



Munich Personal RePEc Archive

An End to Consensus? The (Non) Impact of Legal Reforms on Financial Development

Deakin, Simon and Sarkar, Prabirjit and Singh, Ajit

University of Cambridge, U.K., Jadavpur University, Calcutta,
India, University of Cambridge, U.K.

26 August 2010

Online at <https://mpra.ub.uni-muenchen.de/53352/>

MPRA Paper No. 53352, posted 02 Feb 2014 19:07 UTC

An End to Consensus? The (Non) Impact of Legal Reforms on Financial Development

Simon Deakin, Prabirjit Sarkar and Ajit Singh

Centre for Business Research, University of Cambridge

August 2010

Abstract

We use recently created longitudinal datasets measuring legal change over time to test whether the strengthening of shareholder and creditor rights leads to greater financial development. The hypothesis that law matters to financial development is rejected, both for a sample of 5 countries (France, Germany, India, UK and US) over 36 years (1970-2005) and for an extended sample of 25 developing, developed and transition systems over 11 years (1995-2005). We consider a number of reasons for the non-impact of legal change, including the inappropriateness of certain legal transplants and the failure of legal reforms to bed down in practice.

1. Introduction

The view that strengthening shareholder and creditor rights is a precondition for financial market development has been a mainstay of global policy initiatives and national law reform programmes since the early 1990s. Underpinning this policy has been the ‘legal origins’ hypothesis (see La Porta *et al.*, 2008 for a recent restatement). This sees legal systems as having a long-run impact on patterns of economic growth. Countries whose legal systems have a common law origin are said to place a greater emphasis on freedom of contract and the protection of private property than those with civil law roots, which tend to favour an activist role for the state (Glaeser and Shleifer, 2002). Quantitative indicators have been used to chart the extent of cross-national variation in the content of laws governing the business enterprise and to establish correlations between legal and economic variables (Djankov *et al.*, 2003). Common law systems have been found to have more dispersed share ownership and more liquid and extensive capital markets (La Porta *et al.*, 1998) and more highly developed systems of private credit (Djankov *et al.*, 2006), than civilian ones. In part through the *Doing Business* reports of the World Bank, these findings have come to influence policy reform in ‘dozens of countries’ over the past decade (La Porta *et al.*, 2008: 326). In particular, reforms to company and insolvency law have strengthened shareholder and creditor rights in a number of ways.

Influential as it is, the legal origins hypothesis is incomplete in various respects. From a theoretical perspective, the claim that legal origin is entirely exogenous to the long-run pattern of economic development carries with it the implication that the nature of a country’s legal infrastructure is fixed at the point when it first adopts or has imposed upon it, through colonization or conquest, a particular type of legal system. This is highly implausible. An alternative hypothesis is that, over time, legal systems interact with economic and political structures at national level, and may be altered by them. They may also be affected by transnational legal influences such as harmonization and regulatory competition. These aspects of the dynamics of legal change are not adequately captured in legal origins theory.

The empirical legal origins literature also suffers from significant limitations. The vast majority of the datasets used to substantiate the legal origins hypothesis only provide cross-sectional evidence on the state of the law as it stood in the late 1990s and early 2000s. It is inappropriate to draw firm conclusions on the long-run relationship between legal change and economic development on the basis of cross-sectional data of this kind. Yet, this is precisely what the legal origins literature claims to do.

In this paper we draw on newly constructed longitudinal measures of cross-national legal variation which make it possible to assess the relationship between legal and economic variables using time-series and panel-data techniques. We summarise results from a number of earlier papers analysing these datasets and present new findings for a sample of 25 developed, developing and transition countries. We find that the claims made for the positive impact of legal reform on financial development are not warranted.

2. Coding legal change: methodological considerations

We have approached the task of producing longitudinal data on legal change in two phases. The first phase coded the laws of a relatively small number of legally and economically significant countries (France, Germany, India, the UK and USA) over an extended period of time (1970-2005: 36 years). We focused on areas of particular relevance to the legal origins hypothesis, including shareholder protection and creditor protection.¹ In each case we constructed an index consisting of several dozen indicators, some of which could be aggregated so as to produce composite variables referring to subsets of the legal area in question (for details see Lele and Siems, 2007; Deakin, Lele and Siems, 2007; Armour *et al.*, 2009b). Each individual indicator was defined using an algorithm which set out the basis for coding the relevant laws. In general, a variable was given a score of between 0 and 1, with 0 indicating minimal or zero protection for the interests of the group protected by the area of law under review (shareholders, creditors and workers, respectively) and 1 indicating maximum protection. Laws were coded on a year by year basis. The precise basis for the coding at the start of the period and any subsequent change was set out, in the sense that the primary legal sources were cited and an explanation given for the score arrived at. The coding was carried out in each case by a legal expert who was familiar with the laws and language of the country concerned.

In the second phase, a larger number of countries (25²) was coded using indices with a reduced number of variables (10 each for shareholder and creditor protection and 12 for labour regulation). In the phase one datasets, because of the large number of indicators used and the long time series, there were several thousand data points. These provided a very rich and detailed picture of legal change over an extended period in a small number of important but not necessarily representative cases. It was felt that it was not feasible to code the law in such a comprehensive way for a wider and more representative sample, hence the use of indices containing fewer indicators and focusing on key variables of interest. The phase two coding was also carried out for a shorter period of time (1995-2005, 11 years). This period was chosen owing to the relatively recent availability of widespread financial data on companies in these systems which might be used as dependent variables in regression

¹ We also coded laws relating to the protection of workers. Results from the analysis of this labour regulation index are reported elsewhere: see Deakin and Sarkar, 2008.

² The countries coded are: Argentina, Brazil, Canada, Chile, China, Czech Republic, France, Germany, India, Italy, Japan, Latvia, Malaysia, Mexico, the Netherlands, Pakistan, Russia, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, UK, US.

analyses investigating links between the legal indices and the performance of firms. Moreover, this period was also one in which national systems generally were influenced by the so-called Washington consensus in favour of market-led legal and institutional reforms. In this second phase, because of the larger sample of countries coded, advice was obtained from lawyers with knowledge of jurisdictions with which the project team were not directly familiar because of obstacles of language, but the final coding was carried out by members of the core team, with the aim of ensuring consistency of approach (see Siems, 2008b).

The approach taken to coding was distinctive in several respects. First, we endeavoured to take seriously the methodological constraint imposed on this sort of exercise by the fact that legal rules are, to a certain degree, open-ended, and capable of being interpreted in different ways. Even experts may (and do) disagree on the content of fundamental legal rules and principles. In response to this problem, we sought in all cases to document the precise source of legal authority upon which our coding was based, and also the basis for the exercise of interpretive judgement within the coding process.

Secondly, we sought to take into account the theory of ‘functional equivalents’ in comparative law (Zweigert and Kötz, 1992). This holds that a rule which takes a positive legal form in one system may be expressed in other legal systems in a different way. To respond to this, we developed algorithms which described the variables of interest in broad, functional terms, rather than using as a benchmark the laws in force in a particular important jurisdiction (e.g. the US). We also coded for rules which, while not part of the positive law, were found in codes and other self-regulatory instruments that could nevertheless be regarded as the functional equivalent of laws in many jurisdictions. This enabled us to code several variables of key concern, such as rules contained in corporate governance and takeover codes, which La Porta *et al.* had omitted from their analyses, apparently on the grounds that they did not take the form of positive legal rules in the US system.

Thirdly, we coded using graduated variables, in order to capture more of the detail of legal variation. La Porta *et al.* had largely relied on binary variables, at least in their first studies (see e.g. La Porta *et al.*, 1998).

Fourthly, we coded not just for mandatory rules of law as La Porta *et al.* had mostly done but for default rules and other norms which could be modified by the parties directly affected by them, adjusting the scores given in each case to allow for the ease with which the rules could be modified. At this stage we also considered the merits of seeking to weight the expected economic significance of variables. On the whole we rejected this as unduly subjective, but acknowledged the implicit weightings which arose from the way the indices were constructed.

With longitudinal indices, it becomes possible to make use of time series and panel data econometric techniques to identify the impact of legal change over time, after controlling for other relevant factors. In the case of the five-country, 36-year datasets, we used cointegration (ARDL) techniques to address the issue of non-stationarity in long time series. In the case of the 25-country, 11 year datasets, we did not have a long enough period to use time-series methods, but we were able to carry out panel data cointegration methods which are suitable for this shorter period. We also make use of Granger causality tests to address the issue of the direction of causation between legal and economic change.

3. Revealing the pattern of legal change: 'leximetric' analysis

Armour, Deakin, Lele and Siems (2009) report findings from the analysis of the 5-country, 36-year indices for shareholder protection and creditor protection. The broad trends are set out in Figures 1-2 below. A strong-form legal origin effect would be time-invariant and constant across closely related areas of law such as these. Neither is the case; the rank order of the countries changes over time and there is a very different picture across the three areas of law concerned. In relation to shareholder protection, a common rising trend can be observed, but not the sharp divergence between common and civil law that La Porta *et al.* identified in their cross-sectional studies. For creditor protection, again, there is no clear pattern based on legal origin, and no convergence either.

Armour, Deakin, Mollica and Siems (2009) provide an overview of the trends revealed by the 25-country datasets. For shareholder protection, the picture is similar to that for the 5-country index. There has been a general increase in levels of shareholder protection, with scores for the indicators on independent boards and the mandatory bid rule in takeover bids driving much of the change. Scores for developing and transition systems are below those for the developed countries, but there is strong evidence of convergence, with transition systems seeing particularly rapid adjustment through programmes of company law reform (see Figures 3-6). For creditor protection, a different picture emerges than in the case of the 5-country index.

The results for the 25-country creditor protection index complement from those obtained from the five-country study (Figures 7-10). At first sight there is no overall common law/civil law divide. However, there are differences by reference to legal families within the overall common law and civil law categories. Thus French origin systems have significantly weaker scores than both English-origin and German-origin ones. Although there is no clear rising trend across countries as there is for shareholder protection, there is evidence of a significant strengthening of creditor rights in many countries. French systems have also seen the greatest increase in protection, suggesting that they are to some degree converging on the more protective models of the other two groups of systems. Across the sample as a whole, bankruptcy law reform, aimed at streamlining corporate reorganizations, is a common trend. Several countries have strengthened protections for secured creditors and take steps to facilitate out of court enforcements of security interests. Developing and transition systems

have lower scores than developed ones, but this gap is less than that between the three legal families.

4. The relationship between legal change and financial development: econometric analysis

With time series data available, it becomes possible to estimate the economic impact of legal change. If the legal origin hypothesis were correct, we should be seeing increases in shareholder protection law leading to greater stock market development. In relation the long time series provided by the 5-country dataset, Fagernäs, Sarkar and Singh (2008) and Sarkar and Singh, carrying out time series analyses for France, Germany, the UK and the US, found no such relationship: for some variables there is no statistically significant relationship between shareholder protection and the development of stock markets, and for some the relationship is negative. Sarkar (2009) arrived at a similar result for India. Analysing the creditor protection dataset, Deakin, Demetriades and James (2010) found some evidence that the strengthening of the rights of secured creditors has helped to promote banking development in India, although the relationship is partially endogenous, as an increase in the size of the banking sector precedes some of the legal changes.

For the wider sample of countries contained in the 11-year dataset, we now report new results from panel causality tests. We consider two relationships: one is between shareholder protection and stock market development and the other is between creditor protection and banking/credit market development. As indicators of banking and credit market development, we use the following two variables: (1) domestic credit provided by the banking sector as a percentage of GDP (in natural log: LDCBY), and (2) domestic credit to the private sector as a percentage of GDP (in natural log: LDCPTY). As indicators of stock market development use the following four variables (used one at a time): (1) market capitalisation, or the value of listed shares to GD (in natural log: LMKAPY); (2) the value of total shares traded on the stock market exchange to GDP (in natural log: LVTRDY); (3) the turnover ratio, which is the value of total shares, traded to average real market capitalization (in natural log: LTURN); and (4) the number of listed firms per million of population (in natural log: LLISTPOPM).

In our causality tests, we incorporate the level of economic activity in a country, which is represented by real GDP per capita in purchasing power parity constant dollars (in natural log: in LPCY). We also include in the regression data drawn from the Rule of Law Index (RULE)³ available from the WGI (Worldwide Governance Indicators) project of the World Bank. Since our period of analysis is marked by dotcom bubble bursting we also use a

³ This index is available for all the countries covered in the study for almost all the years, 1995-2005. For some years, we do not have data; we used data for the next year. For example, 1995 data are not available - so we have used 1996 data for both 1995 and 1996.

dummy variable, DOT, which takes the value zero for 1995-2000, and 1 for the period, 2001-2005.

To ascertain whether the direction of causality is from shareholder or creditor protection (Z) to financial market development (X) or the opposite or both (mutual causation), we use panel VAR (Vector-Autoregressive) Granger causality tests over the period, 1995-2005. To ascertain whether Z (shareholder or creditor protection taken one at a time) causes X (alternative finance market variables taken one at a time), the panel VAR Granger causality test suggests fitting the following regression:

$$(1) X_{it} = \sum_{j=1}^p \lambda_j X_{i,t-j} + \sum_{k=1}^q \psi_k Y_{i,t-k} + \sum_{l=1}^r \pi_l Z_{i,t-l} + \alpha + \beta \cdot \text{RULE}_{it} + \gamma \cdot \text{DOT}_t + \varepsilon_{it}$$

where Y is GDP per capita (in natural log), LPCY, RULE is the rule of law index, DOT is a dummy for dotcom bubble which takes the value zero for 1995-2000 and 1 for the period, 2001-2005, α is the fixed effect common across the panels and ε_{it} is the error term varying across time and panels

To choose the lags (p, q and r in the regression model) which indicate how many past years are to be considered, a number of possible approaches available (such as the sequential modified LR test statistic (LRM), the final prediction error approach (FPE), the Akaike information criterion (AIC), the Schwarz information criterion (SC), and the Hannan-Quinn information criterion (HQ)). Different criteria often choose different lag lengths and we have considered the maximum lag length.

In fitting the above equation we aim to test whether the coefficients of the lags of Z are jointly significant (different from zero) through the Wald-test statistic. The null hypothesis is $\pi_1 = \pi_2 = \dots = \pi_k = 0$. If the Wald test statistic estimated on the basis of the null hypothesis is very high (higher than a critical value), we can say that Z causes X (rejecting the null hypothesis of no causality).

Similarly to test whether X causes Z, we fit a regression where Z is a function of its past values and the past values of X and Y, and test the joint significance of the coefficients of the lags of Y.

Our panel VAR causality tests find no causal relationship from shareholder protection to stock market development (see Table 1). Nor there is a causal relationship from creditor protection to banking and credit market development. There is also no evidence of reverse causation - changes in law caused by financial development. We find only one causal relationship: private credit expansion relative to GDP (as measured by LDCPVTY) depends on GDP per capita.

5. Conclusion

As a result of the above findings, a clearer view is being obtained of the relationship between legal change, financial development and economic growth. The absence of a correlation between law reform and financial market development suggests that the strengthening of shareholder rights and creditor rights has not having its intended effect. National conditions

may be setting limits to the effectiveness of legal transplants, and/or the formal convergence of laws might be masking persistent underlying diversities. There is evidence that when laws are embedded in particular configurations of institutions at national level as opposed to being transplanted from outside. Thus our empirical results support the suggestion that legal rules are, to a significant degree, endogenous to the economic and political context of the systems in which they operate. They also cast doubt on the Washington consensus position that legal reform is a necessary precondition to the growth of financial markets in the developing world.

Table 1: Relationships between Legal Protection of Shareholders and Creditors and Financial Development, 1995-2005: Panel VAR Granger Causality¹Tests

| Dependent Variable ² : Financial Development Indicators in natural log | Excluded Variable ¹ | Chi-Square | Dependent Variable ² : Legal Index | Excluded Variable ¹ | Chi-Square |
|--|--------------------------------|------------|--|--------------------------------|------------|
| 1. LDCBY | | | CRP | | |
| Lag =2 | | | | | |
| | CRP | 0.537709 | | LDCBY | 0.185173 |
| | LPCY | 1.325482 | | LPCY | 1.863226 |
| | | | | | |
| 2. LDCPTY | | | CRP | | |
| Lag = 3 | | | | | |
| | CRP | 4.350840 | | LDCPTY | 1.279897 |
| | LPCY | 21.58080* | | LPCY | 3.390483 |
| | | | | | |
| 3. LMKAPY | | | SHP | | |
| Lag = 2 | | | | | |
| | SHP | 2.387426 | | LMKAPY | 3.529641 |
| | LPCY | 1.431697 | | LPCY | 2.988746 |
| | | | | | |
| 4.. LVTRDY | | | SHP | | |
| Lag = 2 | | | | | |
| | SHP | 1.932260 | | LVTRDY | 1.211103 |
| | LPCY | 2.324265 | | LPCY | 3.520949 |
| | | | | | |
| 5. LTURN | | | SHP | | |
| Lag = 3 | | | | | |
| | SHP | 3.652024 | | LTURN | 1.129326 |
| | LPCY | 2.967105 | | LPCY | 2.681360 |
| | | | | | |
| 6.LLISTPOPM | | | SHP | | |
| Lag = 2 | | | | | |
| | SHP | 2.277469 | | LLISTPOPM | 1.550664 |
| | LPCY | 0.030678 | | LPCY | 3.344264 |

* Null hypothesis of no causality is rejected at 5 % level.

Notes:

1 To ascertain whether Z (shareholder or creditor protection taken one at a time) causes X (alternative finance market variables taken one at a time), the panel VAR Granger causality test suggests fitting the following regression:

$$(1) X_{it} = \sum_{j=1}^p \lambda_j X_{i,t-j} + \sum_{k=1}^q \psi_k Y_{i,t-k} + \sum_{l=1}^r \pi_l Z_{i,t-l} + \alpha + \beta \cdot \text{RULE}_{it} + \gamma \cdot \text{DOT}_t + \varepsilon_{it}$$

where Y is GDP per capita (in natural log), LPCY , RULE is the rule of law index, DOT is a dummy for dotcom bubble which takes the value zero for 1995-2000 and 1 for the period, 2001-2005, α is fixed effect common across the panels and ε_{it} is the error term varying across time and panels. To choose the lags (p , q and r in the regression model) which indicate how many past years are to be considered, a number of possible approaches available (such as the sequential modified LR test statistic (LRM), the final prediction error approach (FPE), the Akaike information criterion (AIC), the Schwarz information criterion (SC), and the Hannan-Quinn information criterion (HQ)). Different criteria often choose different lag lengths and we have considered the maximum lag length. Similarly, to test whether X causes Z we interchange the position of X and Z in the above equation.

2 The following abbreviations are used:

SHP is aggregate shareholder protection;

CRP is the aggregate creditor protection;

LDCBY is Domestic credit provided by the banking sector as percentage of GDP (in natural log);

LDCPVTY is Domestic credit to private sector as percentage of GDP (in natural log);

LMKAPY is the value of listed shares to GDP (in natural log);

LVTRDY is the value of total shares traded on the stock market exchange to GDP (in natural log);

LTURN is the ratio of the value of total shares traded to average real market capitalization (in natural log);

LLISTPOPM is the number of listed firms per million of population (in natural log);

LPCY is GDP per capita measured in purchasing power parity constant dollar (in natural log).

References

- Armour, J., Deakin, S., Sarkar, P., Siems, M. and Singh, A. (2009) 'Shareholder protection and stock market development: an empirical test of the legal origins hypothesis' *Journal of Empirical Legal Studies*, 6: 343-381.
- Armour, J., Deakin, S., Lele, P. and Siems, M. (2009) 'How legal norms evolve: evidence from a cross-country comparison of shareholder, creditor and worker protection' *American Journal of Comparative Law*, 57: 579-629.
- Armour, J., Deakin, S., Mollica, V. and Siems, M. (2009) 'Law and financial development: what we are learning from time-series evidence' *BYU Law Review*: 1435-1500.
- Deakin, S., Demetriades, P. and James, G. (2008) 'Creditor rights and banking system development in India' *Economics Letters*, 108: 19-21.
- Deakin, S. and Sarkar, P. (2008) 'Assessing the long-run economic impact of labour law systems: a theoretical reappraisal and analysis of new time series data', *Industrial Relations Journal*, 39: 453-487.
- Djankov, S., La Porta, R., Lopes-de-Silanes, F., and Shleifer, A. (2002) 'The regulation of entry' *Quarterly Journal of Economics*, 117: 1-37.
- Djankov S., Glaeser, E., La Porta R., Lopez-de-Silanes F. and Shleifer A. (2003) 'The new comparative economics' *Journal of Comparative Economics*, 31: 595-619.
- Djankov, S., La Porta, R., Lopez de Silanes, F., Shleifer, A. (2005) 'The law and economics of self-dealing' NBER Working Paper No. W11883.
- Djankov, S., McLeish, C., and Shleifer, A. (2007a) 'Private credit in 129 countries' *Journal of Financial Economics*, 84: 299-329
- Djankov, S., Hart, O., McLeish, C., and Shleifer, A. (2007b) 'Debt enforcement around the world' ECGI Finance Working Paper No 147/2007.
- Djankov, S., La Porta, R., Lopez-de-Silanes, F. and Shleifer, A. (2008) 'The law and economics of self-dealing' *Journal of Financial Economics*, 88; 430-65.
- Fagernäs, S., Sarkar, P., and Singh, A. (2008) 'Legal origin, shareholder protection and the stock market: new challenges from time series analysis', in B. Yurtoglu and K. Gugler (eds.) *The Economics of Corporate Governance and Mergers* (Cheltenham: Edward Elgar).
- Glaeser, E. and Shleifer A. (2002) 'Legal origins' *Quarterly Journal of Economics*, 117: 1193-1229.
- La Porta R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R. (1998) 'Law and finance' *Journal of Political Economy*, 106: 1113-55

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R. (1999) 'Corporate ownership around the world' *Journal of Finance*, 54: 471-517.

La Porta, R., Lopez-de-Silanes, F., Pop-Eleches, C. and Shleifer, A. (2004) 'Judicial checks and balances' *Journal of Political Economy*, 112: 445-470.

La Porta R., Lopez-de-Silanes F., and Shleifer, A. (2006) 'What works in securities laws?' *Journal of Finance*, 61: 1-32.

La Porta R., Lopez-de-Silanes F., and Shleifer A. (2008) 'The economic consequences of legal origins' *Journal of Economic Literature* 46: 285-332.

Sarkar, P. (2008) 'Corporate governance, stock market development and private capital accumulation: a case study of India', in S. Marjit (ed.) *India Macroeconomics Annual* (New Delhi: Sage).

Sarkar, P. and Singh, A. (2010) 'Law, finance and development: further analyses of longitudinal data' *Cambridge Journal of Economics*, 34: 325-346.