Which Creditors’ Rights Drive Financial Deepening and Economic Development?

by Charles W. Calomiris and Mauricio Larrain, Columbia University, and José Liberti, DePaul University and Northwestern University and Jason Sturgess, DePaul University

In the 1990s, economists began to investigate the extent to which creditors’ rights—that is, the legal protections afforded by law to lenders—affect economic growth and development. The first studies in this area showed a clear association between countries providing stronger protection of creditors’ rights and those enjoying greater supply of credit and higher levels of economic development. According to this research, strong creditors’ protections (or the absence thereof) appear to derive primarily from a country’s “legal origins”—specifically, the set of historical laws and practices that were associated with four national legal traditions. Such research has shown commercial laws to originate either within the British common law tradition, or within civil law, which derives from Roman law. Within the civil tradition, three distinct branches have been identified: French, German, and Scandinavian.

But challenges to this view arose almost immediately. Several studies pointed out that other political factors could explain cross-country variations in credit supply that were only coincidentally related to having relatively strong creditors’ protections in the late 20th century. Those political factors included colonial inheritances of limited protection of property rights, as well as high levels of inequality or autocratic crony capitalism. These studies cast doubt on the view that well-established legal traditions were the fundamental source of financial deepening and economic development.

As the literature on the importance of creditors’ rights evolved, it not only came to grips with the questions of causality raised by these critical studies, but also sought to identify which aspects of creditors’ rights mattered most, and which aspects were easiest for countries to alter in ways that would improve their ability to increase the supply of credit. It addressed questions like the following: which kinds of creditors’ rights matter more, the bankruptcy code procedures for handling credit defaults, or the rules governing the ability to seize collateral by secured lenders? If collateral disposition rules are important, which kinds of collateral tend to be the most challenging to protect? What is the relative importance of laws on the books governing collateral, as opposed to procedures that encourage proper monitoring of collateral and easy enforcement of collateral laws?

For example, in one study that examined reforms of creditors’ rights in Eastern Europe after the fall of the Soviet Union, the authors found that reforms of collateralization have larger immediate effects than bankruptcy reforms on the supply of bank credit, and that foreign banks react more strongly to such reforms than domestic banks. Those findings, as the authors noted, were likely to reflect the reality that bankruptcy reforms tend to take effect gradually through complicated changes in court processes, and so are not likely to be as effective in eliciting responses by banks and other potential lenders. In contrast, collateralization improvement can occur outside of court procedures just by establishing and enforcing simple rules about who gets to control assets under various circumstances. Foreign banks are more likely to increase their lending in response to credible changes in collateral rules partly because the reliance on those rules does not depend as much on knowledge of local legal nuances or the ability to influence court outcomes.

As for the question of which types of collateral protection are most important for credit supply, studies have shown that in developing countries—where scarcity of credit is often a binding constraint on economic development—movable assets such as machinery, inventories, accounts receivable, and financial assets are both a major component of corporate assets and a type of collateral that can be especially challenging to borrow against. Unlike immovable real estate assets, movable assets can disappear—and they also tend to depreciate in value more quickly. For both of these reasons, creditors that lend against movable assets need to be able to gain reliable and speedy control over collateralized movable assets in the event of default. But such collateral protections are scarce in developing countries, which makes banks reluctant to extend favorable terms on loans backed by movable assets. In contrast, the ability to foreclose on real estate is generally relatively reliable, even if delayed, in most developing countries.

The result is a disproportionate reliance on real estate collateral in developing countries. As can be seen in

1. LaPorta et al. (1997, 1998) and Levine, Loayza, and Beck (2000). For full citations of all articles cited in the text or footnotes, see the References section at the end.
3. Haselman, Pistor, and Vig (2010).
To address all these various issues, we recently conducted a study in which we analyzed extensive data on collateralized lending during the period 2002-2004 that were provided by a major anonymous global bank (which we label “Global-Bank”) making business loans in 12 developing countries. The data describe the loan amounts, the types of collateral used to secure the loan, the liquidation value of the collateral (according to the bank’s private internal assessment of market value), and other characteristics of the borrowers. We used those data to analyze the effects of collateralization rules on lending and production. More specifically, we investigated how companies that use and own a high proportion of movable assets are often disadvantaged in developing economies by the absence of effective means for borrowing against those assets. We measured the quality of legal and institutional arrangements within each country for collateralizing movable assets using the World Bank’s Doing Business survey data. Using additional data on industry-level production from the United Nations Industrial Development Organization’s (UNIDO), we also investigated the extent to which sectors that naturally rely more on movable assets in production tend to produce less in countries that lack effective means for collateralizing movable assets. Finally, we also considered the relative importance of each of the three key elements of the legal and institutional framework for secured borrowing against movable assets—those pertaining to the creation and monitoring of secured assets, and to the enforcement of claims in a default.

Figure 1, which compares the proportions of collateralized business lending in the United States by type of collateral with the corresponding proportions in developing economies, real estate is roughly twice as common as a type of collateral in developing countries as in the U.S. This comparison suggests that companies with both types of assets tend to “over-use” real estate assets as collateral in developing countries. More specifically, corporate borrowers in such countries tend to rely on their real estate as collateral to secure funding, which both reduces the amount and raises the cost of the credit used to finance corporate investment. As a consequence, companies in naturally movable asset-intensive sectors may find their access to credit sharply limited by their mix of factors of production.

Problems with collateralizing movable assets can arise in one or more of the three aspects of secured transactions: (1) the creation of the security interest; (2) the monitoring of the interest (with the aim of ensuring that no other lender has rights to the same collateral); and (3) the enforcement of the interest in the event of default. For movables to serve as effective collateral, more is needed than just a law saying that movables may serve as collateral. For one thing, movable collateral is worth little if it cannot be monitored (hence, as we will argue later, the importance of creating centralized registration of security interests). And the costs of loans collateralized by movable assets can be substantially reduced if creditors are able to seize their collateral quickly and easily—an ability that, as we will also discuss later, is made possible by out-of-court enforcement of the right to seize movable assets.

Note: The figure reports the frequency of different types of collateral pledged by small and medium-sized enterprises in developing countries (Panel A) and in the United States (Panel B). Source: data for the developing countries comes from the World Bank Enterprise Surveys and data for the U.S. comes from the Survey of Small Business Finances.

Figure 1  Collateral composition in developing countries and the United States
To provide a brief overview of our results, we found, first of all, that in “weak-collateral law countries” (defined as countries where it is hard to collateralize movable assets), loan-to-value ratios (LTVs) for loans against movable assets were about 27 percentage points lower than in strong-collateral law countries (where movable assets are easily collateralized). LTVs can be thought of as a measure of the borrowing capacity that an asset can support. And to control for confounding country-specific effects, we compared movable loans’ LTVs to those for immovable asset loans in each of the countries.

Second, we performed a within-country analysis of Slovakia, the one country in our sample that chose to improve its movable collateral laws and institutions during our sample period. In that case we found that the movement to best practice in movable collateralization was associated with a rapid increase in the LTVs for loans collateralized by movables.\(^6\)

Third, we found that, in weak-collateral law countries, sectors that are naturally intensive in their use of movable assets in production tend to be relatively small. Examining the within-country allocation of production across collateral law frameworks for the 12 GlobalBank countries, we found that weak-collateral law countries allocate about 15% more production to immovable-intensive sectors than strong-collateral law countries. Using a different data source, we also produced results for a broader sample of 76 countries that were similar, but of smaller magnitude.

Finally—and perhaps most important of all—we found that it is the creation of collateral registries for registering security interests over movable assets and the possibility of enforcing security interests without court intervention—as distinguished from the existence of laws permitting the collateralization of movable assets—that drive our results on lending and sectoral production allocation.

**Global Bank Secured Lending Across Different Legal Environments**

Global Bank, as mentioned earlier, provided us with data on its secured loans to small and medium-sized enterprises in 12 developing countries: Chile, Czech Republic, Hong Kong, Hungary, India, Malaysia, Pakistan, Romania, Singapore, Slovakia, Sri Lanka, and Turkey. We measured loan quantity as the term-loan amount or the amount actually drawn on a loan issued by the bank. Figure 2 shows the relation between a country’s movable collateral law index and the difference between the average LTV of GlobalBank’s loans backed by movable assets (machinery, inventory, and accounts receivable) and immovable assets (real estate). The average is taken during the period 2002-2004. Source: authors’ calculations.

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\(^6\) See also Campello and Larrain (2016), which analyzed collateral reforms in Eastern Europe from 1996 to 2005. They found large increases in leverage for firms operating in sectors that make intensive use of movable assets after reforms of movable asset collateralization.
line of credit. We defined the liquidation value of the pledged asset as the fair market liquidation value of the collateral as appraised by GlobalBank. In terms of the internal process to determine the liquidation value, an external independent appraiser determines the price that a willing and informed buyer would pay to a willing and informed seller when neither party is under pressure to conclude the transaction. The ability to track the market values of underlying assets that serve as collateral is a unique feature of this database.

To measure differences among countries in strength of movable collateral laws, we used the World Bank’s Doing Business dataset to construct an index that captures the ability to use movable assets effectively in loan contracts. The World Bank administers a questionnaire to financial lawyers, which we verified through analysis of laws and regulations as well as public sources of information on collateral laws. Doing Business provides information on seven different features of collateral laws and gives each feature a score of zero or one. We constructed a movable collateral law index (“MC Law Index”) for each country by summing the scores of seven of those components. Thus, our MC Law Index ranges from zero to seven.

The first five features of the MC Law Index relate to the creation component of secured transactions; they determine the scope of movable assets that can be pledged as collateral. The sixth feature relates to the monitoring component; creditors must register the security interest in a collateral registry to ensure that no other lender has rights over the same collateral. The seventh feature corresponds to the enforcement component; it determines whether the creditor is allowed to repossess the collateral (in the event of default) privately with the borrower, bypassing the court system.

We analyzed the effect of collateral law strength by comparing the LTVs of movable-backed loans to the LTVs of immovable-backed loans. Our approach was designed to avoid the problem of mistaken identifications of causality that arise from the failure to control for other important differences—that is, apart from collateral protection—in countries’ average characteristics at any moment in time. In particular, we compared the difference between the LTVs of loans collateralized by movable and immovable assets in countries with strong collateral laws to the corresponding difference in countries with weak collateral laws. To the extent that difficulties in collateralizing movable assets are constraining credit supply, we expected this effect to show itself in the relative difficulty of borrowing against movables.

Figure 2 displays the relation between LTVs on loans against movable assets (relative to immovables) against the MC Law Index for each of the 12 countries. The upward slope of the relation indicates that a greater legal ability to collateralize movable assets is associated with a larger debt capacity for movables-collateralized loans relative to loans backed by immovables.

In a more formal test of the effect of movable collateral laws on LTVs, we ran regressions with LTV as the dependent variable. The key variable of interest in our regression is the interaction between the strength of movable collateral law (captured by an indicator variable) with an indicator variable that captures whether the loan is secured by movable collateral. We also included a variety of control variables, such as borrower characteristics and country characteristics.

The findings of our regressions can be interpreted as saying that the difference between the LTVs of movables-collateralized loans and of immovables-collateralized loans is about 27 percentage points higher in strong-collateral law countries than in weak-collateral law countries. The economic significance of this finding is large: when compared with the unconditional mean LTV for movables in weak-collateral law countries of 0.45, the results represent an increase in LTV of 60% (0.27/0.45).

Slovakia’s Reforms

Another way to capture the consequences of stronger collateral law is to examine actual improvements in law within a country. Slovakia passed a major reform on the collateralization of movables in late 2002. The new law allowed the creation of security interests in movable assets without having to transfer possession to the creditor. The law also gave creditors private enforcement rights, including the ability to repossess collateral without having to go to court.

The law became effective on January 2003, with the introduction of the Charges Register, a modern centralized registry for security interests over movable assets, which was operated by Slovakia’s Chamber of Notaries. A security interest could be registered in minutes at any local office through an electronic terminal for as little as 30 Euros. The reform was considered a success and became the subject of numerous press accounts. In January 2003, The Economist went so far as to describe the reformed Slovak secured transactions law as “the world’s best rules on collateral.”

In our regressions, we examined how loans from GlobalBank to the same Slovakian companies changed over time. Specifically, we measured how LTVs change for the same companies after movable collateral reforms are instituted.

Our main finding was that the difference between the LTVs of movables- and immovables-backed loans increased by 20 percentage points after the passage of the law. Prior to the reform, the average LTV for movables-backed loans

7. These results are robust to a variety of alternative specifications. And as noted above, by estimating the effect of strong collateral laws for movable assets on the relative LTVs of movables-collateralized loans, we ensure that our estimates of the influence of movables collateral regimes are not confounded by other institutional attributes of a country—such as greater general adherence to the rule of law, or less corruption, or more efficient court proceedings—that may be correlated with the presence of strong collateral laws for movable assets.
How Collateral Laws Shape Industrial Production

We also obtained data on the sectoral composition of output by country from UNIDO, which provides yearly information for 22 manufacturing industries in a large number of countries for a large number of years. Using data on sectoral output measured in U.S. dollars, we constructed a single cross-section that averaged data for the period 2002-2004.

We estimated the effect of movable collateral law strength on the output share of immovables-intensive versus movables-intensive sectors. To identify the technologically-given composition of assets across sectors, we employed data on sectoral asset composition for the U.S. Our assumption is that because of the unusually good legal framework for the collateralization of movable assets provided by the U.S. Uniform Commercial Code, differences in the asset composition of sectors are essentially unaffected by legal shortcomings in the ability to pledge movables as collateral. For each of 22 manufacturing sectors in the U.S., we constructed a sectoral index of immovables intensity calculated as the median of the ratio of the value of land and buildings to total assets for publicly traded companies in those sectors. As can be seen in Figure 3, which reports the index for each of the 22 sectors, we found large cross-sectoral differences in the usage of immovable assets within manufacturing sectors—for example, roughly 6.5% in leather, 8.5% in machinery and equipment, 14.5% in furniture, and 16.5% in tobacco.

We calculated each sector’s share in total output by dividing sectoral output by aggregate manufacturing output. In Figure 4, we plot the output share of immovables-intensive sectors against the MC Law Index. We defined sectors as immovables-intensive if they were above the median of the sectoral immovables-intensity index. The figure shows that countries with weak collateral laws tend to allocate a greater fraction of their production towards immovables-intensive sectors. Weak-collateral law countries allocated, on average, about 67% of their production to sectors intensive in real estate, while strong-collateral law countries allocated only 51%. This difference of 16 percentage points is sizable. Our more formal regression analysis (which controls for various influences) provided similar results. We also expanded our analysis of production allocation to a much larger sample of 76 countries and obtained similar results.

Movable Collateral Law Components

The MC Law Index measures the strength of movable collateral laws in all three components of secured transactions: creation, monitoring, and enforcement. In our work, we analyzed which of these components matter the most.

We re-ran the regression analysis described above, distinguishing among the various components of the MC Law Index. Our main finding in this case was that laws by
there is a causal link—and, if so, about the nature of this link. According to skeptics, the larger credit flows in economies with strong creditor protections may simply reflect other features of such economies, such as well-established legal and corporate governance traditions, that tend to be associated with such protections.

Our study addresses this controversy by providing clear identification of the effects of strong creditors’ rights on financial deepening and economic development. Furthermore, by focusing on collateralization and distinguishing among three different aspects of creditors’ rights—the laws governing the creation of a security interest, the monitoring of such interests, and enforcement of claims in the event of a default—our study shows that the inability to collateralize movable assets is one of the most binding and important shortcomings of the legal and institutional environments in developing countries. More specifically, we find that the LTVs of loans collateralized by movable assets relative to those backed by immovable collateral were higher in countries with collateral registries in place, and in countries that allow creditors to repossess collateral without court intervention. In regressions that include all three components simultaneously, only the monitoring and enforcement components are significant.

In sum, it is the collateral registries and the possibility of out-of-court enforcement—not the existence of laws alone—that drive our LTV results. With respect to the allocation of production, our findings are consistent with the LTV regression results. The effects of the monitoring and enforcement components matter more than the creation component. Collateral laws on the books are a necessary but not a sufficient condition for effective collateralization.

Conclusions
Earlier studies showing a clear association between strong creditors’ rights and large credit flows within national economies have generated considerable controversy about whether themselves have little effect on LTVs or on industrial production. For collateralization of moveables to be affected by legal reforms, those reforms had to be accompanied by improvements in monitoring and enforcement. The LTVs of loans collateralized by movable assets relative to those backed by immovable collateral were higher in countries with collateral registries in place, and in countries that allow creditors to repossess collateral without court intervention. In regressions that include all three components simultaneously, only the monitoring and enforcement components are significant.

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Figure 4  **Collateral law strength and the sectoral allocation of output**

Note: The figure plots the relation between a country’s movable collateral law index and the average ratio of output in immovable-intensive sectors to total manufacturing output. The sectoral data comes from UNIDO. The average is taken during the period 2002-2004. Immovable-intensive sectors are those above the median of the sectoral index of immovable asset intensity. Source: authors’ calculations.
country’s laws, but also—and more importantly—the financial infrastructure for monitoring collateral and for enforcing collateral rights in a cost-effective way—that is, outside of formal, typically protracted, court proceedings.

The good news is that these findings also mean that it should not be too difficult for many developing countries that are interested in improving their lending environments to do so. Unlike reforms of bankruptcy—a legal process that entails lengthy and complex court battles, often in judicial environments that are inefficient and corrupt—improving movable collateral laws requires relatively simple and straightforward reforms, such as the creation of legal rights to use movable assets as collateral, the creation of a registry so that secured creditors can track movable assets, and the creation of laws permitting extra-judicial enforcement of creditors’ rights to seize movable collateral.

References


