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The Financial Power of the Powerless: Socio-Economic Status and Interest Rates under Partial Rule of Law

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Abstract. In advanced economies interest rates generally vary inversely with the borrower's socio-economic status, because status tends to depend inversely on default risk. Both of these relationships depend critically on the impartiality of the law. Specifically, they require a lender to be able to sue a recalcitrant borrower in a sufficiently impartial court. Where the law is markedly biased in favor of elites, privileged socio-economic classes will pay a premium for capital. This is because they pose a greater risk to lenders who have limited means of punishing them. Developing the underlying theory, this paper also tests it through a data set consisting of judicial records from Ottoman Istanbul, 1602-1799. Pre-modern Istanbul offers an ideal testing ground, because rule of law existed but was highly partial. Court data show that titled elites, men, and Muslims all paid higher interest rates conditional on various loan characteristics. A general implication is that elites have much to gain from instituting impartially enforced rules in financial markets even as they strive to maintain privileges in other domains. It is no coincidence that in the Ottoman Empire the beginnings of legal modernization included the establishment of relatively impartial commercial courts.

Keywords. Rule of law, elite, status, religion, gender, court, interest rate, credit, financial market, Ottoman Empire, Istanbul, Islam, Islamic law, sharia
JEL codes. G10, K42, N2, N4, N95

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1. Introduction

In competitive credit markets, the price of credit depends on the risk that the transaction imposes on the lender. That is why lenders perform credit checks and may require collateral. Borrowers with poor credit records and few assets are considered relatively risky; anyone who lends to them will expect a higher return to compensate for the greater risk of default. Thus, in modern developed economies the poor find it much more costly than the rich to smooth consumption. Whereas individuals in the bottom quartile of the U.S. income distribution smooth consumption through short-term loans from pawnshops and payday lenders at rates of around 450 percent per annum, those in the top quartile do so through credit cards at 13 to 16 percent. Unlike the poor, the wealthy have access also to long-term credit through home equity loans at rates of around 4 percent.[1]

Although the logic of the observed rate differences may seem obvious to anyone familiar with basic economics, it rests not only on economics but also, and critically, on two assumptions regarding the rule of law. It assumes that financial contracts are enforceable when the borrower is able to pay, and also that the enforcement system is fairly impartial.[2] The rich pay less for credit because they are relatively unlikely to default and because, if they do, lenders can make them repay through courts whose verdicts are more of less impartial, at least with regard to financial matters.[3] Absent the impartiality condition, the relationship between wealth and credit cost may change sign.

In settings where the courts are systematically biased in favor of the wealthy, their creditors will expect a premium to compensate for the risk of being unable to obtain restitution. Lenders will factor into their calculations also that wealthy borrowers have a greater temptation to default

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[1] In the U.S. the typical payday loan of $325 has an annual interest rate ranging from 391% to 521%. Around 12 million Americans are trapped in a "payday loan" cycle, and they are in "payday loan debt" an average of 212 days a year (Center for Responsible Lending, www.responsiblelending.org/payday-lending/). From 1986 to 2014, 30-year fixed rate mortgages have ranged from 3.6% (December 2012) to 11.4% (October 1987) (www.hsh.com). The average APR on U.S. credit cards has ranged between 15.8% (1995) and 12.9% (2003) over 1994-2011 (http://www.federalreserve.gov/releases/g19/HIST/cc_hist_tc_levels.html). For another example, of the 1.2 million British adults who took out a payday loan in 2009, 67% had an average income below the national mean. Interest on British payday loans is typically about £25 per month for every £100 borrowed, which amounts to an annualized compounded rate of 1355% (Burton 2010; http://www.which.co.uk/money/credit-cards-and-loans/guides/payday-loans/payday-loans-how-they-work/). In 1997-2014, the typical variable rate mortgage in Britain ranged from 2.5% (2009-2014) to 9.5% (1998) (http://www.housepricecrash.co.uk/graphs-base-rate-uk.php). In 2011, British credit card rates reached a 13-year high, topping out at 19.1% (http://www.theguardian.com/money/2011/may/05/ credit-card-interest-rates-13-year-high).

[2] A judicial system's impartiality may vary across contexts. For example, a system that handles credit cases fairly impartially may be highly biased on matters involving ethnic relations.

[3] No judicial system has been fully impartial on any matter. Even in countries that score very high in rule of law indices, such as the Scandinavian countries, money can "buy" verdicts through outstanding lawyers. Impartiality is thus a *relative* concept.

in the first place, because they expect the judicial system to be biased in their favor. The judicial partiality and wealth effects therefore work against each other as regards the cost of credit. Whereas the wealth effect lowers the credit cost of the rich, the judicial partiality effect raises it.

More generally, anything that hinders the enforcement of a credit contract raises the borrower's credit cost. Just as judicial biases in favor of the wealthy raise their interest rates on loans, laws that allow the poor to escape loan repayment—bankruptcy options, shielding of assets from creditors, organizations that defend poor defaulters as victims of exploitation—raise interest rates charged to the poor. In addition to lacking assets, the poor tend to pay high interest rates in a modern economy because of laws that limit their ability to collateralize their resources, whether actual or potential. So the relationship between wealth and credit cost is negative for multiple reasons. The rich benefit from a higher capacity to post collateral. They benefit also because their own credit obligations are better enforced than those of the poor.

Wealth is not the only source of interpersonal variation that leads to differential contract enforcement. Class, age, gender, ethnicity, religion, race, political affiliation, and profession are among the other common determinants of how well credit contracts are enforced. By the logic outlined above, any group that enjoys legal protection pays a corresponding premium in competitive credit markets. Let *f* (favored) and *u* (unfavored) represent individuals from two subgroups. If the courts favor *f*, conditional on everything else being constant, *f* will pay more for credit than *u*. By implication, the social handicaps that disadvantage *u* in court against *f* will translate into greater financial power, as manifested through lower borrowing costs. The paper develops a model that highlights the mechanism at play. It shows that in contexts where legal and political institutions are sufficiently biased in favor of high-status individuals, lending to these individuals is relatively risky. The key variable is not the rule of law per se. Rather, it is the bias built into the law. The law that a state enforces may well discriminate among groups.

The theory yields implications that we test through a data set composed of private loans issued in Ottoman Istanbul during a period spanning almost two centuries, 1602-1799. This is an ideal empirical context, because Islamic Ottoman courts served all Ottoman subjects, but through procedures that were biased in favor of clearly defined groups, sometimes explicitly. These courts gave Muslims rights that they denied to Christians and Jews. They privileged men over women. Moreover, because the courts lacked independence from the state, Ottoman subjects connected to the sultan enjoyed favorable treatment. The data set includes registrations and settlements of credit

contracts as well as adjudications of credit-related disputes. The records include information on both the borrower's social class and that of the lender; elites have titles, and the more numerous commoners do not. They also provide the gender and religion of every litigant and witness. Loan characteristics are available, too. A loan record indicates whether it was a mortgage and, if not, whether it was secured through a surety or a pawn. Most important, it specifies the interest rate and repayment terms.

Our findings broadly support the hypothesis that judicial partiality may reverse the familiar connection between socio-economic status and interest rates. Men, elites, and Muslims pay higher interest rates than women, commoners, and non-Muslims, respectively. The magnitudes point to immense economic significance. In a society where the average real interest rate was around 19 percent, the interest rate premium was around 3.6 percentage points for men, 3.0 percentage points for Muslims, and 3.5 percentage points for elites.[4]

The results carry broad implications for three distinct literatures. One is the literature on the connections between rule of law and the performance of financial markets. Our findings are consistent with the sovereign borrowing literature, which suggests that limiting the state's ability to repudiate its loan contracts enables it to borrow more cheaply (North and Weingast 1989; Sargent and Velde 1995; Stasavage 2002).[5] Yet, a state can be perfectly creditworthy but fail to enforce *private* contracts impartially. As North, John Wallis, and Weingast (2009) show, another giant step towards improving the rule of law involves binding society's elites.[6] Specifically, it entails the establishment of institutions that make the law apply to politically, economically, and socially powerful groups, not just the powerless. This paper shows theoretically and empirically why the powerful had much to gain from binding themselves and equalizing the judicial playing field, at least with respect to private finance. The powerful may or may not be able to muster the

[4] Our results are consistent with the findings in Bliss and Gul (2012) that in contemporary Malaysia political connections adversely affect the cost of borrowing by firms. Their analysis indicates that politically connected firms pay significantly higher rates than unconnected firms. They observe that lenders perceive politically connected firms to be riskier. That is because they could stay afloat in spite of bad balance sheets and major inefficiencies.

[5] The literature's most influential strand starts with North and Weingast's (1989) account of the Glorious Revolution in England. Various aspects of their argument have been refined or revised by Carruthers (1990), Clark (1996), Wells and Wills (2000), Quinn (2001), Sussman and Yafeh (2006), Cox (2012), Greif and Rubin (2014), and Pincus and Robinson (2014).

[6] Hadfield and Weingast (2014) develop the theoretical foundations of this insight. They show that legal consistency improves the efficiency of human interactions by helping to coordinate expectations and behaviors.

required collective will. But it cannot happen overnight. Obviously nations of the world differ greatly in regard to transitioning to impartial rule of law.

Comparative financial history is another literature to which this paper relates. Most contributions to this literature focus on average interest rates. We show here that much can be learned from intergroup variations, too. Works that have examined variations in specific times and places report a panoply of relationships that are difficult to interpret individually or collectively. Jan Luiten van Zanden, Jaco Zuijderduijn, and Tine De Moor (2012) find that interest rates were essentially constant across groups in fifteenth- and sixteenth-century Holland. Jean-Laurent Rosenthal (1993) shows that in pre-Revolution rural France, elites paid lower rates than the middle or lower classes. The pattern varied over time, and the distinction between classes practically disappeared by the eve of the French Revolution. Meanwhile, the King of France paid a premium on loans. At the fairs in Lyon, which were exempt from taxes and usury laws, he borrowed at 16 percent while creditworthy bankers and merchants did so at 10 to 12 percent (Doucet 1933, 487-88). The theory developed in this paper calls for reconsidering the heretofore varying historical findings from the perspective of intergroup differences in contract enforcement. These studies may in fact be conveying something about the prevailing degree of judicial impartiality in the financial affairs of these nations. Consider the Netherlands. In the period studied by van Zanden, Zuijderduijn, and De Moor, it was leading Europe's transition from personal to impersonal exchange. The associated institutional developments would have contributed to making the enforcement of Dutch financial contracts more impartial, though perhaps not yet to a degree such that that the wealth effect dominated the partiality effect.

The third relevant literature is that on comparative civilizational performance. Among its big puzzles is that in the course of the second millennium the Middle East went from leader to laggard in many domains. One basic indicator of the lag involves trust in the courts, and another the persistent prevalence of personal exchange. Where the roots of these problems lie, and, more specifically, whether Islamic law was a factor, is a matter of potent controversy. In identifying and quantifying intergroup variations in credit cost, this paper provides a novel perspective on the efficiency of governance based on Islamic law. It also yields new insights into why, throughout the Middle East, finance was largely de-Islamicized in the nineteenth century by placing it under the jurisdiction of secular commercial courts. Finally, it speaks to the controversy over the

suitability of Islamic law, on the eve of the European advances into the region, to the emerging modern economy.

2. A Model of Private Credit Transactions under Partial Rule of Law

No model exists for understanding how private credit markets operate under varying degrees of judicial partiality. In this section, we aim to capture the key features in a manner that yields testable implications.

2.1 Setup

Consider an economy consisting of M players, of whom M_L are risk-neutral lenders and $M-M_L=M_B$ are risk-neutral borrowers.[7] M_L and M_B are sufficiently large to make the market perfectly competitive.[8] Borrowers can search for lenders until satisfied with the terms offered, and lenders can avoid lending at negative profit.

Each borrower i has two characteristics: his wealth, $w_i > 0$, and the "partiality" that he receives from the court, $\beta_i \in [0, 1]$. Each lender j has a single characteristic: the "partiality" that he receives from the court, $\lambda_j \in [0, 1]$. The partiality parameter for each player gives his ex ante relative probability of winning a default lawsuit over a loan in which the borrower reneges, in other words, refrains from repaying fully even though he is financially able to do so. Specifically, if a borrower with partiality parameter β_i borrows from a lender with partiality parameter λ_j, the probability of the borrower winning a suit in which he reneges, which we call the "partiality premium," is $\Pi = max\{\beta_i - \lambda_j, 0\}$, and the probability of the lender winning is $1 - \Pi$. Partiality thus represents the ease of escaping punishment following failure to repay a loan. It affects the borrower's ability to renege with impunity only insofar as his partiality parameter exceeds that of the lender. The source of partiality differences could be biases of the courts or laws that favor particular groups. In a country with fully impartial rule of law, $\beta_i = 0$ for all borrowers and $\lambda_j = 1$ for all lenders. When rule of law is partial, $\beta_i > 0$ for some borrowers and $\lambda_j < 1$ for some lenders.

[7] In certain private credit markets, people serve as both borrower and lender. Identified examples come from underdeveloped or pre-modern rural communities (Udry 1994, Fafchamps and Lund 2003, Richardson 2005). But this possibility is not of immediate concern here. In the Ottoman records analyzed further on, people rarely appear as both borrower and lender, perhaps because credit was scarcely used as a risk-sharing mechanism. In any case, a substantial portion of the loans were supplied in the name of entities whose charters barred them from borrowing.

[8] We are interested in the comparative statics of interest rates amongst different types of players. The results would not change qualitatively if we introduced market imperfections.

A one-shot game consisting of four stages is played. In stage 1, randomly matched borrowers and lenders agree to loan terms. Each loan contract specifies principal (p_i) and interest (r_i).[9] Given that the market is competitive, for each combination of loan of principal, borrower characteristics, and lender characteristic, the lender makes exactly his opportunity cost of lending. This opportunity cost is normalized to 0.

In stage 2, which commences after the credit market clears, an i.i.d. shock, ε_i, hits each borrower. This means that his total wealth (excluding the amount borrowed) is $w_i + \varepsilon_i$. The shock can be interpreted as a production shock that affects the payoff from the investment made with the loan. Alternatively, it could be a natural event that alters the value of pre-existing assets, such as a flood. Shocks are distributed over pdf $g(\cdot)$ and cdf $G(\cdot)$, with mean 0 and variance σ^2.[10]

In stage 3, with the shock realized, the borrower decides how much of the loan to repay. Denote this amount as $P_i \leq (1 + r_i)p_i$. If the borrower opts to settle the loan in full ($P_i = (1 + r_i)p_i$), the game ends. If the borrower cannot repay the loan, which happens if $w_i + \varepsilon_i < (1 + r_i)p_i$, he declares bankruptcy and, again, the game ends.[11] If the borrower is able to repay but nevertheless refuses, the game proceeds to a fourth stage.

In stage 4, the lender decides whether to take the reneging borrower to court. If he does so, the lender pays court cost C.[12] If he sues, the lender wins with probability $1 - \Pi$ and is paid $(1 + r_i)p_i - P_i$ as restitution; the borrower wins with probability Π. We assume full information. Accordingly, a lender contemplating a lawsuit knows whether the borrower can repay the loan.[13] Figure 1 summarizes the four stages of the game.

[9] For clarity we ignore the role of collateral. Incorporating it into the model would strengthen the results, because the wealth effect would grow. The poor, having limited access to collateral, pay even higher interest rates relative to the wealthy when lenders account for collateral, although this gap is mitigated by the transaction costs associated with repossessing collateral upon default (Barro 1976).

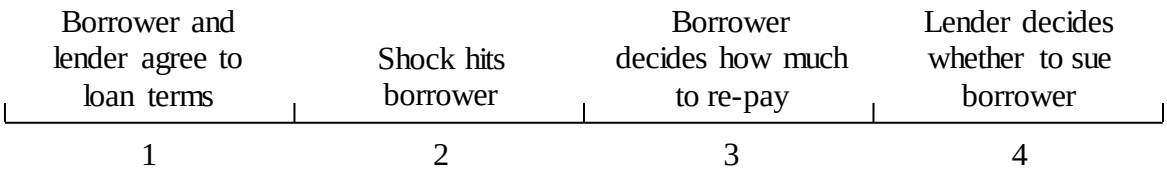
[10] The variance of the shock is identical across borrowers. Results would only strengthen if we allowed poorer or judicially more disadvantaged to take on riskier ventures. By the same token, they could weaken if borrowers living close to subsistence avoided risky ventures for fear of starvation. The latter possibility was unlikely in Ottoman Istanbul, where innumerable charities provided a social safety net, and the sultan kept food abundant in order to prevent political instability.

[11] An alternative specification would have the lender being able to recoup a portion of the loan in the case of default. Extending the model in this direction would entail significant complication with little additional insight. Partial repayment of loans is observed in the court data, so the model includes this possibility.

[12] A more general specification would make the borrower also pay a court cost. Certain conditions would become difficult to interpret, with little additional insight.

[13] The full information assumption is not much of a stretch in contexts where most borrowers and lenders know each other and lenders are well informed about the borrower's ability to repay a loan.

Figure 1. Stages of game play



2.2 Equilibrium Outcomes

The model is solvable through backward induction. Suppose that stage 4 is reached and the borrower, though capable of repaying, decides to renege. This means that $P_i < (1 + r_i)p_i \leq w_i + \varepsilon_i$. The lender must now decide whether to sue the borrower. Being risk neutral, he proceeds only if the expected return exceeds the court cost:[14]

(1) $(1 - \Pi)[(1 + r_i)p_i - P_i] > C$.

In Stage 3, the borrower chooses how much of the loan to repay, P_i. He does so after the shock, ε_i, is realized in stage 2. If $(1 + r_i)p_i > w_i + \varepsilon_i$, he declares bankruptcy, and the game is over. If $(1 + r_i)p_i \leq w_i + \varepsilon_i$, the borrower chooses to pay back $P_i \in [0, (1 + r_i)p_i]$. There are three possible actions, depending on the parameters.

Case a. $(1 + r_i)p_i < C/(1 - \Pi)$: Repay nothing, do not sue**.** Re-arranging inequality (1), the borrower can foresee that the lender will take him to court if $P_i < (1 + r_i)p_i - C/(1 - \Pi)$. Hence, if $(1 + r_i)p_i - C/(1 - \Pi) < 0$, the borrower's optimum is to pay nothing back ($P_i^* = 0$), and the lender's optimum is to refrain from suing. In essence, the loan is small enough and the lender's chance of winning in court sufficiently low that the court costs rule out a lawsuit.

Case b. $(1 + r_i)p_i > C/\Pi(1 - \Pi)$: Repay nothing, sue. If this condition holds, the borrower's choices include repayment amounts that trigger a lawsuit as well as ones that do not. From his perspective, paying nothing ($P_i^* = 0$) dominates all choices that result in a lawsuit. Among all choices that avoid a lawsuit, his optimum is that with the minimum payment: $P_i^* = (1 + r_i)p_i - C/(1 - \Pi)$. This is positive. In essence, the borrower repays the loan up to the amount that makes the lender consider it too expensive to sue. The borrower chooses from these two options by determining which maximizes his expected wealth. It is $w_i + \varepsilon_i - (1 - \Pi)(1 + r_i)p_i$ if he repays

[14] Indifference is broken by choosing actions that avoid suing.

nothing and $w_i + \varepsilon_i - (1 + r_i)p_i + C/(1 - \Pi)$ if he pays just enough to discourage a lawsuit. Hence, P_i^* is 0 if $(1 + r_i)p_i > C/\Pi(1 - \Pi)$ and $(1 + r_i)p_i - C/(1 - \Pi)$ otherwise.

Case c. $(1 + r_i)p_i \in [C/(1 - \Pi), C/\Pi(1 - \Pi)]$: Repay just enough to discourage a lawsuit. The logic is analogous to that of case b.

Backward induction brings us at last to stage 1. Here randomly matched borrowers and lenders agree to the terms of a loan: r_i and p_i. The cdf $G(\cdot)$ is common knowledge, but the shock has not yet materialized. The players anticipate the three cases of stage 3. In case a, where the borrower reneges and gets away with breach of contract without facing a lawsuit, the lender's expected profit is

(2a) $\pi^L = -p_i$,

which is negative. For that reason, he will never agree to such a loan. In case b, the loan is large enough that the borrower is incentivized to renege on repayment in spite of the lawsuit that is certain to follow. The borrower repays nothing, and the lender's expected profit is:

(2b) $\pi^L = [1 - G((1 + r_i)p_i - w_i)](1 - \Pi)(1 + r_i)p_i - p_i$.

In case c, the loan's expected return is sufficiently high that the borrower's refusal to repay will always trigger a lawsuit. By the same token, it is not so large as to incentivize the borrower to renege. The lender's expected profit is:

(2c) $\pi^L = [1 - G((1 + r_i)p_i - w_i)][(1 + r_i)p_i - C/(1 - \Pi)] - p_i$.

Given that the market for credit is perfectly competitive, the equilibrium may involve loans of either type b or type c. The terms of the loan (r_i and p_i) are determined by setting $\pi^L = 0$ in Equations 2b or 2c, where the lender makes zero economic profit. We assume that new lenders enter the market until $\pi^L = 0$.

2.3 Comparative Statics

Because our overarching goal is to explain differences in interest rates, the analysis focuses on comparative statics with respect to r_i. We concentrate on the set of loans for which $\pi^L = 0$ in equations 2b or 2c. Consider first how the borrower's characteristics affect the interest rate, conditional on the principal, p_i. An increase in the borrower's partiality parameter β_i lowers the lender's expected return, so the interest rate rises to offset the expected loss. This response, $\partial r_i/\partial \beta_i$, is the *judicial partiality effect*. Whatever the borrower's partiality parameter, the relationship between wealth and interest rate remains negative. This is because, ceteris paribus, a

wealthier borrower is relatively less likely to default. This other response, $\partial r_i/\partial w_i$, is the *wealth effect*. Proposition 1, proved in Appendix 1, summarizes the foregoing observations.

Proposition 1: The equilibrium interest rate (r_i) is weakly increasing in the borrower's partiality (β_i), weakly decreasing in the lender's partiality (λ_j), and decreasing in the borrower's wealth (w_i), ceteris paribus.

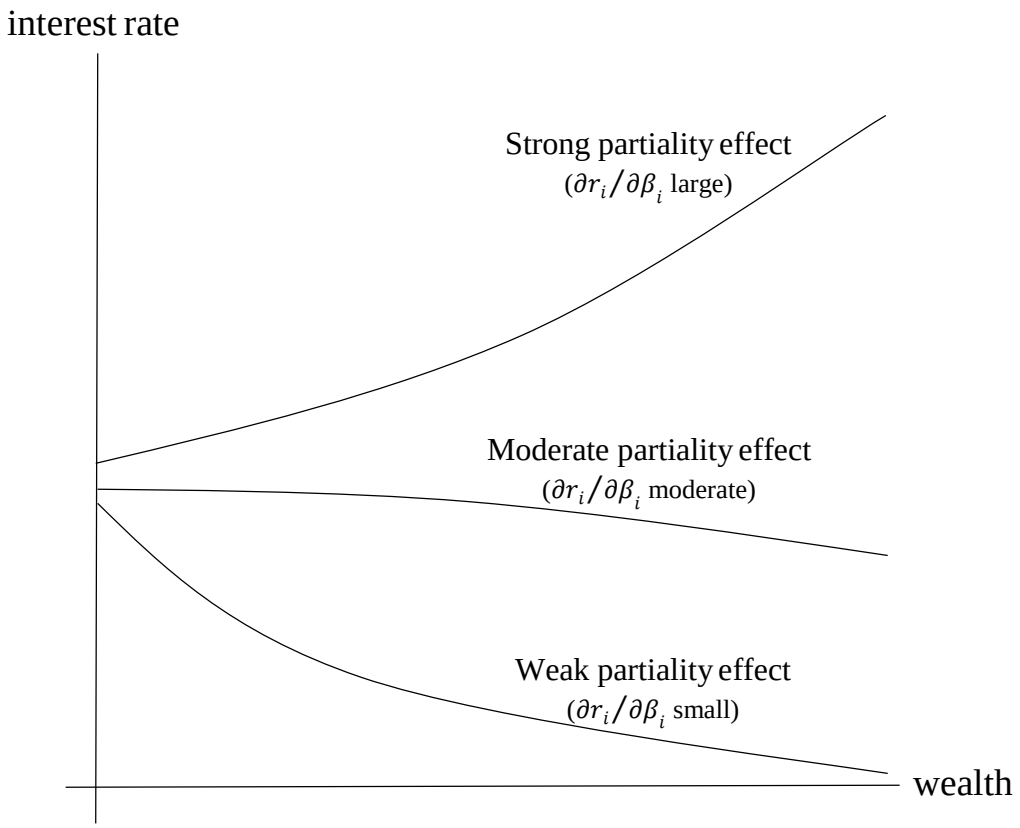
Consider now the situation in which, amongst the M_B borrowers, the borrower's wealth is positively correlated with his partiality. This is realistic, for favorable treatment generally reflects, and may also result from, high socio-economic status. Proposition 1 suggests that higher socio-economic status, implying a high w_i and high β_i, has both a wealth effect, through which the rich pay lower interest rates, and a judicial partiality effect, through which they pay higher rates. Hence, the relationship between socio-economic status and credit cost depends on which of these countervailing effects is stronger. In modern societies with relatively impartial rule of law, the wealth effect dominates. But in societies with a highly partial judicial system, the partiality effect can be large enough to dominate. Proposition 2, also proved in Appendix 1, captures the logic:

Proposition 2: If partiality and wealth are positively correlated across borrowers and the partiality effect ($\partial r_i/\partial \beta_i$) is sufficiently strong relative to the wealth effect ($\partial r_i/\partial w_i$), the equilibrium cost of credit, r_i^*, is increasing in the borrower's wealth, ceteris paribus.

This proposition captures a striking relationship that is contrary to the connection between social class and credit cost observed in advanced modern societies. It indicates that when court verdicts are strongly biased in favor of the wealthy, the familiar negative relationship is reversed. Put differently, whenever the judicial playing field is tilted sufficiently in favor of people of high socio-economic status, a competitive credit market will make them pay a price for the favoritism that they enjoy. In spite of their lower risk of default, they will pay more for credit. Figure 2 conveys the contrast in question graphically.[15]

[15] By Proposition 1, the average interest rate is increasing in partiality even when wealth is zero. Provided there is some variation in the bias parameter of borrowers with zero wealth, the three curves of Figure 2 will not meet at the vertical axis.

Figure 2. Relationship between wealth and credit cost for varying levels of partiality effect



Wealth is not the only indicator of creditworthiness. Any characteristic associated with creditworthiness may be correlated with higher borrowing costs for the same reason as wealth. Take education. If the educated are considered relatively creditworthy, and they also benefit from favoritism in the courts, their credit costs may be relatively high. This insight has been missing from the literature, which focuses on cases where courts are either absent altogether or else both present and impartial.

3. Partiality in Ottoman Courts and Society

In the seventeenth and eighteenth centuries, the period to which we will turn to test the foregoing theoretical claims, Istanbul was the commercial center of the Mediterranean and the seat of its most powerful ruler, the Ottoman sultan. The Ottoman Empire was governed under a variant of Islamic law (sharia), which in principle is immutable. The system allowed the sultan to impose supplementary rules and regulations, provided they conformed to Islamic law at least formally.

Enforcing Islamic law was among the sultan's duties. He exercised the obligation through Islamic courts, each headed by a Muslim judge and staffed entirely by Muslims. In Istanbul alone at least a dozen Islamic courts adjudicated disputes, registered private contracts, and recorded private settlements, all on behalf of the sultan.[16] The judges of these courts ranked among the best in the empire. That is unsurprising, because in his own city the sultan had a stake in minimizing judicial biases. Impartial courts would help to keep Istanbul's residents content, alleviating the dangers of riots directed at high officials. In Istanbul, his own city, the sultan could monitor judges better than anywhere else. Hence, we would expect enforcement of Islamic law to be stronger in Istanbul than in other localities.

Istanbul had a population of around 700,000 in the period under consideration. Practically everyone belonged to one of the three leading monotheistic faiths. Because religion was a key source of identity, the court registers make clear, for each person mentioned by name, whether or not he or she is Muslim. With few exceptions, the registers also distinguish between Christians and Jews. At around 58.8 percent of the population, Muslims formed the largest religious group. Christians formed the second largest group, with 34.8 percent. The remaining 6.4 percent of the indigenous population was Jewish (Mantran 1962, 46).[17] A few thousand non-Muslim foreigners lived in the city at the start of our period; almost all were merchants from Western Europe. The foreign population grew by an order of magnitude by the end of the eighteenth century.

The religious heterogeneity of the population is relevant because under Islamic law, the law of the land, legal rights and obligations differed according to religion. Muslims were required to live by Islamic law. Thus, to register a commercial contract under the law, or to have a dispute adjudicated formally, Muslims had to use an Islamic court. By contrast, Christians and Jews were free to use a court of their choice, provided no Muslim was involved. To have a financial contract with a co-religionist registered in court, a Christian Greek merchant could use an Islamic court; alternatively he might use a court of the Greek Patriarchate. The legal system under which credit markets operated was thus pluralistic, but asymmetrically across the three religious communities.

[16] The number of courts varied over time, ranging from 12 to 20 during the two centuries covered here. Of the three courts included in the article's data set, Galata and Central Istanbul existed throughout the period. The earliest surviving records of Bab are from 1665.

[17] No official census was taken during this period. Estimates compiled by Behar (1996, tables 4.1, 4.2) suggest that no major changes occurred in either the size or religious composition of the population during the period covered here.

While all financial dealings involving Muslims were necessarily governed by Islamic law, non-Muslims enjoyed choice of law with respect to dealings among themselves.

Courts that draw their officials from a sub-population are always subject to in-group bias, which is the tendency to give preferential treatment to people belonging to one's own group. It is present, for example, in the American court system, where the juries of trials pitting an American firm against a foreign firm are notoriously partial to the former. The American legal system somewhat alleviates the anti-foreign bias of juries through appeals courts and norms of equal legal protection (Moore 2003, Shapiro 1981, chaps 1-2). In a traditional Islamic judicial system, there are no appeals courts. Moreover, judges are trained to weigh the testimonies of Muslims more heavily than those of non-Muslims. Hence, the judicial procedures of Istanbul's Islamic courts were designed not to counteract in-group bias but, on the contrary, to reinforce it. The operating procedures and norms of the Islamic courts openly favored Muslims over non-Muslims.

Another source of judicial bias stemmed from lack of judicial independence (Imber 2002, chap. 6). The sultan's capacity to appoint, transfer, and even fire his officials at will incentivized judges to refrain from issuing verdicts contrary to his interests. Their incentives to protect the sultan's interests were compounded by the oversight of a "board of witnesses" (*şühϕdü'l-h>l*) at court proceedings.[18] Composed of elites, this board's formal purpose was to ensure the judge's adherence to traditional values. But its members' access to the palace must have kept the judge steadily conscious of elite sensitivities. Indeed, that may have been the board's primary function. In trials pitting subjects against state officials, the judge thus had personal reasons to tilt the legal playing field in favor of the latter. A judge who tried to adjudicate cases between officials and subjects fairly would risk losing his job. It does not follow that a judge was expected to rule always in favor of officials. After all, the appearance of blatantly unfair courts would hurt the sultan's image as the deliverer of justice. Subjects pitted against officials could expect to win cases where their evidence was sufficiently strong. Because of the tilted playing field, subjects would expect to lose cases where the preponderance of the evidence supported their case, but not overwhelmingly.

State officials were privileged outside the court system, too. Considered part of the sultan's extended household, they were all exempt from taxation. In addition to career bureaucrats, the sultan's household included the military and religious corps. Collectively, its members formed the

[18] These state-appointed witnesses were distinct from witnesses that litigants called to court themselves.

askeri class—literally, the military class, but understood to include clerics and bureaucrats as well. Subjects outside the military class formed the *reaya*, meaning tax-paying subjects (Shaw 1976-77, vol. 1, chap. 5). Although average wealth and income were much lower for commoners than for the military class, the former were not uniformly poor or oppressed. They included investors, merchants, artisans, and the caretakers of trusts known as waqfs. Certain commoners attained great respect by virtue of becoming rich. Some carried influence in high circles. Typically, successful commoners obtained an honorific title. Muslim members of the reaya could earn an honorific title by undertaking the arduous and expensive pilgrimage to Mecca. High-level priests and rabbis also held titles of respect. They were esteemed partly because their roles included managing their flocks' relations with the state. The sultan often delegated to them the collection of non-Muslim poll taxes. Jews and Christians were well represented also among customs officials and tax farmers. Though such non-Muslim officials were denied membership in the sultan's household, they belonged to a favored subgroup of the commoners.[19]

Like all other pre-modern societies, the Ottomans excluded women from a wide range of social functions. The judiciary consisted entirely of men, which naturally predisposed it to seeing cases through men's eyes. The inevitable biases did not seem out of place, however. The bureaucracy and the military reserved positions of leadership for men, as did all three religions of the city's residents (Peirce 1993, Faroqhi 2002). Moreover, each religion enforced rules meant to keep property primarily under male control. Although the Islamic inheritance system gave female inheritors greater shares than practically any other religion, it still favored males. Indeed, female inheritors received one-half as much as male inheritors of their familial category; for example, daughters received half as much as sons (Coulson 1971, Zarinebaf-Shahr 1996).

Women also enjoyed less mobility than men. Whereas men could travel freely, subject to state restrictions, women usually needed, in addition, the permission of male family leaders. They also had to be accompanied by an adult male relative. Men's greater freedoms would have harmed their ability to obtain credit by allowing them to disappear more easily. To run away from a creditor, an indebted woman would have had to escape with a man; an unaccompanied female traveler would have been viewed suspiciously. That a woman posted a lower flight risk than a man is borne out in the data that we present and analyze in the next section. As indicated in Table 1,

[19] Because they helped to finance the Sultan's household, they would have enjoyed political clout.

the data set includes 35 cases of debt involving a "lost" (*g>'ib*) borrower. The fugitive is a man in all but one, even though around one-quarter of all borrowers are female. In the full database of 14,004 cases from which our debt data are extracted, there are 135 human disappearances. These include 132 men, one woman, and one married couple.[20]

To sum up, Ottoman society exhibited three cleavages relevant here. They involved religion, social standing, and gender. Muslims were more privileged than non-Muslims. Elites consisting of the sultan's extended household and titled commoners enjoyed advantages over regular commoners. Finally, men had rights denied to women. An Ottoman subject could be privileged along one dimension but underprivileged along others. A male Greek Orthodox mason benefited from privileges that eluded his female relatives, even women of the sultan's immediate family. By the same token, most positions in the bureaucracy and military were closed to him so long as he remained a Christian; and the principal court system of the land treated him as less trustworthy than a Muslim. His wife and daughters were underprivileged on all three counts; as females, as regular commoners, and as non-Muslims.

Table 1: Gender distribution of fugitives

	Total cases	Cases involving women		Fugitives in debt cases	Female fugitives	
		Number	%		Number	%
Loan contracts	597	147	24.6	35	1	2.9
All cases	14,004	5,243	37.4	135	2	1.5

In view of the model of section 2, the foregoing account of Ottoman society leads to three distinct hypotheses, all testable. Controlling for various factors, one expects female subjects to pay less for credit than males, non-Muslims to pay less than Muslims, and commoners to pay less than elites. Given that the Islamic court system blatantly favored men, Muslims, and elites, these groups would be expected to pay a price for their privileges. Their non-favored counterparts—women, non-Muslims, and commoners—would enjoy more favorable credit costs precisely because courts were relatively strict in enforcing their contractual obligations.

[20] The seventeenth-century cases are recorded in Kuran, ed. (2010-13) and those of the eighteenth-century are in an unpublished database of the authors. The case involving a fugitive couple is Istanbul 2: 30b/1 (1616), and that about a disappeared woman, Galata 224: 120b/1 (1714).

4. Court Data from Ottoman Istanbul, 1602-1799

The registers of Istanbul's Islamic courts contain abundant cases involving interest-based credit contracts. We have selected 26 registers distributed across the seventeenth and eighteenth centuries. Of the 15 registers from the seventeenth century, all belong to the Galata or Central Istanbul courts, the first located at the city's main port and the second in the vicinity of the Grand Bazaar (Kapalıçarşı).[21] For the eighteenth century, we have used six registers from Galata and two from Central Istanbul, plus, because most Central Istanbul registers of the period perished in fires, three of the Bab court, another of Istanbul's leading courts.[22]

Apart from edicts issued by the sultan and orders by top state officials, which are not relevant to the questions at hand, the registers contain three types of records. There are contracts brought to a judge for legal validation in case of a dispute; settlements documented before a judge in case of a challenge; and, finally, transcripts of adjudications. Each type of record could mention a credit contract and spell out its terms. For instance, a registered contract might indicate that a woman has taken out a three-year mortgage on her house. The settlement of a deceased businessman's estate might show what one of his creditors was paid as principal and accrued interest. A trial record might convey that a creditor approached the court for repossession of a borrower's assets to complete the payment of a partially repaid loan. Of all the cases in the registers, only those involving credit are directly relevant here. Our data set consists of every credit case mentioned in the 26 registers, provided an interest rate is either stated explicitly or computable from the provided information.[23]

In each register, cases appear more or less chronologically in a scribe's handwriting. Every party or witness to a contract, settlement, or dispute is identified by name, gender, and religion; if he or she has an honorific title, it too is recorded. This is what makes the data set invaluable for testing the theory of section 2. It allows the quantification of how key markers of status in Ottoman society—gender, religion, and social position—played out in credit markets.

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[21] The seventeenth-century cases used in this paper are reproduced, with English and modern Turkish summaries, in Kuran, ed. (2010-13), vols. 9-10.

[22] The registers are Galata 224 (1713-16), Bab 122 (1718-19), Galata 266 (1726-27), Bab 154 (1730-31), Galata 279 (1731-33), Bab 173 (1740), Galata 353 (1759), Galata 360 (1760-61), Istanbul 68 (1796-97), Galata 541 (1797-98), and Istanbul 70 (1797-99).

[23] If the record of a lawsuit mentions that someone makes a living as a moneylender, without dealing with a specific credit contract, it is excluded from the data set for lack of usable information.

All cases were brought to court through the initiative of one or more Ottoman subjects. In the case of lawsuits, the move was made by the plaintiff unilaterally. With contract and settlement registrations, all parties had to endorse the choice. The terms of the loan contracts brought to court would have reflected competitive pressures. Creditors faced competition, as did borrowers. All participants in Istanbul's credit market understood that parties asked or offered what they thought the market would bear. True, the sultan sought to regulate the credit market through a nominal interest rate ceiling, which in Istanbul varied between 15 and 20 percent during the period under consideration. But certain lenders, notably waqf caretakers, were exempt from the ceiling. Equally significant, judges routinely made exceptions.[24] Although nominal rates that coincided with a ceiling, such as 15 percent, appear frequently in the records, they served, then, as focal points rather than binding limits. Loan suppliers were effectively free to adjust their rates according to buyer characteristics. They needed only to frame the contract in a manner acceptable to an Islamic court.

As in Europe in earlier times, interest was prohibited in principle, but allowed in practice through legal ruses (Rubin 2011; Kuran 2011, chap. 8). In our 26 registers, the interest rate is characterized as "rent" in the case of mortgages, and as the price of some fictitious object—a piece of cloth, a sword, a fur garment—when money was loaned for a fixed period without the use of collateral. With interest-bearing contracts that had not been registered in court, there was always the danger that the borrower would repay only the principal and refuse to pay the interest on the ground that Islam prohibits it. But typically judges enforced the letter of the agreement, which buried the interest in a side transaction. In treating fictitious sales as genuine, judges upheld interest-bearing contracts without transgressing what ostensibly they considered a basic principle of Islamic lending.

Islamic law lacks a concept of legal personhood. Accordingly, all lenders and borrowers in the registers are individuals. Some borrowers intended to transfer the loan to a partnership to which they belonged, but they accepted liability as individuals; partners carried no liability unless they explicitly provided surety. Although the purpose of the loan is not always apparent, most borrowers did so to smooth consumption. In the absence of banks, people with cash flow problems

[24] In the literature on Ottoman credit practices, a common theme is that judges were sensitive to market pressures. During the Russo-Ottoman War of 1768-74, reports Kaya (2007, 37-38), judges allowed moneylenders to raise rates in response to a fall in credit supply.

turned to moneylenders. In principle, these moneylenders were all individuals. But a sizable share of them represented a cash waqf (*para vakfı*), a waqf with a liquid endowment (Mandaville 1979). The cash waqf itself had no standing before the law, so technically the lender was its caretaker (*mütevelli)*. Nevertheless, he was required to abide by the terms of his organization's deed. A small number of waqf deeds reserved loans for residents of a particular neighborhood. The typical cash waqf did not limit borrowers to any particular subgroup.

A significant minority of the individuals who appear in the registers carry an honorific title. Since titled individuals tended to be wealthy, they are undoubtedly overrepresented in our sample. The most common male titles were Efendi, Çelebi, Ağa, Bey, Beşe, El-Hac, and Çavuş. Of these, Efendi and Bey were given to learned people and government officials, though not exclusively. Çelebi referred to a respected upbringing, and it was given also to waqf founders and caretakers. Ağa, Beşe, and Çavuş were terms of respect generally reserved for military officials. El-Hac signaled that the holder completed a pilgrimage to Mecca and, hence, that he was both pious and wealthy enough to finance a long journey. There are no generally agreed rankings of these titles. By far the most common female title was Hatun, and it was used exclusively for Muslim women. In our sample no Christian or Jewish woman has a title.[25]

As with all court records, one must worry about selection biases in the records of Istanbul's Islamic courts. Indeed, the trials in our data set, cases initiated by plaintiffs belonging to a judicially favored class such as males and Muslims were more common relative to those of the unfavored classes with whom they interacted (Kuran and Lustig 2012). Fortunately, for the sake of this analysis, only 13.7 percent of the debt contracts in our data set come from a trial; the remaining 86.3 percent of the contracts are from the registration of a contract or settlement. A registration occurs *before* a contract is fulfilled, reneged upon, or challenged. Its evidentiary weight massively reduced the court's ability to tilt verdicts in favor of the privileged. Kuran and Lustig (2012, Tables 15-17) show that in seventeenth-century Istanbul, when a plaintiff introduced a document into a lawsuit, his odds of winning increased almost fourfold. Even more striking, when a defendant challenged the plaintiff's account through documentary evidence, the judge was about 20 times less likely to rule in favor of the plaintiff. Hence, registered contracts greatly reduce the likelihood that the interest rate differentials reported below stem from differences in court use. Hence, we

[25] For more on the titles, see Kuran, ed. (2010-13), vol. 1, pp. 63-64.

work with registrations throughout the analysis, although we also report results with the full data set, including both registrations and trials.

Table 2: Summary statistics: Loan characteristics

Variable	Mean	Standard deviation	N
	All contracts		
Log of loan principal	8.5	2.1	624
Nominal interest rate (%)	14.1	9.4	610
Real interest rate (%)	19.1	16.5	610
Mortgage (%)	71.5	45.2	628
Pawn (%)	76.4	42.5	628
Lender is a waqf (%)	65.7	47.5	612
Surety (%)	44.4	49.7	628
Loan registered (%)	86.3	34.4	629
	Registered contracts		
Log of loan principal	8.6	2.0	539
Nominal interest rate (%)	14.0	9.7	525
Real interest rate (%)	19.3	16.8	525
Mortgage (%)	77.9	41.6	542
Pawn (%)	82.3	38.2	542
Lender is a waqf (%)	67.9	46.7	535
Surety (%)	50.0	50.0	542

Summary statistics for the loan characteristics of concern are in Table 2. Across all registered loans in our sample of registered contracts, the average nominal interest rate is 14.0 percent, and the average real interest rate is 19.3 percent.[26] The figures differ slightly for the full sample. In both cases, there is substantial variation, partly because of periods of inflation or deflation. Lenders and borrowers evidently factored into their calculations anticipated changes in the purchasing power of money.[27] But they also made mistakes, causing the spread of the real

[26] To deflate the nominal interest rates found in the data, we used the consumer price index of Pamuk (2000) and applied a "silver smoothing" technique to account for changes in the amount of silver in the currency. Specifically, in subperiods when the grams of silver content in aspers (*akçe*s) change, we assumed that half of the currency in circulation was new in the first year of the change, three-quarters in the second year, and 100 percent in the third year. In years for which the Pamuk index provides no information for the grams of silver in aspers, we used the previous year's figure. For missing data points in the index, we interpolated the consumer price index geometrically. All of the article's results hold, and they are generally strengthened, when Pamuk's consumer price index is used as a deflator without silver smoothing or when only nominal rates are used. The results are also robust to alternative silver-smoothing techniques. Finally, all results are robust in terms of statistical significance to deflation through the Istanbul wage index of Özmucur and Pamuk (2002).

[27] The annualized nominal interest rate spans a broad range, from 0.5% to 137.5%. It falls between 5% and 30% in 581 of 610 observations (95.2%), and between 10% and 20% in 485 of the 610 observations (79.5%).

distribution to eclipse the nominal spread.[28] This is consistent with modern data showing that the rate and variability of inflation are correlated positively (Logue and Willett 1976).

Table 3: Summary statistics: Lender and borrower characteristics

Variable	Mean (%)	Standard deviation	N
	All contracts		
Titled borrower (%)	39.5	48.9	603
Titled lender (%)	48.3	50.0	603
Muslim borrower (%)	59.0	49.2	622
Muslim lender (%)	92.0	27.2	622
Male borrower (%)	76.1	42.7	582
Male lender (%)	94.0	23.8	582
	Registered contracts		
Titled borrower (%)	38.8	48.8	531
Titled lender (%)	47.5	50.0	531
Muslim borrower (%)	61.5	48.7	538
Muslim lender (%)	94.1	23.7	538
Male borrower (%)	74.6	43.6	520
Male lender (%)	94.2	23.3	520

The characteristics of the borrowers and lenders also show significant variation. This variation is seen in Table 3. Almost half of all lenders and about two-fifths of all borrowers are titled. Around three-fifths of all borrowers and a huge majority of all lenders are Muslim. And almost all lenders, but only three-quarters of the borrowers, are male.

Table 4 breaks down the real interest rates of the observed credit transactions by three markers of privilege for both borrowers and lenders: social status, religion, and gender. For brevity, we only report registered contracts here.[29] A few patterns jump out. First, titled lenders lent at higher rates to other titled borrowers than they did to non-titled borrowers ($p < 0.0001$).[30] Second, Muslim lenders lent to their fellow Muslims at higher interest rates than they did to non-Muslims ($p = 0.031$). Finally, male lenders charged other males higher rates than they did to females ($p = 0.089$). In all three cases, the group favored by the courts charged more for credit to members of

[28] The range of the annualized real interest rate is immense: -26.4% to 129%. The very low rates come principally from two years of very high inflation, 1603 (49%) and 1690 (24%). In over half of the observations, the annualized real interest rate lies between 10% and 30%, and in about one-quarter it falls between 0% and 10%. In 5% of the observations the rate is negative.

[29] The statistics for all contracts, including trials, are available upon request.

[30] This and subsequent test statistics use an unpaired *t*-test.

its own group than it did to those of the non-favored group. This is consistent with the model presented above. The identified patterns suggest that lenders of favored groups were charging more to people who shared their privileges. They must have understood the risks of lending to people like themselves. On the puzzling side, Muslim borrowers paid less than non-Muslim borrowers to non-Muslim lenders, but the sub-samples are quite small ($p = 0.616$). Taken as a whole, Table 4 is consistent with our hypotheses, namely, that Ottoman Muslims, elites, and men paid a price in private credit markets for the privileges they enjoyed in the Ottoman system, including the courts.

There are avenues, of course, through which the identified patterns could be spurious. Multivariate statistical tests with controls are needed to determine whether the patterns in Table 4 are artifacts of omitted variables.

Table 4: Average interest rates by borrower and lender characteristics
(standard deviations in parentheses)

		Lender: Titled		Lender: Non-Titled	
		Real *r*	Nominal *r*	Real *r*	Nominal *r*
Borrower: Titled		0.240	0.165	0.191	0.147
		(0.195)	(0.132)	(0.122)	(0.081)
		N = 172		*N* = 88	
Borrower: Non-Titled		Real *r*	Nominal *r*	Real *r*	Nominal *r*
		0.159	0.129	0.172	0.122
		(0.130)	(0.056)	(0.143)	(0.040)
		N = 151		*N* = 197	

		Lender: Muslim		Lender: Non-Muslim	
		Real *r*	Nominal *r*	Real *r*	Nominal *r*
Borrower: Muslim		0.205	0.147	0.167	0.156
		(0.181)	(0.106)	(0.068)	(0.083)
		N = 313		*N* = 5	
Borrower: Non-Muslim		Real *r*	Nominal *r*	Real *r*	Nominal *r*
		0.171	0.124	0.215	0.170
		(0.138)	(0.057)	(0.207)	(0.163)
		N = 177		*N* = 27	

		Lender: Male		Lender: Female	
		Real *r*	Nominal *r*	Real *r*	Nominal *r*
Borrower: Male		0.199	0.145	0.226	0.177
		(0.179)	(0.110)	(0.132)	(0.128)
		N = 356		*N* = 21	
Borrower: Female		Real *r*	Nominal *r*	Real *r*	Nominal *r*
		0.168	0.122	0.228	0.118
		(0.140)	(0.031)	(0.116)	(0.040)
		N = 116		*N* = 9	

5. Data Analysis

Our data set of registered contracts contains five variables suitable to serving as controls: the real principal on the loan (in logarithmic form), whether the loan is a mortgage, whether it involves a pawn, whether there is a surety on the loan, and whether the lender is a waqf. The first four controls (principal, mortgage, pawn, and surety) all affect the repayment probability. As explained in presenting the model, the higher the loan principal, the greater the risk to the lender. Mortgages provide greater collateral in the form of a house or a shop. Pawns formed an alternative source of collateral, and sureties amounted to assurances from others that they would accept responsibility

for any unpaid debt. Waqfs charged lower rates on average: 17.8 percent, as against 22.3 percent for non-waqf lenders. Hence, it makes sense to control for their presence.

According to the model, the biases of the Ottoman judicial system would have resulted in advantageous interest rates for legally favored borrowers, holding other loan factors constant. To test this hypothesis, we analyze the following regression equation using ordinary least-squares:

(3) $interest\ rate_{i,t} = \beta_0 + \beta_1 Borrower_i + \beta_2 X_i + D_t + \epsilon_{i,t}$,

where $Borrower_i$ represents a characteristic of borrower *i*, such as gender, religion, or class,[31] X_i is a vector of loan characteristics (principal, mortgage, pawn, surety, lender as a waqf); D_t is a vector of court register fixed effects;[32] and $\epsilon_{i,t}$ is the error term. In all regressions, standard errors are clustered by the court register.

Table presents the primary results, summarizing the effect of three possible borrower characteristics on interest rates: title, Muslim, and male. Propositions 1 and 2 suggest that all three could have raised the interest rate, provided the courts were sufficiently biased. The results largely support this prediction. Column (1) indicates that male borrowers paid interest rates that were an average of 3.6 percentage points higher than female borrowers. This result is highly significant statistically, and its magnitude is far from trivial. Remember that the average real interest rate is 19.1 percent. Evidently, Ottoman men paid about one-fifth more for credit than Ottoman women did, all else equal. Column (2) shows that Muslim borrowers paid a premium of 3.0 percentage points relative to non-Muslims. This finding suggests that for their faith-based privileges Muslims paid one-seventh more for credit than non-Muslims. Column (3) indicates that elites paid 3.5 percentage points more for loans than commoners did. The magnitude is again substantial, one-fifth of the average real interest rate.

Table 5: The effect of borrower's status on credit cost, registered contracts

Dependent variable: Real interest rate

[31] Because we lack panels specific to each borrower, it is unnecessary to include a subscript *t* either for the borrower or the loan characteristics.

[32] Since the registers are almost all from different years, this is tantamount to including year fixed effects.

	All registered contracts				Male borrowers only	
	(1)	(2)	(3)	(4)	(5)	(6)
Male borrower	0.036***			0.038***		
	[0.012]			[0.013]		
Muslim borrower		0.030**		0.022	0.034**	
		[0.013]		[0.015]	[0.016]	
Elite borrower			0.035**	0.020		0.034*
			[0.014]	[0.016]		[0.017]
Log real principal	0.002	0.004	0.003	0.003	0.003	0.002
	[0.005]	[0.005]	[0.006]	[0.006]	[0.007]	[0.007]
Mortgage	-0.055	-0.058	-0.050	-0.051	-0.068	-0.058
	[0.040]	[0.038]	[0.039]	[0.041]	[0.049]	[0.050]
Pawn	0.018	0.008	0.012	0.022	0.006	0.013
	[0.041]	[0.037]	[0.041]	[0.042]	[0.046]	[0.051]
Surety	0.007	0.012	0.005	0.010	0.008	-0.001
	[0.012]	[0.013]	[0.010]	[0.011]	[0.015]	[0.011]
Lender is a waqf	-0.023	-0.024*	-0.019	-0.019	-0.021*	-0.016
	[0.014]	[0.014]	[0.014]	[0.013]	[0.011]	[0.011]
Constant	0.117**	0.123**	0.132**	0.086	0.143**	0.148**
	[0.056]	[0.054]	[0.051]	[0.062]	[0.069]	[0.067]
Register fixed effects	YES	YES	YES	YES	YES	YES
Observations	562	590	578	560	380	379
R-squared	0.536	0.531	0.554	0.569	0.514	0.547

Standard errors clustered by the register in brackets.
*** p<0.01, ** p<0.05, * p<0.1

Column (4) shows that, controlling for all three characteristics, the "gender effect" dominates. Males pay a premium of 3.8 percentage points relative to females, while the statistical significance of the "religion effect" and "elite effect" are reduced. The fact that the gender of the borrower appears to be the strongest predictor of the interest rate paid is not surprising given the reported findings of the relative ease with which a men could flee (Table 1). The fact that the coefficients on Muslim and elite borrowers loses statistical significance may be due to multicollinearity between the variables. For instance, of the elites in the sample, 95.7 percent are Muslim.

Columns (5) and (6) test the "religion effect" and "elite effect" only amongst males. If it were simply the fact that males could flee more easily that were driving all results, the coefficients on Muslim borrower and elite borrower would be insignificant. Instead, the coefficients are similar in magnitude and statistical significance to those of Columns (2) and (3), respectively. Evidently, Muslim and elite borrowers have unique features that make them pay higher interest rates. We

report regressions with the same specifications, but using all data (including adjudications) in Appendix 2. The results on the coefficients of interest are largely similar in terms of magnitude and statistical significance.

The foregoing results do not account for the lender's identity. Yet the model suggests that the treatment that a borrower receives in court depends on both his own partiality and that of the lender. The interest rate should fall insofar as the lender is favored relative to the borrower ($\beta_i < \lambda_j$). On that basis we expand regression equation 3 to include the lender's identity. The regression equation becomes:

$$(4) \quad interest\ rate_{i,t} = \beta_0 + \beta_1 B_F, L_{U_i} + \beta_2 B_U, L_{F_i} + \beta_3 B_U, L_{U_i} + \beta_4 X_i + D_t + \epsilon_{i,t},$$

where B_F (B_U) indicates that the borrower belongs to a judicially favored (unfavored) group, and L_F (L_U) indicates the same for the lender. Within the context at hand, the favored groups are men, Muslims, and elites.

Table 6 reports the results for gender, religion, and social status. The coefficients on borrower and lender characteristics measure their effects in relation to the omitted combination B_F, L_{F_i}. Consider first the results with respect to the gender of the parties to the loan agreement, reported in Column (1). The figures resemble those of Table 5 in terms of economic and statistical significance; given the paucity of female lenders in the sample (see Table 3), this is hardly surprising. The figures indicate that male lenders charged female borrowers 3.6 percentage points less than they did to male borrowers. Column (2) suggests that, on average, Muslim lenders charged non-Muslim borrowers 3.4 percentage points less than they did to borrowers of their own religion. In terms of economic and statistical significance, these results are also similar to those of Table 5; this, too, is unsurprising, because the sample contains few non-Muslim lenders. Finally, Column (3) indicates that, again on average, commoners paid 3.2 percentage points less for loans issued by elite lenders than elite borrowers did. These results, which are also economically and statistically similar to those of Table 5, suggest that if commoners are disadvantaged in their interactions with the judiciary, it is primarily when they face elites. As in Table 5, the strongest effect is the gender effect. In Column (4), where all characteristics are included, the "religion effect" and "elite effect" fall in significance. Again, this does not mean that the gender effect alone drives up the interest rate. The results in Columns (5) and (6), which are restricted to male borrowers, resemble those of Columns (2) and (3).

Table 6: Effect of borrower's and lender's status on credit cost, registered contracts

	Dependent variable: Real interest rate					
	All registered contracts				Male borrowers only	
	(1)	(2)	(3)	(4)	(5)	(6)
Male borrower, Female lender	-0.008			-0.009		
	[0.035]			[0.034]		
Female borrower, male lender	-0.036**			-0.038**		
	[0.013]			[0.014]		
Female borrower, female lender	-0.037			-0.039		
	[0.032]			[0.033]		
Muslim borrower, non-Muslim lender		0.036		-0.052	0.007	
		[0.052]		[0.057]	[0.076]	
Non-Muslim borrower, Muslim lender		-0.034**		-0.018	-0.038**	
		[0.013]		[0.014]	[0.018]	
Non-Muslim borrower, non-Muslim lender		-0.000		-0.029	-0.010	
		[0.035]		[0.028]	[0.042]	
Titled borrower non-titled lender			0.003	0.005		-0.008
			[0.022]	[0.025]		[0.033]
Non-titled borrower titled lender			-0.032**	-0.022		-0.036*
			[0.015]	[0.017]		[0.018]
Non-titled borrower non-titled lender			-0.027	-0.017		-0.030
			[0.018]	[0.023]		[0.025]
Log real principal	0.002	0.004	0.003	0.002	0.003	0.002
	[0.005]	[0.005]	[0.006]	[0.006]	[0.007]	[0.007]
Mortgage	-0.055	-0.057	-0.047	-0.049	-0.068	-0.056
	[0.040]	[0.038]	[0.040]	[0.043]	[0.050]	[0.050]
Pawn	0.018	0.009	0.009	0.019	0.008	0.011
	[0.042]	[0.037]	[0.042]	[0.044]	[0.047]	[0.052]
Surety	0.007	0.014	0.005	0.009	0.009	-0.000
	[0.012]	[0.014]	[0.010]	[0.011]	[0.017]	[0.011]
Lender is a waqf	-0.024	-0.021	-0.020	-0.022	-0.018	-0.017
	[0.015]	[0.014]	[0.014]	[0.016]	[0.012]	[0.012]
Constant	0.154***	0.147***	0.162***	0.169***	0.173**	0.181**
	[0.047]	[0.046]	[0.049]	[0.047]	[0.064]	[0.067]
Register Fixed Effects	YES	YES	YES	YES	YES	YES
Observations	562	591	579	499	380	379
R-squared	0.536	0.532	0.556	0.580	0.515	0.550

Standard errors clustered by the register in brackets
*** p<0.01, ** p<0.05, * p<0.1

In sum, the evidence presented here broadly confirms the model's predictions. Favored groups—elites, Muslims, and men—paid higher interest on loans than unfavored groups. The discount that unfavored groups received was far from trivial. Ranging from 3.0 to 3.6 percentage points, it amounted to between 15 and 19 percent of the average real interest rate.

With each marker of socio-economic status that is conducive to analysis through our data, credit cost differences are in line with our theory, and the *opposite* of what we are accustomed to seeing in countries with courts that are less biased on financial matters, if at all, toward the socially disadvantaged. Although the results vary in level of statistical significance, the signs of the coefficients are always consistent with theoretical predictions, and the magnitudes are all substantial. If an alternative theory also explains these results, it would have to be consistent with Ottoman institutional history. It would have to accord with the fact that Ottoman courts were deliberately and openly partial to certain groups, including Muslims, men, and elites. Not only is our explanation couched in a parsimonious theory based on elementary economic relationships; it also matches the historical record. It thus satisfies both criteria of solid historical explanation: grounding in general theory and consistency with observed facts.

6. Related Works on Private Credit Markets

A large literature in economic history suggests that even where formal financial institutions are weak or altogether absent, borrowers of high socio-economic status have greater access to credit and/or that they pay less for loans (Rosenthal 1993; Hoffman, Postel-Vinay, and Rosenthal 2000; Botticini 2000; Reis 2010; Temin and Voth 2008a, 2008b; Zuijderduijn 2009; Ogilvie, Küpker, and Maegraith 2011; Padgett and McLean 2011; van Zanden, Zuijderduijn, and de Moor 2012). Certain works on the financial markets of modern underdeveloped countries identify the same pattern (Timberg and Aiyar 1984; Iqbal 1988; Aleem 1990; Banerjee and Duflo 2011, ch. 7). The last work shows that among the poor, relatively better off borrowers incur lower interest charges than the poorest borrowers.[33]

Yet, the overall evidence on the determinants of private-market interest rates in pre-modern Europe and, to a lesser extent, underdeveloped countries is mixed. Numerous studies find that interest rates were invariant to borrower characteristics, because of either information constraints or usury limits. But in general, they also find that credit was rationed borrowers able to provide greater collateral. Other studies find that rates did vary across borrowers in a manner familiar to the modern observer: rates were lower for those deemed more creditworthy, who were usually the privileged. In any case, one fairly consistent finding is that the rich enjoyed some form of an

[33] Neither group, of course, has partial access to courts.

advantage in credit markets, whether through greater access to credit or lower interest rates.[34] This general pattern contrasts with the pattern in pre-modern Ottoman Istanbul, where, precisely because the courts favored them, privileged classes endured relatively higher interest rates.

In these literatures the arguments advanced to explain the connection between high socio-economic status and low interest rates share an implicit assumption: unless the borrower defaults, lenders are able to obtain repayment. In other words, it is taken for granted that if a borrower is financially capable of repaying the loan but tries to renege, the lender has effective recourse. This assumption is justified when a lender can sue a recalcitrant borrower in an essentially impartial court. If the loan contract was indeed breached, the judicial system will certify that fact and force the borrower pay.

As we have seen, this logic is incomplete insofar as courts are sufficiently partial to certain groups. In this case the familiar connection between socio-economic status and interest rates is reversed: people of high status pay higher interest rates on loans, not lower. This finding suggests that comparative research on financial markets would benefit from attention to the operation of courts. It raises questions about the political and judicial institutions that shaped the workings of the private credit markets analyzed in works to date. It calls for inquiries into who may have been favored on matters involving credit disputes; and into whether unequal access to the political process produced rules that protected high-status groups. Just as important, the finding raises the possibility that high status-groups, for all the privileges they fought to preserve, deliberately leveled the playing field with regard to the enforcement of financial contracts, if only to lower their credit costs.

The most influential historical studies of financial markets focus on Western Europe, where, by the early modern era, rule of law was perceptibly stronger than in the Ottoman Empire. Among the first in-depth analyses of private credit markets in early modern Europe was *Priceless Markets* by Philip Hoffman, Gilles Postel-Vinay, and Jean-Laurent Rosenthal, whose setting is pre-Revolution France. Formal banking was not yet available, but notaries served as

[34] Yet another literature that displays evidence of differences in private lending rates based on borrower characteristics is that on discrimination. Numerous studies find that American ethnic minorities pay higher interest rates on loans, or are more commonly denied credit, even when they are otherwise comparable to whites. For instance, Blanchflower, Levine, and Zimmerman (2003) show that black-owned firms are charged interest rates that are, on average, one percentage point higher than comparable white-owned firms. In the same vein, Blanchard, Zhao, and Yinger (2008) find that black-owned businesses pay higher interest rates when they borrow from financial firms. Cavalluzzo and Cavalluzzo (1998) report a similar finding for Asian and Hispanic-owned firms relative to white-owned firms, and Hu, Liu, Ondrich, and Yinger (2011) for black and Hispanic-owned firms.

intermediaries. They did so through "priceless markets," where borrowers competed on the basis of collateral and reputation, and lenders did not vary interest rates to reflect borrower-specific risk conditions.[35] In an earlier piece, Rosenthal (1993) shows that in pre-Revolution rural France interest rates fluctuated between 4 and 6 percent, generally remaining below the 6 percent cap. To identify connections between credit costs and borrower characteristics, Rosenthal exploits the interest rate variations that are lacking in the Hoffman, Postel-Vinay, and Rosenthal (1992, 1995, 2000) samples from Paris. On average, he finds, elites paid less for credit than the middle or lower classes. The pattern varied over time, and the distinction between classes practically disappeared by the eve of the French Revolution. Here is the key result:

> …status played an important role in differentiating borrowers. As expected, nobles, priests, and institutions (elites) paid substantially lower interest rates than all other groups. While estimated less accurately, the middle class (services, trade, and *bourgeois*) received more favorable terms than groups of lower status. Within the lower class, rural residents (farmers and unknown), faced higher rates than urban residents (artisans, women, and textiles) (Rosenthal 1993, 145).

Rosenthal's findings conform to the familiar inverse connection between socio-economic status and credit cost. The theory of section 2 above makes one expect the negativity of the socio-economic status-interest relationship for status groups outside of royalty to be related to the judicial system. Even in a highly unequal society such as pre-Revolution France, courts can be relatively impartial with regard to financial contracts. Even as they fought to preserve other social inequalities, the elites who controlled the political system would have gained from leveling the playing field in private credit markets. Specifically, they would have benefited from lower interest charges when they themselves borrowed, and also from less risk when they themselves lent to other privileged parties. This is not to suggest that pre-Revolution French jurisprudence was impartial. Rosenthal's findings are simply indicative of a society where financial contracts are adjudicated with sufficient impartiality that the "wealth effect" outweighed the "judicial partiality effect" in determining interest rates on individual loans.

Another setting where private credit markets have received intense scrutiny is late-medieval Netherlands. Like pre-modern France, late-medieval Netherlands lacked a formal banking sector. Yet, Dutch property rights were strong and well-protected, especially in comparison to other late-medieval polities (Zuijderduijn 2009, 2014). Van Zanden, Zuijderduijn,

[35] Where intermediaries were not used, credit remained relatively personal.

and de Moor (2012) observe that creditors had numerous means of recourse when a loan went bad, and a fairly advanced loan registry supported legal enforcement. Zuijderduijn (2014) adds that locals and outsiders were equally likely to use Dutch village courts and that they obtained credit at similar rates; evidently, these courts did not favor locals. Under the circumstances, the personal characteristics of borrowers played little role in determining interest rates; men did not pay significantly different rates than women, and the wealthy did not face different rates than people of modest means.[36] Yet, the loans analyzed in these studies were also heavily collateralized regardless of social status. This would have weakened the wealth effect on interest rates. The model presented here suggests that when the wealth effect is weak and the judicial partiality effect is negligible, the pattern of late-medieval Netherlands is what will emerge.

Other findings, too, await further interpretation in the light of the model of section 2. Studying pre-modern Italy, Botticini (2000) finds that Jewish lenders typically set the interest rate at the legal maximum. Yet, the required collateral differed by a borrower's characteristics. In particular, poor borrowers were generally required to pawn property, while wealthier households could borrow on a written promise of repayment.[37] Likewise, Reis (2010) finds that in nineteenth-century Portugal literate borrowers paid significantly lower rates than illiterates. With respect to each of these cases, this paper's argument raises the question of how impartially credit contracts were enforced. Without information about judicial partiality in regard to private credit relations, the observed patterns cannot be interpreted or compared adequately with cases from other times and places.[38]

With respect to the Middle East, Eliyahu Ashtor's (1977, 198-99) study of interest rates in the Medieval period focuses on average interest rates across time and space. But for Iraq, it also presents some comparative data. "Ordinary" annual interest rates, Ashtor reports, were around

[36] This result belongs to van Zanden, Zuijderduijn, and de Moor (2012), who also find that access to credit hardly differed by gender. In records from 1462, 28 percent of female-headed households had monetary debt compared with 32 percent of households headed by men. Although female access to credit appears to have weakened in the sixteenth century, women played a bigger role in supplying credit over time; the percentage of female-headed households supplying credit increased from 6 to 22 percent from 1462 to 1514. Ogilvie, Küpker, and Maegraith (2011) report a different pattern for seventeenth-century Württemberg. There, gender and marital status significantly affected access to credit, possibly because women had weaker property rights than men.

[37] Padgett and McLean (2011) study private lending markets in an analysis of a large set of merchant loans in fifteenth-century Florence. They find that lending remained highly personalized, but also that the politically connected had greater access to credit, as did partnership members.

[38] Amazingly little research exists on private lending in medieval and early modern England. For relevant efforts, see Schofield and Mayhew (2002), Richardson (2005), Briggs (2006), Temin and Voth (2008a, 2008b), and Koyama and Briggs (2013).

6.66 percent. But the vizier borrowed at between 10 and 20 percent, depending on the length of the loan. The differences, which Ashtor does not interpret, accord with the theory presented here. Lenders would have charged the vizier more because of obstacles to making him repay, if he chose to default. Courts could not enforce the vizier's financial commitments as reliably as those of ordinary citizens, which is undoubtedly why he paid more for credit.

Judicial partiality is not designed to help elites alone. Modern Brazil offers a case of financial laws meant to assist the poor in certain markets, but that actually harm them. It is notoriously costly to evict a tenant in Brazil, and even costlier to foreclose on a property. In rental disputes, the legal playing field is tilted in favor of poor tenants and against property owners. As a consequence, owners require huge deposits for rentals, and they screen renters tightly, making it very difficult for the poor to rent. This has resulted in a market where most renters are wealthy, and the poor tend to own a home. Ferreira, Lanjouw, and Neri (2003) speak of middle-class households who rent in a fashionable neighborhood of Rio de Janeiro or São Paulo, while their domestic servants own homes in the metropolitan periphery. They find that 63 percent of poor Brazilian households own their own home, typically a poorly constructed structure that does not even supply the basic comforts of modern life. Poor Brazilians tend to be shut out of the mortgage and rental housing markets. Our model indicates that this unfortunate situation stems from substantial legal bias in favor of Brazilian renters and owners.

The Ottoman data used here contain nothing similar to the rates of 450 percent rates charged commonly to the poor in the modern United States. The reason is that in Ottoman Istanbul, as elsewhere in pre-modern times, the poor lacked the bankruptcy protections that they enjoy in modern industrial countries. In seventeenth- and eighteenth-century Istanbul, debtors could be thrown into prison or forced to work off loans upon default.[39] Bankruptcy laws protect modern borrowers from these fates, but, as the model of section 2 above suggests, at a cost. Because bankruptcy laws make it more difficult for modern lenders to recoup their losses in case of default, they impose high interest on loans to the poor. Laws meant to protect the poor thus have the unintended effect of increasing their credit costs.

[39] Numerous cases in Kuran ed. (2010-13), vols. 9 and 10, provide evidence. See Galata 25: 75b/3, Galata 27: 11b/2, Istanbul 2: 42b/2, Galata 41: 30b/2, Istanbul 4: 18b/2; Istanbul 16: 16a/3; Galata130: 31a/2; Galata 145: 13b/2, 67b/2, 122a/3; and Istanbul 22: 10b/1, 11a/2, 16a/1, 17b/3, 32a/6, 63a/2, 119a/2. Pertinent eighteenth-century cases in our database include Galata 224:9b/3, 140b/2.

7. Cross-Country Comparisons of Interest Rates

In focusing on intergroup differences in the availability and cost of credit, we have so far neglected *absolute* levels of interest. Like intergroup differences in interest rates, absolute levels reflect institutional differences. That is why Douglass North (1990) considers interest rates a good proxy for the efficiency of a society's economic institutions. Elaborating on this insight, De Soto (2001) associates high interest rates with such factors as poorly specified property rights, which make it difficult to use collateral, along with high information costs and weak contract enforceability. Such weaknesses stem from society's broader institutional complex, not only from biases of its judicial system. Although a society with poor institutions will tend to have a biased judicial system, the two phenomena are distinct. To be sure, where privileged members of society pay more for credit than underprivileged members, the former ordinarily pay more also relative to their privileged counterparts in other societies. Their high credit costs reflect not only their privileges vis-à-vis others in their own society but also the high cost of doing business.

In the seventeenth and eighteenth centuries, merchants and producers who could not finance their operations obtained capital either by borrowing from individuals or by forming small and short-lived partnerships. As with the private economy in general, pooling capital on a large scale for perpetual commercial or financial ventures was not an option. Large-scale capital-pooling took place only within waqfs, whose charters precluded the maximization of profits (Kuran 2011, chaps. 3-8). These same core organizations of the private economy also inhibited the development of civil society, and thereby the emergence of the checks and balances needed for stronger private property rights (Kuran 2014). Meanwhile European commercial, financial, civic, and political institutions were undergoing the transformation known as the rise of the West. As early as the fifteenth century, Dutch credit markets were more developed than those of the Ottoman Empire, and property rights were also markedly more secure (de Vries and van der Woude 1997; Zuijderduijn 2009; van Zanden, Zuijderduijn, and de Moor 2012). The same improvements took place in England, too, with a delay of one or two centuries.

Table 7: Average interest rates on private mortgages, 16th-18th centuries (%)

Location	Period	Nominal interest rate	Real interest rate
		early-17th century	
Germany, Italy, Netherlands	16th c	5.0	N/A
England	1600-25	10.0	9.0
Istanbul	*1602-05*	*10.6*	*17.4*
Istanbul	*1612-19*	*11.8*	*15.9*
		mid-17th century	
England	1666	4.0-6.0	6.4-8.5
England	1670	4.0	3.5
Istanbul	*1661-65*	*16.0*	*30.1*
		late-17th, early-18th century	
England	1696	5-6	2.0-3.0
Istanbul	*1683-96*	*12.7*	*19.2*
Istanbul	*1713-19*	*14.1*	*12.7*
Istanbul	*1726-40*	*14.4*	*19.3*

Note. For sources on Istanbul, see sect. 4. All other observations are drawn from Homer and Sylla (1991). English price data used to calculate inflation are from Clark (2010). Istanbul averages are included only for years in which our data set contains at least 10 observations.

Did this interregional divergence in institutional development produce differences in interest rates? We already know that in the seventeenth and eighteenth centuries interest rates in Istanbul were quite high. Over that period the average nominal rate in Istanbul was 14.1 percent, and the average real rate was 19.1 percent (Table 2). Table and 8 suggest that the averages in Istanbul were indeed higher than those prevailing in the financially most developed parts of Western Europe. Table 7 compares mortgage rates, showing that both nominal and real rates were above those of Germany, Italy, the Netherlands, and England. In the early-seventeenth real mortgage rates in Istanbul were 6.9 to 8.4 percentage points higher than those in England. In the mid-seventeenth century, the difference jumped to more than 20 percentage points. Although the difference shrank in the late seventeenth and early eighteenth centuries, it was still over 9 percentage points. Looking at the rates across our period, we observe that whereas they fell dramatically in England they did not do so in Istanbul. Indeed, at certain points in the late seventeenth and early eighteenth centuries the average real interest rate was higher than it was two centuries earlier.

Table 8: Average interest rates on private non-mortgage loans, 17th-18th centuries (%)

Location	Period	Nominal interest rate	Real interest rate	Notes
		Early-17th century		
England	1630	6-7	-1.7-0.8	Chamber loans to merchants (A)
England	1640	8.0	-0.9	Good credit loans (A)
Istanbul	*1602-05*	*15.7*	*17.1*	
Istanbul	*1612-19*	*17.7*	*19.9*	
		Mid- to late-17th century		
Holland	1650-75	3-4.5	3.4-4.9	Private loans (A)
England	1688	4-6	5.7-7.8	Good credit loans (A)
Württemberg	17th c.	5.0	N/A	Probate records (B)
Istanbul	*1661-65*	*23.9*	*29.3*	
Istanbul	*1683-96*	*14.5*	*22.6*	
		18th century		
l'Isle-sur-Sorgues, France	1640-1785	4.1-5.6	N/A	Varied by class (C)
Paris	1690-1789	4.7-5.5	3.9-4.6	Rates on perpetual annuities (D)
Antwerp	1690-1789	2.9-3.5	*	Rural credit rate (E)
Ypres	1710-90	3.9-4.8	*	Rural credit rate (E)
Evergem, Belgium	1700-90	4.1-6.1	*	Rural credit rate (E)
Eke, Belgium	1710-79	4.1-5.8	*	Rural credit rate (E)
Moerbeke, Belgium	1708-88	3.8-6.3	*	Rural credit rate (E)
Zele, Belgium	1700-89	2.3-4.4	*	Rural credit rate (E)
Rural Massachusetts	late-18th c	6-9	N/A	In excess of usury limits (F)
Istanbul	*1726-40*	*14.0*	*15.6*	
Istanbul	*1797-99*	*14.3*	*21.9*	

Note. For sources on Istanbul, see sect. 4. Other sources: (A) Homer and Sylla (1991); (B) Ogilvie, Küpker, and Maegraith (2011); (C) Rosenthal (1993); (D) Hoffman, Postel-Vinay, and Rosenthal (1992); (E) Lambrecht (2009); (F) Rothenberg (1985). English price data used to calculate inflation come from Clark (2010), and corresponding Dutch price data from van Zanden (2005). Price data for Paris are based on Parisian housing rents available at http://gpih.ucdavis.edu/Datafilelist.htm. Averages for Istanbul are reported only when at least 10 observations are available.
* Price data are unavailable for specific Belgian towns, but wheat and oat price data from Bruges suggest that although there were fluctuations prices at the end of the 18th century were similar to those at the beginning (http://www.iisg.nl/hpw/data.php).

Non-mortgage rates appear to have followed a similar pattern, being much higher in Istanbul than in Western Europe (Table 8). In Istanbul, real non-mortgage rates fluctuated between 15.6 and 29.3%, and nominal non-mortgage rates between 14.0 and 23.9%, across the period 1602-1799. There is no discernible time trend.[40] The corresponding real rates in the most advanced economies of Western Europe were never above 7.8%, and often they were quite lower. Nominal interest rates were also much lower in Western Europe, where private loans in Holland (1650-75),

[40] When the reported regressions are re-run with a time trend and without register fixed effects, the time trend is never significant. This is true whether the entire sample is analyzed or just mortgage loans.

England (1688) or rural credit available in Belgium in the late 17th and 18th centuries could be had at rates ranging from 2.3-6.3%.

These comparative observations are consistent with the relative inefficiency of the Ottoman legal system. Relatively weak private property rights, weaker enforcement of contractual obligations, and the absence of anything resembling a modern financial system would all have raised interest rates. It is worth reiterating that the inefficiencies of Ottoman institutions were reflected on two fronts: averages and intergroup differences. On the one hand, regardless of socio-economic status the residents of Istanbul paid much more for credit than their counterparts in Western Europe. On the other hand, privileged Istanbul residents paid higher interest rates than their non-privileged neighbors. Both of these effects must have contributed to the economic divergence between the Ottoman Empire and Western Europe. All else equal, the high cost of credit would have lowered investment in the Ottoman Empire relative to levels in Western Europe. That people in the best position to invest—the socio-economic elite—paid the highest rates of all would have compounded the drag on the Ottoman investment rate. It would have made it all the less likely that wealth would be directed to its most highly-productive uses.

High interest rates overall do not necessarily accompany relatively high rates for the privileged. In principle, a society may have inefficient financial institutions, and thus high credit costs, while also having courts that are sufficiently impartial to enable them to keep the credit costs of the privileged below those of underprivileged. Indeed, the wealth discount on the interest rates of the privileged may swamp their judicial partiality surcharge. Such a pattern might be observed if, for instance, the state could seize property at will, thus reducing the capacity to collateralize loans using property, but courts were reasonably impartial in adjudicating financial contracts.

Regardless of the how efficiently a society's financial institutions operate, pressures should arise to make its judicial system more impartial at least with respect to financial contracts, for the benefits would flow disproportionately to society's elites. We shall now see evidence that in the nineteenth century Ottoman elites spearheaded reforms that aimed at limiting the privileges responsible for the interest rate surcharge they had been paying.

8. The Transition to Impartial Rule of Law

The foregoing findings rest on a simple and universal characteristic of competitive credit markets: loan costs vary positively with the risks assumed by lenders. The source of the risk in question

could be that the borrower's income is uncertain or that the legal system prevents the borrower's assets from serving as meaningful collateral. Another source of risk lies in biases of the legal system. The lender may have reason to believe that in case of non-payment the courts will do little to enforce the loan contract.

It is the last source of risk that has been central to this article. Our theory suggests that if the risk stemming from the judicial system's partiality is sufficiently large, at least with respect to litigation over financial contracts, legally privileged borrowers will pay a commensurate premium. Financial evidence form Ottoman Istanbul over a period spanning two centuries supports this hypothesis. In pre-modern Istanbul, three legally privileged groups all paid substantially more for credit than their unprivileged counterparts.

The three groups—men, Muslims, and elites—included most of the wealthiest and politically most influential residents of the city. In fact, people who belonged to all three groups at once, Muslim men with titles, overwhelmingly dominated the state bureaucracy. They also monopolized the military corps and the clerical establishment. Surely they understood why they paid a premium for credit. And they must have been able to infer that their credit costs would fall if the legal playing field were flattened in regard to their financial dealings. By increasing the enforceability of their financial commitments, impartial courts would reduce the risk of lending to them. Ideally, from their standpoint, their privileges outside of financial markets would remain untouched; they would continue to fill positions of political responsibility.

Alas, they could not overcome their disadvantages as individuals through unilateral action. No titled Muslim man could commit to impartial oversight of his financial contracts even if there existed a judge with an impeccable reputation for impartiality. The reason is that the Sultan appointed judges for indefinite periods and rotated them frequently. Without his cooperation, lenders could not be given credible assurances. And the Sultan would not give up his privilege to replace judges for the sake of one borrower's need for credibility. The problem of binding judges in regard to financial disputes thus presented a collective action problem. The individuals who incurred higher credit costs because of judicial biases in their favor had to act jointly to force courts to be impartial.

This is hardly the only context where privileged groups faced the challenge of devising institutions to restrict their own privileges in their own self-interest. Establishing such institutions is a key element of what North, Wallis, and Weingast (2009) characterize as the transition from

the "natural state" to the "open access order." In a natural state, a small clique monopolizes rights and resources; in an open access order, all members of society compete for resources on a field that self-enforcing institutions keep more or less flat. It is worth underscoring that no society has eliminated all privileges; even in Scandinavia, which tops global rule of law indices, doors open for the rich and famous that are closed to others. Impartiality of the law is a matter of degree. Though it is substantially more advanced in open access orders than in natural states, never is it complete.

The transition to an open access order took centuries in the West, which comprises Western Europe along with former European colonies with substantial populations of European origin. It is still under way almost everywhere else. The argument developed in the present article suggests that leveling the playing field in financial markets would be among the early reforms attempted. The potential gains are obvious, and the immediate beneficiaries form a politically powerful constituency.

In the Ottoman Empire, the ruling class was accustomed to military reforms driven by technological advances and also to periodic fiscal reforms designed to close budget deficits (;goston 2005, İnalcık 1980). But the social order that defined individual rights and responsibilities had never been questioned seriously. Against this background, the nineteenth century witnessed monumental reforms that abolished, or at least circumscribed, the privileges at the heart of this study. The Gülhane Decree of 1839 extended a broad set of rights to all Ottoman citizens regardless of religion or ethnic group. It also decoupled legal rights from rank, position, and influence. A new penal code was compiled for clerics, military officers, bureaucrats, and other state officials accused of influence peddling. Although these promises did not immediately eradicate age-old judicial practices, at least they legitimized the secularization of governance, the reorganization of the bureaucracy, and the development of new judicial institutions to supplement, and eventually supplant, the Islamic judicial system. The opening of secular commercial courts in major cities to handle legal matters involving merchants and financiers was among the early fruits the reforms initiated in 1839 and known collectively as the Tanzimat—literally, reorganization. The judges of commercial courts did not have to be Muslim. The law that they enforced was based primarily on the French Commercial Code (Shaw, 1976-77, vol. 2, 118-19; Berkes 1998, chap. 6; Findley 1980).

A major theme of the enormous literature on the Tanzimat has been the benefits of previously underprivileged groups and the resistance that weakened implementation (Berkes 1998, chaps. 8-10). What has escaped notice is that the new principles of governance were put into practice most rapidly and with unusual effectiveness in contexts where the losers of privileges had something tangible to gain in return. The establishment of secular courts enabled Muslims to conduct business under rules that enhanced their competitiveness. In leveling the judicial playing field in commerce and finance, they also allowed traditionally privileged Ottoman groups to bind themselves in contexts where the absence of credible commitment opportunities was raising their costs. To accept the jurisdiction of secular courts over a loan contract amounted to giving up age-old privileges for the sake of better terms. Indeed, the emergence of a secular alternative to the Islamic legal system raised the creditworthiness of groups that had been unable to sign credible financial contracts.[41]

This is not to say that the enforcement of financial contracts became even across groups overnight. Though the privileged gained collectively from the leveling of the financial playing field, as individuals they could gain even more by getting the judicial system to make exceptions in their own favor. Unsurprisingly, elites supportive of the Tanzimat continued to expect relatively lax rules to be applied to their own personal financial obligations. This is seen clearly in the early history of the Imperial Ottoman Bank, the Ottoman Empire's first successful bank, founded in 1856 by a British-French consortium.

For more than three decades the Ottoman Bank lent primarily to the state, whose obligations were enforced partly through diplomatic pressure from Britain and France. The Bank's few personal loans went to high state officials, partly to keep them supportive of the Bank's evolving policies. Not until the 1890s did the Ottoman Bank become a commercial lender with a broad-based clientele (Biliotti 1909, 68-84, 191-256; Clay 2000, 60-86; Eldem 1997, 205-42). Even then, however, elites consisting of high bureaucrats and military officers were substantially overrepresented among its loan recipients. Particularly relevant here is that these elites made up the vast majority of *delinquent* Ottoman Bank borrowers. An April 1896-dated bank list of "non-performing loans pursued since January 1896" includes 28 personal loans. Almost three-quarters of the defaulters are high state officials, including the reigning Sultan's chief secretary, the Prime

[41] It also lowered their interest rates. By the end of the century, they were borrowing from banks at rates between 7 and 9 percent (Biliotti 1909, 207-21).

Minister (Sadrazam), the Chief Judge of the Galata Court, the Minister of the Navy, the Governor of Salonika, and the Director of the Imperial Museum. The notes added to the entries are themselves revealing: "stopped sending monthly payments in November 1895," "refuses to make payments," "considers the loan a gift," "had promised he would stop by the Bank," etc.[42]

Evidently, the habits that Ottoman elites tried to overcome through the Tanzimat proved too sweet to relinquish. As individuals, many high officials continued to expect their personal loans to be treated specially. Equally significant, though, is that the Ottoman Bank, like other banks established in the late nineteenth century, tried hard, and often succeeded, to make its delinquent borrowers repay their loans, and with added interest. Observing that the Bank usually managed in one way or another to obtain restitution, Edhem Eldem (1997, 211-14) documents cases of persistent efforts that ended well. These cases would have set examples for later borrowers. They would also have served, if gradually, to alter the expectations of elites with respect to their personal financial dealings.

The transplant of the bank, an institution that emerged in Western Europe and conflicts with Islamic law,[43] was among the many reforms of the Tanzimat period. Like the individual lenders in the court records analyzed in this article, a bank follows profit-oriented lending criteria. But in the bank's case the criteria are less personal; it deals with clients as an organization whose reputation can outlive that of the natural individuals who carry out its activities. As such, the emergence of banking in Istanbul marked a milestone in the Ottoman transition from personal to impersonal exchange, which is central to economic modernization. The founding, within years of each other, of Istanbul's first secular courts and its first successful bank, both contributed, then, to turning the identity-based rights of Islamic law into an anachronism. The leveling of the legal playing field was achieved not only through the restructuring of the adjudication of financial disputes specifically but also as a side-benefit of reforms aimed at economic and political modernization generally. In a nutshell, reforms motivated by much larger concerns than the credit cost differentials of elites, Muslims, and men contributed to eliminating those differentials.

The remarkable transformation of the culture of Ottoman financial markets was a drawn out process, then, and it involved many actors who made moves and countermoves. But it could

[42] Ottoman Bank Archive, ES 001/000, 14 April 1896 (reproduced in Eldem (1997, 212-13)).
[43] A bank enjoys legal personhood, a concept alien to Islamic law. It can also issue freely tradable shares, which is incompatible with Islamic principles of contracting. See Kuran (2011, chap. 8).

not have started without the collective action that resulted in the Tanzimat. Given the earlier-mentioned obstacles to collective action on the part of the legally privileged Ottoman groups, the successes of the nineteenth century suggest that the underlying conditions must have changed dramatically. Indeed, it is only in the nineteenth century that various internal and external trends came to be perceived as existential threats requiring a reconsideration of fundamental social relationships. Successive military defeats at the hands of European armies once considered inferior, a chronic inability to match European economic advances, and the economic ascent of local religious minorities through Westernization made Ottoman elites, including the Muslim majority, realize that their traditional social order was unsustainable and that the very survival of the Ottoman state required radical reforms. The ensuing ambitious initiatives went way beyond the recalibration of long-asymmetric rights in credit relations. They included the abrogation of principles and practices long identified with Islamic governance, Islamic justice, and even Muslim identity. In earlier times, such initiatives would have sparked furious opposition from clerics. Now, clerics went along, if reluctantly, because of existential concerns. Threats to their survival made once unthinkable measures seem essential.

9. Conclusions

Students of the rule of law have long understood that its various dimensions are reflected in financial markets. The credibility of the state's promises affects the cost of financing public debt. Likewise, the enforceability of private financial commitments helps to determine the cost of private debt. Just as investors make the bonds of states whose promises lack credibility pay high interest rates, so in countries where individual debts are poorly enforced rates on private loans tend to be high. This article's insight is that in free financial markets intergroup variations in contract enforcement give rise to systematic differences in private interest rates. Groups that courts favor pay more for credit precisely because their promises are relatively less credible. Policies that reduce the underlying judicial partiality cause their interest rates to fall accordingly.

Comparative economic historians study the interest rates paid by states for insights into the creditworthiness of states in the past, and average interest rates for clues about the efficiency of private finance. In focusing on intergroup differences in interest rates paid for private credit, we have shown here that these convey valuable information about social institutions that influence the enforceability of credit contracts, including judicial privileges. Where women are less mobile than

men, gender differences in flight risk translate into relatively higher interest rates for male borrowers. Likewise, where the courts favor one religious group over another, the judicially advantaged faith group pays a price for its privileges through higher interest rates. In seventeenth and eighteenth century-Istanbul, not only men and Muslims but also elites paid a surcharge for credit. Evidently, competitive credit markets compensated lenders for the added risk they took when lending to privileged groups.

Although economic history is far more advanced in relation to Western Europe than to late-industrializing regions, the issue of intergroup interest comparisons appears to be an exception. Indeed, little systematic work has been undertaken so far, and none at all that is couched in a testable theory of why one group might pay more than another. The best available work, on France and on the Netherlands, suggests that in the period for which we have analyzed data from Istanbul, private loan contacts were enforced relatively impartially across social groups. Men did not pay noticeably more than women, for instance, or elites than commoners. If further research sustains this initial cluster of observations, it would constitute new evidence that Europe's economic ascent was accompanied by a transformation in the distribution of political power. It would suggest that well before industrialization power reconfigurations made the judicial system fairer. It would indicate that the economic divergence between Europe and the Middle East, whose beginnings stretch to the Middle Ages, was accompanied by a political divergence whose financial manifestations were evident as early as the seventeenth century.

The groups that stand to gain from a leveling of the judicial playing field with respect to financial contracts are not the powerless but the powerful. Just as powerful states borrow more cheaply when political checks and balances make their promises more credible, so privileged groups make themselves more creditworthy when they force the judiciary to hold them to their financial contracts. The Middle East did not launch the necessary political reforms until the nineteenth century, centuries after Western Europe began to make the transition. This is among the reasons why the West got ahead and the Middle East, once economically advanced, became one of the laggards. Of necessity, the transplant of Western financial institutions to the Middle East was accompanied by political reforms aimed at reducing judicial biases.

In the Ottoman Empire, as in Egypt where initial reforms were launched concurrently, judicial reforms involved the creation of secular commercial courts as alternatives to the Islamic judicial system whose procedures openly favored certain groups. It has been understood that

judicial reforms enabled Ottoman citizens to trade, invest, produce, and save more efficiently using modern economic institutions. We now see that the shrinking of the domain of Islamic law was needed also because it imposed financial burdens on Ottoman elites, the very group best positioned to exploit the opportunities that the modern economy provided to individuals enjoying access to cheap credit. Hence, the legal de-Islamization initiated in the nineteenth century was not a matter of cultural taste or of mindless imitation, as diverse commentators ranging from novelists to scholars have held for generations. In advancing the rule of law, including the principle of equal treatment, it provided material benefits to social groups long privileged openly under Islamic law.

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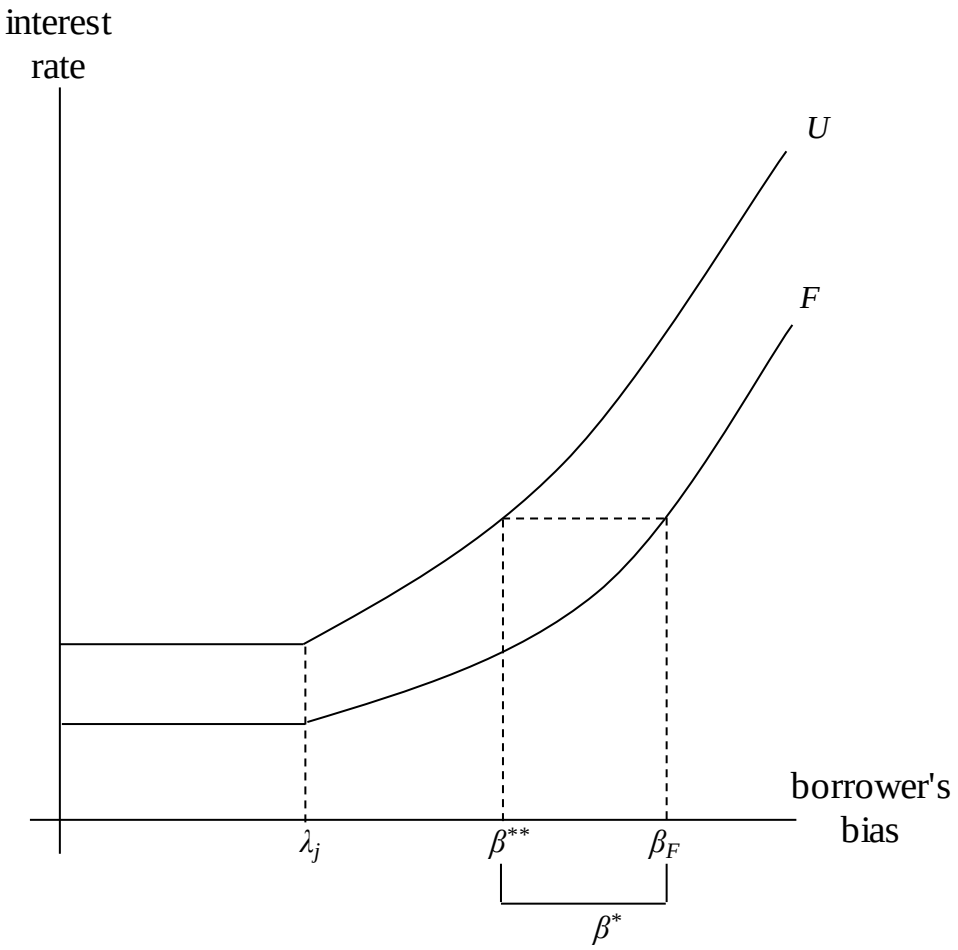
Appendix 1: Proofs of Propositions

Proof of Proposition 1. Setting $\pi^L = 0$ in equation (2b) means that the equilibrium interest rate must satisfy the condition $[1 - G((1 + r_i)p_i - w_i)]\big(1 - max\{\beta_i - \lambda_j, 0\}\big)(1 + r_i) = 1$. The left side of this equation is decreasing weakly in β_i and increasing weakly in λ_j and w_i. It can be shown that the left side is increasing also in the equilibrium level of r_i. An increase in r_i has two counter-veiling effects. On the one hand, it raises the return to the lender if the borrower repays the loan. On the other hand, it increases the probability of default. However, if the market is in equilibrium, the lender cannot gain from decreasing the interest rate; otherwise, all lenders would do so, and the market would be out of equilibrium. In equilibrium, then, the lender's expected profit is increasing in r_i. The left side of equation (2b) is therefore increasing in r_i. Hence, an increase in r_i requires an increase in β_i or decrease in λ_j or w_i to maintain the equilibrium condition $\pi^L = 0$, ceteris paribus. The same logic holds when setting $\pi^L = 0$ in equation (2c). ■

Proof of Proposition 2. Imagine a continuum of individuals with different levels of wealth, w_i. Prior to game play, each individual is assigned to one of two social classes as a function of wealth. The two social classes, *F* (favored) and *U* (unfavored), are associated with partiality parameters β_F and β_U for borrowers and λ_F and λ_U for lenders. By assumption, $\beta_F > \beta_U$, and judicial partiality is solely a function of class; it does not matter whether one is a borrower or lender. It follows that $\beta_F = \lambda_F$ and $\beta_U = \lambda_U$. An individual is assigned class *F* with probability $\alpha(w_i)$, where $\alpha' > 0$, and to class *U* with probability $1 - \alpha(w_i)$. β_U and λ_U capture relative characteristics, so they are normalized to 0.

Focus on the situation where two different borrowers borrow from the same lender, whose partiality parameter is λ_j. If λ_j is sufficiently small that the partiality effect can be strong for a sufficiently large β_F, then for a given difference in wealth, $w_F - w_U$, and a given principal, p_i, there must exist some β^*, such that *F* pays a higher interest rate (on average) if $\beta_F - \beta_U > \beta^*$. That is, for a given degree of partiality β_F for *F*, any degree of partiality for U such that $\beta_U < \beta^{**}$ will result in a lower interest rate for *U* than for *F*. Figure 3 displays this intuition graphically. ■

Figure 3. Equilibrium interest rate paid by borrowers as a function of court partiality



Appendix 2: Robustness Checks

Table A.1: The effect of borrower's status on credit cost, all contracts

	Dependent variable: Real interest rate					
	All registered contracts				Male borrowers only	
	(1)	(2)	(3)	(4)	(5)	(6)
Male borrower	0.038***			0.040***		
	[0.012]			[0.013]		
Muslim borrower		0.026**		0.022*	0.030**	
		[0.012]		[0.013]	[0.014]	
Elite borrower			0.025*	0.012		0.025
			[0.013]	[0.014]		[0.015]
Log real principal	0.002	0.002	0.002	0.002	0.002	0.001
	[0.005]	[0.004]	[0.004]	[0.005]	[0.005]	[0.006]
Mortgage	-0.054	-0.056*	-0.051	-0.053	-0.071	-0.064
	[0.034]	[0.032]	[0.033]	[0.036]	[0.044]	[0.046]
Pawn	0.007	0.001	0.004	0.010	0.004	0.011
	[0.034]	[0.031]	[0.036]	[0.036]	[0.039]	[0.045]
Surety	0.007	0.012	0.004	0.009	0.007	-0.002
	[0.011]	[0.012]	[0.010]	[0.011]	[0.015]	[0.013]
Lender is a waqf	-0.014	-0.017*	-0.012	-0.011	-0.012	-0.008
	[0.010]	[0.010]	[0.011]	[0.010]	[0.010]	[0.011]
Loan registered	-0.000	0.004	0.005	-0.005	0.004	0.003
	[0.018]	[0.014]	[0.013]	[0.019]	[0.018]	[0.018]
Constant	0.121**	0.134***	0.141***	0.102*	0.143**	0.152***
	[0.045]	[0.042]	[0.039]	[0.050]	[0.051]	[0.050]
Register fixed effects	YES	YES	YES	YES	YES	YES
Observations	562	590	578	560	435	433
R-squared	0.536	0.531	0.554	0.569	0.518	0.548

Standard errors clustered by the register in brackets.
*** p<0.01, ** p<0.05, * p<0.1

Table A.2: Effect of borrower's and lender's status on credit cost, all contracts

	Dependent variable: Real interest rate					
	All registered contracts				Male borrowers only	
	(1)	(2)	(3)	(4)	(5)	(6)
Male borrower, female lender	-0.014			-0.012		
	[0.039]			[0.036]		
Female borrower, male lender	-0.038**			-0.040**		
	[0.014]			[0.014]		
Female borrower, female lender	-0.038			-0.044		
	[0.028]			[0.030]		
Muslim borrower, non-Muslim lender		-0.045		-0.055	-0.014	
		[0.067]		[0.035]	[0.061]	
Non-Muslim borrower, Muslim lender		-0.027**		-0.014	-0.029*	
		[0.011]		[0.012]	[0.015]	
Non-Muslim borrower, Non-Muslim lender		-0.023		-0.049*	-0.034	
		[0.031]		[0.027]	[0.036]	
Titled borrower non-titled lender			0.000	0.014		0.001
			[0.022]	[0.022]		[0.028]
Non-titled borrower titled lender			-0.029*	-0.014		-0.026
			[0.015]	[0.016]		[0.016]
Non-titled borrower non-titled lender			-0.018	-0.002		-0.019
			[0.017]	[0.022]		[0.021]
Log real principal	0.002	0.002	0.002	0.002	0.002	0.001
	[0.004]	[0.004]	[0.004]	[0.005]	[0.006]	[0.005]
Mortgage	-0.054	-0.057*	-0.050	-0.052	-0.071	-0.063
	[0.035]	[0.032]	[0.034]	[0.039]	[0.044]	[0.047]
Pawn	0.008	0.000	0.003	0.008	0.004	0.010
	[0.036]	[0.031]	[0.036]	[0.039]	[0.039]	[0.045]
Surety	0.007	0.012	0.004	0.007	0.006	-0.001
	[0.011]	[0.013]	[0.010]	[0.011]	[0.016]	[0.013]
Lender is a waqf	-0.016	-0.017	-0.014	-0.018	-0.013	-0.009
	[0.013]	[0.011]	[0.011]	[0.014]	[0.011]	[0.011]
Loan registered	-0.000	0.003	0.004	-0.007	0.004	0.003
	[0.018]	[0.015]	[0.013]	[0.019]	[0.018]	[0.018]
Constant	0.161***	0.164***	0.164***	0.181***	0.175***	0.174***
	[0.037]	[0.034]	[0.034]	[0.037]	[0.046]	[0.047]
Register Fixed Effects	YES	YES	YES	YES	YES	YES
Observations	562	591	579	560	435	433
R-squared	0.536	0.532	0.556	0.573	0.518	0.549

Standard errors clustered by the register in brackets

*** p<0.01, ** p<0.05, * p<0.1