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ABSTRACT

This study builds on the existing law and finance literature by analyzing the impact of legal systems on both the level and the sourcing of working capital. We find that stronger rule of law results in lower levels of working capital, less sourcing from retained earnings, and more sourcing from banks. Firms in common-law regimes have lower levels of working capital and finance it from banks, while firms from civil-law environments rely on retained earnings and other financial institutions for sourcing. The impact of legal origin on both the level and the sourcing of working capital is mixed.

Keywords: Legal Systems, Rule of Law, Legal Tradition, Legal Origins, Working Capital

JEL Classification Code: G28, G38

1. Introduction

This study aims to investigate how different facets of a nation's legal system impact the firm-level decision of financing working capital. While the legal system has been regarded as one of the crucial elements in the development of a nation's financial framework, its role in a firm's decision in choosing a financial instrument has been largely neglected so far (Levine, 2001). Most researches at the junction of law and finance have focused on either development of national capital markets or the long-term capital structure of firms, not working capital. We aim to fill this gap.

The topic is important for both academic and practical reasons as scholars are still exploring the interface of legal and financial systems, and it behooves practitioners in both the public and private sectors to understand possible relationships between institutional environments and financing choices. The legal system of a nation typically has a unique development path, characteristics, tradition, and origin, which has been influenced by the nation's historical and cultural backgrounds; thus, an international comparison analysis is also desired.

This study utilizes two distinct datasets to analyze the effects of legal systems on both the level and the sourcing of working capital. The first dataset, drawn from Compustat Global, consists of a panel of firms across 113 countries for the years 1987-2016 with 416,123 firm-year observations. The second dataset, a cross-section collected by the World Bank, encompasses nearly 96,000 firms across 128 countries for the years 2006-2014. We examine three key components of legal systems, namely their strength, legal tradition (e.g. common law, civil law), and legal origin (a nation or a national culture that is the basis of the legal system).

Building on the general theory that stronger rule of law leads to less expropriation and hence to greater investment (North, 1990; Acemoglu and Johnson, 2005), we find that stronger

rule of law leads to lower levels of working capital, less sourcing of working capital from retained earnings, and greater sourcing from banks. Consonant with existing research on law and finance that generally supports the idea that common law is friendlier to investors than civil law (e.g. LLSV 1997, 1998), we also find that firms in common-law regimes have lower levels of working capital and that they are more likely to source working capital from banks. Firms in civil-law environments favor retained earnings and other financial institutions as sources. These results are contributions to the law and finance corpus in that they address working capital specifically in the context of existing theory, but we also offer stylized facts outside of current theory about the relationship between other legal traditions (e.g. Islamic law) and working capital as well as legal origin (e.g. French, Spanish, etc.) and working capital.

We begin by providing a literature review on working capital and legal systems, focusing on the effectiveness of rule of law, legal tradition and legal origin. Next, we offer the descriptions of the data employed and the methodologies for analysis. The results follow, and the discussion of their contribution to the law and finance literature is the penultimate section of the paper. Limitations of this research and future directions conclude the paper.

2. Literature Review

2.1 Definition and sources of working capital

Working capital is the difference between current assets and current liabilities, where "current" indicates a duration of one year or less (Brealey, Myers, and Marcus, 2012). As such, it is a measure of a company's ability to continue operations and its management is crucial, particularly for small and nascent enterprises that by nature have fewer resources than larger, more established firms (Abe, Troilo, Juneja, Narain, 2012). Companies can procure financing for working capital from a number of sources: informal financing, internal financing, debt financing, equity financing

and so on. By nature, the financing of working capital is short-term and the sources of financing can be internal to the firm, external and formal (banks), and/or external and informal (trade credit, borrowing from family, etc.).

Internal financing funds working capital via a company's profits/retained earnings; firms consider it as the first option to raise funds and regard it as a crucial and essential way of financing (Abe et al., 2012; 2015). For example, since retained profit is just a transformation of retained profit to investment, firms do not need to expend actual cash and can maintain debt capacity. However, it requires balancing the need for financing with the firm's dividend policy (Jiang, Li and Lin, 2014).

Informal financing refers to all financing conducted without any control from the official monetary authorities (Abe et al., 2012; 2015). The funds are usually raised from personal savings, borrowing from acquaintances or family, and trade credit (ibid). This type of financing is dependent on personal relationships, and the procedures are relatively simple. The drawback of informal financing is that firms accessing it can easily become targets of usury (Degryse, Lu and Ongena, 2015). Firms often lack the information necessary to surface the complete set of financing options available to them, and resort to informal financing to satisfy their working capital needs (Allen, Qian, and Xie, 2013).

Formal debt financing is the third primary source of funds for working capital. This financing is in the form of credit lines or loans and traditionally originates from banks and corporate bonds (Abe et al, 2012; Nassr and Wehinger, 2014). There are many restrictions on formal lending concerning the quantity of funds, credit history of the borrower, repayment terms, financial ratios, and financial reporting requirements (Jiang, Li and Lin, 2014).

Another option is borrowing from other financial institutions. These arrangements can be either formal, e.g. borrowing from the local post office which offers some banking functions, or informal, e.g. borrowing from a local cooperative (co-op) that is not registered with the authorities. Non-bank financing is an essential way of financing fostering cash flow to SMEs as well as promoting participation and creating diversity in the financial system (Nassar and Wehinger, 2014). Note that this category excludes trade credit, which is captured in informal financing.

2.2 Legal institutions, legal systems, and financial development

Institutions are the "rules of the game" (North, 1990: p.3) by which society organizes itself. According to North (1990), institutions may be informal, such as social norms and conventions, or they may be formal, such as statutes. There exists a continuum whereby informal institutions may evolve into formal institutions as societies mature, and in any event complex feedback loops exist between informal and formal institutions at all stages of development (ibid). The difference is that the latter is codified and is backed by state power; hence, legal institutions are formal institutions.

Legal institutions comprise a number of sub-institutions, such as courts, legislatures, and agents of enforcement (executive power), as well as concepts including rule of law, property rights, contract law, statutes, and regulations ((Aidis, et al., 2011; Levie and Autio, 2011; Troilo, 2011; Estrin, 2009; Mishra and Tannous, 2010; Johnson, McMillan, and Woodruff, 2002). It is beyond the scope of the paper to treat each of these topics, but some demarcation is necessary. Sound rule of law is designed to discourage expropriation of rents (Acemoglu and Johnson, 2005; Johnson, McMillan, and Woodruff, 2002; Weingast, 1995; North, 1990). This expropriation can be vertical or horizontal (Acemoglu and Johnson, 2005). Vertical expropriation of rents occurs through government action: nationalization of private assets, confiscatory taxation, corruption related to

licenses and permits, etc. The antidote is strong property rights (ibid; Weingast, 1995). Horizontal expropriation of rents occurs through the activities of actors other than the government; the remedy is sound law: contracting institutions (Acemoglu and Johnson, 2005). "Legal institutions" for the purpose of this paper are formal institutions restricting both horizontal and vertical expropriation of rents; they are country-level rule of law and protection of property rights.

Legal systems encompass legal institutions and include not only the effectiveness of such institutions but also their tradition (e.g. common law, civil law) and origin (e.g. British, French, Spanish). La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997; 1998; henceforth LLSV) pioneered the connection between legal systems and financial development. Their contribution identified the common-law tradition as more conducive for investment, and therefore economic development, than the civil-law tradition. They find that the common-law tradition offers more protection for both shareholder rights and creditor rights than the civil-law variants from France, Germany, and Scandinavia, though they offer some caveats about this generalization, e.g. some German civil-law countries are protective of secured creditors.

Since the seminal efforts of LLSV, the true impact of legal systems on financial development remains a matter of hot debate. Beck, Demirguc-Kunt, and Levine (2003) study financial development in terms of both access to equity and access to private credit and discover that common law is better suited for financial development than civil law both because the former is more sensitive to property rights and has a more independent judiciary ("political channel") and also due to the fact that the common law is more flexible to changing economic circumstances ("adaptability channel"). Of the two primary mechanisms, the adaptability channel is more influential, and they find that German civil law is more flexible than French civil law, but not more so than British common law.

Rajan and Zingales (2003) contend that too much emphasis has been given to shareholder rights in the law and finance literature at the expense of creditor rights, and find that over certain extended periods of time financial development as measured by per-capita stock market capitalization is greater in civil-law nations than in common-law nations. Dam (2006) criticizes LLSV for confounding creditor rights with bankruptcy law and notes wide dispersion in results among countries sharing the same common-law tradition. Djankov, McLiesh, and Shleifer (2007) examine private credit across 129 countries and find that while legal origin is important for both creditors' rights and creditor information, it is not significant for access to private credit. Graff (2008) questions the very notion that law impacts financial development and consequently economic development in any fundamental way. He concludes that there is no evidence to favor common law over civil law for investment; however, there is evidence that these respective legal traditions do treat investors differently.

Based on the findings of LLSV (1997, 1998) and Beck, et al. (2003), we surmise that the common-law context will have a positive correlation with firms financing working capital from formal financial institutions such as banks. On the other hand, firms in the civil-law legal environment may find access to finance more daunting; their preference would be to finance working capital from retained earnings if possible. Note that a crucial difference between our work and prior literature is that the former is studying short-term financing whereas as the latter focuses on long-term financing and the development of capital markets.

Building on the above authors as well as North (1990), stronger rule of law would also tend to encourage formal, external financing whereas weaker rule of law would encourage internal financing of working capital. In addition, stronger rule of law would tend to decrease amounts of

working capital as firms seek higher-yielding investments, since they are confident that such assets are safe from expropriation. We propose the following hypotheses for testing:

H1: Rule of law will correlate negatively with levels of working capital.

H2: There will be a positive, significant correlation between the common-law tradition and financing working capital from banks.

H3: There will be a positive, significant correlation between the civil-law tradition and financing working capital from retained earnings.

H4: Rule of law will correlate positively with financing working capital from banks.

H5: Rule of law will correlate negatively with financing working capital from retained earnings.

The extension of study of legal systems to the level and financing of working capital is novel and constitutes our primary intended contribution to the law and finance literature. Whereas most of the literature, particularly regarding equity and shareholder rights, deals with long-run investment, working capital is by definition in the short term. The studies relating to private credit are more germane to our investigation, but even these make no distinction in timeframes for accessing credit.

Another intended contribution is to extend the reach of legal systems. We consider five basic traditions: common law, civil law, customary law, Islamic law, and Marxist law, which we define and operationalize in the subsequent Data and Methodology section. Furthermore, we include the "sphere of influence" or what we term the "legal origin" of the national legal system based on the work of Acemoglu, Johnson, and Robinson (2001). Given the paucity of research in the nexus of legal systems and working capital, we cannot postulate with any confidence what the results will be for legal origin. We have no theory leading us to believe, for example, that an

enterprise in a former French colony would source more working capital internally than one operating in a former Spanish colony.

3. Data and Methodology

3.1 Dependent variable for the level of working capital

The primary data source for our sample focused on the level of working capital is the Compustat Global dataset. Via Compustat Global, data is retrieved for fiscal years 1986 to 2016. However, as a chosen control variable requires a year-over-year change to be calculated, the final dataset for testing consists of fiscal years 1987 to 2016. Observations were maintained in the dataset if Compustat Global had non-missing values for working capital, total assets, revenue, and long-term debt. The final dataset consists of 416,123 firm-year observations spanning 113 unique countries. Table 1 displays the definitions for the dependent variables, key independent/explanatory variables, and control variables. The dependent variable WorkingCapOverAssets captures the level of working capital for each firm in the given fiscal year scaled by the level of total assets (Tian and Yu, 2017). All monetary inputs have been converted to a common currency to maintain proper comparability and scaling.

<Table 1 about here>

3.2 Dependent variables for the sourcing of working capital

Our primary data source for the dependent variable for the sourcing of working capital consists of World Bank Enterprise Survey (WBES) data for the years 2006-2014 comprising approximately 96,000 firms across 128 countries. The most developed regions and countries are not included, e.g. Western Europe, the US, Canada, Japan, Singapore, New Zealand, Australia, Saudi Arabia, and the United Arab Emirates, as the original purpose of the World Bank in collecting the data was to focus on emerging market nations. The World Bank employs rigorous

sampling methodology to minimize selection bias, thereby ensuring that the distribution of firms is representative of the overall population with respect to firm size, industry sector, and region within the country.

There are four dependent variables that measure the percentage of working capital financed from one of the following sources: retained earnings, banks, other financial institutions, and family/friends. As mentioned in Section 3.1, these variables are defined in Table 1. Retained earnings are internal financing, while banks and other financial institutions are lending funds to support working capital. Other financial institutions also includes purchases on credit from suppliers and advances from customers to finance working capital, while borrowing from one's network of relatives and friends is the final option. Respondents had to provide a percentage between 0 and 100, though nearly 16% of respondents (approximately 14,000 observations) did not give an answer.

3.3 Independent and Control Variables

Our primary data sources for the independent variables are the International Country Risk Guide and the CIA World Factbook. The former organization has been measuring national institutions, including the robustness of the legal system and popular observance of the law (Law and Order), across countries for decades and is a familiar source of institutional variables in finance research. The latter agency amasses data about the geographic, historical, social, political, and economic context of each country in the world. From the Introduction section (and general knowledge) we can gather the legal origin, i.e. whether the country has been a colony in the past five centuries. From the Government section we learn the type of legal tradition the country has: common law, civil law, customary/tribal law, Islamic law, and/or Marxist law.

The key explanatory variables are the strength of rule of law, the types of legal systems, and their origins. In keeping with the prior discussion of horizontal v. vertical legal institutions, we sought a measure that combined the robustness of contracting institutions with protection of property rights. We found such a metric (LawOrder) from the International Country Risk Guide for each country and year from 1987-2016. The other key explanatory variables are categorical variables for the various types of legal traditions and legal origins previously described.

Table 2 displays the number of countries and observations by type for each sample. There are several points to make. First, because a country can and often does have more than one influence on its legal system, the total count of legal traditions exceeds the number of countries in the dataset.[1] An interesting example of this is Yemen, which counts every influence (common, civil, customary, and Islamic) on its legal system listed above except for Marxism. The Philippines follows this pattern as well, and a number of nations have an amalgam of several types.

<Table 2 about here>

Second, in the spirit of Acemoglu, Johnson, and Robinson (2001), we weighed the relative permanence of colonialism/imperialism on the development of legal institutions in a specific country. Legal institutions are by nature "slow-moving" in Roland's (2004) terms; they are subject to fundamental change every 10-100 years according to Williamson (2000). In comparing the relatively long-term effects of certain empires, such as the Spanish or British, we decided that in order for a country to be counted as formerly under the control of another, that control had to span at least forty continuous years and be a physical reality. This reasoning excludes the German colonies in East and Southwest Africa before the First World War, the British protectorates in the Middle East in the interwar years, and various brief annexations, occupations, and conquests. It

[1] A table of all countries in the sample with their respective legal traditions and legal origins is available by contacting the authors.

also excludes tributary relationships between larger nations and smaller nations, e.g. Imperial China and various Asian states.

Third, peoples have been invading other peoples since the dawn of humankind. We had to set a limit on how far in the past we would go to consider the impact of one nation on another. We decided that the beginning of European conquest of other parts of the globe roughly 500 years ago made a sensible demarcation point. In addition, five centuries ago the Ottoman Empire was at its zenith, and this arrangement has had a profound effect on development even until today.

Finally, we recognize that talk of colonies and empires is uncomfortable at best and politically incorrect at worst in contemporary society. Our point is not to stir controversy; it is merely to acknowledge certain factors in the fashioning of a legal system. The US has never labeled itself an empire yet it is indisputable that the Philippines was once a colony and the US influence is present in its laws. Likewise, the term "empire" was anathema to the Soviets, but the incorporation of Central Asian republics into the Soviet Union have left their mark on these recently independent nations. Our purpose is to advance beyond consideration of only four original flavors of law (British, German, French, and Scandinavian) in the pioneering work of LLSV (1997. 1998), thereby making a contribution to the literature of law and finance.

Both samples are matched with the legal variables discussed above sourced primarily from the International Country Risk Guide and the CIA World Factbook. As previously mentioned, Table 2 displays the number of countries and observations by legal type and origin. From Panel A of Table 2 we observe the trends for the level of working capital dataset. Civil law represents the most commonly occurring legal tradition with 46.1% of countries and 48.1% of observations. The British legal origin is the most prevalent legal origin with approximately one-third of both the countries and the observations.

Table 2 Panel B provides similar statistics for the sourcing of working capital dataset. Again, the civil law tradition is the most prevalent type. Summing the total number of possible influences by country (195) and observations (139,823), we calculate that civil law affects 48.7% of the nations and 55% of the observations. Common law and customary law are close to one another at second and third with nearly 21% of the countries and roughly 16% of the observations each. In terms of origin, 26% of countries were formerly under British dominion, accounting for 20% of observations. The Spanish influence covers about 13% of nations but has the highest percentage of observations at 22%, while French origin affects the second-highest percentage of countries at nearly 15% but only 8% of observations. Other notable influences include Ottoman (nearly 11% and 12%) and Soviet (nearly 10% and 15%).

We also include a number of control variables at the firm, industry, and country levels to account for alternative hypotheses. However, given the distinct datasets, and differences in factors affecting levels of working capital relative to sourcing of working capital, the included control variables are not identical between the two datasets. For the sample on levels of working capital, three continuous control variables are included to account for size, leverage, and growth. Each are winsorized at the 1% level. Additionally, categorical variables are included to account for industry and year.

For the sourcing of working capital dataset, we have continuous variables for firm size (number of employees) and firm age; the average firm has 96 employees and has been operating for 19 years. There are categorical variables for the ownership status (publicly listed company, partnership, etc.). Nearly 50% of the companies in our sample are privately held limited-liability corporations, while another 31% identify as sole proprietorships.

There are sixteen industrial sector (Textiles, Leather, etc.) categorical variables, nine year categorical variables designating when the survey was completed (2006, 2007, etc.), and an Organization of Economic Cooperation and Development (OECD) categorical variable proxying country wealth. Nearly 25% of the firms in the sample are in the Retail/Wholesale segment, with another 11% in Food and nearly 10% in Other Services. Approximately 22% of the companies were surveyed in 2013 and another 20% in 2009. Only 12% of the firms reside in OECD member states.

3.4 Descriptive statistics and empirical methods for the levels of working capital

Table 3, Panels A and B display the summary statistics for the dependent, independent, and control variables in the sample on working capital levels. The average firm in the sample maintains working capital levels that represent approximately 16.7% of the firm's total assets. Our measure of rule of law, LawOrder, is measured on a scale of 0 (weakest) to 6 (strongest). LawOrder has a mean value of 4.68 with a standard deviation of 1.00 for the sample on working capital levels.

<Table 3 about here>

The standard ordinary least squares (OLS) methodology is employed for analysis of the levels of working capital. Prior to estimation, key explanatory variables are checked for collinearity. Table 4 Panel A displays the correlation matrix. British and CommonLaw are highly correlated with a positive correlation of 0.87, while CommonLaw and CivilLaw demonstrate a negative correlation of -0.83. No other correlations exceed 0.60.

<Table 4 about here>

Four different models are run for the level of working capital. The first model examines the impact of rule of law on working capital levels, the second model examines the impact of legal traditions on working capital levels (with Marxist legal tradition as the omitted category), and the

third model examines the impact of legal origins on working capital levels (with Other Power as the omitted category). The fourth model examines all independent variables for legal measures together. However, the British legal origin variable is excluded due to its high correlation with CommonLaw, mentioned above. For each of the four models all control variables are maintained.

3.5 Descriptive statistics and empirical methods for the sourcing of working capital

Table 3 Panels C and D furnishes the descriptive statistics for the sourcing of working capital dataset. As mentioned in section 3.2, there are four dependent variables that measure the percentage of working capital financed from one of the following sources: retained earnings, banks, other financial institutions, and family/friends. Just over 71% of working capital is financed internally, while other financial institutions and banks finance approximately 13.5% and 12%, respectively. Family and friends account for only 3% and other financial institutions just over 1%.

The distributions of the dependent variables present an estimation challenge because they contain both continuous and dichotomous components. The measure is a percentage of financing of working capital due to a given source with a range from 0 to 100; however, many firms report nothing (zero) for any given source. This necessitates a model that can estimate both the choice of given source (e.g. does the firm use banks as source of finance for working capital?), as well as the continuity of values for that source (e.g. if the firm does use a bank, what percentage of working capital greater than 0 is funded via bank loans?).

The standard Poisson model would be appropriate for the count variable represented by the positive percentages of working capital, but would result in a misspecification due to the excessive number of zero values in the data. A modified version of the Poisson, the zero-inflated Poisson (ZIP) model, is ideal for this circumstance. The ZIP combines the properties of a logistic binomial model (logit) and a standard Poisson regression (Lambert, 1992; Long, 1997); it first estimates the

export/no export decision to account for the high number of zeroes with the logit and then estimates the percentage of sales with the Poisson. From Lambert (1992), the standard form of the ZIP, assuming that each response $\boldsymbol{Y_i}$ is independent for all $\mathbf{Y} = [\boldsymbol{Y_1}_{\ldots}\boldsymbol{Y_n}]$, is as follows:

$Y \sim 0$ with probability p_i

$Y \sim$ Poisson (λ_i) with probability $1 - p_i$,

so that:

$Y = 0$ with probability $p_i + (1 - p_i)\, e^{-\lambda i}$

$Y = y$ with probability $(1 - p_i)\, e^{-\lambda i}\, \lambda_i^y / y!$ for $y = 1, 2, \ldots$

The ZIP model also allows specification of an independent variable that may be correlated with the inordinate number of zeroes in the data. We identify Employees as a possible inverse driver due to firm size; the larger the firm the less likely it is that no financing of working capital comes from a particular source. We also employ Huber-White estimators for robust standard errors.

Prior to estimation, we check for collinearity among the key explanatory variables. The correlation matrix appears on Table 4 Panel B and reveals a positive correlation of 0.90 between British and CommonLaw and a negative correlation of -0.78 between CommonLaw and CivilLaw. There is also a negative correlation of -0.75 between British and CivilLaw. We observe no other correlations greater than 0.60.

We run four different model versions for each source of working capital to observe the effects of the respective explanatory variables; each model has the complete set of control variables. The first estimates just the effect of rule of law, the second estimates just the effect of the legal tradition (common, civil, etc.) with Marxist as the omitted category, and the third

estimates just the effect of the legal origin (British, French, etc.) with Other as the omitted category. The fourth model has rule of law combined with the legal tradition and legal origin variables except for the omitted ones and for British owing to the correlation documented above.

To check the fit of ZIP to the data we perform a Vuong test (Vuong, 1989) after the regressions. The Vuong test compares the results from the ZIP model to what would have obtained using a standard Poisson. A positive, significant result for this test indicates that the ZIP model is preferable, i.e. there are enough zeroes in the data to justify its use. This test cannot be performed in conjunction with the Huber-White estimator, so we first run the regressions with robust standard errors and then administer the Vuong robustness check. For some of the variables of interest that register statistical significance we also calculate the marginal effects.

4. Results

4.1. Level of working capital

Table 5 displays the findings for the impact of legal systems on levels of working capital. The first specification presents the effects with rule of law as the only legal variable. The variable for rule of law (LawOrder) is negative and significant at 1%, suggesting that firms headquartered in countries with stronger rule of law maintain lower levels of working capital on average. This finding supports **H1**. Specification (2) displays the findings for legal tradition and shows that both common law and civil law countries maintain working capital levels that are significantly less, as the coefficient is negative and both large in magnitude and significant at 1%. Furthermore, Islamic law countries also maintain lower levels of working capital with significance at 1%. The third specification focuses on legal origin and finds that many legal origins hold levels of working capital that are negative and significant at 1% (British, Portuguese, Dutch, AustroHungarian, Ottoman, Soviet, and US) while only the French legal origin is positive and significant.

<Table 5 about here>

Specification (4) includes all legal variables together. However, as previously mentioned, the British legal origin is removed due its high level of correlation with the Common Law variable. Rule of law maintains a negative coefficient with significance at 1%. Furthermore, the negative impact found in specification (2) for civil law and Islamic law is no longer present as the impact is likely captured instead by the individual legal origins that make up the legal traditions. In contrast, customary law demonstrates a negative impact significant at 1%.

4.2. Sourcing of working capital

Table 6 displays the findings for working capital sourced from retained earnings. We do not show all of the firm, industry, and year control variables for brevity on this and subsequent tables. In the first specification, LawOrder is negative and significant at 5%, suggesting that as rule of law gets stronger the percentage of working capital financed internally diminishes, lending support for **H5**. CivilLaw is positive and significant at 1%, supporting **H3**, while CustomaryLaw is negative and significant at 1%. The legal origin variables are robust: British, French, Spanish, Portuguese, and AustroHungarian are negative and significant at either 5% or 1% while Soviet, US, and Belgian are positive and significant at 1% in the full model. An interesting case is Dutch, which goes from positive and significant at 10% in Specification 3 to negative and significant at 10% in Specification 4.

<Table 6 about here>

The marginal effect is the change in the dependent variable with a one-unit change in the independent variable, i.e. the partial derivative of the dependent variable with respect to the independent variable, holding all other variables constant at their mean values. The marginal effect of a variable such as LawOrder is the effect when LawOrder increases by 1, such as from 4 to 5.

Such a one-unit increase decreases the percentage of working capital funded via retained earnings by merely 0.23% in the first model. For a categorical variable such as CivilLaw, the effect is what occurs when the variable changes from 0 to 1. The marginal effect of CivilLaw on Retained Earnings is 3.9%, meaning that in a civil-law regime the percentage of working capital funded internally will be 3.9% more than in another legal regime. On the other hand, the marginal effect of CustomaryLaw is -0.8%.

We note the goodness of fit statistics at the bottom of the table. The Wald Chi-squared figures are positive and significant at 1% across specifications. In addition, the Vuong test is positive and significant at 1% for all regressions, indicating that the ZIP model is superior to the standard Poisson for the data. The Employees variable (not shown) has a negative, significant relationship with the number of zeroes, as we predicted.

The results for working capital sourced from banks appear on Table 7. LawOrder is positive and significant at 1% for both specifications, supporting **H4**. CommonLaw is positive and significant at 1% for both models, supporting **H2**. CustomaryLaw is negative and significant at 1% while IslamicLaw is positive and significant at 1%. The results for legal origin are mixed. Among the results that are consistent for both Models #3 and #4, Spanish is positive and significant at 1% while AustroHungarian and US are negative and significant at 1%. For marginal effects in the full model, a one-unit change in LawOrder increases sourcing from banks by 0.7%. CommonLaw has a marginal effect of 3.6% and IslamicLaw has one of 1.5%, while CustomaryLaw decreases sourcing from banks by 1.7%.

<Table 7 about here>

Table 8 displays the results for sourcing from other financial institutions, the majority of which is trade credit from suppliers. LawOrder is negative and significant at 1% in both models.

CommonLaw is negative and significant at 1% in Specification #2 and negative but not significant in the full model. Both CivilLaw and IslamicLaw are positive and significant at 1% in both models, while CustomaryLaw switches signs and is positive and significant at 1% in Model #4. For legal origin, French, Portuguese, Dutch, US, and Belgian are consistently negative and significant at 1% between models, while Spanish, AustroHungarian, and Soviet are positive and significant at 1%. For brevity, we do not report marginal effects for this table or the next.

<Table 8 about here>

The final results for sourcing are on Table 9: family and friends. LawOrder is positive and significant at 1% for both specifications. CommonLaw is positive and significant at 1% in both Models #2 and #4. CivilLaw is positive and significant at 1% initially but loses significance in the full model. Spanish, Dutch, Ottoman, and Soviet are consistently positive and significant at 1%, while Portuguese increases in significance from Model #3 to Model #4. To summarize the results of sourcing, we find support for the four hypotheses related to sourcing of working capital, **H2-H5**.

<Table 9 about here>

4.3. Analysis of Legal Origins

To this point we have reported the signs and significance of the legal origins variables but have offered little analysis. The purpose of including them was secondary to our hypothesis testing since there is no established theory to guide us on the impact of British, French, etc. and we view our empirical results for these variables themselves as a smaller contribution of our paper. As a final analysis, we examine the average percentage of sourcing and the related correlation by legal origin variable on Table 10 to see if we can observe any patterns. Note that the sums of the averages won't necessarily sum to 100% given overlap, e.g. a country can have

several different legal origins. We also only specify correlations at 1% significance with a single asterisk.

For the levels of working capital over assets, the results align closely to those found in Table 5. Few legal origins have a positive impact on working capital levels. Only the British, French, and those with legal origins from other powers correlate positively. While the remaining correlate negatively, the most significant negative correlations with working capital levels are found for countries with Portuguese and Spanish legal origins.

There is a certain consistency in that the majority of sourcing comes via retained earnings, which is sensible given the descriptive statistics found on Table 3. Regarding the significant results, the Belgian, Dutch, French, Ottoman, Soviet, and US legal origins correlate positively with sourcing from retained earnings while Portuguese and Spanish legal origins correlate negatively. We should explain that there are only three countries in our sample with US legal origins: Liberia, Micronesia, and the Philippines, so it would be misleading to think of these as representative of the common-law tradition. The countries with Spanish and Portuguese legal origins are concentrated in South America, with several exceptions (e.g. Mozambique), and source only 60-65% of working capital compared with over 70% for those with a positive correlation.

For sourcing from banks, it is notable that British correlates positively. This is what we would expect for the common-law tradition, and British legal origin impacts 26% of the countries in the sample and 20% of the observations. Bank sourcing also correlates positively with the Spanish, Portuguese, and Austro-Hungarian legal origins, but negatively with Belgian, Dutch, and French legal origins. One possible explanation is the level of economic development; since development is generally higher in South America and Eastern Europe than in sub-Saharan

Africa and Southeast Asia it is more likely that there would be sourcing from banks in the former instead of the latter.

Regarding other financing, we observe that British, Dutch, and Spanish correlate positively while the other legal origins are negative. Given the prior findings for banks, it is plausible that in the British and Spanish legal origin context there is enough development in both the legal system and the overall economy that firms are comfortable sourcing working capital from other financial institutions such as trade credit from suppliers, since the rights of both parties are protected in well-established contract law. The result for Dutch, though, cannot be explained as readily.

For families, only Spanish correlates positively. It is apparent that firms in countries with Spanish legal origins eschew sourcing from retained earnings but embrace the other three sources. There are no other positive correlations significant at 1% for sourcing working capital from families. The Dutch, Ottoman, Soviet, and US legal origins correlate negatively and significantly. For the latter, there is recourse to retained earnings and the other three sources are rejected.

5. Discussion

Our paper examines the relationship between legal systems and both levels and sources of financing of working capital. We offered previously that legal systems comprise the effectiveness of rule of law, the legal tradition, and the legal origin. Strong rule of law dissuades expropriation ((Acemoglu and Johnson, 2005; Johnson, McMillan, and Woodruff, 2002; Weingast, 1995; North, 1990), thereby making investment in projects yielding higher returns more attractive than

financing working capital from retained earnings. That is to say, the opportunity cost of financing with retained earnings is higher in a strong legal environment; this is the basis of **H5**. We do find support for it in the results on Table 6, where LawOrder is negative and significant at 5% in the first model and negative in the fourth (full) model.

Another effect of reduced threat of expropriation is that firms are more willing to trust other formal institutions such as banks to provide their financing needs. We capture this idea in **H4**. The LawOrder variable is positive and significant at 1% for both the first and fourth models on Table 7: Sourcing of Working Capital from Banks; these results support this hypothesis.

The logic of protection from expropriation indicates that firms will reduce levels of working capital in a sound legal environment to search for better opportunities to use their funds. The results on Table 5 buttress **H1**. LawOrder is negative and significant at 1% for both the first model and the fourth model. Our contribution to the literature of law and finance is to consider the intersection of rule and law specifically via **H1, H4, and H5**, and our findings are in line with what earlier scholars such as North (1990) would predict.

In the field of law and finance, more attention has been paid specifically to legal tradition, such as the impact of common law v. civil law on investor rights (LLSV 1997, 1998; Rajan and Zingales, 2003; Beck, et al. 2003; and Dam, 2006). In particular, prior work generally supports the notion that the common-law tradition is more friendly to investors and therefore more conducive to economic development (LLSV 1997, 1998; Beck, et al. 2003), though Graff (2008) dissents.

Our contribution is to examine the impact of legal tradition on working capital, which to our knowledge has not been tackled in prior literature. Building on previous work, we held the general view that common law encourages investment and invites more participation with formal

financing channels than civil law does. We therefore predicted in **H2** that common law would correlate positively with sourcing working capital from banks, and this is what we find on Table 7. The CommonLaw variable is positive and significant at 1% in both the second and fourth specifications. Of additional interest is the fact that CommonLaw is negative and significant at 1% in Model #2 and negative and significant at 5% in Model #4 on Table 5. These results underscore the idea that common-law regimes encourage firms to hold lower levels of working capital and hence higher levels of long-term investment.

The obverse is that civil law is less amenable to investment; admittedly, Rajan and Zingales (2003), Dam (2006), and Graff (2008) offer nuances and some contrary evidence. We suppose that civil law will lead to more sourcing of working capital from retained earnings, and we postulate this in **H3**. Table 6 shows that the CivilLaw variable is positive and significant at 1% in both the second and fourth models, lending support. For levels of working capital, the impact of civil law is mixed, being negative and significant at 1% for Model #2 and positive but insignificant for Model #4 on Table 5.

For other legal traditions, e.g. Islamic, customary, and for legal origin, our contribution rests in the empirical results. As mentioned, we don't have any theory to guide us on whether civil law in a former Portuguese colony would be more likely to compel a firm to finance working capital from a bank as opposed to civil law in a former Spanish colony. Let us note some patterns. The Islamic legal tradition correlates negatively with sourcing working capital from retained earnings and family and friends, but correlates positively with sourcing working capital from both banks and from other financial institutions. Because of the importance of this legal tradition globally, these relationships merit further investigation. On the other hand, customary law correlates negatively with both level of working capital as well as sourcing it from retained

earnings, banks, and family and friends, yet correlates positively with sourcing from other financial institutions.

6. Conclusion

This paper examines how different legal systems, specifically their effectiveness, traditions, and origins, influence different financial choices for working capital at the firm level. We classified legal systems by five traditions, namely civil law, common law, customary law, Islamic law, and Marxist law with 11 national origins (e.g. British, French, etc.), and examined their relationship with both the amount and the sourcing of working capital at the firm level.

As we hypothesized, stronger rule of law leads to lower levels of working capital, less sourcing of working capital from retained earnings, and greater sourcing from banks. Common law encourages financing from banks and discourages internal financing, while the civil-law tradition correlates positively with financing from retained earnings and from other financial institutions. Islamic law correlates positively with both banks and other financial institutions for sourcing but negatively for the other two sources and the level of working capital. Finally, legal origin seems to influence firms' decisions on financial choice with regards to working capital in various ways.

Our research fills the gap between existing literatures which lack of sufficient researches and theories to explain the relationship between legal system and financing corporate working capital. It provided empirical evidence to explain the interaction of legal environment and corporate finance, adding nuance to the existing literature on law and finance by considering the separate elements of rule of law, legal traditions, and legal origins and their impacts on financing of working capital. It is apparent that firms decide how to finance working capital based upon perceived gaps in the regulatory regime. This finding is particularly useful to policymakers.

This study, however, has some limitations. It is cross-sectional rather than longitudinal due to the structure of the dataset for sourcing. Some omitted factors or variables are likely to affect the results. The definitions of legal system may be further refined, perhaps considering a couple of new aspects of the legal system or legal environment, in addition to the strength of rule of law, legal tradition, and legal origin. Future work is needed to explore those limitations which might affect the results significantly. For example, the comparison of long-term financing instruments with short-term counterparts could be conducted in addition to further review of new countries and regions. In addition, the relationship between Islamic law and working capital should be explored further to add to the burgeoning literature on Islamic finance.

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Table 1. Variable definitions

Panel A:	
Dependent Variables	**Description** *Note: for categorical variables, Yes = 1 and No = 0.*
Level of Working Capital Sample	
WorkingCapOverAssets	Ratio of total working capital to total assets.
Sourcing of Working Capital Sample	
Retained Earnings	Percentage of working capital financed by retained earnings.
Banks	Percentage of working capital financed by banks.
Other Finance	Percentage of working capital financed by other financial institutions.
FamilyFriends	Percentage of working capital financed by family and friends.
Independent Variables	
LawOrder	Strength and impartiality of the legal system and popular observance of the law, equally weighted, from the International Country Risk Guide for 1987-2016.
CommonLaw	Categorical variable: The country has a common-law tradition in its legal system: CIA World Factbook.
CivilLaw	Categorical variable: The country has a civil-law tradition in its legal system: CIA World Factbook.
CustomaryLaw	Categorical variable: The country has customs/tribal-law tradition in its legal system: CIA World Factbook.
IslamicLaw	Categorical variable: The country has an Islamic tradition in its legal system: CIA World Factbook.
MarxistLaw	Categorical variable: The country has Marxist ideology in its legal system: CIA World Factbook.
Austro-Hungarian	Categorical variable: The country was once a colony or under the control of the Austro-Hungarian empire.
Belgian	Categorical variable: The country was once a colony or under the control of Belgium.
British	Categorical variable: The country was once a colony or under the control of Great Britain.
Dutch	Categorical variable: The country was once a colony or under the control of the Netherlands.
French	Categorical variable: The country was once a colony or under the control of France.
Other Power	Categorical variable: The country was once a colony or under the control of another country not listed.
Ottoman	Categorical variable: The country was once a colony or under the control of the Ottoman empire.
Portuguese	Categorical variable: The country was once a colony or under the control of Portugal.
Soviet	Categorical variable: The country is a former republic of the Soviet Union.
Spanish	Categorical variable: The country was once a colony or under the control of Spain.
US	Categorical variable: The country was once a colony or under the control of the US.
None	Categorical variable: The country has not been a colony or under the control of another power for more than 40 years over the past five centuries.

Panel B:	
Control Variables	
Level of Working Capital Sample	
LnSize*	Natural log of total assets
Leverage*	Ratio of long-term debt to total assets
Growth*	Ratio of current year's revenue to prior year's revenue
Industry	Industry categorical variables for Fama-French 48 industries
Year	Year categorical variables for 1987-2016
Sourcing of Working Capital Sample	
Firm	Number of full-time employees in the firm.
Employees	Age of the firm in years.
FirmAge	Categorical variable: Legal status of the firm is a publicly listed corporation.
PubliclyListed	Categorical variable: Legal status of the firm is a privately held, limited liability corporation.
PrivateLLC	Categorical variable: Legal status of the firm is a sole proprietorship.
SoleProprietorship	Categorical variable: Legal status of the firm is a partnership.
Partnership	Categorical variable: Legal status of the firm is a limited partnership.
LimitedPartnership	Categorical variable: Legal status of the firm is another type.
OtherType	Number of full-time employees in the firm.
Industry	Industry categorical variables for 16 sectors: Textiles, Leather, Garments, Food, Metals & Machinery, Electronics, Chemicals & Pharma, Wood & Furniture, Plastics, Auto, OtherManufacturing, RetailWholesale, HotelRestaurant, OtherServices, Construction, Other
Year	Year categorical variables for 2006-2014
Country	OECD categorical variable and clustering of observations by country.

*Indicates that the variable was winsorized at the 1% level

Table 2. Number of countries and observations by legal type and origin

Panel A. Level of Working Capital Sample

	Countries		Observations	
Civil Law	77	46.1%	259,953	48.1%
Common Law	48	28.7%	190,071	35.2%
Customary Law	24	14.4%	58,422	10.8%
Islamic Law	17	10.2%	31,724	5.9%
Marxist Law	1	0.6%	12	0.0%
Total from above	167	100%	540,182	100%
Total in dataset	113		416,123	
Austro-Hungarian	6	4.41%	3,603	0.72%
Belgian	1	0.74%	2,059	0.41%
British	45	33.09%	166,150	33.39%
Dutch	4	2.94%	8,927	1.79%
French	10	7.35%	16,991	3.41%
Other Power	31	22.79%	247,837	49.81%
Ottoman	9	6.62%	10,691	2.15%
Portuguese	5	3.68%	7,340	1.48%
Soviet	8	5.88%	12,043	2.42%
Spanish	14	10.29%	16,553	3.33%
US	3	2.21%	5,368	1.08%
None	0	0.00%	0	0.00%
Total from above	136	100%	497,562	100%
Total in dataset	113		416,123	

Panel B. Sourcing of Working Capital Sample

	Countries		Observations	
	Number	Percent	Number	Percent
Civil Law	95	48.7%	76,876	55.0%
Common Law	44	22.6%	24,699	17.7%
Customary Law	39	20.0%	21,211	15.2%
Islamic Law	14	7.2%	13,143	9.4%
Marxist Law	3	1.5%	3,894	2.8%
Total from above	195	100%	139,823	100%
Total in dataset	128		96,013	
Austro-Hungarian	7	4.93%	4,656	4.47%
Belgian	3	2.11%	1,951	1.87%
British	37	26.06%	20,916	20.08%
Dutch	4	2.82%	2,862	2.75%
French	21	14.79%	8,070	7.75%
Other Power	2	1.41%	288	0.28%
Ottoman	15	10.56%	12,627	12.12%
Portuguese	6	4.23%	3,531	3.39%
Soviet	14	9.86%	15,220	14.61%
Spanish	19	13.38%	23,060	22.14%
US	3	2.11%	1,544	1.48%
None	11	7.75%	9,417	9.04%
Total from above	142	100%	104,142	100%
Total in dataset	128		96,013	

Table 3. Descriptive statistics

Panel A. Dependent and Independent Variables – Working Capital Level Sample					
Dependent Variables	Mean	StDev	25%	50%	75%
WorkingCapOverAssets*	0.167	0.262	0.018	0.155	0.321
Independent Variables					
LawOrder	4.678	0.998	4	5	5
CommonLaw	0.468	0.498	0	0	1
CivilLaw	0.625	0.484	0	1	1
CustomaryLaw	0.140	0.347	0	0	0
IslamicLaw	0.076	0.265	0	0	0
MarxistLaw	0.000	0.005	0	0	0
Austro-Hungarian	0.009	0.092	0	0	0
Belgian	0.005	0.070	0	0	0
British	0.399	0.490	0	0	1
Dutch	0.021	0.145	0	0	0
French	0.041	0.198	0	0	0
Other Power	0.596	0.491	0	1	1
Ottoman	0.026	0.158	0	0	0
Portuguese	0.018	0.132	0	0	0
Soviet	0.029	0.168	0	0	0
Spanish	0.040	0.195	0	0	0
US	0.013	0.113	0	0	0

Panel B. Control Variables – Working Capital Level Sample					
Control Variables					
Firm					
LnSize*	4.428	2.101	3.07022	4.4098	5.74498
Leverage*	0.114	0.143	0.00035	0.05959	0.17741
Growth*	1.211	0.927	0.93313	1.0656	1.23501

Panel C. Dependent and Independent Variables – Sourcing of Working Capital Sample					
Dependent Variables	Mean	StDev	25%	50%	75%
Retained Earnings	71.331	34.185	0	50	80
Banks	12.151	23.461	0	0	15
Other Finance	13.578	24.056	0	0	20
FamilyFriends	2.940	12.305	0	0	0
Independent Variables					
LawOrder	3.207	0.954	2.5	3.0	4.0
CommonLaw	0.257	0.437	0	0	1
CivilLaw	0.801	0.399	1	1	1
CustomaryLaw	0.221	0.415	0	0	1
IslamicLaw	0.137	0.344	0	0	0
MarxistLaw	0.041	0.197	0	0	0
Austro-Hungarian	0.048	0.215	0	0	0
Belgian	0.020	0.141	0	0	0
British	0.218	0.413	0	0	0
Dutch	0.030	0.170	0	0	0
French	0.084	0.277	0	0	0
Other Power	0.003	0.055	0	0	0
Ottoman	0.132	0.338	0	0	0
Portuguese	0.037	0.188	0	0	0
Soviet	0.159	0.365	0	0	0
Spanish	0.240	0.427	0	0	0
US	0.016	0.126	0	0	0

Panel D. Control Variables – Sourcing of Working Capital Sample					
Control Variables					
Firm					
Employees	96.087	493.887	8	19	58
FirmAge	19.295	20.048	7	13	22
PubliclyListed	0.051	0.217	0	0	0
PrivateLLC	0.489	0.500	0	0	1
SoleProprietorship	0.313	0.463	0	0	1
Partnership	0.066	0.246	0	0	0
LimitedPartnership	0.059	0.234	0	0	0
OtherType	0.022	0.136	0	0	0

Table 4. Correlation Matrices of Legal Variables

Panel A. Working Capital Level Sample

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1.00														
2	-0.07	1.00													
3	-0.05	-0.83	1.00												
4	-0.20	0.26	-0.15	1.00											
5	-0.28	0.24	-0.22	0.38	1.00										
6	-0.03	0.87	-0.92	0.23	0.25	1.00									
7	0.04	-0.19	0.16	-0.08	-0.01	-0.17	1.00								
8	-0.14	-0.11	0.13	0.01	0.06	-0.15	-0.04	1.00							
9	-0.23	-0.08	0.07	-0.05	0.02	-0.10	-0.03	-0.03	1.00						
10	-0.08	-0.13	0.11	0.19	-0.04	-0.12	-0.03	0.24	-0.02	1.00					
11	0.05	-0.09	0.07	-0.04	-0.03	-0.08	-0.02	-0.02	-0.01	-0.01	1.00				
12	-0.12	-0.11	0.13	-0.07	0.09	-0.06	-0.03	-0.03	-0.02	-0.02	0.04	1.00			
13	-0.02	-0.16	0.13	-0.07	-0.05	-0.14	-0.04	-0.04	-0.02	-0.03	-0.02	-0.03	1.00		
14	-0.10	0.01	0.08	0.11	0.17	-0.08	-0.02	0.53	-0.02	-0.02	-0.01	-0.02	-0.02	1.00	
15	0.03	-0.06	0.05	-0.03	-0.02	-0.06	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	1.00

1-LawOrder
2-CommonLaw
3-CivilLaw
4-CustomaryLaw
5-IslamicLaw
6-British
7-French
8-Spanish
9-Portuguese
10-Dutch
11-AustroHungarian
12-Ottoman
13-Soviet
14-US
15-Belgian

Panel B. Working Capital Sourcing Sample

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1.00														
2	-0.08	1.00													
3	0.01	-0.78	1.00												
4	-0.19	0.60	-0.36	1.00											
5	-0.29	0.46	-0.39	0.37	1.00										
6	-0.08	0.90	-0.75	0.49	0.39	1.00									
7	-0.07	-0.10	0.14	0.06	-0.08	-0.12	1.00								
8	-0.29	-0.24	0.26	-0.22	-0.13	-0.27	-0.14	1.00							
9	-0.16	-0.12	0.10	-0.02	0.00	-0.10	-0.06	-0.11	1.00						
10	-0.03	0.03	0.09	0.09	-0.07	0.05	-0.05	-0.10	-0.03	1.00					
11	0.26	-0.13	0.11	-0.12	-0.09	-0.12	-0.07	-0.13	-0.04	-0.04	1.00				
12	-0.01	-0.14	0.16	-0.06	0.08	-0.14	-0.12	-0.22	-0.08	-0.07	0.12	1.00			
13	0.28	-0.26	0.22	-0.23	-0.17	-0.23	-0.13	-0.24	-0.08	-0.08	-0.10	0.02	1.00		
14	-0.10	0.22	0.02	0.24	0.27	-0.07	-0.04	0.19	-0.03	-0.02	-0.03	-0.05	-0.06	1.00	
15	-0.28	-0.08	-0.07	0.10	-0.06	-0.08	-0.04	-0.08	-0.03	-0.03	-0.03	0.06	-0.06	-0.02	1.00

1-LawOrder
2-CommonLaw
3-CivilLaw
4-CustomaryLaw
5-IslamicLaw
6-British
7-French
8-Spanish
9-Portuguese
10-Dutch
11-AustroHungarian
12-Ottoman
13-Soviet
14-US
15-Belgian

Table 5. Regressions of Working Capital Levels

	(1)	(2)	(3)	(4)
VARIABLES	WC/Assets	WC/Assets	WC/Assets	WC/Assets
LawOrder	-0.007***			-0.006***
	(0.001)			(0.001)
CommonLaw		-0.124***		-0.014**
		(0.004)		(0.006)
CivilLaw		-0.130***		-0.000
		(0.004)		(0.006)
CustomaryLaw		-0.003		-0.023***
		(0.004)		(0.006)
IslamicLaw		-0.009***		-0.003
		(0.003)		(0.005)
British			-0.002**	
			(0.001)	
French			0.012***	0.011
			(0.002)	(0.009)
Spanish			-0.002	-0.032***
			(0.002)	(0.007)
Portuguese			-0.054***	-0.057***
			(0.003)	(0.009)
Dutch			-0.022***	0.002
			(0.003)	(0.010)
AustroHungarian			-0.028***	-0.046***
			(0.004)	(0.009)
Ottoman			-0.023***	-0.029***
			(0.002)	(0.008)
Soviet			-0.024***	-0.022***
			(0.002)	(0.008)
US			-0.044***	-0.014
			(0.004)	(0.011)
Belgian			-0.004	-0.010
			(0.005)	(0.017)
LnSize	-0.009***	-0.009***	-0.009***	-0.009***
	(0.000)	(0.000)	(0.000)	(0.000)
Leverage	-0.352***	-0.357***	-0.346***	-0.351***
	(0.003)	(0.003)	(0.003)	(0.003)
Growth	0.009***	0.009***	0.009***	0.009***
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.219***	0.205***	0.198***	0.238***
	(0.006)	(0.005)	(0.003)	(0.009)
Observations	387855	416123	416123	387855
Wald Chi-squared	49078.880***	53334.890***	58319.110***	49248.100***

Firm, industry, and year variables not shown for brevity.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6. ZIP Regressions of Working Capital Sourced from Retained Earnings

	(1)	(2)	(3)	(4)
VARIABLES	Earnings	Earnings	Earnings	Earnings
LawOrder	-0.003**			-0.001
	(0.002)			(0.002)
CommonLaw		-0.001		-0.048***
		(0.005)		(0.008)
CivilLaw		0.056***		0.038***
		(0.005)		(0.007)
CustomaryLaw		-0.011***		-0.020***
		(0.004)		(0.005)
IslamicLaw		-0.006		-0.012**
		(0.004)		(0.005)
British			-0.083***	
			(0.005)	
French			-0.021***	-0.076***
			(0.006)	(0.008)
Spanish			-0.057***	-0.077***
			(0.007)	(0.008)
Portuguese			-0.006	-0.034***
			(0.008)	(0.010)
Dutch			0.013*	-0.016*
			(0.007)	(0.009)
AustroHungarian			-0.083***	-0.099***
			(0.009)	(0.010)
Ottoman			0.008	-0.000
			(0.005)	(0.006)
Soviet			0.037***	0.025***
			(0.005)	(0.006)
US			0.104***	0.188***
			(0.011)	(0.014)
Belgian			-0.007	0.065***
			(0.008)	(0.011)
OECD	0.021***	0.011**	0.025***	0.028***
	(0.005)	(0.005)	(0.005)	(0.006)
Constant	4.593***	4.584***	4.660***	4.640***
	(0.029)	(0.024)	(0.023)	(0.031)
Observations	71,023	81,918	81,918	71.023
Wald Chi-squared	4874.350***	6604.850***	6993.310***	5735.690***
Vuong test	84.470***	88.520***	88.630***	84.680***

Firm, industry, and year variables not shown for brevity.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7. ZIP Regressions of Working Capital Sourced from Banks

	(1)	(2)	(3)	(4)
VARIABLES	Banks	Banks	Banks	Banks
LawOrder	0.017***			0.058***
	(0.005)			(0.007)
CommonLaw		0.091***		0.200***
		(0.020)		(0.031)
CivilLaw		0.009		0.047
		(0.019)		(0.031)
CustomaryLaw		-0.127***		-0.143***
		(0.014)		(0.018)
IslamicLaw		0.083***		0.116***
		(0.015)		(0.019)
British			0.046***	
			(0.015)	
French			-0.103***	-0.012
			(0.019)	(0.026)
Spanish			0.130***	0.263***
			(0.021)	(0.029)
Portuguese			-0.020	0.133***
			(0.028)	(0.037)
Dutch			-0.160***	-0.041
			(0.026)	(0.032)
AustroHungarian			-0.102***	-0.116***
			(0.026)	(0.030)
Ottoman			-0.011	0.069***
			(0.018)	(0.021)
Soviet			0.018	0.033
			(0.021)	(0.022)
US			-0.205***	-0.374***
			(0.041)	(0.059)
Belgian			-0.027	-0.013
			(0.039)	(0.070)
OECD	-0.078***	-0.054***	-0.061***	-0.123***
	(0.016)	(0.015)	(0.015)	(0.018)
Constant	3.697***	3.799***	3.682***	3.431***
	(0.130)	(0.122)	(0.120)	(0.134)
Observations	70,763	81,621	81,621	70,763
Wald Chi-squared	460.360***	696.950***	719.650***	798.470***
Vuong test	185.920***	194.040***	192.460***	181.550***

Firm, industry, and year variables not shown for brevity.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 8. ZIP Regressions of Working Capital Sourced from Other Financial Institutions

	(1)	(2)	(3)	(4)
VARIABLES	Other Finance	Other Finance	Other Finance	Other Finance
LawOrder	-0.062***			-0.021***
	(0.005)			(0.006)
CommonLaw		-0.080***		-0.028
		(0.017)		(0.026)
CivilLaw		0.168***		0.206***
		(0.016)		(0.025)
CustomaryLaw		-0.006		0.087***
		(0.013)		(0.016)
IslamicLaw		0.175***		0.111***
		(0.014)		(0.018)
British			-0.095***	
			(0.016)	
French			-0.227***	-0.332***
			(0.019)	(0.025)
Spanish			0.383***	0.322***
			(0.019)	(0.027)
Portuguese			-0.083***	-0.215***
			(0.025)	(0.031)
Dutch			-0.068***	-0.201***
			(0.021)	(0.028)
AustroHungarian			0.144***	0.142***
			(0.025)	(0.031)
Ottoman			-0.026	-0.154***
			(0.020)	(0.024)
Soviet			0.112***	0.128***
			(0.022)	(0.024)
US			-0.495***	-0.711***
			(0.041)	(0.054)
Belgian			-0.154***	-0.171***
			(0.033)	(0.046)
OECD	0.141***	0.059***	-0.002	0.030**
	(0.014)	(0.013)	(0.013)	(0.015)
Constant	3.957***	3.682***	3.820***	3.558***
	(0.155)	(0.166)	(0.160)	(0.167)
Observations	70,541	81,396	81,396	
Wald Chi-squared	2152.380***	2723.680***	3657.150***	3663.140***
Vuong test	192.880***	196.230***	197.810***	187.700***

Firm, industry, and year variables not shown for brevity.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 9. ZIP Regressions of Working Capital Sourced from Family and Friends

	(1)	(2)	(3)	(4)
VARIABLES	Family	Family	Family	Family
LawOrder	0.036***			0.061***
	(0.012)			(0.018)
CommonLaw		0.121***		0.207***
		(0.045)		(0.070)
CivilLaw		0.241***		0.068
		(0.043)		(0.069)
CustomaryLaw		-0.121***		-0.096**
		(0.031)		(0.041)
IslamicLaw		0.016		-0.062
		(0.037)		(0.051)
British			0.053	
			(0.038)	
French			0.077	0.112
			(0.048)	(0.069)
Spanish			0.262***	0.416***
			(0.049)	(0.076)
Portuguese			0.116*	0.251***
			(0.063)	(0.083)
Dutch			0.355***	0.438***
			(0.077)	(0.091)
AustroHungarian			0.142**	0.066
			(0.071)	(0.084)
Ottoman			0.200***	0.246***
			(0.047)	(0.061)
Soviet			0.330***	0.316***
			(0.052)	(0.059)
US			-0.031	-0.077
			(0.101)	(0.130)
Belgian			0.072	-0.020
			(0.061)	(0.103)
OECD	-0.065*	-0.065*	-0.042	-0.105**
	(0.038)	(0.037)	(0.038)	(0.042)
Constant	3.788***	3.787***	3.816***	3.438***
	(0.318)	(0.297)	(0.274)	(0.322)
Observations	71,064	81,919	81,919	71,064
Wald Chi-squared	268.700***	369.070***	394.290***	409.740***
Vuong test	74.800***	81.360***	81.580***	74.420***

Firm, industry, and year variables not shown for brevity.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 10. Mean Values and Correlations of Sourcing by Legal Origin

Legal Variable	W Cap Level	Earnings	Banks	Other Finance	Family
AustroHungarian	0.11	60	14	14	3
	-0.02*	-0.04*	0.02*	0.01	0.00
Belgian	0.14	78	7	10	4
	-0.01*	0.04*	-0.03*	-0.02*	0.01
British	0.17	69	11	14	3
	0.01*	-0.01	0.03*	0.03*	0.00
Dutch	0.12	73	8	14	2
	-0.03*	0.02*	-0.03*	0.01*	-0.02*
French	0.18	73	10	10	3
	0.01*	0.04*	-0.02*	-0.04*	0.01
Other Power	0.18	72	11	1	1
	0.06*	0.00	0.00	-0.03*	-0.01*
Ottoman	0.14	73	12	8	2
	-0.02*	0.04*	0.00	-0.07*	-0.02*
Portuguese	0.06	65	14	16	3
	-0.06*	-0.02*	0.02*	-0.03*	0.00
Soviet	0.14	76	8	7	2
	-0.02*	0.07*	-0.05*	-0.08*	-0.03*
Spanish	0.11	60	15	19	4
	-0.05*	-0.16*	0.10*	0.17*	0.05*
US	0.09	71	9	8	1
	-0.04*	0.01*	-0.02*	-0.03*	-0.02*
Mean	0.17	71.33	12.15	13.58	2.94

Note: For this table only, * indicates significance at 1%.