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Myths and Truths: The "Law and Finance Theory" Revisited

Brisbane, 29 March 2006

Abstract:

The "law and finance theory" predicts that the common law system provides the best basis for financial development and economic growth, followed by Scandinavian and German origin civil law and finally French origin civil law. Referring to a number of sceptical views, this paper argues that the theory faces an identification problem, since the majority of common law countries have a market-based financial system, whereas the majority of civil law countries have a bank-based financial system. Moreover, there are plausible alternative hypotheses to explain the quality of the financial system; but that they cannot rule out that the theory refers to a relevant link between the legal tradition and financial development. Finally it is argued that the corner stone of the law and finance theory is the proposition that different legal traditions imply different degrees of investor protection. It is demonstrated that a few minor, but sensible modifications in aggregating the original indicator set produce results that are different from those reported so far and contradictory to the theory's ranking of the four major legal families in terms of investor protection. Accordingly, the validity of the theory's investor protection measures for international comparisons, the supremacy of the common law legacy in protecting investors and, consequently, the validity of legal origin variables to instrument for financial development, have to be regarded as myths rather than truths.

JEL categories: K22, G20, P00

Keywords: Financial Development, Legal System, Investor Protection

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1 Introduction

The "law and finance theory" argues that the legal system, which today's countries inherited from the past, is crucial in the way it is favouring financial development. Moreover, since financial development is widely regarded as a major driving force of economic growth, the legal system is perceived as an ultimate cause of economic growth and development. The alleged causal chain thus runs from the legal origin to financial development and finally to economic growth. Moreover, this theory identifies two dominating legal traditions, a common law tradition inherited from England, and a civil law tradition that is going back to 19th century codifications in France, Germany and Scandinavia. The major conclusion of the theory is that the common law system provides the best basis for financial development and economic growth, followed by Scandinavian and German origin civil law and finally French civil law.

This paper will first summarise the main assumptions, hypotheses and findings of the law and finance theory. It will then review some of the critical views. Finally, it will take a closer look at the data that form the backbone of the law and finance theory. It will be shown that major predictions of the theory are not as firmly supported by the data as the proponents claim, so that they are myths rather than truths.

2 The law and finance theory

After less than ten years, the finance and law literature has produced its first synthesis. Written by two insiders, BECK AND LEVINE'S "Legal Institutions and Financial Development" (2003) for the forthcoming "Handbook of New Institutional Economics" gives an authoritative overview over this research programme, its foundations, assumptions, data and its main findings. To reproduce the original spirit of the theory, we shall refer closely to this survey.

BECK AND LEVINE (2003, p. 1) argue that the law and finance theory explains why "some countries have well-developed growth-enhancing financial systems, while others do not", and why "some countries developed the necessary investor protection laws and contract-enforcement mechanisms to support financial institutions and markets, while others have not." The theory's explanatory power is attributed to two related hypotheses:

(1) "in countries where legal systems enforce private property rights, support private contractual arrangements, and protect the legal right of investors, savers are more willing to finance firms and financial markets flourish."

(2) "The different legal traditions that emerged in Europe over previous centuries and were spread internationally through conquest, colonization, and imitation help explain cross-country differences in investor protection, the contracting environment, and financial development today."

Two mechanisms are held responsible for these outcomes (op. cit., p. 2):

(1) a *political mechanism* that refers to a difference between legal traditions "in terms of the priority they attach to private property vis-à-vis the rights of the State" and

(2) an *adaptability mechanism*, referring to formalism that may impair the legal system's capability to "minimize the gap between the contracting needs of the economy" and the normative status quo.

A key argument of this approach is that a major function of property rights consists in ameliorating the inherent risk involved in financial contracts due to informational asymmetry and moral hazard or outright fraud. On this basis, the microeconomic foundation of the theory is the "willingness to invest". Accordingly, to the degree that the legal system offers effective protection against the occurrence and, if necessary, the consequences of these types of market failure or deception, financial investors will be more inclined to lend, be it directly on the financial market or to financial intermediaries. The theory is mainly focused on shareholder protection. Some, albeit considerably less attention is devoted to creditors' rights. Notwithstanding the differences between equity and debt finance, a unifying notion in the law and finance theory is the distinction between insiders (stakeholders like "the State" or the workers) and outsiders (shareholders as well as creditors); and the legal system's support to outsiders, which is likely to increase their willingness to invest, is expected to be beneficial to financial development, whereas a strong position of insiders would be detrimental. The original contribution of the law and finance theory to these ideas and assumptions lies in the way it combines them with its peculiar view of legal history. Let us therefore take a closer look at how the theory deals with the historical legacy of law.

The civil-law family is traced back to the Roman Empire, the first society with a secular and statuary law. Its modern offsprings are divided into a French, a German and a Scandinavian branch. The theory's view of the French legal system is that it "evolved as a regionally diverse mélange of customary law, law based on the Justinian texts, and case law." However, "by the 18th century, there was a notable deterioration in the integrity and prestige of the judiciary. The Crown sold judgeships to rich families and the judges unabashedly promoted the interests of the elite and impeded progressive reforms. Unsurprisingly, the French Revolution turned its fury on the judiciary and quickly strove to (a) place the State above the courts and (b) eliminate jurisprudence. ... Napoleon sought a code that was so clear, complete, and coherent that there would be no need for judges to deliberate publicly about which laws, customs, and past experiences apply to new, evolving situations. Furthermore, this approach required a high degree of procedural formalism to reduce the discretion of judges …" (op. cit., p. 6). In contrast to this, the German legal system is seen as the result of an evolution rather than a revolution. When Bismarck decided "to codify and unify the whole of private law in Germany that led to the adoption of the German civil law in 1900", Germany had a history of "deliberations that illustrated how courts weighted conflicting statutes, resolved ambiguities, and addressed changing situations." Hence, there was "a dynamic, common fund of legal principles that then formed the basis for codification in the 19th century. Moreover, in contrast to the revolutionary zeal and antagonism toward judges that shaped the Napoleonic Code, German legal history shed a much more favorable light on jurisprudence and explicitly rejected France's approach. ... Whereas the Napoleonic code was designed to be immutable, the Bürgerliches Gesetzbuch was designed to evolve ... Thus, while codification had a similar role in Germany and France in unifying the country and reasserting the power of the central state, Germany had a very different approach toward jurisprudence" (op. cit., p. 6 ff). Regarding the Scandinavian civil-law family, the theory it is not very explicit, but it stresses that like Germany, Scandinavia rejected the legal traditions brought about by the French Revolution.

The other major legal legacy, common law, is characterised as "unique both in terms of (a) the relationship between the State and the Courts and (b) jurisprudence. … English law evolved based on the resolution of specific disputes and increasingly stressed the rights of private property [and] the courts developed legal rules that treated large estate holders as private property owners and not as tenants of the king. Indeed, the common law at the dawn of the 17th century was principally a law of private property. ... In terms of legal formalism, English law typically imposes less rigid and formalistic requirements ... In terms of jurisprudence, the English common law tradition is almost synonymous with judges having broad interpretation powers and with courts molding and creating law as circumstances change … rather than adhering to the logical principles of codified law." (op. cit., p. 9.)

How does this view of the history of law combine with the theory's focus on lenders' property rights? It leads to the conclusion that common law is adequately flexible to deal with financial contracts that are contingent on a host of foreseeable and unforeseeable states of nature and business. For the civil-law family, the conclusions will be mixed. While the revolutionary attempt to establish a permanent order of reason through codified, positive law is the antithesis to flexibility, the German and Scandinavian systems, having rejected the French approach, are perceived to be less inadequate.

Accordingly, with respect to the *adaptability mechanism* the theory predicts the following ranking of legal systems in terms of appropriateness to promote financial development: common law is superior, German and Scandinavian civil law are intermediate, and French civil law is inferior. Regarding the *political mechanism*, the law and finance theory perceives "the State" as potentially harmful by interfering in the activity of private economic agents. In Beck and Levine's words (op. cit., p. 13 f.): "The political mechanism holds that the Civil law has tended to support the rights of the State, rather than private property rights ... with adverse implications for financial development. ... A powerful State with a responsive civil law at its disposal will tend to divert the flow of society's resources toward favored ends ... which is antithetical to competitive financial markets." The *political mechanism* hence implies a binary classification of legal systems in terms of appropriateness to promote financial development.[1]

To summarise: the theory of law and finance combines a specific interpretation of the history of law with two proposed mechanisms that may affect the willingness to invest. It predicts that common law countries should have a legal system that effectively guarantees the highest level of protection to financial investors, followed by Scandinavian and German origin civil law countries, whereas French legal origin should yield the poorest results.

3 Applications

A straightforward application of the theory is to compare investor protection across countries belonging to the different legal traditions, and this is precisely what LLSV undertake in their seminal papers. To this end, they collect and process information on commercial law and procedural regulations relating to shareholders and creditors from 49 countries. This exercise in

[1] In my opinion, what Beck and Levine are describing here is an interventionist state rather than a civil law country, and while it may be true that interventionist policy is encountered relatively more frequently in countries with a civil law tradition, the two phenomena may be fundamentally unrelated. An alleged causality between civil law and interventionism would hence merit more elaboration. How civil law would make the state prone to interfere with the functioning of financial markets, or how civil law would make it difficult to credibly commit not to interfere, remains very unclear.

comparative analysis of contemporary law results in eight variables that characterise various aspects of shareholder rights (six of them binary and two continuous), and in six variables that characterise creditor rights (five of them binary and one continuous). These variables are defined as follows (LLSV 1998, table 1):

Shareholder rights

One share-one vote: one if the Company Law or Commercial Code of the country requires that ordinary shares carry one vote per share, zero otherwise. Equivalently, this variable equals one if the law prohibits the existence of both multiple-voting and non-voting ordinary shares and does not allow firms to set a maximum number of votes per shareholders irrespective of the number of shares she owns; zero otherwise.

Proxy by mail: one if shareholders are allowed to mail their proxy vote; zero otherwise.

Shares not blocked: one if firms are not allowed to require that shareholders deposit their shares prior to a General Shareholder Meeting thus preventing them from selling those shares for a number of days; zero otherwise.

Cumulative voting: one if shareholders are allowed to cast all of their votes for one candidate standing for election to the board of directors (cumulative voting) or if there is a mechanism of proportional representation in the board by which minority interests may name a proportional number of directors to the board; zero otherwise.

Oppressed minority: one if minority shareholders are granted either a judicial venue to challenge the decisions of management or of the assembly or the right to step out of the company by requiring the company to purchase their shares when they object to certain fundamental changes, such as mergers, assets dispositions and changes in the articles of incorporation; zero otherwise. Minority shareholders are defined as those shareholders who own 10% of share capital or less.

Pre-emptive rights: one if shareholders are granted the first opportunity to buy new issues of stock and this right can only be waived by a shareholder vote; zero otherwise.

Extraordinary meeting: minimum percentage of ownership of share capital that entitles a shareholder to call for an extraordinary shareholders' meeting. It ranges from one to 33%.

Mandatory dividend: equals the percentage of net income that firms are required to distribute as dividends among ordinary shareholders; zero for countries without such a restriction.

Creditor rights

Reorganisation: one if a reorganisation procedure imposes restrictions, such as creditors' consent to file for reorganisation; zero for countries without such restrictions.

No automatic stay: one if a reorganisation procedure does not impose an automatic stay on the assets of the firm upon filing the reorganisation petition; zero otherwise

Secured first: one if secured creditors are ranked first in the distribution of the assets of a bankrupt firm; zero if non-secured creditors, such as the government and workers, are given priority.

No management stay: one if an official appointed by the court, or by the creditors, is responsible for the operation of the business during reorganization; equivalently if the debtor does not keep the administration of its property pending the resolution of the reorganization process; zero otherwise.

Legal reserve: minimum percentage of total share capital mandated to avoid dissolution of an existing firm; zero for countries without such restriction.

These indicators obviously capture interesting features of shareholders' and creditors' positions in corporate finance. Now, to condense this information, LLSV propose two indices, which they call "anti-director rights" and "creditor rights". In particular, the anti-director rights index results from adding "Proxy by mail", "Shares not blocked", "Cumulative voting", "Oppressed minority", "Pre-emptive rights" plus one if "Extraordinary meeting" is less than or equal to 10% (the sample median). This index thus ranges from one to six. The creditor rights index results from adding the four binary creditor rights variables, i.e. "Reorganisation", "No automatic stay", "Secured first" and "No management stay". It hence ranges from zero to four.

Recall that the law and finance theory predicts that common law countries should perform better than civil law countries in protecting both shareholders and creditors, and that the French legal legacy would produce the most unfavourable results. Comparing the index means across groups of countries belonging to the same legal tradition, this is exactly what LLSV read from their data. The common law countries show an average of 4.0 on the anti-director rights index, whereas the Scandinavian, German and French civil law country averages are 3.00, 2.33 and 2.33, respectively. Accordingly, as predicted, the common law countries seem to offer better shareholder protection on average than the civil law countries. Though the ranking within the civil law family is not exactly in line with the theory, which would have the French system perform worst, the evidence nevertheless seems favourable with respect to the basic distinction of law families. Regarding the creditor rights index, the common law countries on average score highest with 3.11, whereas the Scandinavian, German and French law family groups' scores are 2.00, 2.33 and 1.58. Accordingly, LLSV (1998: 1139) conclude that both indices support the law and finance theory and that it "is not the case that some legal families protect shareholders and others protect creditors."

This is an impressive finding. Accordingly, these indices are widely accepted as a verification of the first link in the theory of law and finance's causal chain that runs from legal origin to financial development.

As mentioned above, one of the indisputable merits of the law and finance theory is that it allows deriving unambiguous and testable predictions. This property holds also for the second of the theory's proposed links, the causal chain running from financial development to economic growth. Recent interest in the so-called finance-growth nexus was initiated by KING AND LEVINE'S (1993) seminal paper that sparked an impressive number of empirical studies. Yet, the difficulty in finding adequate quantitative proxies for "financial development" and the argument that financial development could be a result rather than a cause of economic growth submitted most of the empirical work in this field to a strong suspicion of not adequately dealing with endogeniety. Now, the law and finance's prediction that the legal families should constitute the basis for a hierarchy of distinctively different levels of financial development provides a new and potentially very useful proxy variable for financial development. If a countries legal origin, which is certainly not driven by its recent growth performance, allows predicting its state of financial development, this variable can be used as an instrument for financial development. Ross Levine and his co-authors were quick to take notice of this and to incorporate the LLSV legal origin classification into the usual cross-country re-

gression framework. The resulting two stage regressions were reported to work well,[2] which means that this approach helped in reducing the suspicion of endogeniety bias which had plagued previous regressions that included proxies for financial development as a potential determinant of economic growth. Indeed, it is thus fair to assume that this exercise has greatly contributed to convince the profession to regard financial development as a causal factor in economic growth. The law and finance theory is thus perceived as a major building block in the ongoing search for the ultimate sources of economic growth and development.

4 Previous critique

While the theory of law and finance is generally regarded as a major achievement and its key texts are now standard references in the field of finance and development, a number of sceptics have formulated their doubts. In this section, we shall discuss some of the typical criticisms that have been brought forward so far.

To start with, a frontal attack holds that the law and finance theory is a skilful piece of "pro markets" ideology, designed to deliver a rationale to the alleged superiority of the Anglo-Saxon model of corporate finance (SINGH ET AL. 2001). While there may be some truth in this argument, this is certainly not sufficient to invalidate the theory and its findings, which are, as we have repeatedly stated, a set of hypothesis with indisputable empirical content. Reference to the proponents' intentions may help to assess the practical relevance of purely theoretical or speculative work, but empirical work is linked to facts.

To deconstruct empirical approaches, one can claim that the links are flawed, that the facts are flawed, or identify contradictory facts that falsify the theory, and indeed, the finance and law theory has been criticised along these three lines.

Some concerns have been raised about the law and finance theory's division into major legal families and about a limited number of assignments of countries to a specific group that may be open to doubts.[3] Yet, the classification is accepted as basically sound, so that this line of criticising is constructive and aims at eliminating minor deficiencies of the theory.

A more challenging critique refers to the observation that the major the legal systems were spread around the world together with the financial systems of the originating countries, so that the law and finance theory faces a fundamental identification problem. In particular, FOHLIN (2000) shows that common law was generally imported together with the English financial system, so that the alleged causal impact of the legal tradition cannot be separated from the coincident transplantation of a wider range of institutions from England. What the theory attributes to legal origin should accordingly rather be interpreted as a result of the financial system that the country inherited.

Let us consider this point in some depth: the Anglo-Saxon financial system is usually described as "market-based" and "specialised", whereas the continental systems as well as Japan's are labelled as predominantly "bank-based" and "universal". Along these distinctions, there is a lively academic discussion about normative and theoretical questions,[4] but it has proven notoriously difficult to construct corresponding empirical classifications of the world's

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[2] See LEVINE (1999), BECK ET AL. (2000) and LEVINE ET AL. (2000).

[3] See e.g. BERKOWITZ AT AL. (2003).

[4] See e.g. ALLEN AND GALE (1995) and NEUBERGER (2000).

financial systems. Nevertheless, at few attempts covering a reasonably large number of countries have been documented so far. On this basis, LEVINE (2002) performs extensive cross-country analyses to detect a possible supremacy of either market-based or bank-based financial systems, but he concludes that while there is evidence for the importance of the *level* of financial development, the *type of system* does not seem to matter. DEMIRGUÇ-KUNT and MAKSIMOVIC (1998, 2003) analyse firm-level data across countries and find that firms' access to external finance is positively related to the level of financial development, but not to the expansion of the capital market relative to the banking sector. FOHLIN (2000) develops a classification of financial systems for 26 countries ranging back to the 19th century and concludes that until recently, the typology of financial systems was remarkable stable over time, but that economic history over the last 150 years does not support the view that any specific system provided a superior environment to achieve economic prosperity; in the long term, the legal system does not seem to have had any perceivable impact on economic growth.

Though these studies suffer from the inherent difficulty to classify the world's economies along a binary category, the fact that they fail to come up with significant outcomes with respect to "banking based" versus "capital market-based" supports the argument that it is the quality rather than the specific type of financial system that matters for growth and development. Hence, if legal origin were a reliable predictor for the quality of a country's financial system, the law and finance theory would indeed highlight an important link.

Let us hence turn to the sceptics that cast doubt on this link. A theory is flawed if other causes then those claimed by the hypotheses of the theory are responsible for an observable outcome. Though alternative, competing hypotheses for an observed phenomenon that are just as plausible, or even more plausible, than the original proposition, cannot *falsify* a theory, they can nevertheless contribute to make it seem less likely. Regarding the finance and law theory, this type of criticism has been brought forward in manifold ways. This critique thus takes it as a fact that common law countries protect investors better than German and Scandinavian civil law countries and that investor protection in these is in turn better than in French civil law countries, but it disputes that a countries legal origin is responsible for this outcome.

Along these lines, it has been argued that a "transplant effect", i.e. the way in which the original legal system was transferred to receiving countries, rather than the legal origin itself, is responsible for the quality of investor protection (BERKOWITZ AT AL. 2003).

Others have undertaken to show that LLSV's anti-director and creditor rights indices are better explained by a country's predominant religion rather than by its legal origin and conclude that the true causal chain runs from religion to investor protection (STULZ AND WILLIAMSON 2003).

Still others refer to cultural characteristics. LICHT ET AL. (2001) submit the LLSV data to a secondary analysis and find that cultural dimensions (measured by world wide socio-psychological surveys) are at least as effective as the legal origin in explaining the inter-country variation in the legal characteristics of the financial system. High scores on the anti-director rights index are associated with an English speaking country group that is to a large extent identical with the common law group and very similar in cultural terms. On the other hand, the cultural dimension performs better to distinguish between the high and low creditor rights country groups than the common versus civil law distinction. According to this finding, it seems more likely that common characteristics of the predominantly

English speaking and common law country group go hand in hand with a comparable set-up of the stock market, but differences in credit and banking should be attributed to other factors than the legal tradition, such as national culture, which may, but need not, coincide with the inherited legal tradition.

Yet another argument refers to environmental conditions that would either make overseas colonies attractive for European settlers or would turn them into predominantly "extractive" colonies otherwise, which resulted in comparatively lower institutional quality in the latter than in the former (ACEMOGLU ET AL. 2001, 2002). The environment and the climate can accordingly be regarded as alternatives to legal origin in predicting institutional quality.[5]

Furthermore, RAJAN AND ZINGALES (2003) argue that financial development has undergone major "great reversals" and while the common law countries nowadays tend to have more developed arm's length finance, in the beginning of the 20th century the civil law countries were more advanced in this respect. Their explanation is that civil law is likely to give more influence to important "incumbents" in shaping corporate law, and the great reversal of the 20th century was that in the initial free trade regime incumbents promoted financial development, whereas the breakdowns of the free trade regime during World Wars I and II and the protectionism they initiated made incumbents rather opt for financial repression[6] to secure their rents.[7]

Finally, a link between property rights and financial development can be addressed without imposing the legal origin paradigm that unifies the law and finance theory.[8] This allows for more flexibility in accurately tracing differences in the factual quality of law, so that the results of this competing approach seem theoretically less appealing, but more informative from an applied point of view.

Taken together, I think it is fair to conclude that the presented alternative hypotheses to explain the different levels of investor protection, or in more general terms, the quality of the financial system, are indeed offering very plausible alternatives to the law and finance theory; but they cannot rule out that this theory refers to a relevant link between the legal tradition and financial development.

Now, recall that the finance and law theory claims to present two empirical findings in its support; (1) that the legal origin predicts the level of investor protection, and (2) that the legal origin helps explaining the level or quality of financial development. Before we proceed to our own evaluation of the facts, let us briefly turn to some arguments that question the second empirical pillar of the theory.

As indicated above, LEVINE (1999), BECK ET AL. (2000) and LEVINE ET AL. (2000) use various sets of LLSV type legal origin dummy variables or the creditor rights and shareholder

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[5] The proponents of the law and finance theory have been quite receptive to what they call the "endowment view" and rarely fail to mention this as an alternative explanation; see in particular BECK ET AL. (2003).

[6] See SHAW (1973) and MCKINNON (1973) for seminal works on the concept of "financial repression".

[7] The "great reversals" theory is another view that the finance and law theory has readily accepted as an important critique (see BECK ET AL. 2003). Yet, it is an extension of the law and finance theory rather than a critique, since it delivers a plausible story for the political mechanism which the original contributions fail to provide.

[8] A large body of literature beyond the law and finance theory deals with institutions and growth; see e.g. KNACK AND KEEFER (1995), GROGAN AND MOERS (2001) and CLAESSENS AND LAEVEN (2002).

rights indices and selected investor protection variables from LLSV as well as indices reflecting rule of law or accounting standards (let us denote such a variable set as L) to instrument for the usual financial development proxies X (M2/GDP, credit/GDP, indicators for stock market size relative to GDP or combinations thereof) in cross-country regressions of the growth rate of per capita income G on X and a number of control variables consisting of a widely accepted list of standard growth regressors Y and a further variable set Z that might likewise affect growth and serves to check for robustness of the point estimates for the X regressor. Since L is time invariant, the estimation is purely cross sectional and the observations relate to countries, where growth rates are averages over the whole time period considered, which due to data availability usually covers a few decades. In general terms, this approach can be written as

$$G_i = \beta_0 + \beta_1 (X_i \mid L_i) + \beta_2 Y_i + \beta_3 Z_i + \varepsilon_i ,$$

where $(X_i \mid L_i)$ denotes that the focal regressor X is instrumented for by the variable set L. If the instruments are highly and meaningfully correlated with X, but uncorrelated with G, Y and Z, this instrumental variable approach is likely to reduce the suspicion of reverse causality and the resulting endogeniety bias.

Now, some sceptics maintain that the whole cross-country growth regression, which is drawing on sparse and often highly dubious data for a comparatively short historical period and basically assumes that all countries included (i.e. the US will be sampled together with other observations like Sudan) are governed by the same additive-linear mechanisms that can adequately be captured in a multiple regression, is useless to derive any conclusions on the driving forces of economic development.[9] Yet, many, if not most, economists will probably concede that this empirical framework has at least marginally helped in identifying major determinants of growth during the second half of the 20th century and that it is worthwhile to improve it (rather than to abandon it), among other things, by econometric methods that might help to reduce the problems associated with the potential endogeniety of regressors.

However, in this particular case, the validity of the instruments can be disputed. Referring to a very limited number of mostly binary variables on legal origin and related institutional indicators as instruments for X *presupposes* that they are *meaningfully* related to financial development. Hence, the fact that they are statistically mildly[10] correlated with the usual dubious[11] indicators for financial development cannot be regarded as a proof of their adequateness as instruments for financial development. Moreover, another serious concern is that they might be *weak instruments*, which do not meet the requirements nowadays put forward by statisticians and econometricians.[12]

I would hence conclude that the reported success of reference to legal system variables as instruments for financial development in cross-country growth regression is an interesting approach, which has the same problems and merits as most of the studies in this field. However these two-stage regressions cannot provide evidence that legal origin is a determinant of financial development – this is a *requirement* for the appropriateness of the instruments. Ac-

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9 See HARBERGER (1998) for an elaboration of these points.

10 When reported. the R^2s of auxiliary regressions of X on the L vector are hardly above 25%, e.g. between .12 and .26 for the different proxies for X in LEVINE ET AL. (2000), which makes them jointly statistically significant in an F-test, but leaves an uncomfortable share of unexplained variance.

11 For a discussion of difficulties with the usual proxies for financial development, see e.g. GRAFF (2005).

12 See COVIELLO (1995) for an elaboration of this point.

cordingly, the corner stone of the law and finance theory is and remains its proposition that different legal traditions imply different degrees of investor protection.

5 A new look at the data

Let us now take a look at the law and finance data originally put together by LLSV (1998) and referred to in an impressive number of both supporting and sceptical papers.

First, we shall briefly examine in how far the sceptics maintaining that what LLSV identify as the fundamental source of variation in investor protection is actually a distinction between the capital market-based, arms' length, English origin financial system versus the bank-based, relationship oriented, Continental origin financial system rather than the a distinction between the origins of the legal family. To this end, we refer to an index developed by Demirguc-Kunt and Levine and designed to reflect the structure of a country's financial system in the late 20th century on a spectrum from more bank-based to more market-based and which Demirguc-Kunt and Levine recode into a binary market versus bank-based variable.[13] As mentioned above, it is notoriously difficult to propose a solid empirical decomposition of the world's financial systems into two groups, and different vintages of this variable actually differ in how a number of countries are classified, but any sensible attempt to get an empirical hold of the bank-based versus capital market-based dichotomy can only be welcomed. Referring to the binary variable "market" from the DEMIRGUÇ-KUNT AND LEVINE (2001) data supplement vintage, the common law countries' mean score equals .61, implying that 61% of the common law countries are classified as having market-oriented financial systems against only 39% that are classified as bank-based. For the civil law countries, the finding is practically reversed, 68% fall into the bank-based category and only 32% are classified as market-based. While this is clearly not a perfect correspondence of common law with market-based and civil law with bank-based, the difference is statistically significant, hitting the 5% level ($F = 4.03$).

Now, since "market" results from a dichotomisation of a continuous variable, this relatively clear result could be due to an arbitrary aggregation. It is easy to show that this is not the case. If we compare the group means for civil and common law countries of the underlying continuous structure index, the differences are statistically even more pronounced; the F-statistics jumps to 8.30, passing a 1% test for difference of group means.[14] Accordingly, accepting that the structure index captures essential features of the bank-based versus market-based paradigm, the law and finance theory indeed faces an identification problem. However, since the correspondence is far from perfect, the legal family origin might still reveal essential features beyond the market structure paradigm.

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13 The dummy variable "market" was first introduced by DEMIRGUC-KUNT AND LEVINE (1999). It is obtained by recoding one for positive and zero for negative values of a continuous "structure index", where the latter is the average of the deviations from the mean for (1) the inverse of the size of banking sector relative to stock market (approximated by deposit money bank assets divided by stock market capitalisation), (2) the inverse of activity of banking sector relative to stock market (approximated by claims on private sector by deposit money bank divided by total value traded) and (3) the efficiency of stock markets relative to the banking sector (approximated by total value traded as share of GDP * overhead costs). Higher values are supposed to indicate a more market-based financial system.

14 This improvement in correspondence can also be shown by comparing the non-parametric (Spearman) correlation between a dummy variable for civil law countries and the "market" dummy (.28) and the underlying structure index (.40).

Referring to the core argument of the finance and law theory, let us hence see whether there are differences in LLSV's measures of investor protection that are related to legal origin, but not to the type of financial system as classified by Demirguc-Kunt and Levine. To this end, table 1 shows the group mean scores for the anti-director rights index (srights) and the creditor rights index (crights) for common versus civil law countries and bank-based versus market-based financial system countries.

As can bee seen from the left panel of table 1, the group means of LLSV's investor protection indices for shareholder rights (srights) and creditor rights (crights) are both higher for the common law countries. Moreover an analysis of variance confirms that both differences are statistically significant at the 1% level (F = 24.97 for the anti-director rights index and 13.05 for the creditor rights index, respectively). However, as the right panel of table 1 shows, the market-based financial system group still scores higher on the anti-director rights index, but *lower* on the creditor rights index. For the anti-director rights index, the difference is again statistically significant (F = 6.59), but not for the creditor rights index (F = .73, corresponding to p = .4). Nevertheless, the group means of the creditor protection are contrary to what one would expect if one held the market-based type of financial system for superior in both shareholder and creditor protection.

Table 1: LLSV's investor protection indices by legal family and type of financial system

law		srights	crights	system		srights	crights
civil law	Mean	2.42	1.79	bank based	Mean	2.61	2.44
	N	31	29		N	28	27
common law	Mean	4.00	3.11	market based	Mean	3.52	2.10
	N	18	18		N	21	20

Accordingly, in as much as we are prepared to put trust in the LLSV investor protection indices and the financial system classification by Demirguc-Kunt and Levine, we must conclude that market oriented financial systems protect shareholders better than bank-based financial systems, but not creditors, where the difference is rather tipping to the other side. In other words, the law and finance theory indeed appears to explain a *general* superiority of investor protection in common law countries that the financial system type distinction fails to account for. This is a neat result, but as we have stressed, it rests on the assumption that the financial system classification as well as the investor rights indices are valid instruments to capture what they are designed to.

We leave the financial system classification for another paper and now proceed to our final step, a re-assessment of the theory of finance and law's original measurement of investor rights.[15] To emphasise, apart from the taxonomy of legal systems, the comparative assessment of the legal framework in terms of investor protection is the very empirical basis of the law and finance theory and its best accepted building block.

[15] To my best knowledge, apart from GRAFF (2005), no other paper has so far tried to elaborate this point.

Our starting point is that in another paper, it is shown that with few minor, but sensible modifications to the way in which the LLSV anti-creditor rights index aggregates the underlying information, the relative difference between the group means of civil law and common law countries diminishes considerably and becomes statistically insignificant (GRAFF 2006).[16] However, this addresses only the shareholder dimension of investor protection, for which, as we have demonstrated above, the law and finance paradigm is no improvement over the market-based versus bank-based financial system distinction. Recall that the law and finance theory does not discriminate between shareholder and creditor protection in that it predicts that common law countries should perform better than civil law countries in both respects. Moreover, it goes beyond the distinction between common law and civil law countries in postulating a ranking within the civil law family that puts Scandinavian and German legal legacy countries clearly above the French legacy group. Finally, given that the proponents of the theory consider their argument to be empirically best supported by international comparison of shareholder protection,[17] we can refer to the original comparison of the anti-director rights index in LLSV (1998) to conclude that since measured shareholder protection is better in Scandinavian countries than in German law legacy countries, a consistent ranking would place the former above the latter in all dimensions of investor protection. Consequently, the law and finance theory would predict a general ranking in terms of investor protection on an ordinal scale that has common law countries first, followed by the Scandinavian group, then the German law legacy group and finally the French civil law countries.

These considerations can readily be translated into a testable hypothesis: If the indicator set on investor protection put together by LLSV consisted of various aspects that reflect investor protection along a common dimension, a factor analysis should confirm that the total variance of the indicators can reasonably be attributed to a single factor. Since statistically, for a one factor solution subsequent factors, involving rotation and possible relaxations of orthogonality constraints are not relevant, we perform a principal component decomposition to extract the first factor. In particular, we take the original indicators from LLSV (1998), consisting of eight shareholder protection and five creditor protection indicators and covering 49 countries, select the ten indicators that LLSV chose to include into their indices and perform a principal component analysis, imposing a one factor solution.[18]

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[16] The complete list of modifications that practically eliminate the inter-group difference (1.94 for common law versus 2.11 for civil law as compared to 2.42 versus 4.0 in LLSV's original index, with a drop in the F-statistics from 25 to .18, corresponding to p = .67) are: (1) a minor modification of the "extraordinary meeting" dummy variable (for description of the indicators, see section 2.3 of this paper), which is originally measured on a numerical scale. The modification is to assign one if the requested share to call in an extraordinary meeting is *less* rather than *less or equal* (as in LLSV) than the sample median, which is preferable, since it splits the sample into groups that are closer to each other in numbers; (2) to exclude the "proxy by mail" and the "shares not blocked before meeting" dummy variables, that reflect the easiness with which shareholders can cast their votes. It is argued that the small public shareholder is rational to be apathetic and what matters is whether large minority shareholders have a voice. Given that the latter are mostly institutional investors, the provisions captured by the excluded dummies are practically irrelevant; (3) to include LLSV's conceptionally convincing "one share-one vote" dummy variable that does not enter into the original anti-creditor rights index; (4) to include the "mandatory dividend" indicator, reflecting a legally required minimum dividend, which LLSV call a "remedial" protection and exclude from their index. It is argued that a distinction between "remedial" and other protection is not warranted.

[17] See BECK and LEVINE (2003).

[18] Given that the "extraordinary meeting" variable is measured on a numerical scale, we do not dichotomise it, which preserves the original information. Moreover, since principal components extraction requires a complete data set, the number of observations analysed is 46, as three countries have at least one missing value in the LLSV data set. To check for robustness, we completed the data by substituting the legal family group

However, the result is clearly not a one factor solution; the first principal component reproduces no more than 26% of the indicator set's variance, and as table 2 shows, three out of ten loadings (i.e. correlations of the variables with the first principal component) are negative, whereas LLSV consistently assign higher values to their indicators for better protection. Furthermore, the communalities (i.e. the squared factor loadings, indicating the shares of variance of the indicators reproduced by the first component) show that some of the indicators do virtually not have anything in common with the first component. Accordingly, this casts doubt on the adequacy of this data to support a single dimensioned notion of investor protection.

Table 2: First PC of LLSV indicators in anti-director and creditor rights indices

indicator	loading	communality
proxy	.114	.013
blocked	.527	.278
cumvote	-.139	.019
minor	.588	.346
preemptn	-.463	.215
esmreq	-.423	.179
reorg	.635	.403
autostay	.705	.498
secured1	.364	.132
managestay	.727	.528

So, if it does not seem sensible to reduce the variables into one dimension, how about two dimensions? Recall that though LLSV claim that investor protection should follow the same legal family ranking regarding both shareholders and creditors, they divide their indicators into shareholder related and creditor related and actually propose two different indices for measuring investor protection. Let us hence repeat the principal component extraction, this time imposing a two factor solution. After rotation, grouping of the indicators into shareholder related and creditor related, and suppressing factor loadings below an absolute value of .5 to ease interpretation, we summarise the results of the two factor solution in table 3.

As can be seen from table 3, there is some support for a two factor solution. High loadings with an absolute of at least .5 appear on two factors related to the two groups of indicators. The first principal component is related to creditor protection related indicators and the second to shareholder protection related indicators. However, while the signs are equal for the high loadings on the first component, we encounter two positive and one negative high loading for the second component, and three out of six shareholder protection indicators as well as one of four creditor protection indicators do not load high on their respective components.

means for the missing values and repeated all reported principal component analyses with 49 observations. The results remained qualitatively unchanged.

Moreover, the first two components reproduce no more than 42% of total variance. A standard principal component analysis would extract two additional factors with eigenvalues greater than one, accounting for 66% of the total variance, where the rotated factor loading matrix (see table 4) does not suggest any obvious interpretation. Accordingly, if we impose a two dimensional structure on the indicator set, the results are less unsatisfactory that for an imposed one factor solution, but the presence of indicators that are largely uncorrelated to any of the components, contributing to a low degree of explained total variance, as well as a wrong sign on one of the components suggest that we should not regard the indicator set as two dimensional.

Table 3: First and second PC of LLSV indicators in anti-director and creditor rights indices

indicator	loading		
	PC 1	PC 2	communality
indicators from anti-director rights index			
proxy			.238
blocked			.297
cumvote		.510	.399
minor		.763	.679
preemptn			.227
esmreq		-.664	.471
indicators from creditor rights index			
reorg	.756		.593
autostay	.789		.625
secured1			.139
managestay	.756		.578

Now, if a data set does not reveal a clear structure, it is not obvious what meaning one should attach to an aggregation of this data. Moreover, under such circumstances, minor differences in indicator selection, weighting or scaling of single items may considerably change any resulting aggregate measure, so that we should not expect particularly robust results.

Keeping this in mind, let us now have a closer look at LLSV's creditor rights index. The principal components extraction with two imposed factors implied that though not all of the four indicators in the creditor rights index are highly correlated to the related component, the signs were as expected. In particular, LLSV provide the following creditor rights indicators: (1) "Reorganisation" ("reorg" in tables 2–4), which is one if a firm's reorganisation needs creditors' consent, zero otherwise; (2) "No automatic stay" (autostay), which is one if a reorganisation does not impose an automatic stay on the assets of the firm, zero otherwise; (3)

"Secured first" (secured1), which is one if secured creditors are ranked first in the distribution of the proceeds of a bankrupt firm, zero if non-secured creditors, such as the government and workers are coming fist; (4) "No management stay" (managestay), which is one if an official appointed by the court, or by the creditors, is responsible for the operation of the business during reorganization, zero otherwise; (5) "Legal reserve", which is the minimum percentage of total share capital mandated to keep to avoid dissolution of a firm, zero otherwise.

Table 4: Rotated loading matrix of unrestricted standard PC analysis

Indicator	Component			
	1	2	3	4
proxy				.809
blocked	.517			.576
cumvote		-.834		
minor			.537	
preemptn	-.595			
esmreq			-.803	
reorg		.720		
autostay	.729			
secured1			.675	
managestay	.738			

The creditor rights indicator set appears intuitively plausible. All creditor rights indicators are directly concerned with how well creditors are protected from a firm going bankrupt and stripping them of part of, or all of, their claims, which is the major concern for outside creditors who are entitled to fixed claims otherwise.

However, as with the proposed shareholder rights indicators, not all of them are included into the corresponding indices, so that some information is dropped upon aggregation. Regarding the creditor right index, the information thus disregarded is the legal reserve capital requirement to avoid dissolution. LLSV (1998, p. 1135) call this a "remedial" creditor right. "It protects creditors who have few other powers by forcing an automatic liquidation before all the capital is stolen or wasted by insiders." Now, the group mean for the common law countries is 1%, whereas it is 16%, 41% and 21% on average for the Scandinavian, German legal legacy and French legal legacy counties, respectively. In other words, this creditor rights protection indicator scores by far lowest for the common law countries, which actually contradicts the law and finance theory. However, with the qualification that it protects "creditors who have few other powers", LLSV interpret it as a "remedial" that is in place to protect investors when other kinds of protection, that must implicitly be superior, are absent. However,

I find this interpretation questionable.[19] It appears very much like an *ad hoc* rationalisation of an unexpected result. At any rate, LLSV do not seem too convinced of their interpretation, since they do not include this indicator into their creditor rights index. After all, their interpretation would imply that out of all indicators for creditor protection, this particular one had to be entered with a negative sign. I hence suggest not to ignore this information, but to take it as it is, at face value, a legal device to protect outside creditors to be stripped by insiders.[20] Accordingly, let us now recalculate the creditor rights index with all five indicators and see how this changes the results. Table 5 shows the group means for the LLSV creditor rights index and the recalculated ("amended") index by civil law versus common law legacy.

Table 5: creditor protection indices, LLSV and amended by legal family

law		LLSV	amended
civil law	mean	1.79	2.66
	n	29	29
common law	mean	3.11	3.17
	n	18	18

Obviously, the alleged superiority of the common law countries in protecting creditor rights is considerably reduced when we add the legal reserve requirements indicator that LLSV exclude for unconvincing reasons. Moreover, the difference between the groups, which is significant for the original index (F = 13.0), turns insignificant after our recalculation of the index (F = 1.84, corresponding to p = .18).

The changes resulting from our recalculation of the creditor rights index are even more striking when we look at the complete rank ordering of the legal families suggested by the law and finance theory than only at the common versus civil law countries. The results are presented in figure 1, which plots the mean values for the LLSV creditor rights index (on the left of each double bar) and our amended index (on the right of each double bar) for the common law family (rank 1), the Scandinavian family (rank 2), the German law family (rank 3) and the French law family (rank 4).

As can be seen in figure 1, the original LLSV creditor index scores highest for the common law countries, which implies that it is not only higher in for the common law countries compared to the civil law group as a whole, but higher than in each individual subgroup of the civil law group. Moreover, though the rank order predicted by the law and finance theory does not manifest itself perfectly in the LLSV creditor rights index, a test for linearity is passed at the 1% level (F = 13.73). Furthermore, the four indicator mean values could be

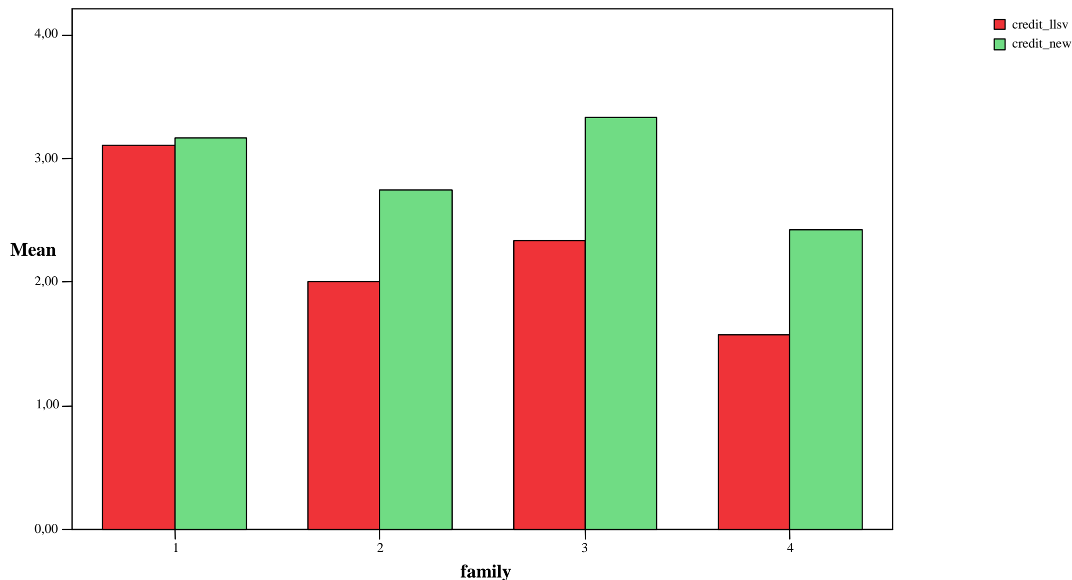
[19] For a similar concern about a "remedial" variable in LLSV's shareholder rights indicator set, see GRAFF (2005).

[20] To make its scale comparable to the other indicators in the creditor rights index, I follow LLSV's general approach and dichotomise it, in this case by assigning one if the reserve requirement is greater than 0% and one zero if there is no such requirement, which splits the sample neatly in 43% countries that score zero versus 57% that score one.

brought in line with theory's prediction the by putting the German group before the Scandinavian countries, which would not touch the essence of the theory.

The recalculated index, however, stands in clear contradiction to the law and finance theory, since the common law countries rank inferior to the German law legacy group; and the imposed linearity does not pass the test for linearity at the 10% level (F = 2.73).

Figure 1: creditor protection indices, LLSV and amended by legal family



Finally, we note that LLSV (1998: 1138) concede that the "United States is actually one of the most anticreditor common-law countries". In other words, the predictions of the law and finance theory do not hold for creditor protection in the German origin country group, which does better than the common law countries, nor for the US, which finds itself close to the bottom. The re-assessment of the law and finance theory's empirical foundations hence reveals that they are built on questionable statistical aggregations, and once we modify these, the predictions fail to meet the facts. Accordingly, the supremacy of the common law legacy in protecting investors and, consequently, the validity of legal origin variables to instrument for financial development, have to be regarded as myths rather than truths.

6 Summary

The "law and finance theory" identifies two dominating legal traditions, a common law tradition inherited from England, and a civil law tradition that is going back to 19th century codifications in France, Germany and Scandinavia. Another key notion of the theory is the distinction between insiders (stakeholders, "the State") and outsiders (shareholders as well as creditors). The micro foundation of this approach is the willingness to invest. The innovative addition of the law and finance theory to these ideas lies in the way it combines them with its peculiar view on legal history. The major conclusion of this theory is that the common law system provides the best basis for financial development and economic growth, followed by Scandinavian and German origin civil law and finally French origin civil law. Moreover, since the law and finance theory has been referred to in using legal origin as instrument for

financial development in cross-country growth regressions, it is perceived as major building block in the ongoing search for the ultimate sources of economic growth and development.

This paper argued that the theory faces an identification problem, since the majority of common law countries have a market-based financial system, whereas the majority of civil law countries have a bank-based financial system. However, since the correspondence is far from perfect, the legal family origin might still reveal essential features beyond the market structure paradigm. Furthermore, we summarised plausible alternative hypotheses to explain the different levels of investor protection, or in more general terms, the quality of the financial system; but concluded that they cannot rule out that the theory refers to a relevant link between the legal tradition and financial development.

Finally it was argued that the corner stone of the law and finance theory is the proposition that different legal traditions imply different degrees of investor protection. It was then shown that the original and widely accepted data set to support this claim does not have a low dimensional structure, so that it is not obvious what meaning one should attach to an aggregation of this data. Moreover, under such circumstances, minor differences in indicator selection, weighting or scaling of single items may considerably change any resulting aggregate measure. It then was demonstrated that a few minor, but sensible modifications in aggregating the original indicator set indeed produce results that are very different from those brought forward in support of the theory and contradictory to the proposed ranking of the four major legal families in terms of investor protection.

Accordingly, the validity of the LLSV anti-director rights and creditor rights indices for international comparisons of shareholder and creditor rights, the supremacy of the common law legacy in protecting investors and, consequently, the validity of legal origin variables to instrument for financial development, have to be regarded as myths rather than truths.

References

ACEMOGLU, Daron, JOHNSON, Simon and ROBINSON, James A., (2001), The Colonial Origins of Comparative Development: An Empirical Investigation, in: American Economic Review, 91: 1369–1401.

ACEMOGLU, Daron, JOHNSON, Simon and ROBINSON, James A., (2002), Reversal of Fortunes: Geography and Institutions in the Making of the Modern World Income Distribution, in: Quarterly Journal of Economics, 117: 1133–1192.

ALLEN, Franklin and GALE, Douglas (1995), A Welfare Comparison of Intermediaries and Financial Markets in Germany and the US, in: European Economic Review, 39: 179–209.

BECK, Thorsten and LEVINE, Ross (2003), Legal Institutions and Financial Development, World Bank Policy Research Working Paper No. 3136.

BECK, Thorsten, DEMIRGUÇ-KUNT, Aslı and LEVINE, Ross (2003), Law, Endowments, and Finance, in: Journal of Financial Economics, 70: 137–181.

BECK, Thorsten, LEVINE, Ross and LOAYZA, Norman (2000) Finance and the Sources of Growth, in: Journal of Financial Economics, 58: 261–300.

BERKOWITZ, Daniel, PISTOR, Katharina and RICHARD, Jean-François (2003), Economic Development, Legality, and the Transplant Effect, in: European Economic Journal, 476: 165–195.

CLAESSENS, Stijn and LAEVEN, Luc (2002), Financial Development, Property Rights and Growth, CEPR Discussion Paper No. 3295.

COVIELLO, Decio (2004), Legal Origin, Financial Development and Growth: Revisiting the Evidence in the Case of Weak Identification, paper presented at 2nd conference on "Research in Economics, Aims and Methodologies, Pavia, 23.–25. September.

DEMIRGUÇ-KUNT, Aslı and LEVINE, Ross (1999), Bank-Based and Market-Based Financial Systems: Cross-Country Comparisons, World Bank Policy Research Working Paper No. 2143, Washington D.C.

DEMIRGUÇ-KUNT, Aslı and LEVINE, Ross (eds.) (2001), Financial Structure and Economic Growth A Cross-Country Comparison of Banks, Markets, and Development, Cambridge: MIT Press.

FOHLIN, Caroline M. (2000), Economic, Political, and Legal Factors in Financial System Development: International Patterns in Historical Perspective, California Institute of Technology, Social Science Working Paper No. 1089.

GRAFF, Michael (2005), Law and Finance: Common-law and Civil-law Countries Compared, KOF Working Paper No. 99, ETH Zurich, February 2005.

GRAFF, Michael (2005), Socio-Economic Factors and the Finance-Growth Nexus, in: European Journal of Finance, 11, No. 3, S. 183–205.

GROGAN, Louise and MOERS, Luc (2001), Growth Empirics with Institutional Measures for Transition Countries, in: Economic Systems, 25: 323–334.

HARBERGER, Arnold C. (1998), A Vision of the Growth Process, in: American Economic Review, 88: 1–33.

KING, Robert G. and LEVINE, Ross (1993), Finance and Growth. Schumpeter Might Be Right, in: Quarterly Journal of Economics, 108: 717–738.

KNACK, Stephen and KEEFER, Philip (1995), Institutions and Economic Performance: Cross country Tests Using Alternative Institutional Measures, in: Economics and Politics, 7: 2007–227.

LA PORTA, Rafael, LOPEZ-DE-SILANES, Florencio, SHLEIFER, Andrei and VISHNY, Robert W. (1997), Legal Determinants of External Finance, in: Journal of Finance, 52: 1131–1150.

LA PORTA, Rafael, LOPEZ-DE-SILANES, Florencio, SHLEIFER, Andrei and VISHNY, Robert W. (1998), Law and Finance, in: Journal of Political Economy, 106, No. 6: 1113–1155.

LICHT, Amir N., GOLDSCHMIDT, Chanan and SCHWARTZ, Shalom H. (2001), Culture, Law, and Finance: Cultural Dimensions of Corporate Governance, SSRN Working Paper.

LEVINE, Ross (1999), Law, Finance, and Economic Growth, in: Journal of Financial Intermediation, 8: 8–35.

LEVINE, Ross (2002), Bank-Based or Market-Based Financial Systems: Which Is Better? In: Journal of Financial Intermediation, 11: 398–428.

LEVINE, Ross (2000), LOAYZA, Norman and BECK, Thorsten, Financial Intermediation and Growth: Causality and Causes, in: Journal of Monetary Economics, 46: 31–77.

MCKINNON, Ronald I. (1973), Money and Capital in Economic Development, Washington, D.C.: The Brookings Institution.

SHAW, Edward S. (1973), Financial Deepening in Economic Development, New York: Oxford University Press.

NEUBERGER, Doris (2000), Evolution of Financial Systems: Convergence Towards Higher or Lower Stability, in: A. Karmann, (ed.), Financial Structure and Stability, Berlin: Springer.

RAJAN, Raghuram G. and ZINGALES, Luigi (2003), The Great Reversals: the Politics of Financial Development in the Twentieth Century, in Journal of Financial Economics, 69: 5–50.

SINGH, Ajit, SINGH, Alaka and WEISSE, Bruce (2001), Corporate Governance, the New International Financial Architecture and Large Corporations in Emerging Markets, memo, University of Cambridge, Faculty of Economics and Politics.

STULZ, René M. and WILLIAMSON, Rohan (2003), Culture, Openness and Finance, in: Journal of Financial Economics, 70: 313–349.