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Corporate Governance

Product Market Competition, Corporate Governance and Legal Origin

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ABSTRACT

Using the persistence of firm-level profits as a measure of the intensity of product market competition in a panel of 19 countries for the period 1995-2005, we find that common law systems have product markets which are more competitive (in this sense) than civil law ones, and that the intensity of competition is greater in developed economies than in emerging ones. We find a positive relationship between shareholder protection and the persistence of profits in civil law countries. Thus the product market may be an important ‘missing link’ in explaining how legal origin impacts on the economy. Corporate governance rules and product market competition appear to be substitutes in the civil law world, but may be complementary to each other in the common law world.

INTRODUCTION

This paper seeks to make a constructive contribution to the pioneering research of R. La Porta, F. Lopez-de-Silanes, A. Shleifer and R. Vishny (hereafter referred to as LLSV), who have extensively explored the relationship between law, finance and development. It identifies an important omission in LLSV’s framework of analysis that needs to be remedied in order to render it more useful for economic analysis and policy-making. This paper accomplishes these tasks of identification and revision both at a theoretical level and by providing new empirical research.

By way of background, this introduction briefly discusses LLSV’s work which effectively began with their 1998 and 1999 landmark papers. In doing so it draws on the recent important review by three of the above founding architects (La Porta, Silanes and Shleifer, 2008) of this rapidly expanding corpus of research over the last ten years. LLSV and the proponents of their ideas have argued that ‘legal origin’ (whether it is French civil law or English common law) is a major determinant of a country’s laws in relation to the protection of corporate shareholders, creditors and labour among other entities (see LLS 2008 for detailed references).

The heart of LLSV’s analysis is that, where shareholders enjoy a higher level of legal protection, more finance is available to corporations. Thus the authors see ‘the protection of the property rights of the financiers as essential to assure the flow of capital to firms’ (LLS 2008:285.) Moreover, in addition to the greater security of property rights offered by common law, LLSV have also suggested that common law countries provide better contract enforcement

than civil law countries. These institutional features of common law countries lead to superior economic outcomes than those in civil law countries. To sum up, the LLSV argument is that there is a greater development of financial markets in common law countries, which leads to greater investment by the public in equity markets and corporate bond markets. It is thus suggested that at the microeconomic level of the individual firm or corporation, the greater the availability of corporate finance the greater is the likelihood of corporate growth and hence, in the aggregate, faster national economic growth (LLSV, 1998; LLS, 2008).

However, LLSV's analysis regarding the legal roots of corporate growth masks a serious deficiency in their implicit model of the firm. Corporate growth in the model depends entirely on the supply of corporate finance: demand factors are totally ignored or it is assumed that all firms are faced with an infinitely elastic demand curve for their respective products, implying that they are able to sell as much as they choose at the going price. However, this portrayal of the modern corporation hardly corresponds to the real world of imperfect competition. LLSV give disproportionate attention to capital markets and the supply of finance as compared to that given to the state of competition and related characteristics of product markets. There is no serious analysis, nor for that matter any well-argued claims, concerning the superiority of common law countries relative to civil law countries in relation to the intensity of competition in product markets or to competition laws.

As indicated above, the main purpose of this paper is to identify this significant gap that has extremely important policy implications and to extend LLSV's analysis. To do so requires one address the following questions: Is competition more intense in common law countries than in civil law countries? How does legal origin affect the nature of competition and competitive outcomes in the two groups of countries? A firm may be efficient in terms of attracting finance but may not have sufficient demand for its products to take full advantage of all the finance available to it. Marris's (1964) classic model of the firm admirably clarifies these issues. Briefly, Marris suggests that while corporate managers may be interested in serving their shareholders, they may be more concerned with their own power, prestige and salary, these varying closely with the size of the firm. In view of this principal-agent problem, managers may pursue fast corporate growth even if it is not profitable. In the Marris model, the firm's supply of finance is a positive function of its rate of return on its assets, while the growth of demand for its products depends on how efficiently the management team carries out its varied tasks. Marris hypothesizes a negative relationship between the rate of profit and the rate of growth of demand because profits have to be sacrificed in order to obtain greater growth in demand through advertising and R&D among other things. Equilibrium growth for the corporation is determined by the intersection of the product demand curve and the finance supply curve.

The implication of Milton Friedman's classic (1953) analysis that if there was perfect competition in product markets, there would be no principal-agent problem due to fact that corporate managers would be obliged to pursue profit maximization as a condition of survival. However, if competition is imperfect, survival does not require either minimization of costs or maximization of profits. Subsequently, Manne (1965) argued in a famous paper that, if there were perfect competition in the capital market (in the sense of a perfect market for corporate control), the state of competition in the product market would not matter, the converse of

Friedman's implication. Even monopolistic companies in product markets would not survive unless they minimized costs and maximized monopoly profits. In the event, the actual functioning of the market for corporate control has yielded disappointing results both in terms of further analysis and in empirical terms. One of the most important empirical results emerging from countless studies of mergers and acquisitions is that selection in the market for corporate control takes place both with respect to performance and to size. This implies that a large and unprofitable company has a greater chance of survival than a small profitable company.¹

As a result of the recognition of these limitations of the market for corporate control in terms of efficient outcomes, the wheel has come full circle. It is now commonly suggested that, unlike previously, it is intense international competition in world product markets that is the main constraint on the ability of managers in large corporations to run the corporation for their own ends rather than in the interests of shareholders.

It is therefore surprising that product market competition has been relatively neglected in the discussions of legal origin by LLSV. The immediate empirical questions that deserve investigation on this issue include the following:

- Do common law countries have more competition than civil law countries?
- Does common law itself have much to say about issues of monopoly, oligopoly and competition?
- Is it more likely that a common law country would have a competition policy than a civil law country?

These and other questions will be empirically investigated in the rest of this paper.

DATA AND MODELING

Models and estimation method

Static measures of concentration inadequately reflect competition intensity. Competitive dynamics may be better captured by examining the persistence of corporate rates of return. Underlying assumption of the method we apply is that if competition is intense, there is unlikely to be persistence in the profitability of competing firms (see Glen, Lee and Singh 2003).

Following the previous persistence of profitability literature (e.g., Glen et. al., 2003), profitability is measured using return on assets (ROA) defined as net income divided by total assets. The persistence of performance is estimated using a fixed effects dynamic panel data method based on the following equation for corporate profitability.

¹ There is a vast literature on this subject. For recent reviews see Tichy (2001), Scherer (2006), Deakin and Singh (2008).

$$P_{i,t} - P_t = a_i + a_t + b (P_{i,t-1} - P_t) + \varepsilon_{i,t} \quad (1)$$

where $P_{i,t}$ is the profitability of firm i in time t , P_t is the country average profitability across firms, a_i is the firm level time-invariant fixed effect, a_t is the time-fixed effect and b is the common persistence parameter (the coefficient measuring the impact of past performance of a firm compared to the national average) to be estimated, and $\varepsilon_{i,t}$ is the usual error term. The dependent variable, $(P_{i,t} - P_t)$, the deviation of firm i 's profitability at time t from the profitability of all other firms in the country (P_t) at that time can be called normalized performance ($NROA_{i,t} = P_{i,t} - P_t$); it should control for the various common factors which affect all firms in a country.

For testing the difference in persistence between common law and civil law groups of countries, and developed and emerging countries we have considered separate regression for each group and combine them together with the help of the dummy variables:

$$NROA_{i,t} = a_i + a_t + b_{civ} NROA_{i,t-1} + (b_{com} - b_{civ}) (NROA_{i,t-1} * COM) + \varepsilon_{i,t} \quad (2)$$

$$NROA_{i,t} = a_i + a_t + b_{LDC} NROA_{i,t-1} + (b_{DC} - b_{LDC}) (NROA_{i,t-1} * DC) + \varepsilon_{i,t} \quad (3)$$

where COM = common law country dummy = 1 for common law countries and zero otherwise and DC = developed country dummy = 1 for developed countries and zero otherwise and b_{civ} , b_{com} , b_{LDC} and b_{DC} are the persistence parameters of the following groups: civil law, common law, emerging economy and developed economy (respectively).

For examining the effect of shareholder protection (SP) on the firm performance, we have modified equation (1):

$$NROA_{i,t} = a_i + a_t + b NROA_{i,t-1} + c SP_{i,t} + \varepsilon_{i,t} \quad (4)$$

where $SP_{i,t}$ is the shareholder protection index of country i in time t . The shareholder protection index is the aggregate sum of the ten legal variables Armour et. al. (2007) produced focusing on the law relating to listed companies. The 10 variables that make up this index are: (1) Powers of the general meeting for de facto changes; (2) Agenda setting power; (3) Anticipation of shareholder decision facilitated; (4) Prohibition of multiple voting rights; (5) Independent board members; (6) Feasibility of director's dismissal; (7) Private enforcement of directors duties; (8) Shareholder action against resolutions of the general meeting; (9) Mandatory bid; (10) Disclosure of major share ownership.

For examining whether different groups experience different persistence and different effect of shareholder protection we have considered separate regression for each group and combine it together with the aid of the same dummy variable technique as above:

$$NROA_{i,t} = a_i + a_t + b_{civ} NROA_{i,t-1} + (b_{com} - b_{civ}) (NROA_{i,t-1} * COM) + c_{civ} SP_{i,t} + (c_{com} - c_{civ}) (SP_{i,t} * COM) + \varepsilon_{i,t} \quad (5)$$

$$NROA_{i,t} = a_i + a_t + b_{LDC} NROA_{i,t-1} + (b_{DC} - b_{LDC}) (NROA_{i,t-1} * DC) +$$

$$c_{LDC} SP_{it} + (c_{DC} - c_{LDC})(SP_{it} * DC) + \varepsilon_{i,t} \quad (6)$$

where COM = common law country dummy = 1 for common law countries and zero otherwise and DC = developed country dummy = 1 for developed countries and zero otherwise and c_{civ} , c_{com} , c_{LDC} and c_{DC} are the coefficients of SP of the following groups: civil law, common law, emerging economy and developed economy (respectively).

We replicate the whole set of dummy variable analysis by considering the alternative set of dummies - CIV = civil law country dummy = 1 for civil law countries and zero otherwise and LDC = emerging country dummy = 1 for emerging countries and zero otherwise. This would help us to ascertain the exact nature of relationship postulated in equations (1) and (4) for each group without slicing the whole dataset according to different groups and running separate regression for different groups.

Data

We use the CBR longitudinal shareholder protection index (see Armour *et al.*, 2008) which is available for 22 countries (Argentina, Brazil, Chile, China, Czech Republic, France, Germany, Great Britain, India, Italy, Japan, Malaysia, Mexico, Pakistan, Russia, Slovenia, South Africa, Spain, Sweden, Switzerland and United States) for the period of 1995-2005. Accounting data for the firms from these countries are obtained from *Worldscope* through *Thomson One Banker* interface. Our study includes manufacturing firms that reported their net income and assets for the entire 11-year period. This selection criterion excludes young firms or firms that have failed. Absence of enough sample firms eliminates the Czech Republic, Russia and Slovenia from this study. The total sample used after deleting the upper and lower 1% from each country sample based on NROA (e.g. Jacobson and Hansen, 2001) contains 25,333 observations from 2,303 manufacturing firms from 19 countries. Out of the 19 countries covered by our study ten countries (Canada*, Switzerland, Germany, Spain, France, UK*, Italy, Japan, Sweden and USA*) are categorized as ‘developed’ and the others (Argentina, Brazil, Chile, China, India*, Malaysia*, Mexico, Pakistan* and South Africa*) are categorized as ‘emerging’. According to legal origin these countries are further classified as ‘common law’ and ‘civil law’ groups (common law countries are marked by * above).

RESULTS

First we have examined whether the NROA series is stationary. On the basis of a battery of panel unit root tests we have observed that the NROA series is stationary – a temporary shock does not have a permanent effect on the normalized return of a firm (Table 1). Next we have tried to estimate ‘b’ of equation (1). This is a dynamic fixed effect model and so estimating an ordinary fixed effect model which demeans the series in order to eliminate the firm level heterogeneity is inappropriate as it introduces a correlation between the error term and the lagged dependent variable ($NROA_{t-1}$). We have used the panel GMM (Generalised Method of Moment) technique; it tackles that problem by introducing further lags of the dependent variable as instruments. All the estimates are made with the aid of EVIEW 6; these are reported in Table 2.

We observe that in the whole data on NROA, based on 2303 firms in 19 countries, there exists a positive relationship between the current NROA and the earlier year NROA, confirming positive persistence (Model 1). Our dummy variable analysis shows that firms of common law countries have a significantly lower 'b': 0.11 is the estimate of 'b' for the common law countries while that for the civil law country is 1.15; the difference between the two is highly significant as the coefficients of dummy show (Models 2 and 3). The implication is that the NROA of the firms of common law countries is less affected by the past performance (showing lower persistence). Firms of developed countries have a higher level of NROA (compared to the emerging countries), showing lower persistence: 0.18 is the estimate of 'b' for the developed countries while that for the emerging countries is 1.79 (Models 4 and 5).

As regards the effect of shareholder protection on firms' normalised profitability (NROA), it is non-existent for the whole sample (Model 6). In terms of the developed country-emerging country distinction, we find no statistically significant effect in either of group (Models 9 and 10). However, dummy variable analysis shows that the level of the shareholder protection index is positively correlated with persistence in the civil law countries (Model 7) but that it has no such effect in the common law countries (Model 8). As the shareholder protection scores for civil law systems are significantly lower than those in the common law world, we interpret this as indicating that a low level of shareholder protection is correlated with a lower intensity of product market competition in the civil law world. It seems then that legal origin may matter when assessing how far shareholder protection affects the persistence of profits and hence the degree of product market intensity.

Table 1. Firms' Normalised Return on Assets (NROA): Panel Unit Root Test

Exogenous variables: Individual effects

Method	Statistic	Probability	Cross-sections	Obs
Im, Pesaran and Shin W-statistic	-36.6009	0.0000	2303	22973
ADF - Fisher Chi-square	9140.22	0.0000	2303	22973
PP - Fisher Chi-square	9015.44	0.0000	2303	25333

B. Exogenous variables: Individual effects, individual linear trends

Null: Unit root (assumes individual unit root process)

Im, Pesaran and Shin W-statistic	-19.9438	0.0000	2303	21491
ADF - Fisher Chi-square	7943.24	0.0000	2303	21491
PP - Fisher Chi-square	9054.50	0.0000	2303	25333

Note: Null hypothesis is Unit root (assumes common unit root process). Automatic lag length selection based on Schwartz Information Criterion: 0 to 3

Table 2. Impact of Past Performance and Shareholder Protection on Excess Profitability of Manufacturing Firms: Dynamic Panel-data Estimation

Models	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Variables					<i>NROA</i>					
<i>NROA</i> _{<i>t-1</i>}	0.4 ***	1.15 ***	0.11 **	1.79 ***	0.18 ***	0.38 ***	1.06 ***	0.12 ***	1.61 ***	0.17 ***
<i>COM</i> x <i>NROA</i> _{<i>t-1</i>}		-1.04 ***					-0.16 **			
<i>CIV</i> x <i>NROA</i> _{<i>t-1</i>}			1.04 ***					0.16 **		
<i>DC</i> x <i>NROA</i> _{<i>t-1</i>}				-1.62 ***					-0.09 *	
<i>LDC</i> x <i>NROA</i> _{<i>t-1</i>}					1.62 ***					0.09 *
<i>SP</i> _{<i>j t</i>}						-0.01	0.13 **	-0.03	0.07	-0.03
<i>COM</i> x <i>SP</i> _{<i>j t</i>}							-0.94 ***			
<i>CIV</i> x <i>SP</i> _{<i>j t</i>}								0.94 **		
<i>DC</i> x <i>SP</i> _{<i>j t</i>}									-1.44 ***	
<i>LDC</i> x <i>SP</i> _{<i>j t</i>}										1.44 ***

*, **, *** significant at 10, 5, 1 per cent level, respectfully.

Note: The estimates are made on the basis of Panel GMM. Effects Specification: Cross-section fixed (first differences); Period fixed (dummy variables); Sample (adjusted): 1996 2005; Periods included: 10; Cross-sections included: 2303; Total panel (balanced) observations: 23030; White period instrument weighting matrix; White period standard errors & covariance (degree of freedom corrected).

CONCLUSION

In this paper we have explored the relationship between corporate governance rules, legal origin and product market competition. We have seen that there is less persistence of profits, and hence a greater intensity of product market competition, in common law countries than in civil law countries. In civil law countries, but not in common law ones, a higher score on the shareholder protection index is associated with greater persistence or profits (less competition). This suggests that there may be a link between legal origin and the nature of product market competition, but the nature of the link differs according to the type of legal regime we are considering. Corporate governance rules and product market competition appear to be substitutes in the civil law world, but may be complementary to each other in the common law world.

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