PERUVIAN ECONOMIC ASSOCIATION

Usury laws and Private Credit in Lima, Peru. Evidence from notarized contracts

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Working Paper No. 65, March 2016

Usury laws and Private Credit in Lima, Peru. Evidence from notarized contracts

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Abstract

This article analyzes the effects of usury laws in the credit market of Lima in 1825-49. By relying on a sample of more than 1,100 notarized records, the article shows that the repeal of colonial anti-usury laws in early 1833 led to the increase in interest rates and to a greater access to credit. Furthermore, lenders made loans with greater maturities after the repeal of usury laws.

Keywords: Mortgage credit, usury laws, interest rates, access to credit, Latin America
JEL Codes: N2, N26, N46, K1

Economic theory states that if usury laws are binding,[2] lenders may opt for allocating much of their funds to large low-risk borrowers with largely valuable collateral. The repeal of usury laws may then broaden the access to credit to smaller borrowers, as lenders can charge higher interest rates. Maturities can also change due to usury laws: in the presence of upper limits on interest rates, lenders may opt for making short-term loans rather than riskier long-term loans.

A common argument against the efficacy of usury laws is that lenders can easily avoid upper limits by just changing loan conditions. Inflating loan sizes can, for example, allow lenders to hide actual interest rates from the law. As Rockoff (2003) argues, however, even if there is a possibility of hiding high interest rates, violating usury laws involves a risk which may lead a number of lenders to restrict credit to large low-risk borrowers.[3]

Some economic-historical studies have paid attention to the impact of usury laws on credit markets. Pressnell (1956) argues that British usury laws had an important effect on country banks during the Industrial Revolution;[4] Eichengreen (1984) finds that usury limits had a significant impact on the regional structure of U.S. farm mortgage rates in 1890;[5] whereas Snowden (1988) argues that in 1880-90 lenders requested larger down-payments in the U.S. states where usury ceilings were binding.[6] However, studies relying on micro-level have mostly neglected the study of usury and its consequences. Only recently, Temin and Voth (2008a, 2008b) examined the impact of usury laws on credit by the Hoare´s Bank in 18th century England.[7] For Latin America, several studies have discussed the role of institutions on the evolution of early credit markets;[8] however, no study has analyzed the

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[2] If market interest rates are above the upper limit and usury laws are not violated.

[3] Rockoff (2003), pp. 2-4.

[4] Pressnell (1956), pp. 285-88, 316-21.

[5] Eichengreen (1984), pp. 1009-13.

[6] Snowden (1988), pp. 280-84.

[7] Alessie, Hochguertel and Weber (2005) analyze the impact of usury legislation on consumer credit in Italy in 1996.

[8] Most studies on Latin America´s early credit markets have actually been limited to the study of banks, paying less attention to the importance of informal credit markets. The studies have payed special attention to the importance of restrictive bank laws, discretionary policies, capital requirements, and restrictions on note

impact of usury laws on the allocation of credit in the region, in spite of the importance of usury laws in colonial times.

By looking at notarial data from the National Archives of Lima, this article analyzes the impact of usury laws on the allocation of credit in the private credit market of Lima in 1825-1849. The evidence strongly shows that usury laws were binding until early 1833. The repeal of colonial anti-usury legislation led to an increase in interest rates of around 17 percentage points. Importantly, after the repeal of such legislation, loan sizes were smaller and, importantly, loans were less oriented to the economic elite of Lima. Furthermore, borrowers had access to longer maturities after the repeal of colonial usury laws.

The structure of the article is as follows. Section 1 discusses the data set. Section 2 describes the evolution of usury laws in Peru from late colonial times to the mid-19th century. Section 3 examines the impact of usury laws on interest rates. Section 4 analyzes the impact of usury laws on loan sizes, loan maturities and the access to credit. Section 5 concludes the article.

1 The data set

This article relies on a sample of 1,169 new notarized loans for the period 1825-49. I constructed the sample from notaries´ records, all of them taken from the National Archives of Peru (*Archivo General del Perú*) in the city of Lima. There are regional notaries outside of Lima. Our research has been exclusively based on evidence from the office in Lima.

The sample corresponds to loans recorded by notaries of Ignacio Ayllón-Salazar, José Simeón Ayllón-Salazar, José Escudero and José de Selaya in 1825-49.[9] Table 1 shows the years for which it was possible to obtain data from each of the notaries. Around 50% of the loans come from Ignacio Ayllón-Salazar, 19% from José de Selaya, 18% from José Ayllón-Salazar and 13% from José Escudero. I collected all loans granted by the four notaries between January and December in the available years. These loans were registered as *obligaciones* and *hipotecas*. I analyzed each contract and only took into account new loans. Some contracts were registered as *obligaciones*, but were not loans; I do not include those contracts in the sample. I also do not include trade loans.

INSERT TABLE 1

Most loans include the names of the lenders and debtors, the amount of the loan, and the maturity. The majority also includes the interest rate and the mortgaged asset. An important number of loans specify the occupations of lenders and borrowers. The original figures for most loans are in pesos. For some loans, the loans are in foreign currency. In this case, I converted the amount of the loans to pesos, considering that the specie content of the peso was equivalent to that of one dollar. I then converted loan sizes to constant pesos of 1830 using the price index reported by Seminario (2015).[10] Interest rates are either reported in annual or monthly terms. Monthly interest rates were annualized using the compound formula.

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issue for explaining the slow development of capital markets in the region (Haber, 1991; Maurer, 2002; Hanley, 2005; Zegarra, 2014)

[9] The four notaries account for a large portion of the loan notarized in Lima. For 1830, for example, I collected 124 *obligaciones* and *hipotecas* from the four notaries. For the same year, all notaries from Lima registered 186 of those contracts.

[10] Seminario (2015), p. 855.

Table 2 reports statistics for annual interest rates, loan sizes and maturity. Interest rates range between 0% and 101%, loan sizes (in constant pesos of 1830) between 48 pesos and more than 70,000 pesos, and maturity between a few days and 32 years. Table 3 reports the distribution of loans according to different categories. Around 30% of the contracts do not specify an interest rate. Information on loan sizes is available for almost all loans. Maturity is available for 93% of the loans. In addition, more than 75% of lenders and more than 80% of borrowers were male. Merchants accounts for around a third of lenders and borrowers.[11] Around 30% of loans were secured with urban estates, and near 40% were general mortgages.[12]

INSERT TABLE 2

INSERT TABLE 3

I also collect information on tax collection to determine whether borrowers were part of the economic elite of Peru. From the property tax records of Lima for 1836 (urban estates) and 1838-39 (rural estates), I identified the individuals and organizations with real estate that generated more than 1000 pesos of "production" per year. This "production" refers to the rent of the estate in case it was rented or what the estate would have produced otherwise (estimated by official appraisal). I look at the "production" generated by real estate rather than at taxes because there were differences in tax rates between urban and rural estate owners: urban estate owners paid 3% of the annual production and rural estate owners paid 4%. Table A.1 in the Appendix lists the names of the large taxpayers that meet the requirement of having generated more than 1,000 pesos of "production" per year.

In Sections 2 and 3 I will conduct a multivariate analysis to determine the impact of usury laws on INTEREST, SIZE, MATURITY and BORROWER_ELITE.[13] Considering that most loans in the 1820s and early 1830s in our sample (when credit was subject to colonial usury laws) were notarized by Ignacio Ayllón-Salazar, and that a large portion of loans recorded in the 1840s (when interest rates were not subject to any limit) were notarized by José de Selaya, it is important to determine whether there were systematic differences across notaries with respect to INTEREST, SIZE, MATURITY and BORROWER_ELITE. If there were systematic differences, then it would be necessary to include notary fixed-effects in the regressions to avoid biases in the results. To determine whether there were differences across notaries, I estimated regressions for INTEREST, SIZE, MATURITY and BORROWER_ELITE as dependent variables, including notary dummies as explanatory variables, and controlling for year fixed-effects. If there are systematic differences across notaries then the coefficients of the notary dummies will be different. Table 4 reports the results. Column 1 shows that Ignacio Ayllón-Salazar registered loans with lower interest rates than José Ayllón-Salazar, José Escudero, and especially José de Selaya. I then test the null hypothesis that all coefficients of the notary dummies are equal. At a 5% I reject the null hypothesis. There are then systematic differences in interest rates across notaries. Column 2 shows that José Escudero registered loans with much larger loans than other notaries. The coefficients of the notary dummies are statistically different. Column 3 shows that there are statistically systematic differences

[11] Information about the occupation of women is usually not available.

[12] These loans were secured with all present and future assets of the borrowers.

[13] See Table A.2 for the list of variables included in the models. Table A.3 reports the main descriptive statistics.

in maturities across notaries: at a 5% I reject the null hypothesis. In contrast, column 4 shows that there are no systematic differences in BORROWER_ELITE across notaries. At 5%, the coefficients of the four notary dummies are not statistically different. These results are important for our estimations of the effect of usury laws on interest rates, the size and maturity of loans and the belonging of the borrower to the elite. Controlling for notary fixed-effects will be necessary in the regressions of INTEREST, SIZE and MATURITY, but not in the regressions of BORROWER_ELITE.
INSERT TABLE 4

2 Historical background

During colonial times, usury laws and moral condemnation imposed upper limits on interest rates. Penalties for violating usury laws involved the risk for the lender of losing his property and rights of sacraments, even excommunication.[14] In his recompilation of Spanish legislation, Hevia (1790) argues that lenders could not charge an interest rate above the *lucro cesante*, i.e. the lost earnings.[15] In 1790 Carlos IV passed a law dictating that merchant lenders could not charge more than 6% per year.[16] Consistently, García-Calderón (1868) also mentions that prior to independence interest rates in Peru could not be more than 6% per year.[17] It seems that the anti-usury legislation remained in place for a few years after independence in 1821: I have not found any piece of legislation or reference to a law involving the repeal of colonial anti-usury legislation in the late 1820s. In fact, from our data set, practically all loans in 1825-32 were associated with interest rates of 0.5% per month or less. Several loans even mention that this rate was the usual rate charged in commerce. When loans were not paid on time, some lenders charged higher interest rates; those rates also never surpassed 6% per year.

An important change in the legislation occurred in early 1833 (Table 5). In particular, in January 7th 1833 President Agustín Gamarra signed a law that repealed colonial anti-usury laws.[18] The 1833 law indicated that anti-usury legislation was based on errors, contradicting the uses and contracts from other nations and even from Peru, and was opposed to "commerce and industry, attacking the property and causing simulations, frauds and crime."[19] From then lenders were free to charge any interest rate.

Our data set shows that soon after the repeal of the colonial anti-usury laws, interest rates increased. Only a few loans charged 0.5% per month; most loans now charged 1% per month and more. Nicolás Rodrigo, a leading merchant in the 1860s, indicated that annual interest rates were around 24% in the 1830s.[20] In March of 1835, di-facto President Felipe Salaverry argued that the repeal of anti-usury laws had had negative consequences.[21] In

[14] Quiros (1993), p. 31.
[15] Hevia (1790), Vol. II, p. 353.
[16] Carlos IV (1805), Ley V, Título VIII, Libro X, p. 35.
[17] García-Calderón (1868), p 9.
[18] The law was previously passed by Congress in December 22 1832.
[19] These words appear in the text of the law that repealed previous colonial legislation. The law can be found in the following link: http://www.congreso.gob.pe/ntley/Imagenes/LeyesXIX/1833002.pdf. The translation is ours.
[20] Junta Municipal de Lima (1870), p. 8.
[21] General Salaverry declared himself Supreme Head of Peru in February 23 1835 after taking the Castle of Callao.

particular, Salaverry argued that since the application of the 1833 law, contrary to the canonic law and repealing of the Spanish ones related to usury, there occurred "dreadful demoralization", inflicting grave damages to those who fell into the hands of the usurers.[22]

Salaverry then passed a decree in March 7th 1835, establishing that the interest rate on money could not be more than 1% per month. According to the decree, judges could not admit any case to oblige a debtor to pay more than 1% per month, and notaries could not grant public instruments that were contrary to the decree. This decree, however, was short-lived. Salaverry was defeated in the battle of Socabaya in February 7th of 1836, dying a few days later.[23]

Other restrictions on interest rates were imposed once again a few months later. From 1837, the Civil Code of the Northern Peruvian state of the Confederacy Peru-Bolivia established an upper limit for interest rates.[24] According to the civil code, there were two types of interests: conventional and legal interests. The conventional interest was freely chosen by the lenders and borrowers, but could not be more than 2% per month (Santa Cruz, 1836, p. 66). The legal interest was determined by law in case where there was no convention; this rate was 6% per year. Although there were restrictions on interest rates, these restrictions were not as severe as prior to 1833 or in 1835. Furthermore, the code was short-lived. In November 16th 1838, Protector Andrés de Santa Cruz signed a decree putting the code in suspense.[25] With the battle of Yungay, the confederacy was defeated, and with that the chances of reinstalling the civil code.

No further legislation in our period of analysis imposed an upper limit on interest rates. Contemporary sources suggest that interest rates were higher in the 1840s and 1850s than in colonial times. In his memoirs, President José Echenique indicated that credit in the 1840s was scarce and interest rates were very high.[26] In particular, Echenique indicated that "without capitalists, the country and with only one or other that speculated with the usury of 2 and up to 3% per month, it was impossible to use that medium to drive the first [rural estates], or repair the latter [urban properties] and general poverty was, accordingly, large."[27] In his *Estadística General de Lima*, published in 1858, Manuel Fuentes mentioned that mortgage rates ranged between 1% and 2% per month.[28]

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[22] This text appears in the law signed on March 7th 1835. The law can be found in http://www.leyes.congreso.gob.pe/Documentos/LeyesXIX/1835023.pdf.

[23] Salaverry was fusilladed in February 18th (Aljovín, 2006, p. 370-71). As indicated by the Constitution of 1834, all actions by the non-constitutional regimes were not valid (Ugarte, 1978, p. 282). Even the Trade Treaty signed between Peru and Chile in 1835 was then considered not valid. Consequently, the decree of March of 1835 was not mandatory once Salaverry fell.

[24] The Confederacy Peru-Bolivia, officially created in October 18th 1836, was composed of the Northern Peruvian State, the Southern Peruvian State and the Republic of Bolivia. Lima belonged to the Northern Peruvian State (Basadre, 1983, Vol. II, p. 52). In June 22nd 1836 Protector Andrés de Santa Cruz passed a decree establishing that the civil and penal codes of Bolivia would rule in the Southern Peruvian State of Peru. Then in November 1st 1836 the same code was approved for the Northern Peruvian State of the confederacy. The code was applicable in all provinces of the territory from January 1st 1837 (Ramos, 2005, pp. 74-75).

[25] Santa Cruz actually put in suspense the application of the Civil Code, the Penal Code and the Code of Judiciary Procedures (Ramos, 2005, p. 102).

[26] Echenique´s memoirs were published as Echenique (1952).

[27] Echenique (1952), Vol. II, p. 195. The original text is the following: "Sin capitalistas el país y con sólo uno que otro que especulaba con la usura de un 2 y hasta el 3% mensual, era imposible acudir a ese medio para impulsar los primeros, ni reparar las segundas y la pobreza genera era, por consiguiente, grande." Macera (1977) also indicated that the annual interest rate was around 24% per year in 1832-39 and in the early 1840s. Meanwhile, Engelsen (1978) indicated that hacendados paid an interest rate between 18% and 24% in the

INSERT TABLE 5

3 Usury laws and interest rates

Let us analyze whether usury laws impacted interest rates. If usury laws stated maximum interest rates at very high levels, controls may have not been binding. In this case, the credit market would have not been impacted by usury laws.

Figure 1 depicts the evolution of average annual interest rates and Table 6 reports the probability distribution of annual interest rates for four sub-samples. Sample A refers to the contracts subject to colonial usury legislation (until early 1833). Sample B includes the contracts in 1835 and early 1836 when credit transactions were subject the 1% upper limit for interest rates. Sample C refers to the contracts subject to the Civil Code of the Northern Peruvian state of the Confederacy. Finally, sample D refers to the period when there was no upper limit on interest rates.[29]

For sample A (USURY1 = 1), around 47% of loans did not specify an interest rate, 15% did not charge any interest rate, and 32% were associated with an interest rate of 6% per year. Only three loans (out of 383 for this sample) specified an annual interest rate of more than 6%. The vast majority of loans did not violate the colonial anti-usury legislation.

The distribution of interest rates was clearly different for the other three samples. For sample B (USURY2 = 1), 43% of loans did not specify an interest rate. Considering that the anti-usury law of 1835 established a maximum interest rate of 1% per month or 12.6% per year, 14% of the contracts explicitly violated the law. However, an important portion of loans (around 40%) charged an interest rate around the maximum limit. For sample C (USURY3 = 1), 27% of loans did not specify an interest rate, but 13% specified an interest rate of 13% per year, and 54% of loans were associated with an annual interest rate of 20% or more. Considering that the Civil Code of 1837 stated a maximum interest rate of 2% per month or 27% per year, 7% of the loans violated the legislation. For sample D (loans subject to no usury legislation), 21% of loans did not specify an interest rate and 47% of loans charged 20% of interest rate per year or more.

These figures clearly show that there was a drastic change in interest rates after 1833. Prior to the repeal of anti-usury legislation in 1833, interest rates rarely surpassed the

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1830s (p. 18). Engelsen (1978), for example, indicated that "credit was one of the major concerns of the hacendado. The hacendado needed credit to maintain and to improve his fundos. He needed money to buy seed, to pay laborers, to pay for acequias´ upkeep, to expand the area under cultivation, and to support his family entourage. The hacendado had many difficulties because credit availability was scarce during the period under study … The merchants were the only good source of agricultural credit. Although trade was not prosperous, the merchant group extended limited credit to the agricultural sector. Loans were commonly part of the consignment contract between merchant and hacendado by which the merchant had the rights to the hacendado´s crop or the right to market it, in exchange for the credit extended. The hacendado paid a yearly interest rate, usually between 18% and 24%" (Engelsen, 1978, pp. 15-16, 18).

[28] Fuentes (1858), p. 328. According to Fuentes, total mortgage loans amounted 1,527,080 pesos. Fuentes also indicated that interest rates on other types of loans were much larger than mortgage rates. Discount rates on commercial notes, for example, ranged between 12% and 18% per year, discount rates on wages (for government employees) ranged between 10% and 38% per month, interest rates over jewelry, furniture and clothing ranged from 3% to 12% per month, and interest rates on daily loans ranged between 12% and 18% per month.

[29] USURY1 = 1 for sample A, USURY2 = 1 for sample B, USURY3 = 1 for sample C, and USURY1 = USURY2 = USURY3 = 0 for Sample D.

limit of 6% per year. Once the legislation was removed, interest rates increased substantially, even exceeding 20% per year from the late 1830s.

INSERT FIGURE 1

INSERT TABLE 6

To test whether usury laws had an impact on interest rates, I conduct a multivariate analysis for INTEREST as the dependent variable. Table 7 reports OLS estimates. The results in column 1 show that the coefficient of USURY1 is negative and significant at 1%. In particular, annual interest rates were around 16.2 percentage points lower under the colonial anti-usury legislation than after the repeal of such legislation in early 1833. Meanwhile, the coefficient of USURY2 is around -4.1, so the impact of the usury law of 1835 on interest rates was far smaller than the colonial anti-usury laws. The model also reports that USURY3 has a positive impact on interest rates; however, the coefficient is not significant at 5%.[30]

The coefficients of the usury dummies may certainly reflect differences in the loans collected by the notaries. If, for example, lenders that charged lower interest rates recurred to Ignacio Ayllón-Salazar to notarize the contracts, then the estimate of USURY1 may be biased upward (in absolute value) when not including notary fixed effects.[31] In fact, Table 4 shows that loans recorded by Ignacio Ayllón-Salazar were associated with lower interest rates than loans recorded by other notaries, after controlling for year fixed-effects. Column 2 in Table 7 reports the results controlling for notary fixed-effects. The results for the usury dummies, however, do not change much after including notary fixed-effects. Annual interest rates increased by almost 17 percentage points after the repeal of colonial anti-usury laws in early 1833. Importantly, the usury law of 1835 had a much lower impact on interest rates than the colonial legislation.

Column 3 reports the results when controlling for the size and maturity of the loan. Importantly, the coefficients of the usury dummies are similar to those in models 1 and 2. On the other hand, the effect of the size of the loan is negative, which suggests that there were scale economies on lending. Meanwhile, the effect of maturity on interest rates is negative. The sign of this effect does not necessarily imply a negative-sloping yield curve; the negative sign may actually capture the fact that borrowers that obtained loans with longer maturity were probably less risky. In addition, the coefficient is very small: an increase in maturity from, say, one year to two years reduces the annual interest rate by 0.8 percentage points.

Column 4 reports the results when controlling for lender- and borrower-characteristics, and the type of collateral.[32] Importantly, after controlling for these variables, USURY1 still has a negative effect on interest rates. Interest rates were much lower in 1825-32 not because loans were of different amount or because other lenders´ and borrowers´ characteristics or the type of collateral. In addition, USURY2 has a smaller impact on interest rates than USURY1.

Column 5 reports the results when including interactions between SIZE and the usury dummies. The purpose of including these interactions is that usury laws may have

[30] Moreover, columns 7-10 show that the coefficient of USURY3 is not significant for some sub-samples.

[31] Recall that most loans from 1825-32 correspond to loans notarized by Ignacio Ayllón-Salazar.

[32] I included dummies to control for the occupations of lenders and borrowers. I control for LENDER_REL and BORROWER_REL because members of the Catholic Church may have loaned money (or may have borrowed) at lower interest rates. I include LENDER_COM and BORROWER_COM because merchants were an important type of lender/borrower.

had a larger impact on small loans than on large loans. Considering that there were probably scale economies on lending, large loans may have been less affected by usury laws than small loans. The coefficient of SIZE * USURY1 is positive and significant at 1%. In addition, the coefficient of USURY1 is still negative. For a loan of, say, 1,000 pesos of 1830, USURY1 had a negative impact of 18 percentage points. But for a loan of 20,000 pesos, USURY1 only had a negative impact of 5 percentage points. Therefore, for large loans colonial usury laws had a much smaller effect than for small loans. Meanwhile, the coefficients of SIZE * USURY2 and SIZE * USURY3 are not significant even at 10%.

It might be argued that interest rates depended on other factors. For example, wars, inflation and the growth of the economy may have also influenced on interest rates.[33] In addition, public finances and foreign interest rates may also influence domestic private capital markets. Column 6 reports the estimates when controlling for WAR, INF, GDPG, FISCALREV and INTUK. Wars have a positive impact on nominal interest rates. Importantly, the effect of USURY1 is still negative and highly significant, whereas the interaction between USURY1 and SIZE still has a positive and highly significant coefficient.

Columns 7-10 report the results for four sub-samples: loans of up to 1,000 pesos, loans of 1,001 to 2,000 pesos, loans of 2,001 to 4,000 pesos, and loans of more than 4,000 pesos.[34] The results clearly indicate that USURY1 is always significant at 1%. In contrast, the coefficients of USURY2 and USURY3 are only once significant at 5%. Comparing the coefficients of USURY1 and USURY2, the results indicate that colonial anti-usury laws had a much more important effect than the law of 1835. On the other hand, consistently with the results from columns 5 and 6, the effect of USURY1 is larger for small loans than for larger loans. For loans of up to 1,000 pesos, the colonial legislation reduced annual interest rates by 22 percentage points; whereas for loans of more than 4,000 pesos the colonial legislation reduced annual interest rates by less than 9 percentage points.

Thus, the evidence indicates that colonial anti-usury laws had a significant impact on interest rates. Once the usury laws were repealed in early 1833, lenders started to charge higher (sometimes much higher) interest rates. Colonial usury laws were especially restrictive for small loans. On the other hand, consistent with the fact that the law of 1835 was not as severe as the colonial legislation, the law of 1835 had a smaller effect on interest rates.

INSERT TABLE 7

4 Usury laws and access to credit

An important finding from the previous section is that usury laws had a greater impact on small loans. In these circumstances, lenders may have preferred to loan money to

[33] Information on wars comes from Aljovín (2006) and Mc Evoy (2006). The list of wars is reported in Table A.4. The regressions include the indicator WAR, a positive indicator between 0 and 1, where a positive value implies that there was a battle in Peruvian territory within a year-period. A higher value implies that the country was closer to a battle. WAR adopts positive values prior and after the war (within a year); prior to the battle because the country may have been under political turmoil in the months previous to the battle; and afterwards, because the sensation of risk may have remained for some months after the battle. Information on inflation, GDP and fiscal revenues comes from Seminario (2015), pp. 825, 855, 1112-13. Information on British interest rates comes from Homer and Sylla (2005), p. 205.

[34] These figures are in constant pesos of 1830.

individuals owing large collateral, able to guarantee large loans. The repeal of anti-usury may then have broadened access to credit to less wealthy borrowers.

Let us analyze loan sizes. If usury laws were binding (as at least colonial laws were), lenders may have opted for making large loans rather than small loans. Figure 2 depicts the evolution of the size of loans and the ratio size of the loan / GDP per-capita. In constant prices of 1830, average loan sizes usually remained above 3,000 pesos in 1825-32. Only in 1827 the average loan size was less than 3,000 pesos. In contrast, in 1834-36, average loan sizes were always below 3,000 pesos. In the mid-1840s, however, average loan sizes increased to more than 4,000 pesos, higher than in the pre-1833 period. Controlling for GDP per-capita, the negative trend of loan sizes in 1833-40 is clearer. In average, the ratio loan sizes / GDP remained above 80 in 1825-32. From 1833, however, the ratio declined, reaching 37 in 1842.

INSERT FIGURE 2

Table 8 reports the results of regressions for the size of the loan as dependent variable. Models 1-5 report the results for SIZE (the size of the loan in thousands of constant pesos of 1830) as dependent variable. Column 1 only includes the usury dummies and the GDP per-capita as regressors. A simple model in column 1 shows that loans were 1,090 pesos of 1830 larger under colonial usury laws than otherwise. In addition, the results indicate that USURY2 and USURY3 do not have a significant effect on SIZE. Column 2 controls for notary fixed-effects.[35] The coefficient of USURY1 is 1.28, larger than in column 1. When controlling for lenders´ and borrowers´ characteristics, and the type of collateral (column 3), the results for the control variables indicate that merchants loaned and borrowed larger amounts than non-merchants, and women borrowed smaller amounts than men. Importantly, the coefficient of USURY1 is similar to the values in models 1 and 2. When adding WAR, FISCALREV and INTUK to the regression, the coefficient of USURY1 declines to 0.71 and is not significant (column 4). By excluding USURY2 and USURY3, however, the coefficient of USURY1 becomes significant at 10% (column 5).[36]

Columns 6-8 report the OLS estimates for SIZE_GDP as dependent variable. The coefficients of USURY1 are positive and significant at 5% in the three models. The size of the coefficient of USURY1 increases when excluding USURY2 and USURY3. According to the results in the three models, the repeal of colonial anti-usury legislation reduced the ratio loan sizes by more than 24 times the GDP per-capita.

Columns 9-12 report the probit marginal effects for DSIZE_5000 and DSIZE_10000 as dependent variables. These regressions measure the impact of colonial anti-usury legislation on the probability that the loan was greater than 5,000 pesos (columns 9 and 10) and 10,000 pesos (columns 11 and 12). The results are clearer for DSIZE_10000. The repeal of colonial usury laws reduced the probability of a loan to be greater than

[35] It might be important to include notary fixed effects. Column 2 in Table 4 shows that the coefficients of the notary dummies do not have the same coefficients in the regression for SIZE as dependent variable, after controlling for year fixed effects. Not controlling for notary fixed effects may bias the coefficient of USURY1.

[36] In addition, I included BORROWER_ELITE and BORROWER_ELITE * USURY1 in the regressions to test a similar hypothesis as Temin and Voth (2008b) did for Hoare´s Bank. The coefficient of BORROWER_ELITE is positive and significant, but the coefficient of BORROWER_ELITE * USURY1 is negative and not significant. In addition, the coefficient of USURY1 is still positive and significant at 5%.

10,000 pesos by 0.06 (when controlling for WAR, FISCALREV and INTUK). The impact of USURY1 is large considering that the mean of DSIZE_10000 is 0.06.

Considering the coefficients of USURY1 in columns 5 and 7, the results show that the repeal of colonial anti-usury legislation led to a decline in loan sizes by a range between 880 pesos and 1,058 pesos.[37] These values represent around 27% and 33% of the average value of SIZE, respectively. This result is consistent with the hypothesis that under usury laws lenders opted for focusing their lending on large borrowers.

One must treat these results carefully, though. An argument against the efficacy of usury laws is that lenders could have hidden actual interest rates by, for example, inflating loan sizes. It might then be argued that the impact of USURY1 on loan sizes was positive (loans appeared larger under usury laws) simply because lenders "inflated" the size of the loans to hide the actual interest rate. Consider, for example, a lender that loaned 3,000 pesos for one year and intended to charge 20% per year (around the average annual interest rate under no usury laws as shown in Figure 1); so in one year the borrower would have paid 3,600 pesos. Under an upper limit of 6% per year, the lender could have, with the approval of the borrower, written the contract as having loaned 3,396 pesos to the borrower so that after one year and at an interest rate of 6% the borrower would have also paid 3,600 pesos. Notice that the difference in loan sizes between the two amounts is 13.2%.[38] Thus much of the estimated impact of USURY1 —which, as indicated in the previous paragraph, ranged between 27% and 33% the average mean of SIZE— may largely reflect the attempt of lenders to hide the interest rate by "inflating" the size of the loans.

INSERT TABLE 8

Unfortunately, I do not have information as to determine whether lenders actually inflated loan sizes. Then, although not inconsistent with the hypothesis that under usury laws lenders focused their lending on large borrowers, the results from Table 8 cannot be taken as conclusive evidence in favor of such hypothesis.

Nevertheless, further information about the identities of borrowers gives us interesting insights about the impact of usury laws on the access to credit. In particular, tax records allow us to determine whether credit was mostly oriented to the richest people under usury legislation. Figure 3 depicts the evolution of the proportion of borrowers that belonged to the economic elite of Lima. To be considered among the economic elite, I looked at property tax records for 1836-39, and selected the individuals and institutions that owned real estate which produced more than 1,000 pesos per year.[39] In 1825-33 the proportion of loans to members of the elite was mostly above 20%, reaching 42% in 1833. From then, however, the proportion declined to less than 5% in 1840. The trend of the proportion of borrowers belonging to the elite is consistent with the hypothesis that the repeal of usury laws in 1833 broadened the access to credit.

INSERT FIGURE 3

Table 9 reports the probit results for BORROWER_ELITE as dependent variable. BORROWER_ELITE is a dummy variable that adopts a value of 1 if at least one of the borrowers was part of the economic elite of Lima at the time. The table does not include notary fixed-effects because —as explained in Section 1— there are no systematic

[37] The average value of GDP per-capita was 40 pesos of 1830.

[38] 3,396 / 3,000 = 1.132.

[39] See the discussion of the data in Section 1.

differences in the dependent variable across notaries. Column 4 in Table 4, in particular, shows that —controlling for year fixed-effects— the coefficients of usury dummies are statistically the same. The F-statistic is 5.3, and the hypothesis that all coefficients are the same is accepted at 5% level.[40]

Column 1 in Table 9 reports the marginal effects of a basic model. USURY1 has a positive effect on the probability that the debtors belonged to the economic elite of Lima. In particular, the proportion of borrowers that ranked among the richest declined by 12 percentage points due to the repeal of the anti-usury laws in early 1833. The impact of colonial usury laws is sizable, considering that around 23% of the loans in the sample went to the economic elite. The dummies USURY2 and USURY3, however, do not have a significant effect on the dependent variable at 5%.

Column 2 controls for lenders´ and borrowers´ characteristics and the type of collateral. Importantly, even after controlling for these relevant variables, the coefficient of USURY1 is still positive and significant at 1%. The coefficient of USURY1 is actually very similar to its value in model 1. In addition, the coefficients of USURY2 and USURY3 are not significant at even the 10% level. Column 3 includes control variables. WAR has a positive impact on the dependent variable. Lenders imposed more constraints to non-members of the elite at times of war. Importantly, after controlling for WAR, the coefficient of USURY1 remains positive and significant at 5%. The coefficient of USURY1 actually increases from 0.14 to 0.21.

Our information on the richest real estate owners is limited to 1836-38. As there might be some changes in the composition of the elite over time, a higher proportion of borrowers from the late 1830s and early 1840s (close to 1836-38) may be found in the tax records. Column 4 includes BIAS_PROPTAX to control for the possible biases due to the availability of tax information. BIAS_PROPTAX is a positive indicator that adopts values of 1 or less, taking takes higher values as it gets closer to 1836-38. The results, however, indicate that this variable does not have a significant impact on the dependent variable. Importantly, the impact of USURY1 on BORROWER_ELITE is still positive and significant.

Therefore, the results show that the wealthy had a relatively greater advantage for accessing to credit prior to 1832 than afterwards. On the contrary, as interest rates were allowed to rise above 6% per year from early 1833, and especially after 1839, individuals without large estates had an increasing participation in the credit market of Lima.

INSERT TABLE 9

On the other hand, our sample also allows us to test whether usury laws had an impact on the maturity of loans. In theory, usury laws may have incentivized lenders to allocate their funds to short-term loans. Long-term loans may have been too risky to take at a time when lenders could not charge high interest rates. Thus the repeal of usury laws may have led to a greater access to long-term (or at least medium-term) credit.

Table 10 reports the results for MATURITY as dependent variable. The results for the regressions when controlling for notary fixed-effects confirm that USURY1 had a

[40] Excluding notary fixed effects has an important impact on our results in Table 9. When including the four notary fixed-effects, the coefficient of USURY1 becomes negative and is not significant at 10%. However, when only including ESCUDERO (which has a different coefficient than the other notary dummies in Table 4), the coefficient of USURY1 is still highly significant.

significant negative impact on the maturity of loans (columns 2-5). In column 1, when notary fixed-effects are not included, the coefficient of USURY1 is not significant. However, as discussed in Section 1, Table 4 shows that there are systematic differences in maturity across notaries; so not including notary fixed-effects may bias the estimates.

In column 2, the coefficient of USURY1 is -0.5, which implies that the repeal of colonial usury laws led to the increase in maturity by half a year. The increase in maturity was not low, considering that the average maturity of loans in our sample was only 16 months. Columns 3-5 include control variables. In the three models, the coefficient of USURY1 is significant at 5% and range between -0.39 and -0.53. Columns 6 and 7 report the results for two sub-samples. Column 6 reports the results for borrowers who were members of the elite of Lima (BORROWER-ELITE = 1), and column 7 reports the results for non-elite borrowers (BORROWER-ELITE = 0). The results clearly indicate that USURY1 had a significant negative effect in model 7 at a 5% level. The coefficient of USURY1 in model 6 is positive but is not significant.[41] Therefore, the repeal of colonial anti-usury laws led to a greater access to medium-term credit. Not only non-members of the elite had greater access to credit (Table 8). In addition, borrowers (especially non-members of the elite) had access to credit with longer maturities.

The econometric results show that usury laws restricted the access to credit largely to the economic elite. Under usury laws, loans were larger and, especially, largely oriented to rich estate owners. Furthermore, lenders opted for lending for short-terms. The repeal of usury laws —and especially the repeal of the colonial anti-usury legislation in 1833— opened the credit market to smaller borrowers that did not belong to the elite of Lima, and granted loans with longer maturities.

INSERT TABLE 10

5 Conclusions

19th century Peru constitutes an interesting case for the study of the impact of usury laws on the credit market. Colonial anti-usury laws remained in place for a few years after independence in 1821. Only in early 1833 the usury legislation was repealed. Subsequent governments, however, attempted to reinstalled limits to interest rates.

The evidence shows that colonial anti-usury laws had a significant impact on interest rates. Most loans did not surpass the limit of 6% per year in the pre-1833 period. From early 1833, however, interest rates increased. Our estimations show that the colonial legislation had a significant impact even after controlling for lenders´ and borrowers´ characteristics, the type of collateral and political and macroeconomic variables. Importantly, usury laws had a greater impact on the interest rates charged on small loans than on large loans. The results also show that loan sizes declined after the repeal of colonial usury laws. Importantly, the access to credit broadened after 1833. The percentage of loans that went to members of the elite declined from more than 35% in the early 1830s to less than 15% in the 1840s. In addition, the repeal of the colonial anti-usury legislation led to loans with greater maturity. In average, maturity increased by half a year due to the repeal of the colonial legislation. As lenders could charge high interest rates, they could afford to make long term loans, probably riskier than short-term loans.

[41] A possible explanation for this result is that the size of the simple in model 6 is relatively small, producing a high standard error.

References

Alessie, Rob, Stefan Hochguertel, and Gudlielmo Weber (2005), "Consumer Credit: Evidence from Italian Micro Data," *Journal of the European Economic Association*, Vol. 3, No. 1, March, pp. 144-178.

Aljovín, Cristóbal (2006), "Período 1826-1850", in Del Busto, José Antonio (ed.), *Historia Cronológica del Perú*, Lima: Petróleos del Perú, pp. 355-388.

Basadre, Jorge (1983), *Historia de la República del Perú*, Lima: Editorial Universitaria.

Carlos IV (1805), *Novísima Recopilación de las Leyes de España*, Madrid.

Echenique, José (1952), *Memorias para la Historia del Perú*, Biblioteca de la República, Lima: Editorial Huascarán.

Eichengreen, Barry (1984), "Mortgage Rates in the Populist Era," *American Economic Review*, Vol. 74, December, pp. 995-1015.

Engelsen, Juan (1978), "Social Aspects of Agricultural Expansion in Coastal Peru", PhD Dissertation in History, Los Angeles: UCLA.

Fuentes, Manuel (1858), *Estadística General de Lima*, Lima: Tipografía Nacional de M. N. Corpancho.

García-Calderón, Francisco (1868), *Estudios sobre el Banco de Crédito Hipotecario y las Leyes de Hipotecas*, Lima: Imprenta dirigida por José M. Noriega.

Haber, Stephen (1991), "Industrial Concentration and the Capital Markets: A Comparative Study of Brazil, Mexico and the United States, 1830-1930", *Journal of Economic History*, Vol. 51, No. 3, September.

Hanley, Anne (2005), *Native Capital. Financial Institutions and Economic Development in Sao Paulo, Brazil, 1850-1920*, Stanford: Stanford University Press.

Hevia, Juan de (1790), *Curia Philipca*, Madrid: Imprenta de Ulloa.

Junta Municipal de Lima (1870), *Datos e Informes sobre las causas que han producido el alza de precios de los artículos de primera necesidad que se consumen en la capital*, Lima: Imprenta del Estado.

Macera, Pablo (1977), *Trabajos de Historia*, Lima: Instituto Nacional de Cultura.

Maurer, Noel (2002), *The Power and The Money. The Mexican Financial System, 1876-1932*, Palo Alto: Stanford University.

Mc Evoy, Carmen (2006), "Período 1851-1875", in Del Busto, José Antonio (ed.), *Historia Cronológica del Perú*, Lima: Petróleos del Perú, pp. 389-419.

Pressnell, Leslie (1956), *Country Banking in the Industrial Revolution*, Oxford, England: Clarendon Press.

Quiros, Alfonso (1993), *Deudas Olvidadas. Instrumentos de Crédito en la Economía Colonial Peruana 1750-1820*, Lima: PUCP.

Ramos, Carlos (2005), *Historia del Derecho Civil Peruano. Siglos XIX y XX*, Vol. II, Lima: PUCP.

Rockoff, Hugh (2003), "Prodigals and Projectors: An Economic History of the Usury Laws in the United States from Colonial Times to 1900," *Working Paper 9742*, Cambridge, MA: NBER.

Santa Cruz, Andrés (1836), *Código Civil del Estado Nor-Peruano*, Lima: Imprenta de José Masías.

Seminario, Bruno (2015), *El Desarrollo de la Economía Peruana en la Era Moderna. Precios, población, demanda y producción desde 1700*, Lima: Universidad del Pacífico.

Snowden, Kenneth (1988), "Mortgage Lending and American Urbanization, 1880-1890," *The Journal of Economic History*, Vol. 48, No. 2, June, pp. 273-285.

Temin, Peter and Hans-Joachim Voth (2008a), "Private Borrowing during the Financial Revolution: Hoare´s Bank and Its Customers, 1702-24," *The Economic History Review*, Vol. 61, No. 3, August, pp. 541-564.

Temin, Peter and Hans-Joachim Voth (2008b), "Interest Rate Restrictions in a Natural Experiment: Loan Allocation and the Change in the Usury Laws in 1714," *The Economic Journal*, Vol. 118, No. 528, April, pp. 743-758.

Ugarte, Juan (1978), *Historia de las Constituciones del Perú*, Lima: Editorial Andina S.A.

Zegarra, Luis Felipe (2014), "Bank Laws, Economic Growth and Early Banking in Latin America: 1840-1920", in *Explorations in Economic History*, Vol. 53, Issue 3, pp. 101-119.

Table 1

Number of loans, according to the notary

Notary	1825-29	1830-34	1835-39	1840-44	1845-49	Total
Ignació Ayllón-Salazar	154	355	75	0	0	584
José Ayllón-Salazar	3	26	60	59	58	206
José Escudero	8	18	49	24	55	154
José de Selaya	0	0	56	91	78	225
Total	165	399	240	174	191	1,169

Notes: The table reports the number of contracts registered by notary for different periods.

Table 2

Descriptive statistics

		Standard			Confidence interval (90%)		Number of
	Mean	deviation	Maximum	Minimum	Inferior limit	Superior limit	observations
Interest rates (%)	16.50	12.32	101.22	0.00	0.00	42.58	810
Loan sizes (constant pesos of 1830)	3,234	5,310	73,615	48	207	11,591	1,160
Maturity (years)	1.37	1.96	32.00	0.01	0.25	4.50	1,086

Notes: The table reports descriptive statistics of annual interest rates, loan sizes and loan maturities.

Table 3

Distribution of loans according to different categories

	N	%		N	%
Total	1,169	100.0			
Interest rates			Occupation of lender		
0%	90	7.7	Merchants	437	37.4
More than 0% and up to 10%	192	16.4	*Hacendados* and agriculturists	5	0.4
More than 10% and up to 20%	271	23.2	Military personnel	22	1.9
More than 20%	257	22.0	Public bureocracy	6	0.5
N.A.	359	30.7	Members of the Catholic Church	48	4.1
Loan size			Others	148	12.7
Up to 1,000 pesos	466	39.9	N.A.	503	43.0
More than 1,000 pesos and up to 2,000 pesos	262	22.4	Occupation of borrower		
More than 2,000 pesos and up to 5,000 pesos	265	22.7	Merchants	440	37.6
More than 5,000 pesos and up to 10,000 pesos	104	8.9	*Hacendados* and agriculturists	91	7.8
More than 10,000 pesos	63	5.4	Military personnel	37	3.2
N.A.	9	0.8	Public bureocracy	22	1.9
Maturity			Members of the Catholic Church	44	3.8
Up to 1 year	802	68.6	Others	135	11.5
More than 1 year and up to 2 years	151	12.9	N.A.	400	34.2
More than 2 years	133	11.4	Collateral		
N.A.	83	7.1	Urban estates	352	30.1
Gender of lender			Rural estates	69	5.9
Men	895	76.6	Chattel mortgages	178	15.2
Women	274	23.4	Wages	6	0.5
Gender of borrower			General 1/	512	43.8
Men	970	83.0	Others	52	4.4
Women	199	17.0			

Notes: The table reports the distribution of loans according to different categories. For loans with more than one lender/borrower, I selected the gender and occupation of the first lender/borrower that appeared in the contract. For contracts secured with more than one asset, I selected the first asset mentioned in the contract.

N = Number of observations.

N.A. = Information is not available.

1/ Includes loans where the collateral was not identified.

Table 4

OLS and Probit estimates

	Dependent variable			
	INTEREST	SIZE	MATURITY	BORROWER_ELITE
	OLS	OLS	OLS	Probit
	1	2	3	4
AYLLON1	5.00 ***	3.57 ***	1.40 ***	-0.71 **
	0.55	1.03	0.33	0.30
AYLLON2	10.01 ***	2.93 **	0.49	-0.76 **
	1.91	1.21	0.39	0.34
ESCUDERO	7.84 ***	6.13 ***	0.15	-1.09 ***
	1.81	1.22	0.40	0.35
SELAYA	13.74 ***	2.20 *	0.13	-0.73 **
	2.11	1.19	0.41	0.36
Hypothesis: All coefficients for the notary dummies are the same				
F-stat / Chi-squared stat	11.84	17.24	9.75	5.33
p-value	0.00	0.00	0.00	0.15
No. Observations	810	1160	1086	1169

Notes: The table reports OLS and Probit estimates. The dependent variables are INTEREST, SIZE, MATURITY and BORROWER_ELITE. The regressions also include year fixed-effects but not a constant. For each variable, the first figure is the coefficient of the variable, and the second figure is the robust standard error. The table also reports the F-statistics (models 1-3) and Chi-squared-statistic (model 4) for the hypothesis that the four coefficients of the notary dummies are the same.
Significance levels: *** 1%, ** 5%, * 10%.

Table 5

Important changes in usury legislation

Date	Legislation
January 7, 1833	President Agustíon Gamarra signs a law repealing colonial anti-usury legislation.
March 7, 1835	Felipe Salaverry signs a decree establishing a maximum interest rate of 1% per month.
February 7, 1836	Felipe Salaverry is defeated in the battle of Socabaya. His decrees and laws are not valid from then.
January 1, 1837	The Civil Code of the Confederacy Peru-Bolivia starts to regulate the Northern State, establishing a maximum interest rate of 2% per month.
November 16, 1838	Andrés de Santa Cruz puts the Civil Code in suspense.

Sources: Congress of Peru (www.congreso.gob.pe), Santa Cruz (1836), Aljovín (2006), Ugarte (1978), Ramos (2005). See the text for further discussion.

Table 6

Distribution of loans according to annual interest rates (%)

	USURY1 = 1	USURY2 = 1	USURY3 = 1	Not subject to usury laws
No specific interest rate	46.7	42.9	27.1	21.3
0%	15.1	0.0	1.2	4.7
1% to 5%	5.2	0.0	2.4	0.6
6%	32.1	2.9	2.4	4.2
7% to 12%	0.5	0.0	0.0	2.0
13%	0.3	40.0	12.9	16.7
14% to 19%	0.0	0.0	0.0	3.5
20%	0.0	2.9	11.8	14.6
21% to 26%	0.0	2.9	0.0	2.0
27%	0.0	2.9	35.3	21.5
More than 27%	0.0	5.7	7.1	9.2
Number of observations	383	35	85	666

Notes: The table reports the distribution of loan contracts according to the annual interest rate. Interest rates were rounded to integers.

Table 7

Results for INTEREST as dependent variable

	1	2	3	4	5	6	7	8	9	10
USURY1	-16.22 ***	-16.89 ***	-17.00 ***	-17.00 ***	-19.18 ***	-16.17 ***	-22.54 ***	-15.46 ***	-8.30 **	-8.77 ***
	0.54	0.85	0.84	0.84	0.94	1.60	2.97	2.37	3.22	2.59
USURY2	-4.11 **	-3.97 **	-4.05 **	-4.51 **	-4.96 *	-5.97 **	-7.28 *	-10.18 ***	-1.50	-0.42
	1.87	1.90	1.99	2.06	2.74	2.59	4.08	1.47	4.43	3.63
USURY3	3.17 *	3.09 *	2.77 *	3.23 **	5.38 **	7.14 **	4.65	4.38 **	2.85	1.67
	1.61	1.62	1.57	1.58	2.73	2.81	3.13	2.21	2.58	3.96
SIZE			-0.33 ***	-0.27 ***	-0.38 ***	-0.32 **	-8.79 ***	-0.49	-0.52	0.00
			0.09	0.08	0.13	0.12	2.61	1.70	1.04	0.03
SIZE * USURY1					0.71 ***	0.63 ***				
					0.15	0.15				
SIZE * USURY2					0.19	0.49				
					0.95	0.97				
SIZE * USURY3					-1.36	-1.52				
					1.26	1.23				
MATURITY			-0.80 ***	-0.82 ***	-0.87 ***	-0.86 ***	-1.33 **	-0.02	-0.28	-0.63 ***
			0.17	0.19	0.19	0.18	0.53	0.47	0.52	0.14
LENDER_REL				-1.90	-1.36	-1.37	0.98	-4.24	-0.56	-0.24
				1.33	1.33	1.34	3.01	3.07	2.07	2.47
LENDER_COM				-1.54 *	-1.49 *	-1.40 *	-1.48	-0.15	0.41	0.91
				0.82	0.81	0.81	1.84	1.29	1.73	1.22
BORROWER_REL				1.23	1.20	0.35	6.26 **	-4.79	-6.51	-3.53
				2.33	2.30	2.19	2.99	3.01	4.90	3.65
BORROWER_COM				-1.32 *	-1.43 *	-1.64 **	-0.84	-3.15 **	1.32	-0.36
				0.74	0.73	0.71	1.68	1.27	1.59	1.29
LENDER_FEM				-0.51	-0.57	-0.52	-1.12	0.95	-2.26	-1.12
				0.94	0.94	0.93	2.04	1.27	1.57	1.78
BORROWER_FEM				0.68	0.77	0.76	0.27	-0.04	-1.46	2.56
				1.08	1.07	1.08	2.17	1.36	2.06	2.22
URBAN				-0.93	-1.13	-0.95	-1.32	-1.62	2.65	-0.40
				1.14	1.15	1.14	2.80	1.26	2.46	1.72
RURAL				-4.60 ***	-4.79 ***	-4.61 ***	-6.72	-1.31	-1.17	-0.87
				1.54	1.55	1.57	4.69	3.34	2.55	2.54
GENERAL				-1.91 *	-2.04 *	-2.37 **	-2.82	-2.42 *	-1.15	-2.71
				1.05	1.05	1.05	2.65	1.28	1.77	1.97
WAR						6.32 ***	3.54	4.35 *	8.23 ***	8.49 ***
						1.63	3.35	2.46	3.11	2.34
INF						-0.07	-0.12	-0.08	0.03	-0.11
						0.05	0.12	0.09	0.11	0.08
GDPGROWTH						0.11	0.08	0.07	0.40 **	0.10
						0.11	0.34	0.16	0.20	0.14
FISCALREV						-0.46 *	-0.06	-0.64	-0.66	-0.68
						0.25	0.61	0.48	0.47	0.58
INTUK						-0.03	0.15	-0.42	-0.58	-0.11
						0.38	0.95	0.58	0.77	0.46
Notary fixed effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.34	0.36	0.40	0.42	0.43	0.45	0.42	0.61	0.54	0.47
F-stat	351.06 ***	190.12 ***	132.33 ***	60.75 ***	57.43 ***	47.64 ***	18.29 ***	21.67 ***	18.38 ***	14.30 ***
Number of observations	810	810	763	763	763	763	250	185	160	168

Notes: The table reports OLS estimates for INTEREST as dependent variable. For each explanatory variable, the first figure is the coefficient, and the second figure is the robust standard error. Columns 1-6 include all loans. Column 7 only includes loans of up to 1,000 pesos of 1830, column 8 includes loans from 1,001 to 2,000 pesos of 1830, column 9 only includes loans from 2,001 to 4,000 pesos of 1830, and column 10 reports the results for loans of more than 4,000 pesos of 1830. Significance levels: *** 1%, ** 5%, * 10%.

Table 8

Impact of usury laws on the size of loans

	Depend. Var.: SIZE					Depend. Var.: SIZE_GDP			Depend. Var.: DSIZE_5000		Dep. Var.: DSIZE_10000	
	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	Probit	Probit	Probit	Probit
	1	2	3	4	5	6	7	8	9	10	11	12
USURY1	1.09 ***	1.28 ***	1.05 ***	0.71	0.88 *	24.77 **	26.59 **	31.33 ***	0.05	0.08 **	0.08 *	0.06 **
	0.37	0.38	0.36	0.52	0.49	11.98	11.67	9.64	0.05	0.04	0.04	0.03
USURY2	-0.43	-0.28	-0.38	-0.42		-10.61						
	0.55	0.53	0.54	0.55		13.98						
USURY3	-0.27	-0.12	-0.29	-0.42		-9.70						
	0.60	0.57	0.54	0.56		13.10						
GDP	81.14 **	105.31 **	85.08 *	67.22	81.52				5.67	6.95 **	3.33 *	2.16
	0.00	0.00	49.44	55.27	53.52				3.50	3.08	1.76	1.48
LENDER_REL			-0.05	-0.05	-0.03	-6.58	-6.06	-6.37	-0.03	-0.03	-0.03 *	-0.03
			0.45	0.45	0.45	11.53	11.56	11.75	0.05	0.05	0.01	0.02
LENDER_COM			0.87 **	0.87 **	0.87 **	19.54 **	19.71 **	20.13 **	0.06 **	0.06 **	0.01	0.01
			0.36	0.36	0.35	9.08	9.09	9.17	0.02	0.03	0.01	0.01
BORROWER_REL			-0.76 *	-0.72	-0.71	-21.30 *	-21.30 *	-22.44 **	-0.04	-0.04	0.00	0.00
			0.44	0.44	0.44	11.00	11.05	10.84	0.05	0.05	0.03	0.03
BORROWER_COM			1.90 ***	1.92 ***	1.91 ***	47.13 ***	46.90 ***	46.45 ***	0.13 ***	0.06 **	0.01	0.01
			0.35	0.35	0.35	8.68	8.64	8.66	0.03	0.03	0.01	0.01
LENDER_FEM			-0.47 *	-0.48 *	-0.48 *	-13.96 **	-14.04 **	-13.74 **	-0.03	-0.04	0.00	0.00
			0.27	0.28	0.27	6.84	6.81	6.69	0.03	0.05	0.03	0.03
BORROWER_FEM			-0.74 ***	-0.74 ***	-0.73 ***	-19.92 ***	-19.84 ***	-20.09 ***	-0.06 **	0.13 ***	0.05 ***	0.05 ***
			0.27	0.26	0.27	6.67	6.71	6.71	0.03	0.03	0.01	0.01
URBAN			-0.33	-0.35	-0.34	-8.74	-8.61	-8.12	0.00	-0.02	-0.03 **	-0.03 **
			0.55	0.55	0.54	13.40	13.34	13.27	0.03	0.03	0.01	0.01
RURAL			1.27	1.26	1.25	29.53	29.30	29.55	0.18 ***	-0.06 **	-0.03 ***	-0.03 ***
			0.85	0.85	0.85	20.60	20.68	20.70	0.07	0.03	0.01	0.01
GENERAL			-0.92 *	-0.92 *	-0.92 *	-22.23 *	-22.41 *	-22.27 *	-0.01	0.00	0.01	0.01
			0.54	0.53	0.54	13.32	13.36	13.32	0.03	0.03	0.02	0.02
WAR				-0.70	-0.61	-15.96	-15.36		-0.05		0.09 *	
				0.58	0.58	12.68	12.65		0.05		0.05	
FISCALREV				-0.01	-0.03	-1.41	-1.70		0.00		-0.01	
				0.12	0.11	2.82	2.73		0.01		0.01	
INTUK				0.06	0.05	1.61	1.22		0.02		0.01	
				0.17	0.17	3.76	3.80		0.01		0.03	
Notary fixed effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.01	0.05	0.11	0.11	0.11	0.10	0.10	0.10	0.12	0.11	0.15	0.14
F-stat	2.90	4.88 ***	6.80 ***	5.92 ***	6.02 ***	7.42 ***	8.06 ***	9.89 ***	116.11 ***	113.61 ***	93.24 ***	84.28 ***
Number of observations	1160	1160	1160	1160	1160	1160	1160	1160	1160	1160	1160	1160

Notes: The table reports OLS and probit estimates. For columns 1-8, for each explanatory variable, the first figure is the coefficient, and the second figure is the robust standard error. For columns 9-12, the first figure is the probit marginal effect and the second figure is the robust standard error.
Significance levels: *** 1%, ** 5%, * 10%

Table 9

Dependent variable: BORROWER_ELITE

	1	2	3	4
USURY1	0.124 ***	0.143 ***	0.213 ***	0.212 ***
	0.03	0.03	0.05	0.05
USURY2	0.143 *	0.136	0.122	0.119
	0.09	0.09	0.08	0.08
USURY3	0.045	0.061	0.146 **	0.131
	0.05	0.05	0.06	0.09
LENDER_REL		-0.006	-0.008	-0.008
		0.06	0.06	0.06
LENDER_COM		-0.032	-0.040	-0.040
		0.03	0.03	0.03
BORROWER_REL		-0.067	-0.090 *	-0.089 *
		0.06	0.05	0.05
BORROWER_COM		-0.037	-0.032	-0.032
		0.03	0.03	0.03
LENDER_FEM		-0.007	-0.012	-0.012
		0.03	0.03	0.03
BORROWER_FEM		0.062 *	0.080 **	0.080 **
		0.04	0.04	0.04
URBAN		0.201 ***	0.199 ***	0.199 ***
		0.04	0.04	0.04
RURAL		0.177 **	0.184 **	0.184 **
		0.07	0.07	0.07
GENERAL		0.120 ***	0.100 ***	0.100 ***
		0.04	0.04	0.04
WAR			0.124 **	0.120 **
			0.05	0.06
INFLATION			0.004	0.004
			0.00	0.00
GDPGROWTH			0.005	0.004
			0.00	0.00
FISCALREV			-0.052 ***	-0.052 ***
			0.01	0.01
INTUK			0.000	-0.002
			0.01	0.02
BIAS_PROPTAX				0.016
				0.08
Pseudo R2	0.02	0.05	0.09	0.09
LR-stat	21.53 ***	59.72 ***	95.12 ***	95.05 ***
Number of observations	1169	1169	1169	1169

Notes: The table reports probit estimates. For each explanatory variable, the first figure is the probit marginal effect, and the second figure is the robust standard error.
Significance levels: *** 1%, ** 5%, * 10%

Table 10

Results for MATURITY as dependent variable

	1	2	3	4	5	6	7
USURY1	0.00	-0.50 **	-0.39 **	-0.53 **	-0.52 **	-0.31	-0.55 **
	0.12	0.21	0.18	0.21	0.20	0.29	0.26
USURY2	0.26	0.10	0.21	0.22			
	0.40	0.39	0.39	0.40			
USURY3	-0.17	-0.11	-0.08	-0.09			
	0.18	0.17	0.14	0.14			
LENDER_REL			2.39 ***	2.38 ***	2.37 ***	2.05 **	2.54 **
			0.82	0.83	0.83	0.85	1.08
LENDER_COM			-0.25 **	-0.25 **	-0.25 **	-0.53 ***	-0.17
			0.10	0.10	0.10	0.18	0.12
BORROWER_REL			0.44	0.46	0.45	-0.22	0.49
			0.64	0.65	0.65	0.52	0.79
BORROWER_COM			-0.27 **	-0.27 **	-0.27 **	0.05	-0.36 **
			0.11	0.11	0.11	0.21	0.14
LENDER_FEM			0.19	0.19	0.19	0.21	0.18
			0.13	0.13	0.13	0.25	0.15
BORROWER_FEM			-0.10	-0.11	-0.10	0.36	-0.22
			0.15	0.15	0.15	0.28	0.19
URBAN			-0.02	-0.02	-0.02	-0.32	0.12
			0.16	0.16	0.15	0.40	0.18
RURAL			0.97 **	0.96 **	0.96 **	0.64	1.11 *
			0.46	0.47	0.47	0.52	0.61
GENERAL			-0.29 **	-0.28 **	-0.29 **	-0.32	-0.29 **
			0.13	0.13	0.13	0.35	0.14
WAR				-0.23	-0.22	0.00	-0.20
				0.21	0.22	0.32	0.26
INF				-0.01	-0.01	0.01	-0.01
				0.01	0.01	0.02	0.01
GDPGROWTH				0.00	0.00	-0.03	0.01
				0.01	0.01	0.03	0.02
FISCALREV				0.00	0.00	0.05	-0.03
				0.05	0.05	0.09	0.05
INTUK				-0.01	-0.01	0.13	-0.03
				0.06	0.06	0.15	0.07
Notary fixed effects	No	Yes	Yes	Yes	Yes	Yes	Yes
R2	0.00	0.03	0.14	0.14	0.14	0.21	0.14
F-stat	0.49 ***	4.35 ***	4.66 ***	4.76 ***	5.12 ***	2.57 ***	3.68 ***
Number of observations	1086	1086	1086	1086	1086	258	828

Notes: The table reports OLS estimates for MATURITY as the dependent variable. For each explanatory variable, the first figure is the coefficient, and the second figure is the robust standard error. Columns 1-5 report the results for the entire sample, column 6 only includes loans to members of the elite, and column 7 only includes loans to non-members of the elite.
Significance levels: *** 1%, ** 5%, * 10%.

Table A.1

Largest real-estate tax payers in the province of Lima, 1836-38

Private individuals				Catholic Church	Other institutions
Adriancen, Rufina	Espinoza, Sebastian	Morales, Jose	Rosarena, Josefa	Archibishop	Beneficencia de Lima
Agüero, Geronimo	Ezania, Josefa	Moreyra, Francisco	Ruiz Davila, Manuel	Archicofradia Nuestra Señora de la O	Colegio de Santo Toribio
Aliaga, Josefa	Figueroa, Jose	Navarrete, Ramon	Saavedra, Narcisa	Archicofradia Purisima de San Francisco	Colegio San Carlos
Aliaga, Juan	Freyre, Cayetano	Negreiros, Fernando	Saavedra, Petronila	Cathedral	Hospital de la Caridad
Aliaga, Rosa	Galdeano, Jose Maria	Novoa, Ignacia	Sacio, Antonio	Cofradia Nuestro Amo de los Huerfanos	Hospital de San Andres
Almendaris, Josefa	Gallo, Francisca	Ononte, Jose	Sagardi, Josefa	Cofradia Nuestro Amo del Sagrario	Hospital de San Bartolome
Alva, Josefa	Garate, Pascual	Osambela, Mariana	Sal Rosas, Francisco	Convento de Buenamuerte	Hospital de Santa Ana
Alvarado, Jose Antonio	Garces, Ildefonso	Oyague, Josefa	Salazar Baquijano, Manuel	Convento de la Merced	Municipality of Lima
Alvarez Calderon, Francisco	Gil, Juan	Oyague, Manuela	Salazar Vicuña, Manuel	Convento de la Recoleta	National government
Alvarez, Andres Maria	Godoy, Josefa	Palacios, Manuel	Salazar, Juan	Convento de las Recogidas	
Alvarez, Fernando	Gordillo, Bernardino	Palomera, Maria	Salazar, Manuel	Convento de Mercedarias	
Aramburu, Isidro	Gorosabel, Teresa	Palomino, Pedro J.	Salazar, Rosa	Convento de San Agustin	
Arescurrenaga, Eduardo	Goytizolo, Francisco	Pando, Manuela	Salduondo, Ramon	Convento de San Francisco	
Argudo, Manuel	Guido, Rufino	Panizo, Tomas	San Martin, Joaquin	Convento de San Juan de Dios	
Arris, Mariano	Gutierrez, Jose	Paredes, Francisco	Sancho Davila, Jose	Convento de San Pedro	
Ayluardo, Manuel	Herdoyza, Carlos	Patron, Manuel	Sancho Davila, Jose Maria	Convento de Santa Catalina	
Balega, Felix	Heredia, Jose	Peña, Juan	Sancho Davila, Rosa	Convento de Santa Clara	
Banda, Josefa	Heros, Francisco	Peñaranda, Juana	Sarria, Jose	Hermandad Nuestra Señora del Rosario	
Barragan, Francisco	Ibarrola, Paula	Perez, Leonor	Sarria, Manuela	Monasterio de Descalzas	
Basurco, Jose	Iriarte, Pedro	Perla, Isidro	Sevilla, Isidro	Monasterio de la Concepción	
Bernales, Nieves	Irribarren, Pedro	Piedra, Francisco	Sevilla, Melchor	Monasterio de la Encarnacion	
Bezada, Baltazar	Izquierdo, Ignacio	Piedra, Rosa	Sevilla, Melchora	Monasterio de la Trinidad	
Blanco Azcona	Jacot, Francisca	Pino, Maria del Carmen	Soria, Lorenzo	Monasterio de Nazarenas	
Blanco, Miguel	Jaramillo, J. R.	Polanco, Jose	Soriano, Mariano	Monasterio de Santa Rosa	
Boquete, Jose	Jimeno, Juan	Pozo, Mercedes	Tagle, Carmen	Monasterio de Santo Domingo	
Boza, Geronimo	La Rosa, Juan	Prieto, Jose	Tagle, Cecilio	Monasterio de Trinitarias	
Buendia, Clara	Laos, Jose	Pro, Ignacio	Tagle, Josefa	Monasterio del Carmen	
Cabrera, Josefa	Larriba, Josefa	Puente Arnao, Francisco	Tagle, Mariano	Monasterio del Prado	
Carrillo, Eusebio	Lavalle, Juan	Puente, Grimanesa	Talamantes, Ignacio		
Carrillo, Josefa	Lavalle, Juan Bautista	Puente, Hermenegildo	Teron, Mariano		
Carrillo, Juan de Dios	Linche, Andrea	Puente, Jose	Testamentaria de Garcia de la Vega, Miguel		
Castrillon, Manuel	Lisson, Carlos	Puente, Josefa	Testamentaria de Garcia, Juan Pio		
Cavero, Ignacio	Lopez, Tadeo	Puente, Manuel	Torres, Miguel		
Cavero, Isabel	Losada, Clara	Puente, Maria	Triunfo, Jose del Carmen		
Chacon, Joaquin	Lozano, Josefa	Quintanilla, Camilo	Uribe, Gavino		
Chavez, Manuel	Malamoco, Juan	Quintanilla, Manuela	Urquijo, Manuel		
Cirio, Domingo	Manrique, Carmen	Quintanilla, Maria	Urrutia, Ignacia		
Cobos, Joaquin	Marques de Santa Maria	Quiroga, Jose	Vallejos, Tomas		
Concha, Francisco	Martinez, Mariana	Ramirez, Francisca	Valles, Francisco		
Correa, Jose Maria	Martinez, Mercedes	Ramirez, Rosa	Vasquez Acuña, Matias		
Cuadra, Rosa	Masa, Manuela	Ramos Cadorna, Josefa	Vasquez Velasco, Jose		
Dominguez, Josefa	Mazo, Agustin	Revoredo, Felipe	Vasquez, Mariana		
Duran, Jose	Menacho, Manuel	Reyna, Pedro	Vidaurre, Cayetano		
Elizalde, Juan	Mendoza Rios Caballero, Francisco	Riglos de la Lala, Jose	Villalta, Teresa		
Encalada, Josefa	Mendoza, Andrea	Robles, Isabel	Viuda de Rodulfo		
Encalada, Rosa	Mendoza, Francisco	Rodrigo, Manuel	Zarate, Francisco		
Escobar, Jose	Miranda, Feliciana	Rodriguez, Julian	Zavala, Petronila		
Escobar, Manuel	Montemira, Francisco	Rodriguez, Santiago	Zavala, Toribio		

Notes: The table reports the individuals with the most valuable real-estate in Lima in 1836-38. In particular, the table reports all private individuals and institutions with real estates that generated more than 1,000 pesos of income per year. The sources are: AGN, 1836, Matrícula de contribuyentes de predios urbanos de Lima; and AGN, 1837-38, Matrícula de contribuyentes de predios rurales de Lima.

Table A.2

List of variables included in the models

Variable	Description
INTEREST	Annual interest rate in percentage points.
SIZE	Amount of the loan in thousands of constant pesos of 1830.
SIZE_GDP	Amount of the loan divided by GDP per-capita.
DSIZE_5000	Dummy variable. It adopts a value of 1 if the loan size was greater than 5,000 constant pesos of 1830, and 0 otherwise.
DSIZE_10000	Dummy variable. It adopts a value of 1 if the loan size was greater than 10,000 constant pesos of 1830, and 0 otherwise.
MATURITY	Maturity of the loan in years.
BORROWER_ELITE	Dummy variable. It adopts a value of 1 if any of the debtors was member of the elite, and 0 otherwise.
USURY1	Dummy variable. It adopts a value of 1 if the contract was signed prior to January 7th 1833, and 0 otherwise.
USURY2	Dummy variable. It adopts a value of 1 if the contract was signed between March 7th 1835 and February 7th 1836, and 0 otherwise.
USURY3	Dummy variable. It adopts a value of 1 if the contract was signed between January 1st 1837 and November 16th 1838, and 0 otherwise.
LENDER_REL	Dummy variable. It adopts a value of 1 if the lender was a member of the Church, and 0 otherwise. 1/
LENDER_COM	Dummy variable. It adopts a value of 1 if the lender was a merchant, and 0 otherwise. 1/
BORROWER_REL	Dummy variable. It adopts a value of 1 if the borrower was a member of the Church, and 0 otherwise. 1/
BORROWER_COM	Dummy variable. It adopts a value of 1 if the borrower was a merchant, and 0 otherwise. 1/
LENDER_FEM	Dummy variable. It adopts a value of 1 if the lender was female, and 0 otherwise.
BORROWER_FEM	Dummy variable. It adopts a value of 1 if the borrower was female, and 0 otherwise.
URBAN	Dummy variable. It adopts a value of 1 if the loan was secured with an urban estate, and 0 otherwise.
RURAL	Dummy variable. It adopts a value of 1 if the loan was secured with a rural estate, and 0 otherwise.
GENERAL	Dummy variable. It adopts a value of 1 if the loan was a general mortgage, and 0 otherwise.
WAR	Indicator that adopts a positive value of up to 1. It was calculated as 2/(1+X/365) - 1, for X <= 365, where X is the difference in absolute value in days between the date of the contract and the closest war, and 0 for X > 365. See Table A.4 for the wars taken into account for the calculation of WAR. It can be noticed that WAR takes a value of 1 in the same day of a war.
INF	Inflation rate in percentage points.
GDPGROWTH	Growth rate of real GDP in percentage points.
FISCALREV	Fiscal revenues as percentage of GDP in percentage points.
INTUK	Open-market rate of discount in Great Britain in percentage points.
GDP	GDP per-capita in thousands of constant pesos of 1830.
BIAS_PROPTAX	Indicator that adopts a positive value of up to 1. It was calculated as 1/(1+Z), where Z = 1836 - YEAR for YEAR < 1836, 0 for 1836-38, and YEAR - 1838 for YEAR > 1838. It can be noticed that BIAS_PROPTAX takes the value of 1 for 1836-38. The further from 1836-38 the lower the value of BIAS_PROPTAX.
YEAR	Year of the contract.
AYLLON1	Dummy variable. It adopts a value of 1 if the loan was notarized by Ignacio Ayllón-Salazar, and 0 otherwise.
AYLLON2	Dummy variable. It adopts a value of 1 if the loan was notarized by José Ayllón-Salazar, and 0 otherwise.
ESCUDERO	Dummy variable. It adopts a value of 1 if the loan was notarized by José Escudero, and 0 otherwise.
SELAYA	Dummy variable. It adopts a value of 1 if the loan was notarized by José de Selaya, and 0 otherwise.

1/ For the loans where the occupation is not available, the variable adopts a value of 0.

Table A.3

Descriptive statistics

Variable	Mean	Standard deviation	Maximum	Minimum	Confidence interval (90%)		Number of observations
					Inferior limit	Superior limit	
INTEREST	16.50	12.32	101.22	0.00	0.00	42.58	810
SIZE	3.23	5.31	73.62	0.05	0.21	11.59	1160
SIZE_GDP	82.20	131.26	1827.15	1.15	4.90	285.23	1160
DSIZE_5000	0.16	0.37	1.00	0.00	0.00	1.00	1160
DSIZE_10000	0.06	0.24	1.00	0.00	0.00	1.00	1160
MATURITY	1.37	1.96	32.00	0.01	0.25	4.50	1086
BORROWER_ELITE	0.23	0.42	1.00	0.00	0.00	1.00	1169
USURY1	0.33	0.47	1.00	0.00	0.00	1.00	1169
USURY2	0.03	0.17	1.00	0.00	0.00	0.00	1169
USURY3	0.07	0.26	1.00	0.00	0.00	1.00	1169
LENDER_REL	0.04	0.20	1.00	0.00	0.00	0.00	1169
LENDER_COM	0.37	0.48	1.00	0.00	0.00	1.00	1169
BORROWER_REL	0.04	0.19	1.00	0.00	0.00	0.00	1169
BORROWER_COM	0.38	0.48	1.00	0.00	0.00	1.00	1169
LENDER_FEM	0.23	0.42	1.00	0.00	0.00	1.00	1169
LENDER_FEM	0.17	0.38	1.00	0.00	0.00	1.00	1169
URBAN	0.30	0.46	1.00	0.00	0.00	1.00	1169
RURAL	0.06	0.24	1.00	0.00	0.00	1.00	1169
GENERAL	0.44	0.50	1.00	0.00	0.00	1.00	1169
WAR	0.20	0.29	0.99	0.00	0.00	0.83	1169
INF	-1.48	6.47	8.99	-23.92	-14.38	8.99	1169
GDPGROWTH	3.43	3.78	10.80	-3.38	-2.22	10.80	1169
FISCALREV	5.70	1.24	8.36	3.90	3.90	7.63	1169
INTUK	3.49	0.87	5.88	2.12	2.18	5.10	1169
GDP	0.04	0.01	0.05	0.03	0.03	0.05	1169
BIAS_PROPTAX	0.31	0.29	1.00	0.08	0.08	1.00	1169

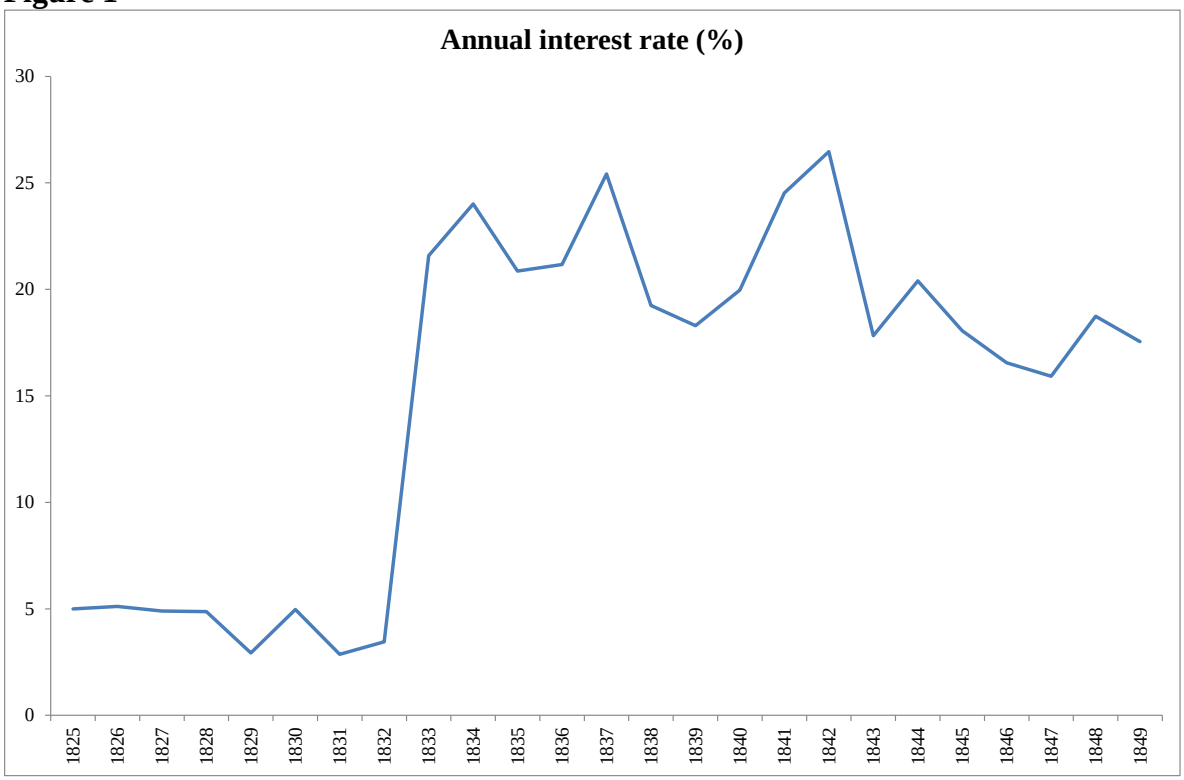
Table A.4

Battles in Peruvian territory, 1824-55

Battles	Dates
Battle of Junin	August 8th 1824
Battle of Ayacucho	December 9th, 1824
Battle of Cangallo	April 6th 1834
Battle of Huaylacucho	April 17th 1834
Battle of Yanacocha	August 13th 1835
Battle of Gramadal	January 26th 1836
Battle of Socabaya	February 7th 1836
Battle of Portada de Guia	August 21st 1838
Battle of Yungay	January 20th 1839
Battle of Ingavi	November 11th 1841
Battle of Agua Santa	October 17th 1842
Battle of El Carmen or Acequia Alta	July 22nd 1844
Battle of La Palma	January 1st 1855

Sources: Aljovín (2006), Mc Evoy (2006).

Figure 1


Annual interest rate (%)
30
25
20
15
10
5
0
1825
1826
1827
1828
1829
1830
1831
1832
1833
1834
1835
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1842
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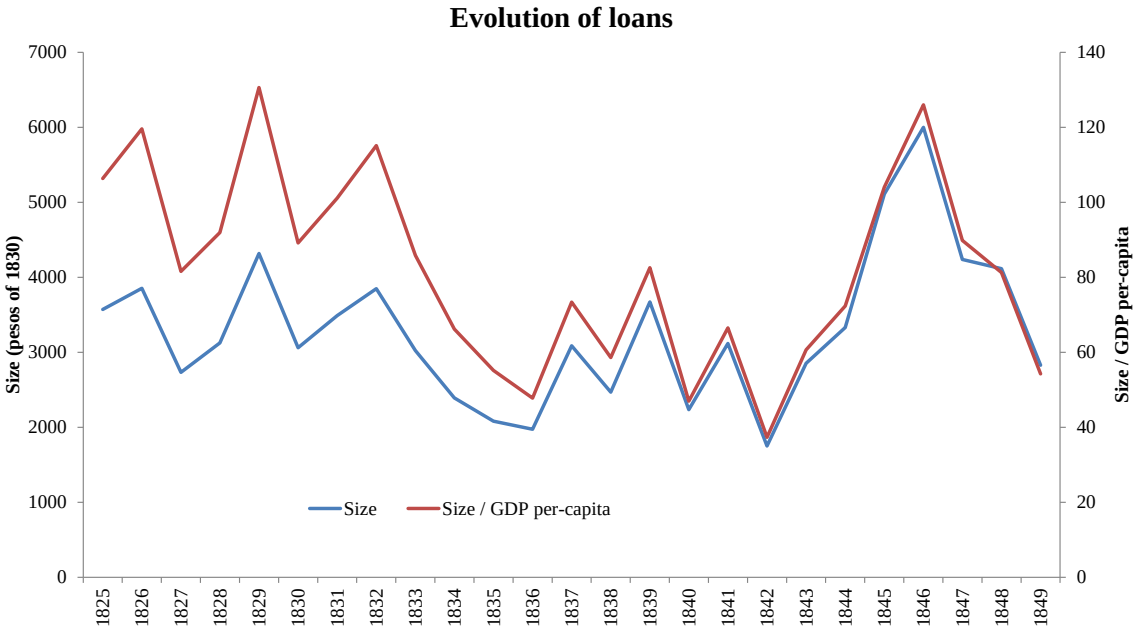
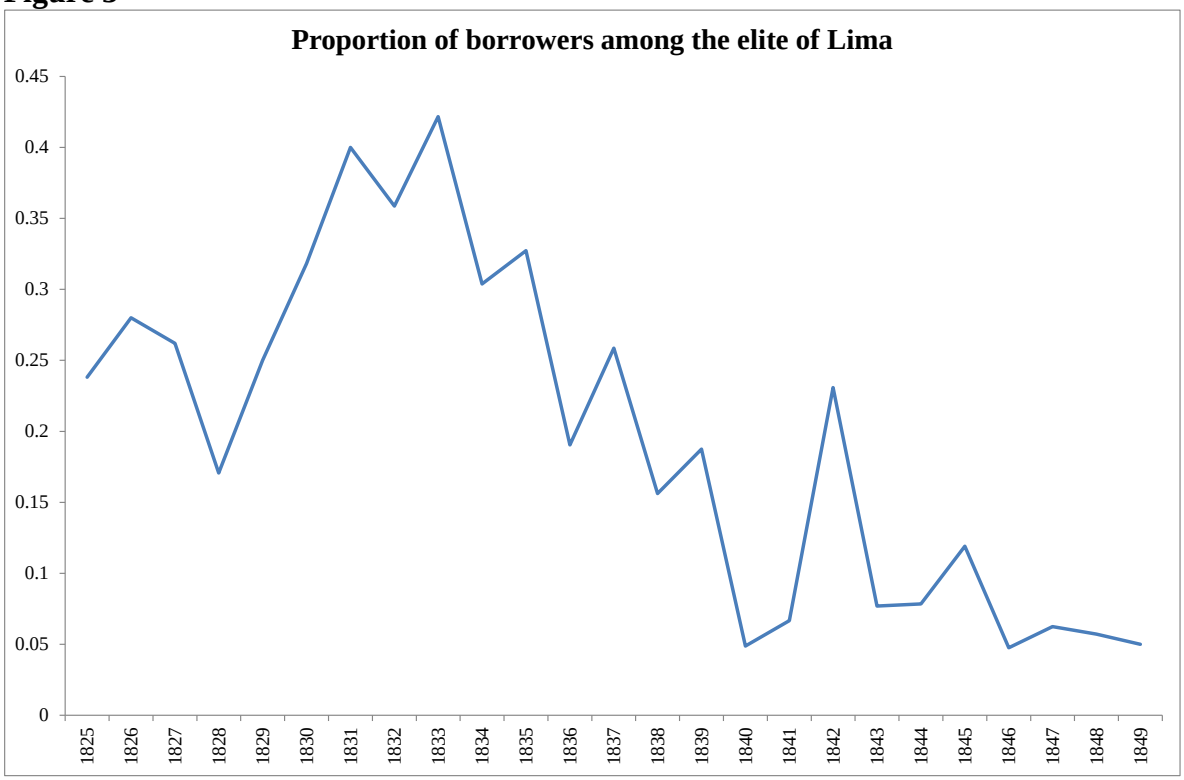
1846
1847
1848
1849

Figure 2



Notes: The figure depicts average values for the size of loans (in pesos of 1830) and the ratio size of the loan/GDP per-capita. For the calculation of the ratio, I divide the real loan sizes by GDP per-capita in pesos of 1830 (estimated from Seminario, 2015).

Figure 3


Proportion of borrowers among the elite of Lima
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
1825
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