it could emerge as a stronger instrument for the lender. In Central and Eastern Europe, the workplace can act as a third party that helps lenders *gratis* to get their money back.

In Central Europe, certain loans require that people have their salaries deposited directly by their employers into an employee's account at the bank that made the loan. If people fail to make payments, they would be made automatically from the salary account. This means, in practice, that the workplace acts as a guarantor of payment. In Eastern Europe, and in

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11 In East and Central Europe, as on most of the continent, mortgages are mostly recourse loans. If the home loses its value and its value does not cover the loan outstanding, (i.e., if the loan turns out not to be fully collateralized) the lender can collect the difference.

12 This was clearly demonstrated during the South Korean credit card crisis in 2003. The credit card companies that faced an avalanche of defaults had no other recourse except for *ex post* collection, and had to be bailed out by the state for billions of dollars.

Russia, in particular, salary projects – organized transfers of the whole enterprise payroll from the usual cash payments to direct deposits, -- have been in the forefront of mass consumer credit markets. Set up initially to mass-distribute payment cards, help banks widen their customer base and attract much-needed cash to banks, salary projects also served as a basis for the spread of low-risk consumer lending, especially in the period after the 2008 crisis, when other, more risky lending practices (such as express credits – lending at a point of sale with quick and superficial verification) were largely abandoned. Having a direct deposit and a salary card (a bankcard with debit and ATM functions) made one eligible for a loan at the same bank. While this arrangement helped lenders, it nevertheless put borrowers at a disadvantage. In Russia and Ukraine, the employers typically chose the bank for a direct deposit scheme for the whole enterprise, employee preferences were brushed aside. This results in borrowers being “locked-in” because they cannot easily obtain a loan from another lender. Lenders, on the other hand, do not have to compete for individual borrowers with other lenders, only for salary projects (and these are frequently administered at the enterprises that are the lender’s existing corporate clients). Lack of competition between lenders prevents borrowers from getting better conditions on loans: *better-than-average* borrowers are therefore charged *average* interest rates because their better-than-average quality can be seen only by their bank. For the rest of the lenders -- those that do not get additional assurance in the form of directly deposited salaries these borrowers are just that – average. Although in Central European countries, people can typically choose the bank where their salary is deposited, the bundling of services even there dampens competition among banks.

The asymmetry of discretion between lender and borrower constructs a situation whereby all the risk of the borrower’s misfortune is carried by the borrower, who must follow the strict rules of payment. This is enforced by the employer who acts as the intermediary.

Screening and Data Sharing

Screening out bad customers beforehand can also protect lenders. To do that lenders need data. The most useful data are borrowers' prior history of taking and repaying loans. Different lenders can pool their borrowers' databases together to create a combined credit reporting system that would allow them to screen bad applicants and punish defaulters by making it very difficult for them to take out loans from other lenders. The sanctioning aspect of the credit reporting system only protects the lender to the extent that it sends the signal to other borrowers that defaulting is costly for them, and functions as a preventive measure. If the default already happened, and the lender already incurred the loss, the fact that the borrower would not be able to borrow in the future, while useful to other potential creditors, is of little consequence to that lender. Some may even argue that it is in the lender's best interest to conceal this fact so that the borrower can refinance their loan elsewhere and repay the original loan.

With the exception of highly decentralized markets with administrative barriers to geographic competition, like the US market used to be until the 1980s, cooperation of autonomous rational lenders to share information is a difficult proposition. When lenders are competing and some have more information to share than others, the dominant strategy of the larger lenders who would give up more and receive less in sharing is to spurn any attempt to create a unified credit registry. Already at an advantage, they are reluctant to hand over precious information to smaller players. In fact, the more a lender has to contribute to a credit registry the less incentive it has to do so. As they are organizational actors, lenders, better than individual borrowers, are able to act as according to the rational-choice theory predictions. While this may help banks in many other situations, it becomes a serious impediment in creating the credit registry.

Around the world, historically two forms of credit registry developed.[13] One contains negative information only (e.g. France and Austria, Hungary until 2011), the other includes the full record of each credit transaction (e.g., US, UK, Poland, Czech Republic, Russia, Ukraine), regardless of whether the outcome was good or bad.[14] It is typically easier to get lenders to cooperate in assembling a negative or black list because black lists identify and, therefore, punish defaulters, and deter borrowers in good standing from defaulting in the future. Full lists are harder to obtain, because revealing good information abets competitors to skim off good customers of other lenders. This benefits good borrowers who now have several lenders vying for their attention and offering them attractive loan conditions, but individual lenders (particularly large ones) balk: intensified competition for good clients drives prices down. For this reason, many full-reporting registries begin as black lists. Still, even for a black list, fully rational lenders may not want to give away information for which they paid dearly (by their loss on the loan). From a rational standpoint, they would not release this information to their competitors *gratis* unless they receive information from others in a reciprocal fashion of equal or greater value.[15] Yet, there is a self-reinforcing nature to black-lists: once a critical mass of lenders joins and starts supplying information, staying outside the system becomes dangerous. As more and

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13 There are also unified registries that include data on both individuals and corporate entities, and specialized ones that separate the two types of debtors. Because the nature of corporate and consumer credit are vastly different, even if they are in the same system, they are handled separately. One complication is the debt of sole proprietor or self-employed businesses where the boundary between company and individual is more difficult to draw.

14 After World War One, Germany began to assemble an all-positive credit registry. This honors list was compiled originally by utility companies to help manufacturers of electric and gas appliance select customers who are likely to pay conscientiously their installment purchases. It is clear, that utilities being public monopolies had little to lose by disclosing who paid their bills punctually. In fact, because of the complementarity, they stood to benefit by more purchases of appliances that will use electricity or gas.

more lenders join the club, crooks will gravitate to non-reporting lenders, as those will not be aware of their past mischiefs and will not have the means to punish them by reporting their default to others. The few non-cooperating lenders will be flooded with bad customers.

In principle, information sharing should be beneficial in credit markets (Jappelli and Pagano 1999, Pagano and Jappelli 1993, Miller 2003 etc.) because knowing more about loan applicants should help markets price loans more accurately. But it is hard to achieve by autonomous and rational actors because they don't find it individually beneficial. Therefore, lenders either have to break away from their short-term interests or they must be coerced to cooperate by the force of law. The latter is the more common solution.

Information sharing is a good example of distributed cognition. Even if we think of lenders not as organizations but as individuals, and ignore the cognitive division of labor within credit institutions among departments and employees, the credit decisions lenders render depend on judgment, classification and reporting by other lenders. Without help from other creditors, lenders would find it very hard to decide on the creditworthiness of strangers.

Still, the question remains: should the legislator in mandating data sharing call for a black list or for a full-record registry? From the standpoint of individual lenders, full-record registry provides more information, but is also costlier, both because it intensifies competition, and because lenders now have to standardize and transmit a lot more information. From the

15 A large lender would not notify others, even if all others together contributed more to the black list than the large one did because if there is no black list, everyone knows and can avoid only the bad customers it already dealt with. Large lenders would have not just a larger proportion of all clients but they would also have more bad clients in absolute terms, and thus they would know about a larger proportion of the bad ones trying to get another loan after defaulting on an earlier one.

perspective of the entire market, full-record registry is more beneficial because it allows lenders to gauge the overall indebtedness and past payment behavior of each applicant and arrive at more accurate pricing (Barron and Staten 2003). More accurate prices should benefit the market as a whole, but not necessarily individual lenders, who are primarily interested in higher prices, whether or not they are accurate.

Theoretical discussions notwithstanding, empirical studies fail to show that full-record registries lead to fewer defaults or that they are superior in other ways compared to black lists (Jappelli and Pagano 1999). In fact, the most common expectation, that full reporting would prevent over-indebtedness, turned out to be unfounded: the biggest crises in consumer credit happened in the two countries with well-developed full-record credit bureaus: the US and the UK.

To understand this paradox, we have to re-examine the rational choice notion of lending, that focuses on ill intent as the main reason for default. According to RCT, people have fixed characters and if they do not pay, it is because they are born opportunists. Default is a result of a pre-existing condition and can be diagnosed when loans are made, so the more information that the lenders have the easier it is to render the most accurate prediction about the future behavior of the applicant. Once they granted the loan, lenders can do nothing except wait and see if they had made the right decision. [16]

Studies, however, have shown that the vast majority of defaults are due to circumstances beyond people's control such as falling ill, loss of job or getting divorced (Sullivan et al 2000, Jentzsch and San Jose Riestra 2006), and for this reason are rarely "premeditated." At the time of the application, the applicant does not know whether she will default, nor whether bad luck

16 This is the standard assumption, for instance, in the information asymmetry literature (e.g., Stiglitz and Weiss 1982, Akerlof 1970).

will befall on her, not even what she is going to do if misfortune strikes. The lender has no better knowledge of those future troubles either, but if it wanted to use the power of statistics, knowledge that can be gained by systematically comparing the individual to a large number of similar cases, the lender would be better served by collecting systematic information about applicants' health, their careers prospects, and the strengths of their marriages. From a strictly predictive perspective, these are probably better indicators of future defaults than home ownership, education or even past credit behavior, data typically used to judge applicants. But they are either not used or are explicitly prohibited to be used in credit-granting decisions in the US[17] and the EU. Now even in Russia, a recently passed law prohibits the use of information pertaining to health condition along with race, nationality, political views, religious and philosophical believes, and sexual relations except in cases where the subject gave written permission to analyze such information which desperate applicants may actually provide.[18] Lenders, therefore, also face considerable and incalculable uncertainty.

The vast amount of data from the credit registry are processed with statistical algorithms, models that automate the decision-making process, a point to which we will return later. This is yet another illustration of how cognition is distributed in nature: these algorithms are used by loan officers mostly without knowing how they actually work. In fact, many banks make a concerted effort to conceal the nature of these algorithms to those who decide on the loans so that they cannot game the system as they are sometimes rewarded for selling those financial products.

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17 The Fair Credit Reporting Act explicitly forbids the use of medical information to establish creditworthiness. See Protection of Medical Information (Section 604(g) (12 CFR 222, Subpart D). The Equal Credit Opportunity Act prohibits the consideration of marital status.

18 The meaning of consent in the context of a credit application is quite complex.

These models are not just working with weak predictors; they also misconstrue the problem of default in a more fundamental way. Subscribing to the rational choice framework, statistical models treat each case as statistically independent. In other words, their calculations assume that defaults are the consequences of individual attributes and not influenced by defaults and attributes of others (Rona-Tas and Hiss 2010). There are many reasons why this may be unrealistic, especially, during times of large systemic shocks. For instance, when the real estate markets collapse, the mechanisms through which defaults of others influence everyone's default becomes clearly visible: defaults on mortgages lead to falling prices that, in turn, result in more defaults.

One way around the fact that default is often not a choice but the result of changing circumstances beyond the borrower's control and ability to foresee, is to insure against mishap. Central and East European banks often offer credit insurance for sickness and unemployment but they charge a hefty price. The very people who are the most likely to find themselves unable to pay their debt if they were to fall ill or lose their job are the least able to afford such insurance. Credit insurance is perceived by most people as an optional surcharge and banks in the region report few takers. Some East European banks require that borrowers purchase insurance in conjunction with the loan.[19]

Moreover, our own research shows that default rates depend to a large extent not on the intents or even circumstances of clients but on the way lenders handle initial signs of non-payment. As the socially-embedded actor framework would posit, lending is a social relationship and banks that do not develop a relationship to their clients are more likely to see them default. The true causes of default should not be sought just in the psyche or

19 Indeed, if the bank supplies the insurance, then it might as well build it into its price.

character of the borrower or external shocks but in the borrowers' social context including the one created and managed by the bank.

The importance of customer relations is partly why full-record registries do not improve credit markets as expected.[20] What full-record credit registries allow is that lenders can lend to strangers. This increases volume but leads to three negative consequences. First, it is more likely that the client will be "processed" than treated in a personalized manner. It is impossible to select from thousands or even hundreds of cases by paying each one individual attention. Moreover, after the selection, lenders manage wobbly loans worse when they have more clients and when those are not local. Second, as lending is getting extended, it reaches less affluent social groups with more precarious finances, who are less immune to systemic shocks. If the economy takes a turn for the worse, they will be the first ones to be affected en masse. The correlation among defaults affects them the most, making their behavior more volatile: during good times they will perform better and during bad times worse than the models expect. Finally, full-record registries give the cognitive illusion that lenders know more than they actually do (Major 2010). This overconfidence, another common failure of rationality found by BE, is actually the result of what lenders learn about how to be autonomous and rational actors in the education system, when they study economics and finance. Economics and finance overemphasizes the calculability of risk and the human ability to turn uncertainty into probability if data is available.

Legal regulation, therefore, should aim to institute black lists (with appropriate safeguards for borrowers) and emphasize (and regulate) customer relations. It should specify what banks should and should not do in the pre-collection phase so that default can be avoided. With recent

20 Accordingly, credit registries recording the borrowers' behavior take no notice of what the *lender* did to avoid default. A default is a default, no matter how mismanaged the load was by the lender.

advances in information technology, there are many new possibilities in managing customer relations.

Banks do want to be autonomous and rational actors, in fact, few actors in the economy are as predisposed to act rationally as banks are. But as we have illustrated, RCT-type action can lead to market failure. Here the problem is not the failures of rationality at the level of individual decision-making identified by BE. What is optimal and rational at the level of each lender may not be so for the market as a whole, and is ultimately counterproductive for the lenders as well.

CONSUMER'S PROTECTION

Disclosure and informed purchase

While RCT worries about information asymmetry favoring the borrower who knows more about her ability and willingness to pay back the loan than the lender, BE, by pointing to the cognitive traps that befall actors preventing them from acting rationally, is preoccupied with information asymmetry benefiting the lender who understands the loan contract better than the borrower (Bar Gill and Warren 2008). Much of BE's contribution to rethinking consumer credit is the explanation of the vulnerabilities of borrowers.[21] BE supplies valuable suggestions for structuring pre-contractual information. While RCT would simply call for full disclosure, BE would insist that information must be also timely and comprehensible.[22] Timeliness means that the information must be delivered so that people have time to

21 In the US, the most important law regulating pre-contract information disclosure is the Truth in Lending Act (TILA). In the EU, it is the Directive 2008/48/EC of the European Parliament and Council of 23 April 2008 on credit agreements for consumers.

22 The usefulness of disclosure has been drawn into question by several studies. For instance Mann 2005, Cain et al 2005, McCoy 2007, Wiener et al. 2007, Bar Gill and Warren 2008 and GAO 2006.

digest it. Processing information takes time. To hand someone a contract just minutes before signing giving her a single chance to read it on the spot will not result in informed decisions.[23] Because people think not just with their head, in the spirit of DC, they must be given the opportunity to drawn on other cognitive resources: browse the internet, ask mavens (Fleick and Price 1987, Clark and Goldsmith 2005) or discuss it with friends (Katona and Mueller 1955). Timeliness also means that clients, if possible, must be given a sufficient cool-off period. Having signed for a loan, clients should have the opportunity to change their minds and cancel it.

Information must be comprehensible, that is, it must be presented in the simplest manner possible. There are three important issues that must be addressed: *transparency*, *comparability* and *contingency*. Transparency is the extent to which information about a product is comprehensible without having to contact the lender for explanation. Studies show that transparency is strongly and negatively correlated with price: the more transparent the pre-contractual information the lower the prices are in a country (Van Dijk 2009), both benefitting the consumer. Transparency can be improved by simplifying conditions. In the EU, there is a large variation in transparency from the Netherland and the Baltic countries on the more transparent end, to Italy and Hungary on the less transparent one. Poland and the Czech Republic are more transparent than Hungary, Poland being below and the Czech Republic a little above the EU average. Russian consumer lending has been notoriously non-transparent. For instance, a leader in consumer lending, Russian Standard bank, widely advertised popular express loans (offered in retail stores to finance consumer purchases) with 23 percent annual interest rate. But once the borrower signed up and started to pay, it

23 Mann points out that for credit cards timeliness can also mean that the information is disclosed not just at the point of opening the account, but also at the point of borrowing or at the point of sale. When the problem is self-control, rather than comprehension, receiving the information close to the decision is better (Mann 2005:55-62).

would come to light that this quoted price did not include numerous additional payments and fees, such as loan application fee, loan issuance fee, opening and maintaining account fees, etc. , which together raised interest rates to 60-70 percent annual. As a result of mounting complaints by sobered borrowers, Russia's Central Bank issued instructions on May 13, 2008[24] that mandated full disclosure of the "total cost of the loan" to the borrower. Realization of their true cost made express loans less popular, but also prompted lenders to lower the cost of loans to consumers.

Comparability means that competing offers or options must be presented in a way that is easy to contrast. The standardization of pre-contractual information facilitates comparison, and it also tends to improve transparency. Yet the standardization of information is useful only if the products themselves are standardized or comparable. Standardizing financial services and loan products, however, can stifle innovation and regulation must walk a fine line. Comparability also facilitates competition among lenders. The European Commission has financed the creation of a comparison web site in the newly joined member states including Hungary, Czech Republic and Poland.

Contingency is a problem when the relevant information depends on something that can change or vary. Credit card costs, for instance, depend on things that can be specified in advance, like interest rates (if they are fixed), annual fees etc. They also depend on other factors such as subsequent usage (if it is used abroad or domestically, for payment or cash withdrawal etc.), whether one revolves debt or not, frequency of missed payments etc., all of those only known once people signed the contract and started to use the card (Bar Gill and Ferrari 2010, Bar Gill and Board 2012).[25] All those vary between people, depend on a particular circumstance, and are

24 Instructions from the Bank of Russia on 13.05.2008 № 2008-V "On the procedure for calculating and communicating to the borrower - individual full cost of credit"

hard to predict. For instance, most people do not know how much they will revolve their debt and therefore they cannot tell whether they should get a card with a low interest rate and higher annual fee which they should if they keep a large balance on their card, or if they should choose a card with no annual fee but high interest rate, which is rational if they tend to pay up before the grace period.

Contingency is much easier to communicate in the era of computers, and service providers are in a better position to collect relevant information and make it available to the client. Requiring credit card issuers to supply meaningful usage information that then can be used to properly calibrate the kind of financial service one needs would help customers find the type of credit product that is best for them. For instance, customers should be able to simulate different scenarios, run what-if models and should be informed about the average or common input values (e.g., the average amount of debt revolved). In line with the idea of distributed thinking, devices (web sites) should be available to make these calculations. (Mortgage calculators are one example of a device that lets us deal with complexity resulting from contingency. The calculator allows one to choose the down payment, length of the loan, interest rates, whether one pays monthly or bi-weekly, etc.)

Pre-contractual information, however, is not the only basis of the decisions customers make. People also take advice. Most often advice comes from the lender, which is inevitable but is rife with conflicts of interest. Even when advice comes from third parties, as they often do in the case of student loans where colleges advise students, or in the case of home buyers who are advised by mortgage brokers, one still must beware.

There are and should be other sources of advice. In Central and East Europe, advice is scarce. In the US, the newly formed Financial Consumer

25 The same problem exists with cellphone plans, cable packages, time shares and parking passes. There is a similar problem with energy use.

Protection Agency can fulfill such a function.[26] It already has informational materials and blogs. In Germany, BaFin, a federal agency provide independent analysis (mostly in matters of investment),[27] and Stiftung Warentest, an independent consumer organization and foundation, issues Finanztest, a glossy monthly magazine, very much like Consumer Report that evaluates financial services from credit cards and auto loans to insurance and investment products.[28] Finally, there should be a mechanism through which prospective customers can get advice from current or previous consumers of the product as it happens with hotels or restaurants (at Yelp, TripAdvisor etc.). Although, discussion groups and information sites around banking did emerge spontaneously in Central and Eastern Europe,[29] and especially in Russia,[30] those are not always reliable sources of information. The consumer protection agency should offer websites designated to specific lenders, advertised on the lender's web site, where clients can post comments about that lender's services and products, to which the lender may respond publicly. These sites then could be consulted by prospective clients.

Another way to protect borrowers and improve their ability to evaluate information and arrive at informed decisions is by improving their financial

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26 http://www.consumerfinance.gov/

27 http://www.bafin.de/cln_110/nn_722564/DE/Verbraucher/verbraucher__node.html?__nnn=true

28 Its digital version is at http://www.test.de/themen/geldanlage-banken/ .

29 For Ukraine see http://banker.ua/publicrating/ , and http://forum.finance.ua/viewforum.php?f=20 . For Hungary see http://www.bankkartya.hu/ or http://hitel.bizony.hu/ . In Poland, e.g., http://www.forum-bankowe.pl/ .

30 Eg., http://www.kreditovik.ru/moikredit.php , http://lf.rbc.ru/reviews/ and http://bank.ru/recommendation/opinion/ .

literacy. In Central and Eastern Europe, there have been campaigns to improve financial literacy and to introduce consumer finance into the school curriculum. National Banks maintain useful materials on their web sites and, citizens of EU member states can consult the financial pages of a general consumer education site financed by the European Commission.[31] In Russia, the ruling party United Russia has launched a federal program "Financial Culture and Security of Russian Citizens" in 2008.[32] The program is particularly directed at young people, including school children. It supports various local initiatives, in Moscow and in the regions, including financial Olympiads for high school students, programs to support financial literacy of parents of young children, and competitions among secondary school teachers for the best teaching curriculum related to financial literacy. Many of these national initiatives have been supported by the World Bank, which in November 2010 launched Global Program on Consumer Protection and Financial Literacy. The same year the Russian government received a large 14-year loan from the World Bank to help set up financial education programs and improve financial literacy in the country.

Data Privacy

Both lenders and borrowers have information that they rightfully guard, adding to uncertainty experienced by the other party. Banks are not required to disclose the exact details of how they assess the creditworthiness of their clients, nor would they divulge expected default rates on particular loan products, nor would they supply to clients information about the profitability of a loan to the bank. Any of these could be relevant information for the customer to decide whether the loan is priced properly.[33] Individuals, too, are protected by data privacy laws, limiting the ability of the lenders to access certain kinds of information. These limitations on what information is

31 www.dolceta.eu,

32 http://old.er.ru/text.shtml?6/0759,110648/

available and can legally be obtain, therefore, limit both lenders and borrowers in their attempts to manage uncertainty better, and for this reason shape market practices and functioning.

Data privacy follows different regimes in the US and Europe. In the US, data protection is less strictly regulated.[34] Credit information can be used not just for deciding about loans but also for targeted marketing of loan and insurance products, setting auto insurance rates, screening prospective tenants and employees (Tillinghast-Towers 1997, Hartwig and Wilkinson 2003). Insufficient data privacy protection can generate vicious cycles. Missed credit card payment can lead to increased car insurance premiums, inability to find affordable accommodation or proper employment. That can bring financial hardship, which, in turn, may result in more missed payments, which can create a downward spiral that is detrimental not just for the borrowers but also for their lenders. Lenders will suffer because higher car insurance or rental deposit will compete for loan payments, and the borrower's inability to find employment will make default more likely.

Data privacy is much stronger in the EU. It is driven by a 1995 directive by the European Commission.[35] In 2003, upon joining the EU, Central European countries brought their data protection laws in line with the EU directive amending laws from the early 1990s. The directive is very strong on requiring explicit consent from the individual. The kind of data

33 In a perfectly competitive market, the last two would not matter, but the first one still would. Customers would still want to know what they need to do exactly to improve their creditworthiness.

34 It is telling that the Right to Financial Privacy Act of 1978 (amended by the PATRIOT Act of 2001) is a law limited to protecting individuals and small limited partnerships from the federal government.

35 Directive 95/46/EC of the European Parliament and of the Council on the protection of individuals with regard to the processing of personal data and on the free movement of such data. Official Journal of the European Communities 23.11.95.

sharing that exists in the US is forbidden, and so is pre-screening, the practice allowed in the US for lenders and insurance companies to peruse a certain portion of individual credit files without consent if they do that in order to offer a loan or an insurance product. Countries in the EU still differ somewhat in the extent to which financial privacy is protected. France is stricter than the United Kingdom, and Germany is closer to France (Jentzsch 2003). Jentzsch finds that protection of data privacy leads to a narrower but safer and less indebted credit market (p.29). This reinforces our earlier point about why full report registries are unnecessary and may even be detrimental. Having a credit reporting system that only collects negative information can be a strong form of protecting data privacy.

In Central Europe, concerns for data privacy are even more explicit than in the rest of the EU. This is most likely due to abuses of personal data these countries suffered in their communist past. In Hungary, for instance, until 2011, there was a data privacy commissioner, who carried the functions of an ombudsman, actively defending privacy rights of citizens, fighting draft legislations if they did not conform to the laws and principles of information privacy, and he successfully blocked government efforts to create a full-record credit bureau. In 2011, the commission was turned into an agency and the full-record credit bureau was signed into law. It remains to be seen how this will change the protection of information privacy. The Czech Republic and Poland both have specialized offices for data privacy that, however, operated with less vigor, the Polish office being the least pugnacious. A 2011 amendment of the Polish data privacy act gave new enforcement powers to the data privacy authority including the ability to impose fines.

Data privacy is handled more loosely in Russia and Ukraine. In Russia, the Federal Service on Telecommunications is collecting complaints. Ukraine in 2010 passed a data protection law that is modeled after EU directives, and

created an agency for privacy rights under the oversight of the Ministry of Justice. It is not yet clear whether this will bring about significant change.

Automated Individual Decisions

Automated individual decision-making, also referred to as credit scoring, is a central pillar of modern consumer credit markets (Lewis 1992, Johnson 2004, Mays 2001); otherwise, the marginal cost of consumer credit becomes prohibitively expensive. Credit scoring is based on some statistical algorithm or a point system set up in advance by experts, and it works by using a set of numerical weights, either obtained by statistical modeling or divined by loan specialists, to calculate a weighted average of the information available about the applicant. This average represents the likelihood of failure to pay back the loan for people similar to the applicant. With computers available, this calculation can be executed almost instantaneously by anyone with basic data entry skills. While setting up the system is costly and the accuracy of these models is debated, no one questions that they provide a much cheaper and faster way of assessing creditworthiness, than starting an inquiry into each case by an experienced loan officer. Their use leads to standardization of decision-making, making the process and the employees engaged in it easier to monitor by the management.

There are two, contrasting legal positions on the use of automated individual decision-making in consumer credit markets. In the US, credit scoring emerged as a solution to anti-discrimination suits filed against lenders in the 1960s and early 1970s. The Equal Credit Opportunity Act of 1974, with the subsequent Regulation B by the Federal Reserve, stipulated that using *empirically derived,* demonstrably and *statistically sound* methods in credit decisions makes lenders immune to lawsuits. The law not just accepts but encourages automated individual decision-making and credit scoring is viewed as an objective and scientifically proven method of deciding about loan requests, superior to human judgment, which is prone

not just to all the irrationalities explored by BE but also to prejudices of all type. Taking human discretion out of credit decisions was a way to protect individuals, especially members of minorities, who wanted to borrow.

The 1995 EU directive issued by the European Commission on data protection takes a markedly dimmer view of automated individual decisions. It prohibits imposing on people decisions that are "based solely on automated processing of data intended to evaluate certain personal aspects relating to him, such as his performance at work, creditworthiness, reliability, conduct, etc." if the outcome is negative (Section 15(1)). The directive makes it clear that it aims to protect individuals. Taking human discretion out of decisions of consequence threatens people. Rather than providing an objective and fair process, as a communication from the Commission in 1990 put it, "the use of extensive data profiles of individuals by powerful public and private institutions deprives the individual of the capacity to influence decision-making processes within those institutions, should decisions be taken on the sole basis of his 'data shadow'."[36] Two years later the Commission elaborated further: "the result produced by the machine, using more and more sophisticated software, and even expert systems, has an apparently objective and incontrovertible character to which a human decision-maker may attach too much weight, thus abdicating his own responsibilities." They also added: "the use of scoring techniques with a view to lending to an individual is possible, if positive decisions to lend are based solely on automatic assessment of the risks; but where the score is negative the legitimate interests of the data subject must be safeguarded for example

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36 The Commission's communication on the protection of individuals in relation to the processing of personal data in the Community and information security, COM(90) 314 final – SYN 287, 13.9.1990: 29. This asymmetry, that allows positive decisions by automated methods but not negative ones, is curious. Clearly, the Commission believed that getting the loan is *always* in the applicant's best interest. People do not need protection from credit, only from the *denial* of credit.

by deferring a final answer until the organization has been able to carry out a "flesh-and-blood" study of the case." [37]

There are many difficulties interpreting this part of the directive (Bygrave 2000, Estadella-Yuste 1992) and countries took different approaches to implement it. Hungary, for instance, went as far as requiring that the data processor discloses the mathematical algorithm.[38] This is unthinkable. Banks treat scoring algorithms as proprietary and they are also worried that once the algorithm is out, people begin to game the system.[39] In fact, banks in Central Europe usually do not disclose details of their scoring, not even to their internal staff unless they are directly involved with the technical side of risk management. Poland simply copied the text from the Directive,[40] the Czechs simplified the language and made the exceptions more general[41] .

In Ukraine and Russia, the need for data protection is interpreted mainly as a need to protect access to personal information by third parties and to require that organizations that collect, store and process personal information have adequate security systems to protect information from

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37 Amended proposal for a Council Directive on the protection of individuals with regard to the processing of personal data and on the free movement of such data by the Commission of the European Communities, COM(92) 422 final – SYN 287:26-7

38 Act LXIII/1992 amended in 2003 Article 9(A).

39 For what happens once credit scoring becomes more transparent and how that contributed to the mortgage crisis see Rona-Tas and Hiss 2010.

40 Act of August 29, 1997 on the Protection of Personal Data amended in 2001, Article 26a.

41 Act 101 of April 4, 2000 on the Protection of Personal Data and on Amendment to Some Acts Article 11 (6),

unlawful breach.[42] The law is unconcerned about the potential harmful effects of mechanized judgment over individuals. Moreover, at this point, Russian and Ukrainian banks are not required to provide any explanations to the prospective borrowers of why their application for a loan was turned down.

Automated individual decision making in the context of consumer credit fit the RCT quite well. Credit scoring is just an explicit form of the rational calculation that RCT assumes people are making unconsciously or supposed to be making. The model is intended to simulate the rational thought process. The Fair Isaac Co., the biggest international vendor of scoring technology, insists that its algorithm is just a formalized version of common sense. But it fits with RCT not just from the side of those who use scoring (the lenders) but also from the side of those who are scored (the borrowers). If people are autonomous, they can be judged individually and if they are rational, bad outcomes must be due to selfish opportunism. Because RCT assumes being autonomous and rational are universal characteristics of individuals, the use of credit score in areas unrelated to credit also makes sense: the credit score is a quantitative measure of person's tendency to opportunism. It is a numeric representation of character.

Yet the automation of credit decisions is another example why decision-making should not be located solely in a single individual's brain. The statistical algorithm that is built by risk professionals and that accesses and processes information from databases built by yet others, is the tool loan officers use without fully understanding its operation. In fact, algorithms are created to make the individual loan officer's error prone cognition play as small a part in choosing customers as possible, to take most of the cognitive

42 Ukrainian law on Protection of Personal Data # 2297-VI on June 1 2010, and Russian law on Personal Data #152-FZ on July 27, 2006 with several later corrections.

processing and memory functions from the person and distribute it to machines and other people.

MAKING THE LAW MORE ELASTIC

So far we have argued that contracts between lender and borrower should be balanced and flexible. However, consumer credit contracts are rarely balanced and in extraordinary circumstances, it may be necessary that the state step in to make contracts elastic. We will conclude with the case of the Hungarian mortgage crisis, which forced the government to intervene and *retroactively* readjust the terms of contracts that seemed reasonable to both parties at the time.

In Hungary, home mortgages make up about half of all loans to households. This is a larger share than in Russia, Ukraine or Romania, but smaller than in the Czech Republic or Poland. Like everywhere else in CEE, housing loans began to grow after 2000. In 2001, Hungary's the center-right government introduced interest rate subsidies for Forint denominated (HUF) housing loans. This was scaled back by the next government in 2004, the year Hungary entered the EU. This raised the cost of mortgages, but as a result of the accession, EU funds began to flow to Hungary. Foreign banks that have dominated the Hungarian banking sector from the mid-1990s had begun to offer home loans in Euro and Swiss Franc (CHF) a few years earlier. Foreign exchange (FX) loans carried a lower interest rate, and borrowing in CHF, in particular, was cheaper even than subsidized HUF loans. Lending in foreign currency accelerated in 2004, as all banks jumped on the bandwagon.

From the consumers' perspective, taking out FX loans made good sense. First, it was cheaper and had less volatile interest rates than loans in HUF. Second, accession created a general optimism that seemed well-founded as everyone expected Hungary to economically benefit from the EU. Real incomes had been on the rise since 1997. In 2001, the government

optimistically announced that it expected to join the Euro zone by 2006. Taking out FX loans in Euro, the soon-to-be currency of the country, seemed sensible and as the CHF/Euro exchange rate had been very stable, CHF loans also seemed secure. Third, Hungary, like most post-communist countries spent the 1990s in the economic doldrums and pent-up demand was enormous. Expectations were raised even higher by being exposed to the much richer EU countries. Finally, while some of the FX loans were consumer loans (mostly car loans) most were mortgages and real estate prices were rising driving optimism higher still. EU accession, temporarily, raised demand further and helped push the market upward.

FX loans were disbursed and paid in the local currency, but the value of interest and principal were all calculated using the exchange rate.[43] The Central Bank issued warnings about exchange rate risk, and from 2005, all banks had to inform their customers who borrowed in foreign currency that they may have to pay more if the HUF loses its value against the currency and give their customers a standardized leaflet that demonstrated with examples risk adjusted costs. Even though, households, unlike banks, are rarely hedged against FX risk (foreign exchange deposits have shrunk during this period), all that seemed irrelevant.

By the mid-2007, about two-thirds of mortgages were denominated in foreign exchange. Roughly one-in-four households in Hungary carried an FX loan, and by the fall of 2011, the value of CHF loans was still 22 billion Swiss Francs or 18% of GDP. The customers who took out these loans represented a wide swath of the population. In fact, they were not any more or less educated, affluent, financially literate or risk seeking than other borrowers (Pellényi and Bilek 2009). Hungary was not unique expanding foreign currency loans. The Baltic countries had an even higher level of private

43 Just which exchange rate banks used turned out to be controversial after the crisis hit. Some used the sell-rate, as opposed to the middle rate, charging exchange fees.

foreign-currency indebtedness, with Poland, Romania, and Serbia not far behind. Ukraine also had a very high proportion of its mortgages denominated in FX, but mortgage markets are younger and relatively smaller there.

As the worldwide financial crisis exploded in the fall of 2008, in a few months, the HUF lost about 25 percent of its value against the main currencies, and as money on the global market fled to the relative safety of the CHF, the HUF/CHF exchange rate rose from 141 in July 2008 to a peak of 261 in July 2010 and now stands around 240. As a result, people saw their monthly payment rise by over 70 percent. Defaults of FX loans rose from under 1 percent in the first quarter of 2008 to over 3 in twelve months and it stood at 8 percent by June, 2011 (HNB 2012:42).

Initially, Hungarian banks did little except expected borrowers to keep paying and honoring their obligations. They stepped up collection and offered some customers the opportunity of restructuring (Homolya and Szigel, 2009). This was increasingly more difficult, because with rates moving up and economic difficulties mounting, for most borrowers, this was just a way of postponing the day of reckoning. Under no circumstances, did banks actually cut people's debt. For that they would have had to rewrite the mortgage, which would have required a new property assessment (as prices were plummeting) adding more to the costs. Refinancing was unavailable as credit was tightened due to the crisis. By 2012, non-performing FX mortgages were up to 21%, almost as bad as unsecured loans. Surprisingly enough, banks were profitable until 2011. In fact, in 2009, Hungarian banks boasted higher return on equity than Austrian or German banks.[44] The reason was simple. Like most consumer loans in the region, FX loans carry an

44 Banks in Central Europe historically had a higher profit margin than banks in the rest of the EU. Profits in Hungary started a marked downward trend only in 2006. The figures in 2008/9 were lower than in earlier years (HNB 2012:62).

adjustable rate that includes four parts: the cost of borrowing, the risk premium, the interest rate cost of non-performing loans and the profit margin. As the first three grew, so did the Annual Percentage Rate (APR) borrowers had to pay. As the APR rose and added to the already cost already boosted by the exchange rate shift, more and more people were pushed into default. That in turn raised directly two of the four elements of APR: the risk premium and the cost of non-performing loans (HNB 2011:76). As banks began to foreclose, they found that the vast majority of auctions ended unsuccessfully, and those homes that were sold were purchased at a 20-25% discount.

Under these circumstances, FX mortgages and the banks' pursuit of keeping customers to their end of the bargain began to impose externalities on others, including utility and phone companies, as well as other lenders, who found it harder to collect their pay. Furthermore, it was increasingly clear, that foreclosures would wreck the already ailing real estate market.

As the political and economic pressures mounted, in an unusual move, the new Hungarian government, elected in 2010, took action. Faced with the country in recession, public deficit higher than the EU allows, and a government debt of 80 percent of GDP, it was in a quandary. It feared that austerity measures necessary to comply with EU budgetary requirements would only exacerbate the economic malaise[45] because internal consumption already suffered from the FX mortgage debacle. Instead, the government, first, banned new foreign-exchange consumer loans,[46] and then, to prevent widespread defaults, it forced the banks to soften these contracts *retroactively*, giving borrowers new options. In effect, these mortgage

45 Managing the FX crisis was not sufficient. The government, following the example of Argentina, nationalized private pensions availing itself to private savings.

46 Later it reinstated FX loans only for people who receive their income in FX, as long as the amount is at least 15 times the minimum wage.

contracts were made more elastic, increasing flexibility for customers.[47] The government also enacted a series of measures designed to protect consumers in the future, setting ceilings on consumer loans, limiting the banks' discretion in changing interest rates, making it the only regular fee charged to customers (as long as they pay on time), allowing customers to pay off their loans without penalty each time interest rates are raised, and banning introductory teaser rates. In this respect, it followed earlier steps the previous government took in 2009, that among other things, had limited the bank's flexibility to unilaterally change the terms of the contract.

In July, 2011, the government introduced a new, preferential exchange rate (180 HUF/CH) but only for people who were not delinquent on their mortgages.[48] In September, it mandated that banks let people pay off foreign-exchange loans in Forints without an early payment penalty at the preferential rate. The policy introduced a low, fixed exchange rate barrier for five years. The borrowers who opted into this program had to pay their monthly installments at that low rate decreasing both their interest and principal payment. The interest reduction was to be paid by the bank alone. The reduction in the principal was to be put into a "collection account" to be paid after the expiration of the fixed exchange rate barrier. The new law put a cap on payment on this collection account. [49]

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47 Importantly, it was not the court that struck down these contracts, as it could have been, had it found that there was a lack of good faith on the side of the lenders.

48 It also put a moratorium on evictions and set a quota on sales of repossessed homes to slow the fall of real estate prices.

49 In addition, the law offers protection against foreclosures for small and medium sized homes, sets up a fund to buy up homes with troubled mortgages that it rents it back to the sellers, and provides interest rate subsidies for people moving into smaller, less expensive homes. (Law 2011/LXXV)

The banks were very unhappy.[50] They protested that foreign-exchange borrowers had pocketed the gains when the HUF was strong but now customers were allowed to avoid the downside risk. The policy did not help every borrower, but mostly those who could afford to pay off the loan, i.e., those best off and least likely to default anyway. This left an even riskier pool of 77 percent of foreign exchange mortgages on the books of the banks.[51] Finally, in December 2011, the government reached an agreement with the banks, extended the program to those who had fallen behind on their foreign-exchange mortgage, refined some of the terms of the relief and took over a third of the costs from the banks.

Elasticity always raises the question of moral hazard. Bending the law to save certain actors to save the system makes actors irresponsible in the future. Moral hazard, however, is less of a concern, if there are steps to guarantee that the problem that led to the intervention will not happen again. In the Hungarian case, as FX mortgages for unhedged households cannot be issued now and will not be on offer in the foreseeable future.[52] It is also important, that the state negotiates its intervention with all parties involved especially the ones who need to sacrifice. In this case, the Hungarian government first tried to impose a solution unilaterally, and only later did it work out a compromise with the banks.

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50 In unrelated moves, to increase state revenue the government hit the banks with a special corporate income tax in 2010, and a financial transaction tax on everyday financial services, such as check processing or ATM use, in 2012.

51 Only about a third of the mortgages paid off early were financed with new loans in Hungarian Forints, the rest was paid from savings. (PSZÁF 2012:2.)

52 This, however, does not completely eliminate the problem of moral hazard. The current intervention may create the generalized impression that the state is willing to help out in other situations.

The Hungarian government was not the only one in the region that enacted measures that retroactively rewrote foreign-exchange loan contracts. In 2011, the Serbian government capped interest rates on existing loans and, in the same year, the Croatian government extended the repayment period and set a lower exchange rate for Croatian FX loans. Ukrainian lawmakers toyed with similar ideas and eventually turned them down.

CONCLUSION

For credit markets to function, both creditors and borrowers must receive proper protection. To devise the proper laws and regulations, one must develop the appropriate understanding of the actors involved. The consumer credit market demonstrates nicely that rationality is not a universal constant as RCT posits but it is a variable. Lenders are large bureaucratic organizations with impressive capacity of information gathering and analysis that both encourage rational decision and make it possible. They are also staffed with people with economics and finance degrees who studied economic theory in college.[53] Even though we found plenty of variation in bank behavior in Central and Eastern Europe, compared to their customers, banks tend to follow the autonomous rational actor paradigm more closely (and they suffer for it, as we have discussed the difficulties of cooperation in the context of data sharing). Still, what seems individual rationality is the result of distributed cognition as decision makers in banks

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53 There is a large literature on how studying economics make people more selfish and calculative. For an overview see Frank et al 1996. Others argue that it is a selection effect. People already selfish and rational gravitate to economics and finance (Frey and Meier 2005). Yet another group of scholars contend that economics and economic thoughts generate *homines oeconomici* through “performativity” by shaping institutions and discourse in a particular way (Callon 1998).

rely on divisions of labor inside their organizations and with other organizations.

BE sees irrational customer behavior as manifestations of individual cognitive limitations. It describes many of the shortcomings in the ways customers process information but it has nothing to say about why banks are less liable to fall victim to these errors. By correctly identifying many of the difficulties customers experience in the credit market, BE provides a good point of departure for helping individual borrowers. It can offer a powerful argument for having better disclosure, even hints on how to do it, but its individualistic approach prevents it from explaining the variation in the extent that people deviate from rationality and thus its causal understanding of why people act the way they do is suspect.

Socially-embedded actor perspective with the help of the cognitive model of DC, answers this question. Rationality varies by social context. People can act rationally given proper social circumstances. Sometimes these social circumstances are mediated through objects (disclosure agreements), sometimes come directly as personal interactions. However, being able to act rationally means that actors are more able to calculate and to think only about their own self-interest as they try to achieve what they want. It does not necessarily make them more successful at achieving what they want. Sometimes, as we have seen with data sharing, rationality is a real obstacle to getting good results. In a similar way, LTF reminds us that always inflexibly sticking to the original contract, no matter how informed and rational both the lender and the borrower were at the point of signing it, is detrimental to the whole system. While the utmost resources may be dispatched to aid both lenders and borrowers battle the initial uncertainty, circumstances sometimes change in ways that could not have been predicted putting the whole system at risk. Some of this may be accounted by drafting flexible (but well-balanced) contracts, but if more powerful actors, the lenders, are unwilling or unable to exercise flexibility that would benefit

the borrowers, as was the case in Hungary, the regulator must step in to make contracts elastic *post factum*. The lesson is to aim legal regulation at constructing the environment that is conducive to rational action with socially beneficial outcomes.

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