Creditor Rights and Bank Losses: A Cross-Country Comparison [*]

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Abstract

Existing literature provides contradictory guidance regarding whether enhanced creditor rights increase or decrease bank risk-taking in lending. Unlike past studies, we directly examine their effect on expected and realized losses within the loan portfolio and find an overall negative association with lending risk. However, we do find that a particular measure of creditor protection, whether the secured creditor is paid first, has a positive association with lending risk in the pre-financial crisis period. This likely contributed to the severity of the financial crisis. While past research has largely employed an index of creditor rights, our finding of different effects across the spectrum of measures suggests caution in employing this commonly used index.

Keywords: Creditor rights, loan loss reserves

JEL-Classification: G21, G28, M41

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1 Introduction

State-mandated creditor rights during bankruptcy protect creditor interests in the event of default and ensure the availability of debt capital.[1] Different countries have chosen to implement different ways to protect creditors (La Porta, Lopez-de Silanes, Shleifer, and Vishny, 1998; Djankov, McLiesh, and Shleifer, 2007), and as a result, there is considerable cross-country variation in bankruptcy codes. These laws have been shown to be sticky over time. The implications of creditor rights for the continued health of the debt markets is, thus, of considerable interest. However, research offers mixed evidence on their consequences. On the one hand, better creditor rights have been argued to lead to riskier lending, which can spur economic growth, as in Houston, Lin, Lin, and Ma (2010, hereafter HLLM). They have also been shown to be associated with increased bankruptcies (Claessens and Klapper, 2005). On the other hand, prior research also shows that bank clients, themselves, significantly decrease risk in the presence of enhanced creditor rights (Acharya, Amihud, and Litov, 2011). In a similar vein, Qian and Strahan (2007) find that bank debt is cheaper with enhanced creditor rights. It appears incongruous that enhanced creditor rights simultaneously lead to both riskier and cheaper debt.

In this study, we seek to resolve the incongruity by focusing on banks' lending business. Given that creditors do not share in the upside potential of borrowers' investments, the true measure of risk in lending is the loss in the loan portfolios. Thus, we examine creditor rights' association with loan losses within banks. For creditor rights, we first employ an index constructed by La Porta, Lopez-de Silanes, Shleifer, and Vishny (1998) and extended to 129 countries by Djankov, McLiesh, and Shleifer (2007, hereafter DMS). The index ($CRights$) consists of four distinct components within a country's bankruptcy codes: restrictions on reorganization ($Reorg$), no automatic stay on assets ($NoAutostay$), secured creditor paid first ($Secured$), and management removal in times of restructuring ($Manages$). We also examine the impact of the individual creditor rights separately, since the effects are not

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[1]Historically, borrowers who defaulted on loans could face harsh penalties like wasting away in prison or even face death, which led to making loan default a low likelihood event (Acharya, Amihud, and Litov, 2011). However, with the emergence of limited liability, borrowers' incentives to default increased, and creditor rights weakened.

likely to be uniform. One measure, *Secured*, directly enhances the rights of creditors versus the rights of the unsecured claimants (like employees and government) to a firm's assets. The other three measures pertain to privileges creditors enjoy surrounding reorganization. Since *NoAutostay* and *Manages* are functions of the reorganization process related to *Reorg*, we anticipate these two measures to have more ambiguous impacts than *Reorg* and *Secured* on our outcome variables. Consequently, to draw conclusions regarding the effect of creditor rights on bank risk-taking, we focus on three measures, *CRights*, *Reorg*, and *Secured*.[2]

With respect to bank loan losses, it is important to distinguish between expected losses and realized losses. When a bank makes a loan, it records a Loan Receivable on its Balance Sheet. The accounting rules for banks require them to record a Loan Loss Reserve, which is an allowance specifically created for expected losses from the loan portfolio. Then, if and when loans default, the difference between the balance of loans receivable and the realized amount is the realized loss and is charged off against the reserve that has been created. Thus, there is a timing difference between expected losses and realized losses.

We employ the Loan Loss Reserve as our measure of expected losses and a 12-month future horizon to accumulate realized losses within the isolated loan portfolio. Both these measures have pros and cons when it comes to proxying for lending risk. Expected losses are a better measure since realized losses can differ from $ex - ante$ bank risk due to $ex - post$ changes in economic conditions.[3] However, it is possible that banks mis-assess risks in lending while estimating loan loss reserves. Additionally they are subject to limitations of accounting rules and willful accounting manipulation concerns (Beatty and Liao, 2014), making them potentially less reliable. As a consequence, in this study, we analyze the effect of creditor rights on both banks' expected loan losses and future realized loan losses and are comfortable interpreting them as joint measures of bank risk in lending so long as they yield consistent results.[4]

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[2]We also report results for *NoAutostay* and *Manages* separately.

[3]Basel II explicitly directs teh use of expected loss to calculate credit exposure. https://www.bis.org/publ/bcbs107.htm

[4]Notwithstanding research that recognizes the limitations of loan loss reserve as a measure of expected losses (Beaver, Eger, Ryan, and Wolfson, 1989; Barth, 1991; Cantrell, Kiser, Marland, Marland, and Shirley, 2012; Harris, Khan, and Nissim, 2018), it unarguably remains the best measure we have given the current

Conceptually, the expected loss to a bank from its loan portfolio arises from both the probability of the loans within the portfolio defaulting (probability of default, PD), as well as the losses that occur given a default (loss given default, LGD).[5] The different types of enhanced creditor rights affect PD and LGD differently, making the effect of creditor rights on bank losses specific to the type of creditor protection. Enhanced creditor protection in the bankruptcy codes where the secured creditor is paid first will, *ceteris paribus*, unequivocally decrease LGD. However, this reduction can cause banks to lend to a wider pool of borrowers raising PD. Additionally, when secured creditors are paid first in bankruptcies, lenders have incentives to initiate bankruptcy proceedings, since their claims are better protected. Both these factors serve to increase PD with *Secured*. As such, the net risk for creditors in countries where the secured creditor is paid first, relative to one without is uncertain and depends upon the relative values of PD and LGD. In contrast, reorganizations are designed to prevent firm default. Restrictions on reorganization (*Reorg*) will, thus, have a mechanically negative relation with PD. $Ex - ante$, we expect *Reorg*, similar to *Secured*, to be associated with lower LGD.[6] Since *Reorg* is expected to lead to both lower PD and lower LGD, we expect it to decrease bank risk in lending.

Using over 8,700 observations from nearly 2,800 banks headquartered in 97 countries, we find that when the creditor rights index is higher, banks have lower expected losses. A unit increase in the index is associated with a 0.18% decrease in expected losses in the loan portfolio.[7] This decrease is approximately a sixth of the average annual loss for a bank from its loan portfolio. However, as anticipated, *Secured* and *Reorg* have even larger negative impacts (at 0.55% and 1.05%, respectively).[8] We also find a negative association between the

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accounting rules.

[5]The Bank of International Settlements explanatory note on bottom-up credit risk modeling explicitly advocates a PD times LGD approach to calculating expected losses as a fraction of total loans. https://www.bis.org/bcbs/irbriskweight.pdf

[6]It is theoretically possible that the lowering of PD can lead to the avoidance of small LGDs which, in turn, can increase the residual LGDs. However, in equilibrium, lenders in regimes with restrictions on reorganization are not likely to permit reorganizations where their losses increase. Consequently, even under such a scenario, the effect of lowering PD should dominate any increase in LGD.

[7]Since the United States is disproportionately represented with 5,656 banks and 22,865 bank-year observations, we conduct our main tests excluding the US and discuss the robustness of the results when the US is included.

[8]To address the potential effect of the correlation between creditor rights measures, we examine the

creditor rights index and future realized losses with *Secured* and *Reorg* again having large significant negative impacts,[9] reinforcing the finding from expected losses that enhanced creditor rights lead to overall less risky lending.[10]

At first glance, it may appear as though our results call into question HLLM's finding that enhanced creditor rights are associated with increased risk. However, we note that HLLM's primary tests deal with overall bank risk. Such risk comes from both inside and outside the loan portfolio, and modern banks, aside from lending, have both fee and trading based business that can contribute to overall bank risk.[11] While we are able to isolate the loan portfolio and show that it is not the driver of increased bank-level risk, it is possible that banks could be increasing their risk in other areas.[12]

To further isolate the risk within the lending portfolio, we decompose bank return on assets (ROA) into three components: returns because of the interest spread (NIR) between assets and liabilities, changes in loan loss expectations (loan loss provisions), and a third residual measure. While the first two measures directly speak to the lending business of the bank, the third measure speaks to the profitability from other businesses. Loan loss provisions provide an income statement measure of risk within the loan portfolio, and NIR directly provides evidence on whether this risk is priced. When creditor rights are stronger, we find internally consistent results that the loan portfolio is both cheaper and safer, as evidenced by decreased net interest revenue and loan loss provisions.

Having analyzed the implications of enhanced creditor rights for overall risk in lending, we now consider their effects on probability of default (PD) and loss given default (LGD) separately. While in practice, it is hard to separate PD and the LGD for a loan portfolio,

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incremental effect of each measure relative to the others in a multiple regression framework and find results that mirror the separate regressions.

[9]As expected, *NoAutostay* and *Manages* do not provide consistent results for expected and realized losses. These results are discussed in detail later in the study.

[10]While we use a one-year horizon in our measure of realized losses, the results are robust to the use of a two-year horizon as well.

[11]The average loan to asset ratio is close to 60% suggesting that up to 40% of the assets may be unrelated to lending.

[12]Additionally, as outlined later, we do predict and find evidence of increased bank risk in lending for some creditor protection measures in certain sub-periods that are consistent with HLLM.

we exploit additional accounting disclosures provided by banks to assess the impact on PD and LGD. In the United States, since 1983, the Securities and Exchange Commission has required banks to supplement their financial statements with disclosures that include non-performing loans (NPL) and past charge-offs (NCO). NCO and NPL are, arguably, the two most important metrics for evaluating loan portfolio risk (Keeton and Morris, 1987). NPL provides a more timely measure of PD than NCO, since the criterion for classifying a loan as NPL is less stringent than the criterion for charging off a loan (Beaver, Eger, Ryan, and Wolfson, 1989; Liu and Ryan, 1995, 2006). However, the book value of loans classified as NPL is a noisy indicator of the future losses, since unlike NCO, the protection provided by collateral, which affects LGD, is not considered (Beck and Narayanamoorthy, 2013). Additionally, Bankscope creates a measure, Unreserved Impaired Losses (UIL), which is the difference between NPL and Loan Loss Reserves. Subtracting loan loss reserves from NPL dilutes the effect of LGD, creating a more powerful measure of PD.

Given that NCO and UIL differ in the extent to which they reflect PD and LGD, if banks react to enhanced creditor protection by increasing PD, we expect creditor protection to affect them differently. We predict that *Secured*, which decreases LGD but increases PD, would have a larger positive impact on UIL relative to NCO. In contrast, *Reorg*, which decreases PD mechanically and has a weaker LGD effect than *Secured*, is likely to have a stronger effect on UIL than NCO. Our empirical findings confirm these predictions. UIL is increasing and NCO is decreasing in *Secured*. However, both UIL and NCO are decreasing in *Reorg*. Formal statistical tests also confirm that *Secured* (*Reorg*) has a positive (negative) effect on UIL, relative to its effect on NCO. Thus, the results are consistent with one creditor rights measure being associated with an increased PD and another associated with decreased PD, while both lead to lower risk overall within the lending portfolio.

We exploit the occurrence of the financial crisis by partitioning our sample period into the pre-crisis, crisis, and post-crisis years. Within the US (where the secured creditor is paid first), the pre-crisis period was characterized by indiscriminate secured lending (subprime lending). We hypothesize that such egregious lending will be greater in countries where the secured creditor is paid first. Consequently, we predict higher credit losses with *Secured* in

the pre-crisis periods and lower losses in the post-crisis period. *Reorg*, in contrast, should not be subject to such a trend. Consistent with our predictions, the results show that when the secured creditor is paid first, banks increased risk within the loan portfolio only during the pre-crisis years, though this finding does not hold for *Reorg*.

Bushman and Williams (2012) document cross-country differences in bank accounting with respect to smoothing and forward-looking characteristics in bank provisioning. It is possible that the cross-country differences we attribute to creditor rights are actually driven by these differences in bank accounting. We first note that various forms of creditor protection themselves can affect bank accounting, and we may be diluting the effect that we are trying to find by controlling for bank accounting differences. Additionally, the methodology is data intensive and reduces the countries we can analyze from 97 to 29. Notwithstanding these concerns, our results showing that bank losses decrease in *Secured* and *Reorg* are robust to controlling for bank accounting differences using the methodology in Bushman and Williams (2012). An advantage of this methodology is that it allows us to abstract away from specific accounting rule differences within each country.

We conduct a number of additional robustness tests. Since our main results exclude US banks, we show that our results are largely robust in a sample which does contain US banks. To confirm that our results address the meaningful banks in each country, we also re-weight the results for each bank by their asset size and obtain identical results. Despite a battery of controls, it is possible that the differences we document are a function of uncontrolled, region specific variables. To address this possibility, we conduct a matched sample analysis by exploiting Bankscope's identification of a peer group for each bank. For each of the creditor rights measures, we identify two banks from the same peer group that are close in size but have different values of the measure, thereby creating a matched sample. Nearly every result documented in this study is robust when considering the matched sample, providing added corroboration.

It is possible that our results are subject to reverse causality concerns, since creditor rights may have been chosen to achieve a specific loan loss outcome. However, since creditor rights remain largely unchanged over time (Djankov, McLiesh, and Shleifer, 2007), the potential

for reverse causality affecting our conclusions is limited. Not withstanding the mitigation of the concern, in our final tests, we follow prior research (Acharya, Amihud, and Litov, 2011; Houston, Lin, Lin, and Ma, 2010) in employing legal origin as in instrument for creditor rights. Our results are robust to the adoption of such an instrumental variable framework.

In summary, we make four distinct contributions to the literature. First, we establish that enhanced creditor protection, in the form of *Reorg* and *Secured*, lead to less and not more risk in lending. Second, to our knowledge, we are the first to introduce empirical measures of the probability of default and the loss given default and document differential effects of the creditor rights measures on these two determinants of loss in lending. Third, we document intertemporal differences in the effect of the creditor rights measures on risk in lending. Specifically, we show that *Secured* was associated with riskier lending in the pre-crisis period and likely contributed to the worldwide severity of the financial crisis. Finally, our finding of drastically different effects of the different creditor rights measures call into question the widespread use of an index aggregating these measures.

2 Background and Hypothesis

In this section, we first outline the important background studies relating to creditor rights. We then outline the basics of loan loss accounting and also discuss the additional accounting risk metrics filed by banks with their regulators.

2.1 Creditor Rights Literature

A number of studies have examined the impact creditor rights have on capital markets. The theoretical literature has shown that lenders are more likely to give loans when they have the ability to seize collateral, force borrowers to repay their debt or even remove management, as in Townsend (1979); Aghion and Bolton (1992); Hart and Moore (1994, 1998).

At the country-level, La Porta, Lopez-de Silanes, Shleifer, and Vishny (1998) empirically documented cross-country differences in bankruptcy codes and the way that creditors are

protected by first constructing the widely used creditor rights index, which is an aggregation of the individual creditor protection measures. Djankov, McLiesh, and Shleifer (2007) extended this panel to 129 countries[13] and shown that when creditors are better protected, there is greater credit in an economy, validating one of the principal findings within the theoretical literature.

Empirical studies show that enhanced creditor rights provide lenders with a way to influence borrowers even outside of default (Nini, Smith, and Sufi, 2009, 2012) and positively correlate with instances of bankruptcy (Claessens and Klapper, 2005). Other studies employing the measures can be broadly partitioned into those focusing on the lender side and the borrower side of the loan market.

Studies focusing on bank-level data have shown that foreign banks extend more loans when creditors are better protected (Haselmann, Pistor, and Vig, 2010), and this effect is most pronounced for creditor-friendly collateral laws. In countries with weaker creditor rights, banks require more collateral and experience reduced loan recovery rates (Davydenko and Franks, 2008), leading to higher LGD. When creditors are better protected, loan maturities are shorter (Bae and Goyal, 2009), and banks transfer funds to markets with fewer regulations (Houston, Lin, and Ma, 2012).

Creditor protection rights have also been shown to be associated with cheaper debt (Qian and Strahan, 2007). The debt is likely cheaper because it carries less risk for the lender. In contrast, HLLM show that creditor rights increase bank risk-taking although this effect is mitigated when banks share information about borrowers. In one study, Cole and Turk-Ariss (2015) showed that creditors make fewer loans when they are better protected.

Cole and Turk-Ariss (2015) supports the borrower-side empirical findings of Acharya, Amihud, and Litov (2011), Acharya, Sundaram, and John (2011), and Cho, El Ghoul, Guedhami, and Suh (2014), who all show that public firms borrow less when creditors are better protected, suggesting borrowers fear inefficient liquidation and reduce risk. This protection has

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[13]DMS utilize the same four creditor rights index components, though the values differ slightly.

also been associated with lower innovation (Acharya and Subramanian, 2009) and profitability (Acharya, Amihud, and Litov, 2011). Since there is more credit within economies with greater creditor protection, yet public firms are borrowing less, other studies have shown that private firms borrow more (Brown, Jappelli, and Pagano, 2009; Boyd, Hakenes, and Heitz, 2018), providing empirical support for the previously mentioned theoretical papers.

Due to the impact that creditor rights have on both bank and borrower-level risk-taking, it is unclear what type of consequences they will have on losses within the loan portfolio. If creditors increase risks when they are better protected, this can lead to greater losses. However, if the increased creditor protection measures reduce overall credit risk, it will lead to lower losses in the loan portfolio. The impact of creditor rights on the riskiness of the loan portfolio has not yet been thoroughly examined and is the focus of this study.

We do note that, with few exceptions, most studies focus on the aggregate creditor rights index. The small number of studies that examine components separately also find uniform results across them (Houston, Lin, Lin, and Ma, 2010; Acharya, Amihud, and Litov, 2011; Cole and Turk-Ariss, 2015). Claessens and Klapper (2005), however, show that not all components of the creditor rights index are uniformly associated with a greater likelihood of bankruptcy. Specifically, one of the measures, no automatic stay on assets, *NoAutostay*, behaves differently and is not associated with a higher likelihood of bankruptcy. While they do not provide a reason for their result, we believe it is likely because of an increasing tendency for borrowers to transfer collateral to special purpose vehicles (SPV) to obtain secured credit. Creditors interest in the collateral contained within these SPVs is protected from automatic stay during bankruptcy, making *NoAutostay* a relatively weaker creditor protection measure for recent years.[14]

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[14]Feng, Gramlich, and Gupta (2009) show that within the US, the percentage of firms using at least one SPV increased from 23% in 1997 to 59% in 2004. Della Groce and Gatti (2014) discuss the existence of a qualitatively similar trend internationally.

2.2 Credit portfolio risk and bank accounting

In this sub-section, we first outline basic loan loss accounting. We then describe the two additional risk metrics that regulators require banks to disclose at the end of each period, which are non-performing loans and net charge-offs. We primarily use US regulatory sources to describe these metrics since it is our understanding that conceptually, these remain the same across all the countries in our study.

Bank loan loss accounting. When a bank makes a loan or a lease, it records an asset called "Loan and Lease Receivable". At the same time, it also creates a contra-asset called the Allowance for Loan and Lease Losses (ALLL)[15], which is a reserve it calculates to address the estimated credit risk within the institution's assets. This measure of credit risk represents the charge-offs that will most likely be realized against the bank's operating income over an appropriate future horizon.[16] This reserve (contra-asset) reduces the book value of the bank's asset (loans and lease receivable) to the amount that the institution reasonably expects to collect.

The higher the estimated risk of noncollectable assets in the portfolio, the larger the ALLL reserve should be. ALL is subject to careful regulatory scrutiny to ensure that the bank has adequate capital to provide a cushion against expected losses. Being a measure of expected losses, any realized loss in a fiscal period depletes this reserve. At the same time, an expense is set aside at the end of each fiscal period as addition to the allowance. This expense is called Provision for Loan and Lease Loss (PLLL)[17] and represents this period's addition to the reserve to cover potential losses from new loans extended during the period, as well as an adjustment for the revised estimate of expected losses for the loans continuing to exist in the loan portfolio.

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[15]This is reported in Bankscope as Loan Loss Reserve.

[16]US regulatory guidance, during the time period of our study, requires banks to consider a loss horizon of at least 12 months.

[17]This is reported in Bankscope as Loan Loss Provisions.

Loan portfolio risk metrics.[18] In 1980, the Federal Financial Institutions Examination Council (FFIEC) issued the Uniform Credit Classification and Account Management Policy (UCCAMP), requiring banks to classify retail loans based on risk and to report charge-offs and delinquent loans privately to bank regulators. Since 1983, the SEC's Industry Guide has required banks to supplement their financial statements with risk-based disclosures including NPL and charge-offs. Keeton and Morris (1987) contend that charge-offs and NPL are the two most important $ex-ante$ risk metrics for evaluating both loan portfolio risk and loan loss allowance adequacy and recommend that the metrics be utilized concurrently.

Both NPL classifications and charge-offs are based primarily on the length of time elapsing since borrowers stopped making payments. The relative informativeness of charge-offs and NPL as risk metrics involves trade-offs between relevance and reliability. Since shorter time periods are typically used in classifying loans as NPL relative to those used for writing-off loans as noncollectable (i.e., recording charge-offs), NPL can be viewed as a more timely indicator of the probability of default (PD) than charge-offs (Liu and Ryan, 1995, 2006). NPL, however, is a noisy indicator of the future loss in that it represents the book value of loans that are deemed to be at risk and, thus, can fail to consider the offsetting loss protection provided by collateral. Charge-offs, on the other hand, reflect the actual realized past losses and thus, explicitly take the loss given default (LGD) into account.

2.3 Hypothesis Development

Lenders have an asymmetric payoff from investments whose returns are uncertain. While they have first access to the assets, unlike the residual claimants (shareholders), they do not get a share of the upside from the investment. Consequently, the true measure of $ex-ante$ risk from a loan for a lender is the expectation of loss which will arise when the borrowers default on the loan. Thus, the probability of default (PD) is an important determinant of expected loan losses. However, expected losses from the loan portfolio also depend on the extent of losses given default (LGD), which in turn depends on several factors including the

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[18]This section borrows heavily with permission from Beck and Narayanamoorthy (2013).

bankruptcy code, enforcement, presence of collateral, etc. Thus, the expected losses can be thought of as the product of PD and LGD.

Having the secured creditor paid first provision (*Secured*=1) will unequivocally decrease LGD. When secured creditors are paid first in bankruptcies, these lenders have incentives to initiate bankruptcy proceedings, since their claims are better protected. As such, the net risk for creditors in countries where the secured creditor is paid first, relative to one without is uncertain and depends upon the relative values of PD and LGD. In contrast, reorganizations are designed to prevent firm default and give firms a second chance to operate. Thus, restrictions on reorganization (*Reorg*) will have a mechanically negative relationship with PD. Similar to *Secured*, a restriction on reorganization (*Reorg*) should protect creditors from losses in the event of default, thus lowering LGD. We note that it is theoretically possible that the lowering of PD leads to the avoidance of small LGDs, which can raise the residual LGDs. However, in equilibrium, lenders in regimes with restrictions on reorganization are not likely to allow a reorganization where their losses increase. Since any increase in LGD can only be due to a lowering of PD, the effect of lowering PD should dominate any increase in LGD. Thus, we expect *Reorg* to decrease bank risk in lending unequivocally.

Hypothesis 1a (alternative): *Risk in loan portfolios, as reflected in loan losses, is lower for lenders in regimes with restrictions on reorganization.*

Hypothesis 1b (null): *Risk in loan portfolios, as reflected in loan losses, is no different for lenders in regimes with and without the secured creditor being paid first.*

In section 2, we presented two key risk metrics that banks include in their regulatory reporting: non-performing loans (NPL) and Net Charge-offs (NCO). The conditions for classifying a loan as non-performing are less stringent than writing off (a portion of) the loan as a charge-off. For example, depending upon the type of the loan, it can be classified as non-performing if either interest or principal on the loan is overdue for more than 90 days. However, in order to charge-off a loan and to decide how much to charge-off, due consideration is paid to the overall fortunes of the borrower, the presence of collateral etc. In other words, LGD is a key factor when it comes to deciding NCO. In contrast, NPL is driven by both PD and

LGD. Bankscope creates an additional measure, unreserved impaired loans (UIL), which is the difference between NPL and loan loss reserves. Removing loan loss reserves from NPL creates a purer measure of PD, since it represents loans which are impaired (high PD) but without a reserve for losses (LGD = 0).

We have argued that LGD is unequivocally reduced by enhancing creditor rights, especially *Secured*, which reflects the secured creditor being paid ahead of non-secured creditors like employees and the government, and *Reorg*, which reflects the restrictions on reorganization by the borrower on filing for bankruptcy protection. We hypothesize that banks will make decisions to increase loan PD when LGD is lowered for *Secured*. By definition, reorganizations are designed to avoid default, leading to a mechanically negative relation between restrictions on reorganization (*Reorg*) and PD. If UIL reflects a relatively greater effect of PD and lower effect of LGD than NCO, we expect UIL to have relatively more positive (negative) associations with *Secured* (*Reorg*) than NCO. This brings us to Hypothesis 2.

Hypothesis 2a (alternate): *Relative to net charge-offs (NCO), Unreserved Impaired Loans (UIL) will be more positively associated with Secured.*

Hypothesis 2b (alternate): *Relative to net charge-offs (NCO), Unreserved Impaired Loans (UIL) will be more negatively associated with Reorg.*

Unchecked secured lending (sub-prime lending) in the pre-crisis has been blamed for the financial crisis in the United States, where the secured creditor paid first. We hypothesize that other countries where the secured creditor is paid first will exhibit similar egregious lending in the pre-crisis lending. Stated differently, *Secured* should be associated with riskier lending in the pre-crisis period and less risky lending in the post-crisis period. In contrast, we do not expect to see such a divergence in the effect of *Reorg* on lending risk across the periods.

Hypothesis 3a (null): *The differential risk in lending portfolios, as reflected in loan losses, due to restrictions on reorganization, does not vary between pre-crisis and post-crisis periods.*

Hypothesis 3b (alternative): *There is greater risk in loan portfolios, as reflected in loan losses,*

due to the secured creditor being paid first in the pre-crisis period relative to the post-crisis period.

3 Data and variables of interest

Bank-level variables. The primary data source for our analysis is the 2015 version of Bankscope by Bureau Van Dijk, which contains bank-level financial statement data from 2005-2014.[19] This comprehensive database accounts for over 90% of banking assets in each country. Our sample consists of 8,397 commercial, savings and cooperative banks in 97 countries. Because our sample is dominated by US banks, we report bank-level variables of interest with and without the United States in Table 1 Panels A and B respectively.

In Table 1 we present summary statistics for bank-level variables of interest for our primary sample of 2,741 banks outside the United States. Panel B shows the same variables for the full sample of 8,397 banks, including the 5,656 banks headquartered in the United States. Because data provided for US banks is so complete, more data are available for small banks, which is the reason for differences in $TotalAssets$ and $TotalLoans$. Panel B also indicates that once the United States is added to the sample, $LoanLossReserves$, ROA, and $NonPerformingLoans$ all go down, indicating that banks in the US anticipate less losses, are less profitable, and have fewer non-performing loans (NPLs).

The primary goal of our study is to understand how creditor rights impact bank losses from the loan portfolio and its subsequent impact on bank profitability. We examine two types of loan losses: expected and anticipated. The bank manager's $ex-ante$ expectation of losses from the loan portfolio are reported as a loan loss reserve, while the realized ex-post losses are reported as net charge-offs. We examine both loan loss reserves and net charge-offs as a percentage of the loan portfolio. Table 1 Panel A shows that the average bank loan loss reserve is 4.23% of the loan portfolio, indicating that the average bank expects 4.23% of its

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[19]Bankscope data is only available for 10 years. Once the eleventh year of data is available, Bureau Van Dijk omits the first year of data. Thus, we are confined to the sample period of 2005-2014 for our analysis.

loan portfolio to experience future losses due to defaults and non-payments. However, the average bank net charge-off, or realized loss, is 1.04% of the loan portfolio. Once the US is added to the sample in Panel B, the average loan loss reserve decreases, while net charge-offs increase.

Next, we focus our attention on bank profitability. Return on Assets (ROA), net income scaled by bank assets, is a bank-level measure of profitability, which isn't necessarily driven by the loan portfolio. We decompose ROA into three components: returns based on the spread between assets and liabilities ($NetInterestRevenue$), changes in loan loss expectations ($LoanLossProvisions$), and a third residual measure that reflects profitability from other bank businesses like trading and fees ($OtherProfit$). Bankscope reports $NetInterestRevenue$ and $LoanLossProvisions$, along with a bank-level tax measure ($BankTaxRate$), which allows us to back out the third component of $NetIncome$ for a bank b in country c at time t, as shown in (1).

$$NetIncome_{b,c,t} = NetInterestRevenue_{b,c,t} \times (1 - BankTaxRate_{b,c,t}) -$$
$$LoanLossProvisions_{b,c,t} \times (1 - BankTaxRate_{b,c,t}) + OtherProfit_{b,c,t} \quad (1)$$

Consequently, we define $OtherProfit$ in (2)

$$OtherProfit_{b,c,t} = NetIncome_{b,c,t} - NetInterestRevenue_{b,c,t} \times (1 - BankTaxRate_{b,c,t}) +$$
$$LoanLossProvisions_{b,c,t} \times (1 - BankTaxRate_{b,c,t}) \quad (2)$$

All components of profitability, $NetIntersetRevenue$, $LoanLossProvisions$, and $OtherProfit$, are scaled by $TotalAssets$, and all bank-level variables are winsorized at 1% in each tail. All three profitability components have comparable means whether or not United States banks are included in the sample, as shown in Table 1. HLLM examine 2,363 banks from 66 countries, including the United States, over the period 2000-2007. Though our sample periods only overlap for two years, our sample compositions are similar. Panel B shows that the mean bank in our sample, including the United States, has $12.89 billion in assets and 4.66% NPL, while the mean bank within HLLM holds $12.635 million in assets and has

4.82% NPL. However, banks in our sample have lower loan-loss provisions (.88% compared to 2.402%) and have lower ROA (0.0035 compared to 0.019).

Creditor Rights Variables. Our primary variables of interest are different types of protections creditors have during times of bankruptcy. La Porta, Lopez-de Silanes, Shleifer, and Vishny (1998) examined four distinct types of rights creditors have (or don't have) during bankruptcy and showed that these rights varied across countries. The first type of creditor right is whether the creditor has to approve a bankruptcy petition or there is a minimum dividend for the debtor to be able to file. For example, in the United States, the borrower can file for Chapter 11 and reorganize without the creditor's consent. The dummy variable *Reorg* is equal to 1 if the bankruptcy code favors creditors with respect to restrictions on reorganization. For the Chapter 11 scenario in the US, *Reorg* is 0 because firms can restructure without the creditor's consent. *NoAutostay* takes a value of 1 if creditors have the ability to size collateral immediately after the approval of the bankruptcy petition, as opposed to an automatic stay on assets being in place. In some countries, secured creditors rank below other creditors, such as the government and employees. If the secured creditor is paid first during the liquidation process, *Secured* takes a value of 1. The final type of creditor protection examined is whether management is retained during bankruptcy. If either the court or creditors appoint management to run the firm during the reorganization process, *Manages* takes a value of 1.[20] The creditor rights index, *CRights*, ranges from 0 to 4 and is the summation of the four dummy variables. Higher values indicate that creditors have more privileges. Since higher values of *Reorg* and *Secured* unambiguously reflect greater levels of creditor protection, we focus our analysis on these two measures along with the aggregate index, *CRights*.

DMS provides the most recent estimates for types of creditor rights. The authors show that creditor rights are stable over time and largely a function of legal origin.[21] The most recent

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[20]It's important to note that *NoAutostay* and *Manages* are derivations of the reorganization process and thus may have relevance only when *Reorg* is 0. We will discuss this in depth later.

[21]One of the findings within DMS is that creditor rights are not "converging" to a global optimum. Depending on the type of legal origin, creditors have different protections. Thus, within the context of our study, creditor rights are neither "better" or "worse." They only differ in strength.

creditor rights value from DMS is 2003, which is used for our study. The mean column in Table 1 Panel D depicts the proportion of countries within our sample that have each type of creditor right. The creditor rights index value, $CRights$, has both a mean and median of 2, though the types of protection creditors have significantly varies across countries. For example, the secured creditor is paid first ($Secured$) for 70% of the 97 countries within our sample, while management is removed during bankruptcy ($Manages$) for just over half.[22] Dummies for legal origin are also displayed in Table 1 Panel D. The largest proportion of countries within our sample have French legal origin (41%), while considerably fewer have Scandinavian (4%) and Socialist (8%) origin.

Additional Macroeconomic Controls. Table 1 Panel C shows the country-year control variables of interest, including macroeconomic controls ($Inflation$ and $GDPperCapita$) to control for overall economic development as well as variables designed to control the level of enforcement within a country as collected by Kaufmann, Kraay, and Mastruzzi (2008). Existing literature has shown that enforcement is an important determinant of rules (Bae and Goyal, 2009; Bhattacharya and Daouk, 2002, 2009). We include additional controls for citizen's voice and accountability ($Voice$), government effectiveness ($Effectiveness$), government regulation ($Regulation$), rule of law (Law), and control of corruption ($Corruption$), which are defined in Appendix A.

4 Empirical Results

4.1 Expected and realized loan losses

First, we examine the impact creditor rights have on the expected losses of the loan portfolio. Here, our dependent variable is loan loss reserves, while our independent variables of interest are the creditor rights measures. Loan loss reserves are $ex-ante$ expectations formed by bank managers themselves regarding anticipated future losses for the loan portfolio. We

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[22]The 97 countries within our sample are listed in Appendix B.

control for bank-level controls, macro-level controls, and cluster our standard errors at the bank and year level. We also include year fixed effects.[23] Our regression analysis takes the form expressed in (3), and our results are presented in Table 2.

$$LoanLossReserve_{b,c,t} = \beta_1' \, CRights_c + \beta_2' \, LogTotalAssets_{b,c,t} + \beta_3' \, MacroControls_{c,t} + \epsilon_{b,c,t}$$
(3)

Subscripts b and c are subscripts indicating bank and country in year t. Macroeconomic controls are introduced in Section 3 and include log real per capita GDP ($LogGDP$), inflation, citizen's voice and accountability ($Voice$), government effectiveness ($Effectiveness$), government regulation ($Regulation$), rule of law (Law), and control of corruption ($Corruption$), as defined in Appendix A.

Our panel setting, as compared to HLLM, is a strength of our analysis because we are able to examine expected (and later realized) losses directly tied to the formation of the loan portfolio. We first report the main results excluding the US but discuss robustness to inclusion of the US later. Column 1 shows the effect of the aggregate creditor rights measure, $Crights$, while Columns 2-3 show the effect of $Reorg$ and $Secured$. Column 4 demonstrates the incremental effect of $Secured$ and $Reorg$ relative to each other.

Columns 2 and 3 indicate that when restrictions on reorganization ($Reorg$) are in place or the secured creditor is paid first ($Secured$), this leads to lower loan loss reserves. According to Table 1, the average bank in the sample has loan loss reserves of 4.23%, and when restrictions on reorganization are present, loan loss reserves are decreased by 1%, which is a decrease in loan loss reserves of about 24%. When the secured creditor is paid first, loan loss reserves decrease by 0.55%, which represents a 13% decrease from the average level of loan loss reserves. This result is both statistically and economically meaningful.

Next, we examine the impact creditor protection has on $ex-post$ realized losses in the form of future charge-offs. Since charge-offs are realized losses to the loan portfolio, they

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[23]Country (or bank) fixed effects are not included since the creditor rights variables do not change over time for a particular country (or bank).

are less susceptible to the bank manager's manipulation. Liu and Ryan (2006) argue that there can be some manipulation in charge-offs as well. By using net charge-offs (charge-offs adjusted for recoveries), we mitigate this manipulation concern. Our analysis takes the form in (4), and future net charge-offs are measured over a one-year horizon. One year is the recommended horizon to measure future charge-offs (Altamuro and Beatty, 2010; Beck and Narayanamoorthy, 2013). It is also the period used in current definitions of ALLL provided by the Federal Deposit Insurance Corporation (FDIC) and is central to impairment recognition currently favored by the International Accounting Standards Board (IASB). While our results are robust to using a 24-month horizon, instead of a 12-month horizon, we note that longer horizons introduce significant measurement problems because of loan turnover and changing macroeconomic conditions (Harris, Khan, and Nissim, 2018).

$$NetChargeOff_{b,c,t+1} = \gamma_1' \, CRights_c + \gamma_2' \, LogTotalAssets_{b,c,t} + \gamma_3' \, MacroControls_{c,t} + \upsilon_{b,c,t}$$

$$(4)$$

Our panel setting is particularly valuable within this regression framework. We can use this time-series variation to examine how the characteristics of the loan portfolio at time t directly impact future realized losses at time $t+1$. Because we are examining future chargeoffs, the number of observations we have for this test is reduced. Here, all three creditor rights variables are negative, as well as the aggregate index. Similar to Table 2, *Reorg* leads to a 17% decline in future charge-offs, again showing that losses are lower when creditors are better protected. We observe a similar effect when the secured creditor is paid first.

Table 4 shows the results within Table 2 and Table 3 for the full Bankscope sample, including US banks, which dominate the sample. Similar to Table 2 and Table 3, the results suggest that stronger creditor protection, especially when creditors are given restrictions over reorganization (*Reorg*) or paid first (*Secured*), leads to lower expected and realized losses. The full Bankscope sample has an average loan loss reserve of 2.61% and net charge-off of 1.28%. The results in Table 4 show that a one unit increase in aggregate *CRights* is associated with a 6% increase in loan loss reserves and an 11% decrease in future net charge-offs. Individually, however, *Secured* has the largest impact at 0.77%, which translates to a 30% decrease

in realized losses. Similarly, *Reorg* to an 8% decrease in future net charge-offs. Thus, both *Reorg* and *Secured* have large impacts that are opposite in sign to the aggregate index.

Future losses presented in Panel B are quantitatively similar to results presented in Table 3 without US banks. However, there are differences with respect to loan loss reserves. In Table 2, the aggregate creditor rights index showed that enhanced creditor protection was associated with lower losses. However, the converse is true in Table 4. Since the results are similar for *Secured* and *Reorg*, the differences are driven by the other measures in the index, management removal (*Manages*) and no automatic stay of assets (*NoAutostay*). Having a disproportionately large US sample has led to significant differences in results between including and excluding the US, which justifies our use of the non-US sample for our main analysis.

4.2 Bank profitability

If creditor rights cause banks to expect and realize less losses on the loan portfolio, the natural question to ask is whether this reduced risk within the loan portfolio is priced. If banks are indeed taking on less risk, we expect this to be reflected within the loan portfolio by leading to decreased net interest revenue and fewer loan loss provisions.

This analysis is very closely related to Qian and Strahan (2007) who use Dealscan syndicated loan-level data and merged it with Compustat to acquire borrower-level characteristics. Their analysis indicates that enhanced creditor rights are associated with cheaper debt, supporting the idea that public borrowers are reducing risk, as in Acharya et. al. (2011). However, large syndicated business loans are only a fraction of a bank's portfolio and do not include loans to individuals or private businesses, large or small, which are the majority of businesses within an economy and have been shown to behave differently from public firms (Giannetti, 2003). At the bank-level, if creditor rights do encourage lending and banks increase PD more than LGD, we it is possible to find evidence of more expensive debt, driven by loans within the loan portfolio that are not attributed to these public businesses. However, if either PD either decreases or doesn't increase as much as LGD, we would expect to find cheaper debt.

Table 5 Panel A focuses on net interest revenue, and we find that creditor rights have a negative impact on net interest revenue, indicating that debt is cheaper. A one unit increase in $CRights$ is associated with a 5.7% decrease in net interest revenue for the non-US sample and a 15% decrease for the sample including the United States.

Next, in Table 5 Panel B, we examine loan loss provisions, which reflect the period specific reserve that banks put aside for uncollected loans and loan payments. For all of the creditor rights measures, we find that enhanced protection is associated with decreased loan loss provisions, indicating that banks anticipate lower losses directly from the loan portfolio. For both the sample including and excluding the US, a one unit increase in $CRights$ is associated with a 10% decrease in loan loss provisions. This result is robust to both individual creditor rights measures, as well as samples including and excluding the US.[24]

Taken together, the results presented in Table 5 Panels A and B are consistent with the results presented in Table 2 - Table 4, suggesting that when creditor rights are stronger, the overall loan portfolio is safer. This is reflected in cheaper debt as well as fewer loan loss provisions put aside.

Finally, in Table 5 Panel C, we examine the third part of profitability that is attributable to other fees, trading activity, derivatives, investment, and ventures. Here, for the sample excluding the United States, more creditor rights are associated with greater returns from other business areas outside the loan portfolio. In fact, a one unit increase in $CRights$ is associated with a 6% increase in profit from other ventures. The magnitude is doubled for the sample including the US.

If creditor rights reduce the spread banks can charge on loans, banks may be forced to earn returns from other areas if they want to increase profits, possibly by engaging in riskier trading behavior that has high returns. This would be consistent with HLLM's finding of a higher bank-level z-score, indicating higher risk at the bank-level, though this risk isn't driven by the loan portfolio. However, at the country-level, there could also be differences in employee salaries, bonuses, and overhead that we cannot control for.

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[24]Houston, Lin, Lin, and Ma (2010) report positive associations of enhanced creditor rights with loan loss provisions. We are, however, unable to replicate the same.

4.3 Loan losses - PD vs. LGD

Given our finding that creditor rights lead to less overall loan losses, there are two possible explanations. In Section 2.2, we argue that losses are a function of both probability of default (PD) and loss given default (LGD). Since creditor rights can only have negative implications for LGD, we can interpret an increase in losses as arising from an increase in PD. However, given we find a decrease in losses, there are two distinct possibilities for the decrease. First, PD could be going down along with the decline in LGD. Second, despite a PD rise, lower losses can be realized when the effect of the decreased LGD trumps the increase in PD.

To distinguish between these possibilities, we need measures of PD and LGD, which are hard to find. However, we exploit additional accounting disclosures regarding risk metrics in the loan portfolio to indirectly get at PD and LGD. We argued in Section 3 that unreserved impaired loans (UIL) could represent a greater share of PD, while net charge-offs would incorporate more LGD. Thus, if PD goes up, we expect to see a relatively greater positive effect of creditor rights on UIL, as compared to NCO. Our regressions take the form in (5) and (6)

$$
\begin{aligned}
UnreserImpairedLoans_{b,c,t+1} = {} & \zeta_1' CreditorRights_c + \zeta_2' LogTotalAssets_{b,c,t} \\
& + \zeta_3' MacroControls_{c,t} + \tau_{b,c,t} \quad (5) \\
NetChargeOff_{b,c,t+1} = {} & \eta_1' CreditorRights_c + \eta_2' LogTotalAssets_{b,c,t} \\
& + \eta_3' MacroControls_{c,t} + \nu_{b,c,t} \quad (6)
\end{aligned}
$$

Results presented in Table 6 show that for the non-US sample, both *Secured* and *Reorg* have negative associations with NCO, while only *Reorg* has a negative association with UIL. *Secured*, in contrast, has a positive association with UIL. A one unit increase in *CRights* is associated with a 17% increase in UIL but an 8.4% decrease in NCO. Mechanically, restrictions on reorganization (*Reorg*) allow a company to restructure in an attempt to avoid default. Therefore, if a country's bankruptcy code allows a firm to restructure, this will lead to less default. Therefore, the result that *Reorg* goes the opposite direction is not surprising. Thus, these results suggest that PD can increase with enhanced creditor protection,

but the decrease in LGD dominates any increase in PD. However, having restrictions on reorganization does not lead to an increased likelihood of default.

Per Hypothesis 2, *Secured* (*Reorg*) impact UIL more positively (negatively) than NCO. We want to compare the relative influence creditor rights have on UIL relative to NCO. However, we cannot directly compare the regression coefficients in equations (5) and (6). With different dependent variables, a direct comparison of the coefficients on the independent variables cannot indicate the importance creditor rights have on UIL relative to NCO, which is the primary goal of this analysis. Instead, Chow (1960) gives us a framework to directly test Hypothesis 2. We implement the Chow Test as follows.

First, we start with our original dataset consisting of 8,703 observations. Then, we append a second identical set of data to the first set, creating a single dataset with 17,406 observations. In order to determine the source of the observation, we define a variable $SecondSetDum$ which takes a value of 0 if the observation comes from the original dataset and 1 if it is from the second (appended) dataset.

From there, we create our dependent variable of interest, $ModifiedNCO$, which is equal to $NetChargeoff$ if $SecondSetDum = 0$ and $UnreserImpairedLoans$ if $SecondSetDum = 1$. Then, we use our pooled dataset formally implement the procedure from Chow (1960), presented in (7).

$$ModifiedNCO_{b,c,t} = \delta_1' \, CRights_c + \delta_2' \, SecondSetDum + \delta_3' \, CRights_c \times SecondSetDum$$
$$+ \, \delta_4' \, LogTotalAssets_{b,c,t} + \delta_5' \, MacroControls_{c,t} + \zeta_{b,c,t} \quad (7)$$

Within the regression framework, the variable $SecondSetDum$ absorbs the variation between NCO and UIL unrelated to creditor rights. If creditor rights impact UIL more positively than NCO, this would indicate that $\delta_3' > 0$. The variable δ_3 captures the difference between UIL and NCO unrelated to creditor rights. To avoid a correlated omitted variable bias, it is important to include this un-interacted dummy variable also in the regression.[25] As shown

---

[25]Our procedure of pooling the data, fitting the fully interacted model, and then testing the second set coefficients against 0 is equivalent to the Chow Test. (https://www.stata.com/support/faqs/statistics/computing-chow-statistic/)

in Table 7, consistent with Hypothesis 2, $\delta'_3 > 0$ for *Secured*, and the opposite is true for *Reorg*. In Table 7, we also present results including US banks and the results are robust to this inclusion.

4.4 Intertemporal Variation and Crisis Analysis

In Hypothesis 3, we examine intertemporal variation in the effect of enhanced creditor protection on risk in lending. We partition the 2005-2014 period into three sub-periods: pre-crisis (2005-2006), crisis (2007-2009), and post-crisis (2010-2014) and re-examine Hypothesis 1 within these sub-periods. Specifically, within the United States, where the secured creditor is paid first, banks indulged in riskier secured lending during the pre-crisis period by utilizing subprime loans. In Hypothesis 3, we examine whether banks in other countries where the secured creditor is paid first behave in a manner similar to their US counterparts pre-crisis. Hypothesis 3 predicts that lending risk will be increasing in *Secured*. Additionally, Hypothesis 3 predicts no such differences for *Reorg*.

We present the results in Table 8. There is no intercept in this estimation since we include a separate dummy variable for each of the three periods. The variable $Reorg * Precrisis$ captures the effect of *Reorg* on bank losses for the pre-crisis. Other interactive variables are similarly descriptive. We find the coefficient on *Reorg* to be negative and significant in each of the sub-periods. In contrast, as predicted by Hypothesis 3, *Secured* is significantly positive in the pre-crisis period in the *LoanLossReserve* regression and remains positive, though not significant, in the *FutureChargeoff* regression. Again, consistent with Hypothesis 3, in the post-crisis period, the effect of *Secured* is uniformly significant negative. In contrast to *Secured*, *CRights* is negative and significant in both the pre-crsis and post-crisis periods. We note that while the US is high on the *Secured* measure, it is actually very low on the *CRights* measure (having a value of 1 relative to a worldwide average of more than 2). Thus, the worldwide evidence appears to be consistent with the US experience of significant lending risk in the pre-crisis period being primarily driven by *Secured* and not the other creditor protection measures.

We also considered the effect of *Reorg* and *Secured* on the ratio of net charge-offs to non-performing loans (NCO/NPL). NCO is expected to decrease, and NPL is expected to increase with *Secured*, leading to a clear prediction that NCO/NPL decreases in *Secured*. *Reorg*, on the other hand, lowers both NCO and NPL, leading to the lack of a clear prediction. In untablulated empirical tests, we find a significant negative relation for NCO/NPL with *Secured*, and no statistically significant relation with *Reorg*, confirming our predictions.

4.5 Accounting Discretion

Prior research has argued that on average, bank discretion is informative about the performance of the loan portfolio (Beatty and Liao, 2014). Thus, increasing discretionary reserves are viewed as managers anticipating higher credit losses and vice versa. In accounting studies, such discretion is measured as the residual from a regression of loan loss reserves, after controlling for the two risk metrics, NPL and NCO, discussed previously. In tests presented in Table 9, we examine whether creditor rights have any implications for accounting discretion. We find that, excluding the US, all three creditor rights measures are negatively associated with expected losses, even after controlling for NCO and NPL. A one unit increase in *CRights* is associated with a 5% decrease in loan loss reserves, even after controlling for portfolio risk. These results further reinforce the notion that bank managers, even after controlling for publicly available risk measures, believe that loan portfolios are less risky with enhanced creditor rights.

4.6 Controlling for International Accounting Differences

Given our use of accounting numbers as proxies for risk in lending, a concern in our analysis is that cross-country differences in reporting could be driving our results. For example, all of the countries that have Restrictions on Reorganization may have a certain convention when reporting loan loss reserves, and this could be driving our results. We address this concern by conducting two separate analysis. In unreported results, we include a dummy variable for International Financial Reporting Standards (IFRS) into all of our regressions

if the bank reports using IFRS. For all regression specifications and measures of creditor rights, our results are unchanged.

Bushman and Williams (2012) estimate two distinct aspects of loan provisioning practices within a given country. They abstract away from specific accounting rules and measure accounting discretion in all countries relative to a consistent set of fundamentals. Similar to Bushman and Williams (2012), we separate discretionary from non-discretionary provisions by estimating the following regression.

$$
\begin{aligned}
LoanLossProvisions_{b,c,t} = {} & \psi_1' EBLLP_{b,c,t+1} + \psi_2' \Delta NPL_{b,c,t+1} + \psi_3' \Delta NPL_{b,c,t} + \psi_4' \Delta NPL_{b,c,t-1} \\
& + \psi_5' Capital_{b,c,t-1} + \psi_6' LogTotalAssets_{b,c,t} \\
& + \psi_7' GDPperCap_{c,t} + \chi_{b,c,t}
\end{aligned} \tag{8}
$$

The variable $EBLLP$ is earnings before taxes and loan loss provisions scaled by lagged total assets, ΔNPL represents the change in non-performing loans scaled by total loans, and $Capital$ represents the book value of equity scaled by total assets.[26]

We run the regression in (8) for each country and extract the coefficients for ψ_1, $DiscretionSmoothing$, and ψ_2, $DiscretionForwardNPL$. As discussed in Bushman and Williams (2012), after controlling for the fundamental determinants of loan losses, $DiscretionSmoothing$ picks up the extent to which banks record loan loss provisions based solely on the level of earnings without reference to information about the loan portfolio, while $DiscretionFutNPL$ captures the extent to which current provisions explicitly anticipate future deterioration in the performance of the loan portfolio.

We include these country-specific measures of discretion as controls and revisit our loan loss reserve analysis, and results are presented in Table 10. Our previous finding that $Reorg$

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[26]In performing this analysis, the ΔNPL variables required for time $t - 1$ and $t + 1$ only allow this analysis to be performed for 29 countries including Australia, Bahgladesh, Brazil, Danada, China, Denmark, France, Germany, Hong Kong, India, Indonesia, Italy, Japan, Kazakhstan, Kenya, Malaysia, Mexico, Norway, Panama, Philippines, Poland, Portugal, Russian Federation, Spain, Sweden, Tanzania, Ukraine, United Kingdom, and the United States. Results are robust to the inclusion and exclusion of the United States. Bushman and Williams (2012) also add ΔNPL_{t-2}. Our results are robust to this inclusion, but the use of ΔNPL_{t-2} considerably reduces our sample.

and *Secured* lead to lower loan loss reserves persists, even after accounting for cross-country differences in accounting.

4.7 Robustness

Our results are robust to three additional tests. First, instead of equally weighting each bank observation, we replicate our analysis weighting each observation by bank assets in Table 11. This allows us to assign more weight to large banks that more meaningfully impact local economies. Columns 1-4 show that enhanced creditor protection is associated with lower expected losses, enforcing the inference drawn from Table 2. Columns 5-8 show that banks realize lower losses when creditors are better protected, further supporting the evidence in Table 2 and Table 3.[27]

The second robustness check regarding the effect creditor rights have on expected and future loan losses and future net charge-offs utilizes a matched sample. Since our panel is unbalanced for each of the different creditor rights measures, we do a propensity score matching based on bank size and peer group. We utilize the peer groups defined within Bankscope.[28] For each bank in the sample where *Reorg* is equal to 0, we find all banks within the same peer group within 25% of bank assets where *Reorg* is equal to 0. We keep the matched bank that is the closest in asset size and drop the rest. We follow this procedure for *Secured* and present the results examining loan loss reserves and future charge-offs in Table 12.[29] Our sample sizes vary between creditor rights measures, since we have a different number of banks exhibiting each type of creditor right. Our results continue to indicate that when

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[27] In untabulated results, we verify that the ROA decomposition results presented in Table 5 also hold while weighting by bank assets.

[28] Bankscope peer groups are Commercial Banks Africa, Commercial Banks Eastern Europe, Commercial Banks Europe (excl. Eastern Europe), Commercial Banks Far East, Commercial banks Middle East, Commercial Banks Oceana, Commercial Banks South and Central America, Commercial Banks USA and Canada, Cooperative Banks Eastern Europe, Cooperative Banks (excl. Eastern Europe), Cooperative Banks Far East, Cooperative Banks South and Central America, Cooperative Banks USA and Canada, Savings Banks Africa, Savings Banks Eastern Europe, Savings Banks Europe (excl. Eastern Europe), Savings Banks Far East, Savings Banks South and Central America, Savings Banks USA and Canada

[29] In untabulated results, we verify that the ROA decomposition results presented in Table 5 also hold for the matched sample.

creditors are better protected with *Reorg* and *Secured*, they have lower loan loss reserves and fewer net charge-offs.

Third, we have argued in this study that creditor rights affect bank risk-taking. It is theoretically possible that the need for bank risk-taking may drive the emergence of creditor rights, leading to reverse causality concerns. While possible, reverse causality is unlikely. Djankov, McLiesh, and Shleifer (2007) show that creditor rights are function of a country's legal origin, which was imposed by colonial power in many emerging countries (Acemoglu, Johnson, and Robinson, 2005) and is therefore "exogenous" and stable over time. Not withstanding the unlikeliness of reverse causality, HLLM conduct robustness tests using legal origin as an instrument for creditor rights. In Table 13, we follow HLLM and report all of our main results using an instrumental variable framework where we include dummy variables for legal origin (*English, French, German, Scandinavian*) as instrumental variables for creditor rights. The results are robust to the use of the IV framework. Specifically, columns 1 and 2 show a negative relationship between creditor rights and expected and realiezd losses, respectively. Columns 3-6 report the effect of creditor rights on bank ROA and its decomposition. ROA is decreasing in *CRights*, and this decrease appears to be driven by a decrease in net interest revenue, consistent with Qian and Strahan (2007). A decrease in loan loss provisions with *CRights* confirms that bank risk-taking in lending is lower with enhanced creditor protection. Finally, consistent with our earlier results, profits from non-lending businesses appear to be increasing in creditor rights.

Finally, we run a number additional untabulated robustness tests to further check the credibility of our analysis. One concern is that cross-border lending to large multi-national businesses may be driving our results, which we address by focusing our primary analysis on savings and commercial banks rather than bank holding companies. The relationship banking literature suggests that local firms are most likely to borrow from local banks (Berger and Hannan, 1989; Berger and Udell, 2002), making both borrowing firm and local bank exposed to the same creditor rights environment. A second way that we address this concern is that we drop the banks from our sample that have the largest 10% of assets. These banks, as opposed to small regional savings and loan banks, are more likely to be able to attract

borrowers across borders, calling into question which creditor rights actually apply to the loan. Our results are robust to focusing on bank holding companies or dropping the 10% of banks that have the most assets.

Throughout the paper, we've highlighted that if we run our analysis using the sample of United States banks, some of our results change. The data quality of United States banks is particularly granular, which is why they compose almost 70% of our sample. Though no country dominates our sample as much as the United States, there are a number of countries with more than 100 banks. If we run our results excluding countries with more than 100 banks (Germany, Italy, Norway, or the Russian Federation) our results continue to be unchanged.

In our final robustness test, we add a number of additional bank-level controls, including *Capital*, defined as equity to assets, and *Liquidity*, which is the ratio of short-term funding to short-term liabilities, to all tests, which reduces our sample size, though our country composition remains unchanged. Our results are also robust to including the ratio of stock market capitalization to GDP (*StockmarketGDP*) to proxy for the substitution between debt and equity. We furthermore add *ROA* as a control for loan loss reserves and future charge-offs. All results are quantitatively similar to the results reported in Table 2 - Table 5.

The last bank level control we add deals with loan composition. Both loan loss reserves and realized losses vary by loan type (Liu and Ryan 2000, 2006, Beck and Narayanamoorthy 2013). Since we find systematic differences in loan composition with creditor rights measures, it is possible that loan composition, rather than creditor rights measures, explain our findings. Specifically we find that the proportion of commercial loans (residential mortgages) decrease (increase) with *Secured*. Consequently, we include the ratio of commercial loans to total loans, *CommercialLoans* or the ratio of residential mortgages to total loans, *ResidentialMortgages* to our tests to adjust for the possibility that the loan portfolio composition is different across creditor rights regimes. All the results are robust to these portfolio composition controls.

Our robustness tests support our findings that when the creditor rights index is higher, banks anticipate and realize less losses within their loan portfolios, reflecting the fact that bank

losses given default are reduced when they are better protected. However, because creditor rights reduce the risk within the loan portfolio, bank net interest revenue is reduced, and fewer loan loss provisions are put aside, driving down bank-level *ROA*. However, the reduced risk and return generated from the loan portfolio causes banks to take on risk and seek profit from other areas outside the loan portfolio.

4.8 Discussion of Other Creditor Rights Measures

Thus far, we have focused our attention on Reorg and Secured because our hypotheses are relatively clean compared to the other two creditor rights measures, *NoAutostay* and *Manages*. As previously discussed, *NoAutostay* and *Manages* are functions of the reorganization process reflected in *Reorg*, and *NoAutostay* is relatively easy to contract around, due to the increased use of special purpose vehicles that directly give creditors access to the firm's assets. Furthermore, if *Manages*=1, this could mean that either the creditor or the court could affect change in management to run the firm. The court could either appoint management favoring the creditor, enhancing creditor protection, or the borrower, which would not indicate greater creditor protection. The ambiguity of these two measures does not allow us to provide precise predictions for their effect on bank losses or our profitability decomposition.

Table 14 presents the results of our analysis when examining either *NoAutostay* or *Manages*, as reflected in Panel A and Panel B, respectively. As anticipated, the effect of *NoAutostay* and *Manages* on our dependent variables is not always consistent with what we find pertaining to *Reorg*, *Secured*, and the creditor rights index. In fact, *NoAutostay* has a statistically significant relationship with future charge-offs, profitability, and net interest revenue, contrary to the results with find with the other creditor rights components. Its effect on loan loss reserves and loan loss provisions is not statistically significant.

Furthermore, the relationship between *Manages* and future charge-offs, ROA, net interest revenue, loan loss provisions, and other profit, is both statistically significant and in the same direction as *Secured*, though it is associated with greater loan loss reserves. Taken together,

these results highlight the richness of the creditor rights index and suggest caution in using the aggregate index, since *Manages* does not always imply greater creditor protection, and *NoAutostay* is commonly contracted around.

5 Conclusion

Given the significant differences in creditor rights protection across countries and their lack of convergence, the implications of these varying creditor rights for bank lending are for considerable interest. Prior research, however, reports seemingly incongruous consequences of enhanced creditor protection. While HLLM argue that banks increase risk taking by making riskier loans, Qian and Strahan (2007) report that bank debt becomes cheaper following enhanced creditor rights protection. It appears contradictory that bank debt can both be cheaper and riskier at the same time.

Given asymmetric payoffs to lenders, the logical measure of risk for a lender is the loss associated with the loan. We find robust evidence that both expected and realized future losses decrease with enhanced creditor protection, thus documenting a decrease in overall lending risk with enhanced creditor rights. Decomposing aggregate ROA, we find a negative association of creditor rights with net interest revenue, which is a measure of spread in the loan business. Thus, our results confirm the Qian and Strahan (2007) finding that debt is cheaper with enhanced creditor protection. In fact, with a negative association between loan loss provisions and creditor rights, the results appear internally consistent with stronger creditor rights being associated with both cheaper and less risky loans.

Besides the finding that banks' risks decline with stronger creditor rights, we do find evidence consistent with bank loans having a greater probability of default with secured creditors being paid first. However, this effect appears to be dominated by the reduced loss given default with stronger creditor rights, leading to our overall risk reduction finding. Our primary results are robust to a battery of tests, including the use of a carefully matched sample using Bankscope's own peer group membership and explicit controls for endogeneity.

Notwithstanding our overall results, we also document significant intertemporal differences in the association of creditor rights with lending risk. Specifically, in the pre-financial crisis period, the secured creditor being paid first appears to be associated with increased lending risk worldwide, likely due to the widespread use of risky secured lending. In the post-crisis period, however, we see a negative association between this creditor protection measure and lending risk. There is no such evidence of a drastic intertemporal difference for the other main creditor rights measure, restrictions on reorganization.

Previous literature, including Acharya, Amihud, and Litov (2011); Houston, Lin, Lin, and Ma (2010), among others, has frequently employed the index of creditor rights, which assumes that all forms of creditor rights have a uniform impact. Our study shows that these measures actually behave quite differently. In particular, no automatic stay on assets has effects opposite to the other measures. Our results, thus, suggest caution in using the creditor rights index without separately analyzing each creditor rights measure.

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Table 1: Descriptive Statistics						
Panel A: Bank-Level Variables excluding US banks						
Variable	mean	sd	p25	p50	p75	N
TotalAssets (million USD)	37,162	102,131	642	2,670	15,579	8,701
TotalLoans (million USD)	19,372	50,055	378	1,566	9,264	8,701
LoansToAssets	0.6046	0.1604	0.4981	0.6220	0.7216	8,701
LnTotalAssets (million USD)	8.1524	2.2207	6.4638	7.8898	9.6537	8,701
LoanLossReserve	0.0423	0.0448	0.0130	0.0264	0.0522	8,701
NetChargeOff	0.0104	0.0186	0.0013	0.0036	0.0100	8,701
NonPerformingLoans	0.0628	0.0802	0.0152	0.0343	0.0719	8701
UnreserImpairedLoans	0.0198	0.0481	-0.0027	0.0083	0.0265	8,701
ROA	0.0073	0.0153	0.0025	0.0071	0.0133	8,701
NetInterestRevenue	0.0336	0.0231	0.0197	0.0256	0.0402	8,701
LoanLossProvisions	0.0081	0.0131	0.0012	0.0036	0.0093	8,701
OtherProfit	-0.0114	0.0144	-0.0137	-0.0076	-0.0038	8,701
Panel B: Bank-Level Variables including US banks						
TotalAssets (million USD)	12,892	59,979	227	544	1,967	31,566
TotalLoans (million USD)	6,916	29,847	147	355	1,243	31,566
LoansToAssets	0.6545	0.1401	0.5749	0.6729	0.7556	31,566
LnTotalAssets (million USD)	6.7383	1.8894	5.4250	6.2989	7.5843	31,566
LoanLossReserve	0.0261	0.0283	0.0121	0.0175	0.0282	31,566
NetChargeOff	0.0128	0.0165	0.0030	0.0070	0.0153	31,566
NonPerformingLoans	0.0482	0.0603	0.0120	0.0283	0.0594	31,566
UnreserImpairedLoans	0.0219	0.0439	-0.0025	0.0092	0.0316	31,566
ROA	0.0035	0.0159	0.0000	0.0061	0.0108	31,566
NetInterestRevenue	0.0345	0.0152	0.0269	0.0330	0.0385	31,566
LoanLossProvisions	0.0088	0.0119	0.0018	0.0048	0.0107	31,566
OtherProfit	-0.0164	0.0129	-0.0211	-0.0141	-0.0087	31,566
Panel C: Country-Year Variables						
Inflation	0.0508	0.0434	0.0210	0.0397	0.0726	819
GDPperCap	8.9771	1.4483	7.9395	8.9973	10.3727	819
Voice	0.2651	0.8631	-0.3300	0.1600	1.0300	819
Stability	0.0431	0.8766	-0.5800	0.0900	0.8300	819
Effectiveness	0.3901	0.9148	-0.3900	0.2200	1.1500	819
Regulation	0.4633	0.8125	-0.2200	0.3700	1.1200	819
Law	0.2811	0.9585	-0.5000	0.0900	1.0200	819
Corruption	0.2585	1.0380	-0.5700	-0.0200	1.0500	819
Panel D: Country-Level Variables						
CRights	2.0412	1.0500	1	2	3	97
Reorg (cr1)	0.3711	0.4856	0	0	1	97
NoAutostay (cr2)	0.4536	0.5004	0	0	1	97
Secured (cr3)	0.6907	0.4646	0	1	1	97
Manages (cr4)	0.5258	0.5019	0	1	1	97
English	0.3093	0.4646	0	0	1	97
French	0.4124	0.4948	0	0	1	97
German	0.1546	0.3634	0	0	0	97
Scandinavian	0.0412	0.1999	0	0	0	97
Socialist	0.0825	0.2765	0	0	0	97

Table 1 shows the bank-level (Panel A), country-year level (Panel B) and country-level variables (Panel C) for analysis over the period 2005-2014 for 2,741 banks in 96 countries. In Panel A, *TotalAssets* represents total bank assets in millions of US Dollars, and *TotalLoans* shows total bank loans in millions of U.S. Dollars. *LoansToAssets* is *TotalLoans/TotalAssets LnTotalAssets* is total assets in log form, while *LoanLossReserve* is the ratio of loan losses to *TotalLoans*. *NetChargeOff* is the ratio of net charge offs to *TotalLoans*. *NonPerformingLoans* is the ratio of non-performing loans scaled by *TotalLoans*, while *UnreserImpairedLoans* is *NonPerformingLoans - LoanLossReserve* scaled by total loans. *ROA* is the ratio of *NetIncome* scaled by *TotalAssets*, and *NetInterestRevenue* and *LoanLossProvisions* are all scaled by *TotalAssets*. *OtherProfit* is *NetIncome-NetInterestRevenue*(1-BankTaxRate)+LoanLossProvisions*(1-BankTaxRate)*, scaled by *TotalAssets*. Panel B summarizes the same variables in Panel A but adds 5,656 US banks, bringing the summarized sample to 8,397 banks in 97 countries. Panel C summarizes country-year variables including Inflation (*Inflation*), Real Per Capita GDP (*GDPperCap*) as well as variables to proxy for the degree of enforcement for a given country year. These enforcement variables are from Kaufmann, Kraay, and Mastruzzi (2008) and represent strength of the legal system (*Strength*), citizen's voice (*Voice*), political stability (*Stability*), government effectiveness (*Effectiveness*), quality of regulation (*Regulation*), rule of law (*Law*), and control of corruption (*Corruption*). Panel D shows the country-level creditor rights (*CRights*) variable, an index variable ranging from 0 to 4 indicating the strength creditors have in each country. The creditor rights index (*CRights*) is the summation of the dummy variables indicating whether creditors have power over restrictions on reorganization (*Reorg)*, there is no automatic stay of assets (*NoAutostay*), the secured creditor is paid first (*Secured)*, or management can be removed during times of bankruptcy (*Manages)*. Dummy variables indicating legal origin are summarized within *English, French, German, Scandinavian,* and *Socialist*. Variables are defined in Appendix A, and a breakdown of banks per country is presented in Appendix B.

Table 2: Creditor Rights and Loan Loss Reserves

	(1)	(2)	(3)	(4)
		Loan Loss Reserves		
CRights	-0.00181***			
	(0.000481)			
Reorg (cr1)		-0.0105***		-0.0100***
		(0.00101)		(0.00104)
Secured (cr3)			-0.00549***	-0.00424***
			(0.00129)	(0.00132)
LogTotalAssets	-0.00198***	-0.00204***	-0.00201***	-0.00207***
	(0.000199)	(0.000198)	(0.000199)	(0.000198)
Inflation	-0.0173	0.00787	-0.0354	0.00164
	(0.0226)	(0.0227)	(0.0225)	(0.0229)
LogGDP	0.00953***	0.0125***	0.00828***	0.0113***
	(0.000781)	(0.000846)	(0.000858)	(0.000963)
Voice	0.00157	-0.000686	0.00239**	-0.000549
	(0.00109)	(0.00106)	(0.00102)	(0.00104)
Stability	-0.000477	-0.000416	-0.000163	-0.000356
	(0.00109)	(0.00108)	(0.00109)	(0.00109)
Effectiveness	-0.0134***	-0.0126***	-0.00911***	-0.0100***
	(0.00262)	(0.00258)	(0.00271)	(0.00269)
Regulation	-0.00628***	-0.00809***	-0.00994***	-0.00910***
	(0.00238)	(0.00217)	(0.00221)	(0.00218)
Law	0.00822***	0.0103***	0.00726***	0.0102***
	(0.00277)	(0.00273)	(0.00273)	(0.00272)
Corruption	-0.0174***	-0.0205***	-0.0166***	-0.0200***
	(0.00220)	(0.00221)	(0.00219)	(0.00221)
Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	8,701	8,701	8,701	8,701
R^2	0.200	0.207	0.200	0.209

Table 2 reports the OLS regression results the dependent variable being bank loan loss reserve (*LoanLossReserve*), defined as the ratio of bank loan loss reserves to total bank loans. Standard errors, in parentheses, are adjusted for cluster effects at the bank and year levels, and year effects are included. The sample contains 2,741 banks in 96 countries, not including the United States, over the period 2005-2014. The creditor rights index (*CRights*) is the summation of the dummy variables indicating whether creditors have power over restrictions on reorganization (*Reorg*), there is no automatic stay of assets (*NoAutostay*), the secured creditor is paid first (*Secured*), or management can be removed during times of bankruptcy (*Manages*). Other variables are defined in Appendix A, and a breakdown of banks per country is presented in Appendix B. Significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 3: Creditor Rights and Realized Losses

	(1)	(2)	(3)	(4)
		Future Net Charge-offs		
CRights	-0.000774***			
	(0.000277)			
Reorg (cr1)		-0.00181***		-0.00123**
		(0.000570)		(0.000560)
Secured (cr3)			-0.00474***	-0.00455***
			(0.000765)	(0.000760)
LogTotalAssets	-0.000988***	-0.00100***	-0.00102***	-0.00102***
	(0.000125)	(0.000124)	(0.000124)	(0.000124)
Inflation	-0.0280**	-0.0260**	-0.0380***	-0.0326***
	(0.0119)	(0.0121)	(0.0117)	(0.0122)
LogGDP	0.00114**	0.00167***	-0.00000318	0.000323
	(0.000442)	(0.000475)	(0.000487)	(0.000521)
Voice	0.00412***	0.00393***	0.00447***	0.00407***
	(0.000512)	(0.000513)	(0.000501)	(0.000510)
Stability	0.00108**	0.00113**	0.00138***	0.00134***
	(0.000480)	(0.000479)	(0.000482)	(0.000483)
Effectiveness	-0.0109***	-0.0103***	-0.00748***	-0.00749***
	(0.00153)	(0.00153)	(0.00163)	(0.00163)
Regulation	0.00867***	0.00770***	0.00650***	0.00658***
	(0.00129)	(0.00118)	(0.00119)	(0.00119)
Law	-0.0144***	-0.0143***	-0.0143***	-0.0140***
	(0.00174)	(0.00175)	(0.00177)	(0.00173)
Corruption	0.00647***	0.00609***	0.00642***	0.00605***
	(0.00132)	(0.00129)	(0.00132)	(0.00129)
Year Fixed Effects	Yes	Yes	Yes Yes	
Observations	5,275	5,275	5,275	5,275
R^2	0.130	0.131	0.137	0.138

Table 3 reports the OLS regression results the dependent variable being future net charge-off (*NetChargeoff*), defined as the ratio of net charge-offs to total bank loans for the next year. Standard errors, in parentheses, are adjusted for cluster effects at the bank and year levels, and year fixed effects are included. The sample contains 2,741 banks in 96 countries, not including the United States, over the period 2005-2014. The creditor rights index (*CRights*) is the summation of the dummy variables indicating whether creditors have power over restrictions on reorganization (*Reorg*), there is no automatic stay of assets (*NoAutostay*), the secured creditor is paid first (*Secured*), or management can be removed during times of bankruptcy (*Manages*). Other variables are defined in Appendix A, and a breakdown of banks per country is presented in Appendix B. Significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 4: Full Sample Results for Bank Expected and Realized Losses

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Loan Loss Reserve Including US				Future Net Charge-offs Including US			
CRights	0.00159*** (0.000395)				-0.00147*** (0.000255)			
Reorg (cr1)		-0.00205** (0.000924)		-0.00209** (0.000920)		-0.00349*** (0.000561)		-0.00338*** (0.000558)
Secured (cr3)			-0.00768*** (0.00124)	-0.00770*** (0.00124)			-0.00336*** (0.000746)	-0.00319*** (0.000742)
LogTotalAssets	-0.000653*** (0.0000959)	-0.000507*** (0.0000924)	-0.000674*** (0.0000956)	-0.000626*** (0.0000952)	-0.00163*** (0.0000727)	-0.00164*** (0.0000717)	-0.00177*** (0.0000722)	-0.00168*** (0.0000730)
Inflation	-0.0305 (0.0215)	-0.0180 (0.0217)	-0.0296 (0.0216)	-0.0238 (0.0219)	-0.0582*** (0.0113)	-0.0535*** (0.0115)	-0.0686*** (0.0112)	-0.0561*** (0.0115)
LogGDP	0.00725*** (0.000768)	0.00719*** (0.000784)	0.00489*** (0.000812)	0.00530*** (0.000857)	0.000989** (0.000450)	0.00203*** (0.000479)	0.000658 (0.000494)	0.00122** (0.000517)
Voice	0.00494*** (0.00101)	0.00405*** (0.000992)	0.00427*** (0.000975)	0.00381*** (0.000976)	0.00217*** (0.000500)	0.00177*** (0.000506)	0.00266*** (0.000498)	0.00171*** (0.000504)
Stability	0.00265*** (0.000964)	0.00329*** (0.000964)	0.00248*** (0.000955)	0.00276*** (0.000966)	0.0000325 (0.000446)	0.0000717 (0.000447)	-0.000355 (0.000446)	-0.0000261 (0.000448)
Effectiveness	-0.0152*** (0.00258)	-0.0170*** (0.00251)	-0.0118*** (0.00262)	-0.0121*** (0.00261)	-0.00998*** (0.00154)	-0.00896*** (0.00154)	-0.00647*** (0.00164)	-0.00690*** (0.00164)
Regulation	-0.00383* (0.00210)	-0.00121 (0.00195)	-0.00290 (0.00197)	-0.00267 (0.00195)	0.00979*** (0.00121)	0.00805*** (0.00114)	0.00727*** (0.00113)	0.00750*** (0.00113)
Law	-0.0157*** (0.00220)	-0.0185*** (0.00224)	-0.0157*** (0.00217)	-0.0165*** (0.00227)	-0.00685*** (0.00151)	-0.00674*** (0.00150)	-0.00457*** (0.00143)	-0.00574*** (0.00149)
Corruption	-0.00103 (0.00165)	0.00129 (0.00159)	-0.0000443 (0.00152)	0.000398 (0.00159)	0.000627 (0.00102)	-0.0000877 (0.000984)	-0.00170* (0.000934)	-0.000765 (0.000990)
Year Fixed Effects	yes	yes	yes	yes	yes	yes	yes	yes
Observations	31,566	31,566	31,566	31,566	20,663	20,663	20,663	20,663
R^2	0.252	0.251	0.254	0.254	0.113	0.113	0.112	0.114

Table 4 reports the OLS regression results the dependent variable being bank loan loss reserve (*LoanLoss-Reserve*), defined as the ratio of bank loan loss reserves to total bank loans. in Columns 1-6. The dependent variable in Columns 7-12 is future net charge-off (*NetChargeoff*), defined as the ratio of net charge offs to *TotalAssets* for the next year. Standard errors, in parentheses, are adjusted for cluster effects at the bank and year levels, and year fixed effects are included. The sample contains 8,397 banks in 97 countries, including the United States, over the period 2005-2014. The creditor rights index (*CRights*) is the summation of the dummy variables indicating whether creditors have power over restrictions on reorganization (*Reorg)*, there is no automatic stay of assets (*NoAutostay*), the secured creditor is paid first (*Secured*), or management can be removed during times of bankruptcy (*Manages)*. Other variables are defined in Appendix A, and a breakdown of banks per country is presented in Appendix B. Significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 5: Components of Bank Profitability

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Excluding US				Including US		
Panel A: Net Interest Revenue								
CRights	-0.00191***				-0.00519***			
	(0.000222)				(0.000195)			
Reorg (cr1)		-0.00499***		-0.00418***		-0.0116***		-0.0116***
		(0.000432)		(0.000420)		(0.000402)		(0.000402)
Secured (cr3)			-0.00851***	-0.00799***			-0.00344***	-0.00353***
			(0.000586)	(0.000576)			(0.000593)	(0.000594)
Panel B: Loan Loss Provisions								
CRights	-0.000870***				-0.000992***			
	(0.000148)				(0.000129)			
Reorg (cr1)		-0.00238***		-0.00219***		-0.00271***		-0.00271***
		(0.000301)		(0.000304)		(0.000283)		(0.000283)
Secured (cr3)			-0.00215***	-0.00188***			-0.00132***	-0.00134***
			(0.000399)	(0.000401)			(0.000383)	(0.000381)
Panel C: Other Profit								
CRights	0.000676***				0.00198***			
	(0.000154)				(0.000135)			
Reorg (cr1)		0.00305***		0.00280***		0.00548***		0.00549***
		(0.000315)		(0.000313)		(0.000298)		(0.000298)
Secured (cr3)			0.00282***	0.00247***			0.00143***	0.00147***
			(0.000445)	(0.000444)			(0.000426)	(0.000426)
Bank-Level Controls	yes	yes	yes	yes	yes	yes	yes	yes
Macro Controls	yes	yes	yes	yes	yes	yes	yes	yes
Year Fixed Effects	yes	yes	yes	yes	yes	yes	yes	yes
Observations	8,701	8,701	8,701	8,701	31,566	31,566	31,566	31,566

Table 5 reports the OLS regression results for three components of profitability: net interest revenue, loan loss provisions, and other profit. The dependent variable in Panel A is *NetInterestRevenue*, defined as net interest revenue scaled by total bank assets. The dependent variable in Panel B is *LoanLossProvisions*, defined as loan loss provisions scaled by totatal bank assets. The dependent variable in Panel C is *OtherProfit*, defined as *NetIncome-NetInterestRevenue**(1-*BankTaxRate*)+*LoanLossProvisions**(1-*BankTaxRate*), scaled by total bank assets. Columns 1-6 show the results for the sample containing 2,741 banks in 96 countries, not including the United States, over the period 2005-2014. Columns 7-12 show the results for the full sample of 8,397 banks in 97 countries, including the United States, over the period 2005-2014. The creditor rights index (*CRights*) is the summation of the dummy variables indicating whether creditors have power over restrictions on reorganization (*Reorg*), there is no automatic stay of assets (*NoAutostay*), the secured creditor is paid first (*Secured*), or management can be removed during times of bankruptcy (*Manages*). Bank-level, and macro-level controls are unreported but identical to those in Table 2. Standard errors, in parentheses, are adjusted for cluster effects at the bank and year levels, and year fixed effects are included. Other variables are defined in Appendix A, and a breakdown of banks per country is presented in Appendix B. Significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 6: Creditor Rights, Unreserved Impaired Losses, and Net Charge-offs

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Excluding US				Including US		
				Panel A: Unreserved Impaired Loans				
CRights	0.00335***				0.00475***			
	(0.000493)				(0.000412)			
Reorg (cr1)		-0.00456***		-0.00503***		0.000831		0.000831
		(0.00110)		(0.00117)		(0.00104)		(0.00103)
Secured (cr3)			0.00396***	0.00458***			-0.0000186	-0.0000121
			(0.00153)	(0.00160)			(0.00148)	(0.00148)
				Panel B: Net Charge-Off				
CRights	-0.000878***				-0.00133***			
	(0.000227)				(0.000208)			
Reorg (cr1)		-0.00192***		-0.00170***		-0.00301***		-0.00303***
		(0.000459)		(0.000456)		(0.000442)		(0.000441)
Secured (cr3)			-0.00442***	-0.00534***			-0.00368***	-0.00370***
			(0.000601)	(0.000595)			(0.000567)	(0.000567)
Bank-Level Controls	yes	yes	yes	yes	yes	yes	yes	yes
Macro Controls	yes	yes	yes	yes	yes	yes	yes	yes
Year Fixed Effects	yes	yes	yes	yes	yes	yes	yes	yes
Observations	8,701	8,701	8,701	8,701	31,566	31,566	31,566	31,566

Table 6 reports the OLS regression results for unreserved impaired losses and net charge-offs. The dependent variable in Panel A is *UnreservedImpairedLoans*, defined as n the difference between non-performing loans and loan loss reserves scaled by total bank assets. The dependent variable in Panel B is *NetChargeoffs*, defined as net charge-offs scaled by total bank assets. Columns 1-6 show the results for the sample containing 2,741 banks in 96 countries, not including the United States, over the period 2005-2014. Columns 7-12 show the results for the full sample of 8,397 banks in 97 countries, including the United States, over the period 2005-2014. The creditor rights index (*CRights*) is the summation of the dummy variables indicating whether creditors have power over restrictions on reorganization (*Reorg*), there is no automatic stay of assets (*NoAutostay*), the secured creditor is paid first (*Secured*), or management can be removed during times of bankruptcy (*Manages*). Bank-level, and macro-level controls are unreported but identical to those in Table 2 and Table 3. Standard errors, in parentheses, are clustered at the bank and year level, and year fixed effects are included Other variables are defined in Appendix A, and a breakdown of banks per country is presented in Appendix B. Significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 7: Unreserved Impaired Losses and Net Charge-offs Chow Test

	(1)	(2)	(3)	(4)	(5)	(6)
	Excluding US			Including US		
CRights	-0.00114***			0.000353		
	(0.000263)			(0.000225)		
Reorg (cr1)		-0.0000891			0.000964*	
		(0.000559)			(0.000525)	
Secured (cr3)			-0.00452***			-0.00488***
			(0.000737)			(0.000783)
Secondset	-0.000487	0.0118***	0.00362***	0.00561***	0.00957***	0.00362***
	(0.00110)	(0.000638)	(0.000997)	(0.000475)	(0.000241)	(0.000996)
CRights * Secondset	0.00475***			0.00272***		
	(0.000455)			(0.000337)		
Reorg * Secondset		-0.00631***			-0.00411***	
		(0.00107)			(0.000890)	
Secured * Secondset			0.00857***			0.00606***
			(0.00116)			(0.00102)
Bank-Level Controls	yes	yes	yes	yes	yes	yes
Macro Controls	yes	yes	yes	yes	yes	yes
Year Fixed Effects	yes	yes	yes	yes	yes	yes
Observations	17,402	17,402	17,402	63,132	63,132	63,132
R^2	0.079	0.077	0.077	0.096	0.094	0.095

Table 7 tests the hypothesis that creditor rights impact Unreserved Impaired Losses (*UnreserImpairedLoans*) more positively than net charge-offs (*NetChargeOff*) by implementing a specialized case of the Chow Test (Chow, 1960). The dependent variable is *ModifiedNetChargeOff*. Columns 1-5 show the results for the sample containing 2,741 banks in 96 countries, not including the United States, over the period 2005-2014. Columns 6-10 show the results for the full sample of 8,397 banks in 97 countries, including the United States, over the period 2005-2014. The creditor rights index (*CRights*) is the summation of the dummy variables indicating whether creditors have power over restrictions on reorganization (*Reorg)*, there is no automatic stay of assets (*NoAutostay)*, the secured creditor is paid first (*Secured)*, or management can be removed during times of bankruptcy (*Manages)*. The variable *Secondset* indicates whether the observation came from the first or second dataset. Bank-level, and macro-level controls are unreported but identical to those in Table 2 and Table 3. Standard errors, in parentheses, are clustered at the bank and year level, and year fixed effects are included Other variables are defined in Appendix A, and a breakdown of banks per country is presented in Appendix B. Significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 8: Creditor Rights and the Financial Crisis

	(1)	(2)	(3)	(4)	(5)	(6)
	Loan Loss Reserves			Future Net Charge-offs		
CRights * Precrisis	-0.00329***			-0.00165**		
	(0.00122)			(0.000668)		
CRights * Crisis	0.000107			-0.00108*		
	(0.000825)			(0.000555)		
CRights * Postcrisis	-0.00305***			-0.000690*		
	(0.000614)			(0.000366)		
Reorg * Precrisis		-0.0177***			-0.00470***	
		(0.00237)			(0.00160)	
Reorg * Crisis		-0.00836***			-0.00251**	
		(0.00187)			(0.00102)	
Reorg * Postcrisis		-0.0112***			-0.00133*	
		(0.00137)			(0.000775)	
Secured * Precrisis			0.00685***			0.000797
			(0.00246)			(0.00159)
Secured * Crisis			-0.00233			-0.00309***
			(0.00200)			(0.00118)
Secured * Postcrisis			-0.00929***			-0.00753***
			(0.00162)			(0.00102)
LogTotalAssets	-0.00201***	-0.00202***	-0.00210***	-0.000988***	-0.00101***	-0.00105***
	(0.000199)	(0.000199)	(0.000200)	(0.000125)	(0.000127)	(0.000124)
Inflation	-0.0170	0.00265	-0.0384*	-0.0274**	-0.0246**	-0.0404***
	(0.0226)	(0.0228)	(0.0225)	(0.0119)	(0.0122)	(0.0117)
LogGDP	0.00961***	0.0125***	0.00877***	0.00112**	0.00167***	0.000219
	(0.000780)	(0.000844)	(0.000849)	(0.000442)	(0.000473)	(0.000471)
Voice	0.00162	-0.000621	0.00277***	0.00403***	0.00386***	0.00480***
	(0.00109)	(0.00105)	(0.00103)	(0.000513)	(0.000523)	(0.000504)
Stability	-0.000567	-0.000307	-0.000355	0.00110**	0.00124**	0.00128***
	(0.00109)	(0.00108)	(0.00109)	(0.000480)	(0.000484)	(0.000479)
Effectiveness	-0.0137***	-0.0132***	-0.0110***	-0.0108***	-0.0105***	-0.00805***
	(0.00261)	(0.00262)	(0.00270)	(0.00154)	(0.00154)	(0.00160)
Regulation	-0.00602**	-0.00757***	-0.00881***	0.00872***	0.00805***	0.00675***
	(0.00236)	(0.00225)	(0.00223)	(0.00127)	(0.00121)	(0.00119)
Law	0.00812***	0.00948***	0.00603**	-0.0143***	-0.0143***	-0.0150***
	(0.00276)	(0.00275)	(0.00275)	(0.00173)	(0.00175)	(0.00176)
Corruption	-0.0172***	-0.0199***	-0.0155***	0.00642***	0.00602***	0.00679***
	(0.00219)	(0.00224)	(0.00218)	(0.00131)	(0.00130)	(0.00132)
Year Fixed Effects	yes	yes	yes	yes	yes	yes
Observations	8,701	8,701	8,701	5,275	5,275	5,275
R^2	0.201	0.209	0.203	0.131	0.132	0.142

Table 8 reports the OLS regression results for loan loss reserves and future charge offs scaled by total assets. *LoanLossReserves* is defined as loan loss reserved scaled by total bank loans. *FutureChargeoff* is defined as the ratio of net charge offs to total bank loans for the next year. The creditor rights index (*CRights*) is the summation of the dummy variables indicating whether creditors have power over restrictions on reorganization (*Reorg*), there is no automatic stay of assets (*NoAutostay*), the secured creditor is paid first (*Secured*), or management can be removed during times of bankruptcy (*Manages*). Bank-level, and macro-level controls are unreported but identical to those in Table 2. *Precrisis* is a dummy variable that has a value of 1 if the observation is from 2005 or 2006. *Crisis* is a dummy variable that has a value of 1 if the observation is from 2007, 2008, or 2009, and *Postcrisis* is a dummy variable that is equal to 1 if the observation is from 2010 or after. Standard errors, in parentheses, are adjusted for cluster effects at the bank and year levels, and year fixed effects are included. Other variables are defined in Appendix A, and a breakdown of banks per country is presented in Appendix B. Significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 9: Creditor Rights and Discretionary Losses

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Loan Loss Reserves Excluding US				Loan Loss Reserves Including US		
CRights	-0.00213***				0.000288			
	(0.000249)				(0.000251)			
Reorg (cr1)		-0.00337***		-0.00305***		-0.000823		-0.000857
		(0.000535)		(0.000552)		(0.000562)		(0.000560)
Secured (cr3)			-0.00365***	-0.00327***			-0.00471***	-0.00472***
			(0.000702)	(0.000717)			(0.000772)	(0.000771)
NetChargeoff	0.315***	0.320***	0.313***	0.313***	0.280***	0.278***	0.276***	0.276***
	(0.0259)	(0.0260)	(0.0259)	(0.0260)	(0.0163)	(0.0162)	(0.0162)	(0.0162)
NonPerformingLoans	0.412***	0.409***	0.411***	0.410***	0.260***	0.261***	0.260***	0.261***
	(0.00706)	(0.00710)	(0.00706)	(0.00707)	(0.00519)	(0.00516)	(0.00515)	(0.00516)
LogTotalAssets	-0.0000753	-0.0000801	-0.0000872	-0.000112	0.000852***	0.000886***	0.000789***	0.000808***
	(0.000107)	(0.000107)	(0.000108)	(0.000107)	(0.0000667)	(0.0000650)	(0.0000669)	(0.0000669)
Inflation	0.0561***	0.0538***	0.0378***	0.0489***	0.0393***	0.0427***	0.0367**	0.0390***
	(0.0140)	(0.0140)	(0.0138)	(0.0141)	(0.0143)	(0.0144)	(0.0143)	(0.0144)
LogGDP	0.00683***	0.00799***	0.00610***	0.00703***	0.00605***	0.00613***	0.00481***	0.00497***
	(0.000496)	(0.000515)	(0.000507)	(0.000544)	(0.000524)	(0.000520)	(0.000531)	(0.000550)
Voice	-0.00472***	-0.00475***	-0.00376***	-0.00463***	0.000113	-0.000150	-0.0000985	-0.000288
	(0.000574)	(0.000570)	(0.000557)	(0.000564)	(0.000629)	(0.000620)	(0.000614)	(0.000612)
Stability	-0.00272***	-0.00248***	-0.00238***	-0.00243***	0.000633	0.000803	0.000364	0.000475
	(0.000579)	(0.000580)	(0.000580)	(0.000580)	(0.000608)	(0.000612)	(0.000605)	(0.000614)
Effectiveness	0.00549***	0.00648***	0.00881***	0.00848***	-0.00263	-0.00303*	0.000102	-0.0000353
	(0.00154)	(0.00155)	(0.00166)	(0.00165)	(0.00168)	(0.00166)	(0.00175)	(0.00175)
Regulation	-0.00876***	-0.0114***	-0.0124***	-0.0121***	-0.00581***	-0.00529***	-0.00626***	-0.00617***
	(0.00142)	(0.00131)	(0.00133)	(0.00132)	(0.00138)	(0.00127)	(0.00128)	(0.00128)
Law	-0.00623***	-0.00626***	-0.00740***	-0.00644***	-0.0183***	-0.0190***	-0.0174***	-0.0178***
	(0.00161)	(0.00165)	(0.00164)	(0.00164)	(0.00145)	(0.00146)	(0.00140)	(0.00146)
Corruption	0.000266	-0.000530	0.000980	-0.000130	0.00588***	0.00640***	0.00567***	0.00585***
	(0.00132)	(0.00134)	(0.00131)	(0.00134)	(0.00100)	(0.000956)	(0.000931)	(0.000964)
Year Fixed Effects	yes	yes	yes	yes	yes	yes	yes	yes
Observations	8,701	8,701	8,701	8,701	31,566	31,566	31,566	31,566
R^2	0.744	0.743	0.743	0.744	0.602	0.602	0.603	0.603

Table 9 reports the OLS regression results for the part of bank expected losses that are reported at the manager's discretion. The dependent variable is *LoanLossReserve*, defined as loan loss reserves scaled by total bank loans. Columns 1-6 show the results for the sample containing 2,741 banks in 96 countries, not including the United States, over the period 2005-2014. Columns 7-12 show the results for the full sample of 8,397 banks in 97 countries, including the United States, over the period 2005-2014. The creditor rights index (*CRights*) is the summation of the dummy variables indicating whether creditors have power over restrictions on reorganization (*Reorg*), there is no automatic stay of assets (*NoAutostay*), the secured creditor is paid first (*Secured*), or management can be removed during times of bankruptcy (*Manages*). Standard errors, in parentheses, are clustered at the bank and year level, and year fixed effects are included. Other variables are defined in Appendix A, and a breakdown of banks per country is presented in Appendix B. Significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 10: Controlling for Accounting Differences

	(1)	(2)	(3)	(4)
		Loan Loss Reserves		
Reorg (cr1)	-0.0165***		-0.00333***	
	(0.000994)		(0.000614)	
Secured (cr3)		-0.00855***		-0.00484***
		(0.00180)		(0.000975)
DiscretionSmoothing	-0.0298***	-0.0345***	-0.00504***	-0.00675***
	(0.00271)	(0.00259)	(0.00167)	(0.00165)
DiscretionFutNPL	-0.0237***	-0.0525***	0.0220***	0.0151**
	(0.00855)	(0.00845)	(0.00587)	(0.00589)
LogTotalAssets	-0.00215***	-0.00194***	-0.000660***	-0.000619***
	(0.000217)	(0.000222)	(0.000150)	(0.000149)
Inflation	0.118***	0.0530*	-0.0475***	-0.0623***
	(0.0289)	(0.0287)	(0.0162)	(0.0153)
LogGDP	0.0162***	0.00925***	0.00204***	-0.000359
	(0.00107)	(0.00124)	(0.000578)	(0.000604)
Voice	0.000295	0.00875***	0.00388***	0.00560***
	(0.00165)	(0.00165)	(0.000936)	(0.000908)
Stability	0.00430***	0.00585***	0.000666	0.00153*
	(0.00165)	(0.00170)	(0.000835)	(0.000842)
Effectiveness	-0.00665*	0.000201	-0.0115***	-0.00782***
	(0.00367)	(0.00386)	(0.00246)	(0.00259)
Regulation	-0.00567**	-0.0128***	0.00700***	0.00439***
	(0.00259)	(0.00270)	(0.00155)	(0.00164)
Law	0.00369	-0.00773*	-0.0251***	-0.0265***
	(0.00412)	(0.00406)	(0.00279)	(0.00281)
Corruption	-0.0283***	-0.0176***	0.0163***	0.0176***
	(0.00343)	(0.00341)	(0.00208)	(0.00210)
Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	6522	6522	3866	3866
R^2	0.290	0.275	0.172	0.175

Table 10 reports the OLS regression results the dependent variable being bank loan loss reserve (*LoanLoss-Reserve*), defined as the ratio of bank loan loss reserves to total bank loans. Standard errors, in parentheses, are adjusted for cluster effects at the bank and year levels, and year effects are included. The sample contains 2,741 banks in 96 countries, not including the United States, over the period 2005-2014. The creditor rights index (*CRights*) is the summation of the dummy variables indicating whether creditors have power over restrictions on reorganization (*Reorg*), there is no automatic stay of assets (*NoAutostay*), the secured creditor is paid first (*Secured*), or management can be removed during times of bankruptcy (*Manages*). Other variables are defined in Appendix A, and a breakdown of banks per country is presented in Appendix B. Significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 11: Creditor Rights and Bank Losses: Asset-Weighted Robustness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Loan Loss Reserves Asset-weighted				Future Net Charge-offs Asset-weighted			
CRights	-0.00159*** (0.000459)				-0.000685*** (0.000236)			
Reorg (cr1)		-0.00949*** (0.000958)		-0.00889*** (0.000998)		-0.00167*** (0.000467)		-0.00115** (0.000462)
Secured (cr3)			-0.00643*** (0.00121)	-0.00514*** (0.00126)			-0.00412*** (0.000651)	-0.00393*** (0.000650)
LogTotalAssets	-0.00179*** (0.000177)	-0.00181*** (0.000176)	-0.00182*** (0.000177)	-0.00186*** (0.000176)	-0.000725*** (0.000107)	-0.000730*** (0.000107)	-0.000744*** (0.000106)	-0.000748*** (0.000105)
Inflation	-0.0138 (0.0216)	0.0113 (0.0217)	-0.0317 (0.0214)	0.00373 (0.0219)	-0.0237** (0.0106)	-0.0216** (0.0107)	-0.0324*** (0.0104)	-0.0270** (0.0107)
LogGDP	0.00928*** (0.000753)	0.0119*** (0.000793)	0.00758*** (0.000828)	0.0102*** (0.000919)	0.00101** (0.000395)	0.00149*** (0.000413)	-0.0000953 (0.000439)	0.000200 (0.000461)
Voice	0.00204** (0.00103)	-0.000125 (0.00100)	0.00260*** (0.000954)	-0.000137 (0.000982)	0.00408*** (0.000459)	0.00390*** (0.000454)	0.00426*** (0.000450)	0.00388*** (0.000452)
Stability	0.000507 (0.00102)	0.000582 (0.00101)	0.000954 (0.00103)	0.000752 (0.00103)	0.00129*** (0.000422)	0.00135*** (0.000420)	0.00163*** (0.000426)	0.00159*** (0.000426)
Effectiveness	-0.0163*** (0.00250)	-0.0156*** (0.00245)	-0.0118*** (0.00257)	-0.0127*** (0.00255)	-0.00972*** (0.00132)	-0.00921*** (0.00133)	-0.00694*** (0.00141)	-0.00697*** (0.00141)
Regulation	-0.00416* (0.00225)	-0.00543*** (0.00199)	-0.00771*** (0.00202)	-0.00661*** (0.00199)	0.00727*** (0.00112)	0.00644*** (0.000990)	0.00535*** (0.000992)	0.00548*** (0.000985)
Law	0.0101*** (0.00265)	0.0122*** (0.00260)	0.00962*** (0.00258)	0.0124*** (0.00258)	-0.0138*** (0.00156)	-0.0137*** (0.00158)	-0.0135*** (0.00159)	-0.0131*** (0.00156)
Corruption	-0.0184***	-0.0215***	-0.0176***	-0.0209***	0.00626***	0.00583***	0.00627***	0.00589***
Year Fixed Effects	yes	yes	yes	yes	yes	yes	yes	yes
Observations	8,701	8,701	8,701	8,701	5,275	5,275	5,275	5,275
R^2	0.211	0.218	0.212	0.220	0.132	0.132	0.138	0.139

Table 11 reports the weighted OLS regression results for loan loss reserves and future net charge-offs where the results are weighted by total bank assets. The dependent variable in Columns 1-6 is *LoanLossReserves*, defined as loan loss reserved scaled by total bank loans. The dependent variable in Columns 7-12 is future NetChargeoff (*NetChargeoff*), defined as the ratio of net charge offs to total bank loans for the next year. Results are reported for the sample containing 2,741 banks in 96 countries, not including the United States, over the period 2005-2014. Columns 7-12 show the results for the full sample of 8,397 banks in 97 countries, including the United States, over the period 2005-2014. The creditor rights index (*CRights*) is the summation of the dummy variables indicating whether creditors have power over restrictions on reorganization (*Reorg*), there is no automatic stay of assets (*NoAutostay*), the secured creditor is paid first (*Secured*), or management can be removed during times of bankruptcy (*Manages*). Bank-level, and macro-level controls are unreported but identical to those in Table 2 and Table 3. Standard errors, in parentheses, are clustered at the bank and year level, and year fixed effects are included. Other variables are defined in Appendix A, and a breakdown of banks per country is presented in Appendix B. Significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 12: Creditor Rights and Bank Losses: Matched Sample Robustness

	(1)	(2)	(3)	(4)
	Loan Loss Reserves		Future Net Charge-offs	
Reorg (cr1)	-0.00149**		-0.000792**	
	(0.000745)		(0.000359)	
Secured (cr3)		-0.00137**		-0.000548**
		(0.000632)		(0.000249)
LogTotalAssets	-0.00161***	-0.00141***	-0.00128***	-0.00126***
	(0.000294)	(0.000283)	(0.000173)	(0.000152)
Inflation	-0.0568**	-0.0315	-0.0328**	-0.0409***
	(0.0287)	(0.0258)	(0.0135)	(0.0127)
LogGDP	0.0106***	0.0140***	0.000727	0.00222***
	(0.00104)	(0.00114)	(0.000595)	(0.000570)
Voice	-0.000139	-0.00232	0.00140**	0.00350***
	(0.00139)	(0.00177)	(0.000701)	(0.000681)
Stability	0.000425	0.00182	0.00132**	0.000946
	(0.00150)	(0.00150)	(0.000614)	(0.000581)
Effectiveness	-0.0219***	-0.0162***	-0.0116***	-0.0124***
	(0.00380)	(0.00369)	(0.00201)	(0.00180)
Regulation	-0.00257	-0.0159***	0.00931***	0.00597***
	(0.00299)	(0.00272)	(0.00144)	(0.00132)
Law	0.0103***	0.0155***	-0.00461**	-0.0103***
	(0.00374)	(0.00333)	(0.00213)	(0.00179)
Corruption	-0.0170***	-0.0191***	0.000432	0.00560***
	(0.00320)	(0.00263)	(0.00190)	(0.00148)
Year Fixed Effects	yes	yes	yes	yes
Observations	13,578	16,721	8,256	10,014
R^2	0.205	0.215	0.100	0.111

Table 12 reports the weighted OLS regression results for loan loss reserves and future net charge-offs for the matched sample. The dependent variable in Columns 1-4 is *LoanLossReserves*, defined as loan loss reserved scaled by total bank loans. The dependent variable in Columns 5-10 is future net charge-off (*NetChargeoff*), defined as the ratio of net charge-offs to total bank loans for the next year. Results are reported for the sample containing 96 countries, not including the United States, over the period 2005-2014. The creditor rights index (*CRights*) is the summation of the dummy variables indicating whether creditors have power over restrictions on reorganization (*Reorg*), there is no automatic stay of assets (*NoAutostay*), the secured creditor is paid first (*Secured*), or management can be removed during times of bankruptcy (*Manages*). Bank-level, and macro-level controls are unreported but identical to those in Table 2 and Table 3. Standard errors, in parentheses, are clustered at the bank and year level, and year fixed effects are included. Other variables are defined in Appendix A, and a breakdown of banks per country is presented in Appendix B. Significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 13: Bank Loss and Profit Components: IV Results

	(1) LoanLossReserves	(2) FutureChargeOff	(3) ROA	(4) NetInterestRevenue	(5) LoanLossProvisions	(6) OtherProfit
CRights	-0.00540***	-0.00461***	-0.00147***	-0.00197***	-0.00310***	0.00124***
	(0.00143)	(0.000566)	(0.000441)	(0.000483)	(0.000386)	(0.000371)
LogTotalAssets	-0.00231***	-0.00114***	0.000301***	-0.00221***	-0.000462***	0.00181***
	(0.000208)	(0.0000989)	(0.0000767)	(0.0000865)	(0.0000614)	(0.0000698)
Inflation	-0.0166	-0.0174*	0.0275***	0.101***	0.0471***	-0.00908
	(0.0233)	(0.00946)	(0.00918)	(0.00949)	(0.00709)	(0.00736)
LogGDP	0.0130***	0.00185***	-0.00345***	-0.00153***	0.00369***	-0.000520
	(0.00102)	(0.000459)	(0.000413)	(0.000435)	(0.000308)	(0.000334)
Strength	0.00222***	0.00123***	-0.000649***	-0.000253	0.000983***	-0.000180
	(0.000424)	(0.000183)	(0.000158)	(0.000154)	(0.000125)	(0.000123)
Voice	0.000465	0.00194***	-0.00419***	0.00310***	0.00157***	-0.00365***
	(0.00126)	(0.000509)	(0.000402)	(0.000465)	(0.000331)	(0.000330)
Stability	-0.00105	-0.000213	0.000244	0.00286***	0.00160***	-0.000477
	(0.00109)	(0.000430)	(0.000392)	(0.000417)	(0.000299)	(0.000304)
Effectiveness	-0.0183***	-0.00895***	-0.00445***	-0.0125***	-0.00433***	0.00522***
	(0.00295)	(0.00131)	(0.00104)	(0.00116)	(0.000870)	(0.000844)
Regulation	-0.00869***	0.00667***	0.00873***	0.0131***	0.00234***	-0.00425***
	(0.00277)	(0.00122)	(0.000962)	(0.00111)	(0.000841)	(0.000853)
Law	0.0113***	-0.0102***	-0.00841***	-0.0314***	-0.00653***	0.0127***
	(0.00288)	(0.00151)	(0.00110)	(0.00138)	(0.000921)	(0.00104)
Corruption	-0.0177***	0.00446***	0.00985***	0.0186***	-0.00105	-0.00626***
	(0.00220)	(0.00109)	(0.000878)	(0.000952)	(0.000687)	(0.000776)
Year Fixed Effects	yes	yes	yes	yes	yes	yes
Observations	8,701	8,701	8,701	8,701	8,701	8,701
R^2	0.201	0.083	0.102	0.457	0.177	0.225

Table 13 reports the regression results for loan loss reserves, future charge offs, ROA, net interest revenue, loan loss provisions, and other profit using an instrumental variable framework. The instrumental variable for (*CRights*) is a set of dummy variables indicating legal origin (*German, English, French, Scandinavian*) of the country where the bank is headquartered. Results are reported for the sample containing 96 countries, not including the United States, over the period 2005-2014. *LoanLossReserves* is defined as loan loss reserved scaled by total bank loans. (*FutureChargeoff*)is defined as the ratio of net charge offs to total bank loans for the next year. Bank return on assets (*ROA*) is ratio of bank net income to bank assets. *NetInterestRevenue*is net interest revenue scaled by total bank assets, and *LoanLossProvisions* is loan loss provisions scaled by totatal bank assets. *OtherProfit* is defined as *NetIncome-NetInterestRevenue**(1-*BankTaxRate*)+*LoanLossProvisions**(1-*BankTaxRate*), scaled by total bank assets. The creditor rights index (*CRights*) is the summation of the dummy variables indicating whether creditors have power over restrictions on reorganization (*Reorg*), there is no automatic stay of assets (*NoAutostay*), the secured creditor is paid first (*Secured*), or management can be removed during times of bankruptcy (*Manages*). Bank-level, and macro-level controls are unreported but identical to those in Table 2. Standard errors, in parentheses, are adjusted for cluster effects at the bank and year levels, and year fixed effects are included. Other variables are defined in Appendix A, and a breakdown of banks per country is presented in Appendix B. Significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

Table 14: Other Types of Creditor Rights

	(1)	(2)	(3)	(4)	(5)	(6)
	LoanLossReserves	*FutureChargeOff*	*ROA*	*NetInterestRevenue*	*LoanLossProvisions*	*OtherProfit*
Panel A: NoAutostay						
NoAutostay (cr2)	-0.000659	0.00326***	0.000903**	0.00624***	0.000390	-0.00396***
	(0.000987)	(0.000460)	(0.000375)	(0.000475)	(0.000314)	(0.000344)
Panel B: Manages						
Management (cr4)	0.00449***	-0.00282***	-0.00248***	-0.00355***	-0.00107***	0.00225***
	(0.00102)	(0.000449)	(0.000377)	(0.000426)	(0.000319)	(0.000328)
Bank-Level Controls	yes	yes	yes	yes	yes	yes
Macro Controls	yes	yes	yes	yes	yes	yes
Year Fixed Effects	yes	yes	yes	yes	yes	yes
Observations	8,701	8,701	8,701	8,701	8,701	8,701

Table 14 reports the OLS regression results for loan loss reserves, future charge offs, ROA, net interest revenue, loan loss provisions, and other profit using an instrumental variable analysis. Results are reported for the sample containing 96 countries, not including the United States, over the period 2005-2014. *LoanLossReserves* is defined as loan loss reserved scaled by total bank loans. *FutureChargeoff* is defined as the ratio of net charge offs to total bank loans for the next year. Bank return on assets (ROA) is ratio of bank net income to bank assets. *NetInterestRevenue* is net interest revenue scaled by total bank assets, and *LoanLossProvisions* is loan loss provisions scaled by totatal bank assets. *OtherProfit* is defined as *NetIncome-NetInterestRevenue**(1-*BankTaxRate*)+*LoanLossProvisions**(1-*BankTaxRate*), scaled by total bank assets. (*NoAutostay*) is a dummy variable indicating whether or not there is no automatic stay of assets, while (*Manages*) is a dummy variable indicating if management is removed during times of bankruptcy. Bank-level, and macro-level controls are unreported but identical to those in Table 2. Standard errors, in parentheses, are adjusted for cluster effects at the bank and year levels, and year fixed effects are included. Other variables are defined in Appendix A, and a breakdown of banks per country is presented in Appendix B. Significance is denoted by * $p < 0.10$, ** $p < 0.05$, and *** $p < 0.01$.

A   Variable Descriptions

Variable	Definition	Source
Capital	Bank Capital. Bank equity scaled by total assets and winsorized at 1% in each tail	Bankscope
CommercialLoans	Bank commercial loans scaled by total loans and winsorized at 1% in each tail	Bankscope
Corruption	Control of Corruption. This indicator measures the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Higher values indicate more control over corruption.	Kaufmann, Kraay, and Mastruzzi (2008)
CRights	Creditor Rights Index. An index aggregating the four components of the creditor rights as originally proposed by La Porta, Lopez-de Silanes, Shleifer, and Vishny (1998) and extended by Djankov, McLiesh, and Shleifer (2007). This index ranges from zero to four where higher values indicate greater levels of investor protection. The four components of the creditor rights index are the variables Restrictions; NoAutostay; Secured; and Manages: The value of 2003 from Djankov, McLiesh, and Shleifer is used in this study.	Djankov, McLiesh, and Shleifer (2007)
DiscretionFutNPL	Accounting Discretion from Future Non-Performing Loans, as calculated by the methodology in Bushman and Williams (2012), which current provisions explicitly anticipate future deteriorations in the performance of the loan portfolio	Bankscope
DiscretionSmoothing	Accounting Discretion Smoothing, as calculated by the methodology in Bushman and Williams (2012), captures the extent to which banks record loan loss provisions based solely on the level of earnings without reference to information about the loan portfolio	Bankscope
Effectiveness	Government Effectiveness. This variable indicates the quality of public services, the quality of the civil service, and the degree of its independence from political pressures, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Higher values mean higher quality of public and civil service.	Kaufmann, Kraay, and Mastruzzi (2008)
Inflation	Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. The Laspeyres formula is generally used, and the data are winsorized at 1% in each tail.	World Bank
Law	Rule of law measures the extent to which agents abide by and have confidence in the rules of society. In particular, this measure captures the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence. Higher values indicate stronger law and order.	Kaufmann, Kraay, and Mastruzzi (2008)
Liquidity	Bank short-term funding to short-term liabilities scaled by total assets and winsorized at 1% in each tail	Bankscope
LogGDP	Log GDP per Capita. Natural log of real per capita GDP	World Bank

Legal Origin	Dummy variables for English (*English*), German (*German*), French (*French*); Scandinavian (*Scandinavian*), or Socialist (*Socialist*) legal origin	Djankov, McLiesh, and Shleifer (2007)
LnTotalAssets	Log Total Assets. Logged total bank assets in millions of USD winsorized at 1% in each tail	Bankscope
LoanLossReserve	Loan Loss Reserves (LLR). Loan loss reserves scaled by total assets winsorized at 1% in each tail	Bankscope
LoanLossProvisions	Loan Loss Provisions. Loan loss provisions scaled by total assets winsorized at 1% in each tail	Bankscope
Manages	Management Removal. One component of the creditor rights index that takes the value of one if during the reorganization of a business, an official is appointed by the court, or by the creditors, takes responsibility for operating the business. The firm management does not retain administration of its property pending the resolution of reorganization. This variable also takes a value of one, if the firm does not keep the administration of its property pending the resolution of the reorganization process. Otherwise, this variable is zero.	Djankov, McLiesh, and Shleifer (2007)
NetChargeOff	Net charge-offs scaled by total loans and winsorized at 1% in each tail	Bankscope
NetInterestRev	Net interest revenue scaled by total assets and winsorized at 1% in each tail	Bankscope
NonPerformingLoans	Non-Performing Loans (NPL). Nonperforming loans scaled by total loans and winsorized at 1% in each tail	Bankscope
NoAutostay	No Automatic Stay of Assets. One component of the creditor rights index that equals one if the reorganization process does not impose an automatic stay on assets of the firm upon filing the reorganization petition and creditors are able to seize their collateral after the reorganization petition is approved. This variable is zero otherwise.	Djankov, McLiesh, and Shleifer (2007)
OtherProfit	Other Bank Profit. Profitability from banks businesses not pertaining to loans or loan spreads, such as trading and fee-based ventures. *NetIncome-NetInterestRevenue**(1-*BankTaxRate*)+*LoanLossProvisions**(1-*BankTaxRate*), scaled by *TotalAssets* and winsorized at 1% in each tail	Bankscope
Regulation	Government Regulation. This variable represents the ability of the government to formulate and implement sound policies and regulations that permit and promote market competition and private-sector development. Higher values mean higher quality of regulation	Kaufmann, Kraay, and Mastruzzi (2008)
Reorg	Restrictions on Reorganization. This component of the creditor rights index has a value of 1 if the reorganization procedure imposes restrictions such as creditor's consent or minimum dividend for a debtor to be able to file for reorganization. If a country does not have such a restriction, this component takes a value of zero.	Djankov, McLiesh, and Shleifer (2007)
ROA	Overall Bank Profit. NetIncome/Total Assets winsorized at 1% in each tail	Bankscope

Secured	Secured Creditor Paid First. One component of the creditor rights index that takes a value of one if secured creditors are ranked first in the distribution of the proceeds that result from the disposition of the assets of a bankrupt firm, opposed to other creditors such as employees or government. If non-secured creditors such as the government or employees are given priority, this component takes a value of zero.	Djankov, McLiesh, and Shleifer (2007)
Stability	Government Stability. This indicator measures the perceptions of the likelihood that the government will be overthrown or destabilized or overthrown by violent or unconstitutional methods, including violence or terrorism. Higher values mean more stable environments.	Kaufmann, Kraay, and Mastruzzi (2008)
StockmarketGDP	Stock market capitalization scaled by GDP winsorized at 1% in each tail	World Bank
TotalAssets	Total bank assets in millions of USD winsorized at 1% in each tail	Bankscope
TotalLoans	Total bank loans in millions of USD winsorized at 1% in each tail	Bankscope
UnreserImpairedLoans	Unreserved Impaired Loans (UIL). (Non-Performing Loans - Loan Loss Reserves) scaled by total loans winsorized at 1% in each tail	Bankscope
Voice	Voice and Accountability. Capturing perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.	Kaufmann, Kraay, and Mastruzzi (2008)

B   Sample Construction

Table 16: Detailed Country-Level Variables

Panel A: Bank Distribution

Country	Banks	CRights	Reorg (cr1)	NoAutostay (cr2)	Secured (cr3)	Manages (cr4)	Country	Banks	CRights	Reorg (cr1)	NoAutostay (cr2)	Secured (cr3)	Manages (cr4)
ALBANIA	5	3	0	1	1	1	LITHUANIA	6	2	1	0	1	0
ANGOLA	3	3	1	1	1	0	MACEDONIA, FYR	8	3	0	1	1	1
ARMENIA	15	2	0	0	1	1	MALAWI	4	2	0	1	0	1
AUSTRALIA	18	3	0	1	1	1	MALAYSIA	23	3	1	1	1	0
AUSTRIA	7	3	1	1	1	0	MEXICO	32	0	0	0	0	0
BANGLADESH	28	2	0	0	1	1	MOLDOVA	10	2	0	1	1	0
BELGIUM	5	2	0	0	1	1	MONGOLIA	3	2	0	0	1	1
BOLIVIA	3	2	1	0	1	0	MOROCCO	1	1	0	0	0	1
BOSNIA AND HERZEGOVINA	9	3	0	1	1	1	MOZAMBIQUE	6	2	0	1	1	0
BOTSWANA	8	3	0	1	1	1	NEPAL	6	2	1	1	0	0
BRAZIL	72	1	0	1	0	0	NETHERLANDS	12	3	0	1	1	1
BULGARIA	14	2	0	0	1	1	NEW ZEALAND	8	4	1	1	1	1
CAMBODIA	5	2	1	0	1	0	NICARAGUA	3	4	1	1	1	1
CANADA	37	1	0	0	1	0	NIGERIA	18	4	1	1	1	1
CHILE	2	2	0	1	1	0	NORWAY	109	2	1	0	1	0
CHINA	95	2	1	0	1	0	OMAN	6	0	0	0	0	0
COLOMBIA	10	0	0	0	0	0	PAKISTAN	23	1	0	0	1	0
COSTA RICA	10	1	0	0	1	0	PANAMA	22	4	1	1	1	1
CROATIA	13	3	0	1	1	1	PAPUA NEW GUINEA	1	1	0	0	1	0
CZECH REPUBLIC	12	3	0	1	1	1	PERU	11	0	0	0	0	0
DENMARK	46	3	0	1	1	1	PHILIPPINES	24	1	0	0	1	0
DOMINICAN REPUBLIC	4	2	0	1	1	0	POLAND	20	1	0	0	0	1
ECUADOR	3	0	0	0	0	0	PORTUGAL	87	1	0	0	1	0
EGYPT, ARAB REP.	17	2	1	0	0	1	RUSSIAN FEDERATION	110	2	1	0	0	1
EL SALVADOR	6	3	1	1	1	0	RWANDA	3	1	1	0	0	0
FINLAND	3	1	0	0	1	0	SAUDI ARABIA	7	3	1	1	1	0
FRANCE	61	0	0	0	0	0	SIERRA LEONE	4	2	1	0	0	1
GEORGIA	12	2	0	0	1	1	SINGAPORE	7	3	0	1	1	1
GERMANY	680	3	0	1	1	1	SLOVAK REPUBLIC	9	2	0	1	1	0
GHANA	13	1	0	0	0	1	SLOVENIA	11	3	0	1	1	1
GREECE	15	1	1	0	0	0	SOUTH AFRICA	10	3	1	0	1	1
GUATEMALA	4	1	0	0	1	0	SPAIN	60	2	0	1	0	1
HONDURAS	3	2	1	0	0	1	SRI LANKA	11	2	1	0	0	1
HONG KONG SAR, CHINA	20	4	1	1	1	1	SWEDEN	68	1	0	0	1	0
HUNGARY	7	1	1	0	0	0	SWITZERLAND	3	1	0	0	1	0
INDIA	42	2	1	0	1	0	TANZANIA	22	2	0	1	0	1
INDONESIA	52	2	0	0	1	1	THAILAND	13	2	0	0	1	1
IRELAND	6	1	0	0	1	0	TURKEY	19	2	1	1	0	0
ISRAEL	9	3	0	1	1	1	UGANDA	16	2	0	1	0	1
ITALY	244	2	1	0	0	1	UKRAINE	39	2	0	0	1	1
JAMAICA	5	2	0	1	1	0	UNITED ARAB EMIRATES	10	2	1	1	0	0
JAPAN	75	2	0	0	1	0	UNITED KINGDOM	47	4	1	1	1	1
JORDAN	9	1	0	0	0	1	UNITED STATES	5,656	1	0	0	1	0
KAZAKHSTAN	25	2	1	0	0	1	URUGUAY	6	3	1	1	1	0
KENYA	25	4	1	1	1	1	VENEZUELA, RB	1	3	0	1	1	1
KUWAIT	5	3	1	1	1	0	VIETNAM	8	1	0	0	1	0
KYRGYZ REPUBLIC	4	3	0	1	1	1	ZAMBIA	10	1	0	0	0	1
LAO PDR	3	0	0	0	0	0							
LATVIA	15	3	1	0	1	1	Total Banks	8,397					
LEBANON	20	4	1	1	1	1	Non-US Banks	2,741					

Panel B: Bankruptcy Code Distribution

CRights	Reorg (cr1)	NoAutostay (cr2)	Secured (cr3)	Manages (cr4)	Countries	Banks Including US	Banks Excluding US
0	0	0	0	0	7	126	126
1	0	0	0	1	5	53	53
1	0	0	1	0	13	274	5930
2	0	0	1	1	10	256	256
1	0	1	0	0	1	72	72
2	0	1	0	1	4	102	102
2	0	1	1	0	6	36	36
3	0	1	1	1	15	843	843
1	1	0	0	0	3	25	25
2	1	0	0	1	7	414	414
3	1	1	1	0	6	260	260
3	1	0	0	1	2	25	25
2	1	1	0	0	3	35	35
3	1	1	1	0	7	57	57
4	1	1	1	1	8	163	163

Table 16 Panel A reports the number of banks for each of the 97 countries contained within our sample period of 2005-2014 as well as each type of creditor protection. Variables are defined in Appendix A. The creditor rights index (*CRights*) is the summation of the dummy variables indicating whether creditors have power over restrictions on reorganization (*Reorg*), there is no automatic stay of assets (*NoAutostay*), the secured creditor is paid first (*Secured*), or management can be removed during times of bankruptcy (*Manages*). Panel B shows the different bankruptcy code combinations present within the sample along with the number of countries and banks (including and excluding the US) within the sample that have each combination. Variables are defined in Appendix A.