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Corporate Governance Structures, Legal Origin and Firm Performance

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Corporate Governance Structures, Legal Origin and Firm Performance

- A comparative Marginal Q-analysis of Taiwan, Hong Kong and Sweden

by

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Abstract

There is by now a vast literature on how institutional environments affect corporate investments. Much of this literature centres on corporate governance structures and the broader legal environment in which firms operate. This paper conducts a comparative analysis of three countries with on the surface similar ownership structures but different legal origin. The three countries in the study are Sweden, Taiwan and Hong Kong. These countries are known for strong family ownership but have different legal origins; Scandinavian, German and English, respectively. The paper describes the corporate governance structures in each respective country. Also, since Chinese informal institutions are typically strong and can potentially exert an influence on the actions of managers, these are explained.

The comparative analysis is based on an assessment of the countries' investment performance by means of a marginal q approach. Differences in their performance are interpreted in view of the legal origin hypothesis. Furthermore, investments are decomposed such that returns on different sources of funds can be estimated.

JEL codes: G30, C23, L25

Keywords: Corporate governance, institutional environment, legal origin, marginal q

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1. INTRODUCTION

In a path breaking paper La Porta et al (1998) find that common-law countries have a stronger protection of legal protection investor rights than civil-law countries. Amongst the civil-law countries there is a difference between French-, German- and Scandinavian-civil-law-countries with those of German and Scandinavian having a stronger protection.

La Porta et al (1999) show in a subsequent paper that, on average, the ownership structure is more dispersed in common law countries than in countries with a legal system of civil law origin. A third paper by La Porta et al (2002) adds to the earlier results by showing that corporate valuation in a country is related to the origin of the legal system. The common law median of Tobin's q is significantly higher than the civil law median. These three papers indicate a relation between legal origin, ownership structure and corporate valuation with common law countries having the best performance and the most dispersed ownership structures.

The papers by La Porta et al have been followed up by a sequence of three papers by Gugler et al (2003 and 2004) and Mueller (2006). They use a quite different performance measure than La Porta et al. Instead of Tobin's q they use a marginal q that shows how corporate investments are evaluated by the stock market. There are several advantages with such a measure. One advantage is that it is directly related to the net present value rule of investments. Hence it is possible to measure if the management is catering to own interests at the expense of investors. Another advantage is that the problem in Tobin's q of calculating the replacement cost of historical investments is avoided. In addition there are several advantages of econometric nature.

Gugler et al (2003 and 2004) and Mueller (2006) find the same relationships as La Porta et al for legal origin, ownership structure and marginal q valuation. Instead of median values average marginal q for countries of different legal origin is used. However a striking result pointed out by Mueller (2006) is that the variance in marginal q is large within the groups of countries with different legal origin. The large variance within groups suggests that legal origin is not a sufficient explanation to why listed corporations in certain countries show better performance than in other countries. Other explanations are needed to better understand why listed corporations in some countries are doing better than others. One way to find out likely missing variables is to look at the specific countries that deviate from others with their legal origin group.

For example, amongst the countries with Asian-German-civil-law origin Taiwan has a very high marginal q compared to other countries of German legal origin (see Gugler et al, 2004 and Mueller 2006). How can Taiwan's high marginal q be explained? Is it the informal rules of the country that facilitate corporate governance? If the informal rules have a positive impact on corporate governance it is of interest to compare Taiwan with Hong Kong. Both countries have a Chinese population and can in this sense be expected to have similar informal rules in the society. In addition Hong Kong belongs to countries with an English legal origin, which is supposed to be superior to the German origin. But Hong Kong has a much lower marginal q. How can this be explained? Do these marginal q figures indicate that Taiwanese companies have a better investment performance? These are questions that are addressed in this paper.

A comparison is made between Sweden, Taiwan and Hong Kong. Sweden, Taiwan and Hong Kong have on the surface similar ownership structures. All are well known for family firms and concentrated ownership (see e.g. La Porta *et al* 1999, Claessens *et al* 2000 and Morck *et al*

2005). If a firm is defined as family controlled when at least 20 percent of votes is owned by a family, Morck, Wofenzon and Yeung (2005) find for Sweden that 45 percent of the listed firms can be considered family controlled. Claessens *et al* 2000 show, using the same definition that 47 per cent are family owned in Taiwan and 69 per cent in Hong Kong. According to these figures the ownership structures in Sweden and Taiwan seems to have similarities. Furthermore Sweden as well as particularly Hong Kong is well known for concentration of control through use of vote differentials, pyramids and cross holdings. But Sweden differs by having a Scandinavian legal origin that is supposed to be inferior to English and superior to German origin. These properties – i.e. similarities in ownership structures but different legal origins – make Sweden, Taiwan and Hong Kong interesting from a comparative perspective.

The paper makes use of detailed firm-level data from each country over a sequence of periods the paper tests for country differences in investment performance. Results are compared and analyzed in view of institutional theory and the recent empirical analyses of the role of legal origins and ownership structures for firm performance. Marginal q is used as a measure of investment performance. It is a performance measure directly tied to the micro-theory of the firm (c.f. Mueller & Reardon 1993 and Gugler *et al* 2002).

The hypotheses to be tested are around to what extent country differences can be explained by ownership structures and legal origins. Our empirical analysis has the ambition to show and explain differences in performance between the three countries.

The remainder of the paper is organized in the following fashion: Section 2 presents institutional facts of the countries that will be compared to Sweden. In section 3 the formal rules systems and

ownership structures of the three countries are discussed. Section 4 presents data and model used in the analysis of investment efficiency in the three countries. Section 5 shows the results of the empirical analysis of investment efficiency. Conclusions are offered in section 6.

2. Legal Traditions, Institutions and Ownership structures in Sweden, Hong Kong and Taiwan

Firm performance and legal origin – aggregate patterns

The legal origin hypothesis states that the performance of firms is related to the legal origin of their country of origin. It links the corporate governance structure of a country as defined by its legal system to firms' performance. For this reason it is maintained that the legal origin of a country affects the extent of agency problems.

The efficiency of corporate governance rules differs between legal traditions. La Porta et al (1998) show that common-law countries (English legal origin) have stronger legal protection of investor rights than civil-law countries (French, German and Scandinavian legal origin). Because of this, agency problems are expected to be stronger in civil-law countries compared to common-law countries. Empirical research show that the Anglo-Saxon system turns out to be most efficient in protecting the rights of shareholders against management and majority owners followed in order by the Scandinavian and the German systems of Law. La Porta et al (2002) and Gugler et al (2003 and 2004) show indeed that firms originating from countries with English origin on average performs better than firms from countries with Scandinavian, German or French origin. Moreover, the French legal system seems to be 'worst' whereas Scandinavian and German are in between the French- and English-origin averages.

The typical way in which the legal origin hypothesis is tested is to group countries according to legal origin and then compare the average (or median) performance of the firms in the different groups of countries. Although it is shown that there are differences in the average performance of firms originating from different legal origins, the variance in performance measures within the groups (countries with the same legal origin) tend to be just as large as the variance between groups (countries with different legal origins). Mueller (2006) shows for instance that the variance in marginal q is large within the groups of countries with different legal origin.

To illustrate, Table 1 presents a variance analysis of estimated Marginal q 's for 46 countries. The estimates are from Gugler et al (2004) and the countries are divided into 4 groups according to legal origin (Scandinavian, English, German and French). The variance analysis compares the variance within groups to the variance between groups. The right column reports the significance level of a test of the null hypothesis that the variance within and between the groups are equal. As is evident from the table, the null hypothesis cannot be rejected at the 0.05 significance level.

Table 1. *Variance analysis of estimated Marginal Q's for 46 countries (analysis based on estimated Marginal Q's in Gugler et al 2004, countries divided in to 4 groups according to legal origin: Scandinavian, English, German, French).*

	<i>Sum of Squares</i>	<i>Degrees of Freedom</i>	<i>Mean Square</i>	<i>F</i>	<i>Significance level</i>
Between Groups	0.456	3	0.152	2.135	0.110
Within Groups	2.992	42	0.071		
Total	3.448	45			

- a) The F -statistic reports the ratio between the mean square 'between' and 'within' groups.
b) The significance level refers to a test of the null hypothesis that the variance within and between the groups is equal. The null hypothesis cannot be rejected.

We also conducted a Bonferroni-test, which compares each group to all other ones respectively. This confirmed previous findings in that the largest differences are between English and French origin. However, in terms of the 'within' versus 'between' variance, the differences were not statistically significant at the 0.05 level between any groups.

We emphasize that the observed large variance within countries from the same legal origin does not mean that we reject the legal origin hypothesis. Rather, Table 1 illustrates that legal origin is not a sufficient explanation to why listed corporations in certain countries show better performance than in other countries.

In the sequel, we focus on three countries from different legal origins. We study the investment performance of listed companies in each respective country by analyzing how the return on firms' investments compares to their cost of capital. The three countries under scrutiny are Sweden, Taiwan and Hong Kong. The subsequent sections describe their legal tradition and ownership structure. Also, the informal institutions in Hong Kong and Taiwan are described. Both Hong Kong and Taiwan resemble other ethnic Chinese communities in that Chinese informal institutions apply to a great extent in each country. Strong informal institutions can affect the investment performance of firms by influencing managers' investment decisions.

Legal Traditions and Ownership structures in Sweden, Hong Kong and Taiwan

Morck et al (2005, p. 667) writes that "East Asian economies tend to resemble Sweden more than Canada" and continue to describe the findings of Classens et al (2000) about family control pyramids in East Asian economies. Pyramid structures are also common in Sweden. Furthermore,

the prevalence of family ownership amongst listed firms is rather similar in the three countries. Vote differentials are more common in Sweden but as shown in Bjuggren et al (2007) the consequences on investments of vote differentials are similar to those of pyramid ownership.

Table 2 shows the ownership structure in Sweden, Hong Kong and Taiwan found in earlier studies. La Porta et al (1999) look at the 20 largest firms (by stock market capitalization of equity at the end of 1995) and using the criterion find for Hong Kong that as many as 70 per cent of the firms are family controlled while in Sweden 45 per cent are denoted family controlled. Claessens et al (2002) using a much larger sample find for 1996 that the percentage of family controlled firms in Hong Kong is 69 and in Taiwan 47 per cent. Bjuggren et al (2007) using most recent ownership data for Sweden, a much larger sample and the criterion identity of ultimate owner with more than 20 per cent of votes find much higher numbers for Sweden. In a population of the 110 firms listed on Stockholm Stock Exchange the whole period 1999-2005 as many as 59 percent of the firms were defined as family firms using the 20 percent criterion.

If ownership structures are shaped by the corporate governance structures, more concentrated ownership in Taiwan is expected in order to increase the control of the management. However, Table 2 shows that ownership is not more concentrated in Taiwan. On the contrary more dispersed control than in both Hong Kong and Sweden characterizes the ownership structure in Taiwan. As shown by Claessens et al (2002) irrespective of cut-off criterion for effective control of the largest shareholder Taiwan has a higher percentage of companies with widely held shares. This fact is in sharp contrast with the view of how formal rules and legal tradition influences ownership structures presented in a number of articles by La Porta et al. The German type of legal system and the low scoring on accounting standard, creditor rights and contract

enforceability should go hand into hand with a concentrated control that limits the scope for managerial discretion.

Table 2. *Ownership structure in Sweden, Hong Kong and Taiwan.*

Source	Country	Sample No of firms	Percentage of firms with Ultimate Control		
			Dispersed control	Family	State
La Porta et al (1999)	Hong Kong	20 largest	10	70	5
La Porta et al (1999)	Sweden	20 largest	25	45	10
Claessens et al (2002)	Hong Kong	225	8	69	1
Claessens et al (2002)	Taiwan	129	29	47	1
Bjuggren et al 2007	Sweden	110	na	59	Na

A commonality is the prevalence of family ownership in the three countries. Fifty percent or more of the listed companies can be considered family controlled with Hong Kong as the most family controlled stock market followed by Sweden and Taiwan. A further noticeable feature amongst the three countries is that Taiwan has the largest proportion of firms with dispersed ownership structure. It is interesting as Taiwan ranks lowest of the three countries in terms of accounting standards, low in terms of creditor rights and and contract enforceability (compare Table 3 below).

Even if ownership structure is quite similar the countries differ widely in terms of legal tradition. Sweden is a prime example of the so called Scandinavian version of civil law, while Hong-Kong belongs to the Anglo-Saxon tradition and Taiwan is assigned to the German tradition of civil law.

Specificities of the formal rule systems like creditor rights and contract enforceability show that Hong Kong is in the top with respect to creditors rights and Sweden is fairly well off in terms of contract enforceability and has excellent accounting standards (see Table 2). Worst off amongst the three countries is Taiwan with the lowest numbers for creditor rights and contract enforceability. Taiwan also shows the lowest score on accounting standard whereas Sweden has the highest score amongst all countries.

Table 3. *Formal rules in Sweden, Hong Kong and Taiwan.*

<i>Source</i>	<i>Country</i>	<i>Accounting standards</i>	<i>Creditor Rights</i>	<i>Contract enforceability</i>	<i>Legal Origin</i>
Gugler et al (2003a)	Hong Kong	69	4	n.a.	Anglo Saxon
Gugler et al (2003a)	Sweden	83	2	3.31	Scandinavian
Gugler et al (2003a)	Taiwan	65	2	2.53	German

The differences between Hong Kong and Taiwan illustrated in Table 3 are linked to certain historical circumstances. In Hong Kong, the British colonial government implemented English Common Law as the legal system, which made it possible for producers and traders to rely on the neutrality of the courts when drawing up and enforcing contracts. The appointed government of Hong Kong adopted a non-interventionist approach to the economy of the territory, and for the most part limited its activities to law enforcement and investments in transport infrastructure, housing, and education. At the time of the resumption of Chinese sovereignty over Hong Kong in 1997, it was not only the second most developed economy in Asia. It was also ranked as the freest economy in the world, according to both the American Heritage Foundation and Canada’s Simon Fraser Institute. The political scientist Jan Engberg (2000) has described pre-1997 Hong Kong as the world’s only example of a “liberal autocracy.” After 1997, Hong Kong has developed a unique form of governance that has a semi-democratic legislature and an executive

appointed by the authoritarian government in Beijing. It has also retained its English legal system, which has made Hong Kong an attractive location for contractual agreements and stock exchange participation involving ethnic Chinese from economies with less reliable formal institutions, such as Mainland China and the large ASEAN countries.

Lacking an indigenous Chinese foundation for the rule of law, Taiwan's post-war Kuomintang government inherited a legal system that Japan introduced during its colonial rule of the island from 1895 to 1945. This legal system was in turn adopted from continental European civil law. Taiwan's current institutional challenges are particularly interesting, since Taiwan is the only predominantly ethnic Chinese society that is a liberal democracy. While Taiwan has adopted the principle of the rule of law, the legal system still has several shortcomings compared with Hong Kong. A general shortcoming of continental civil law is that it has less evolutionary capacity than English common law (Hayek, 1973). Moreover, as described in Table 3, Taiwan's corporate governance structures are in general weak.

Informal institutions in Hong Kong and Taiwan

The institutions of a society include not only the formal institutions embodied in the constitution, the legal system or legislation. Informal institutions, such as ethical norms and customs, constitute an important part of a country's institutional framework (North 1990). This is particularly so regarding Chinese informal institutions. Strong informal institutions can potentially ensure high investment performance despite weak formal institutions in the form of e.g. investor protection and contract enforceability. In short, informal institutions can serve as a check on investments, such that management is bound by informal rules.

The informal institutions of Hong Kong and Taiwan closely resemble those of other ethnic Chinese communities in southern China and Southeast Asia. Important institutional traits include a cultural acceptance of private property, the importance of kinship and *guanxi* relationships and the principle of equal inheritance (Hamilton, 1996). The informal sanction that is of overriding importance is loss of face (Redding and Ng, 1982).

The importance of kinship relationships affects both the objectives of individuals and interpersonal trust. According to Redding (1990), individuals are expected to look to the best interests of the (extended) family, even at the expense of others. Loss of face is also considered especially severe if it occurs within the family. Complementary but somewhat weaker than kinship relationships are so-called *guanxi* relationships. These relationships arise from a personal creation of mutual dependence and investments in face, and tend mostly to occur between people with similar socio-economic backgrounds. Chinese society is therefore both familistic and personalistic.

Interpersonal trust is crucial for the functioning of the informal institutions of a culture (Dasgupta, 1988). A high-trust society can rely to a much greater extent on informal institutions, which may be beneficial, since informal institutions tend to be more flexible, less expensive to enforce and have greater evolutionary capacity than formal institutions (Kasper, 1998). Whether Chinese society is a high-trust society is, however, not generally agreed upon. Redding (1990) argues that it is, while Fukuyama (1995) singles out Taiwan as one of his low-trust case studies. Perhaps Chinese societies are best characterized as having differentiated trust, with high-trust

extended families and – to a lesser extent – *guanxi* networks operating in a low-trust environment.

The individual's identification with family interests and the high level of trust within families have induced a high share of family firms (Fei, 1992) (see also Table 2). Moreover, the state has historically not played a major role in the institutionalization of Chinese capitalism. Relational networks have instead been responsible for promoting the market order (Hamilton, 1985). The leading role of relational networks in institutional development and a cultural tradition of emphasizing family rather than national interests imply that the informal institutions of Chinese capitalism are not associated with any particular political space (Hamilton, 1996). Instead these institutions evolve with the relational networks, sometimes encompassing firms in several nation states.

According to Redding (1990) many ethnic Chinese firms – whether large or small – are controlled by an “inner circle” of owners and managers that either belong to the same extended family or to the same *guanxi* network (i.e. alumni of the same school or “friends of the family”). Inter-firm linkages are also channelled through such relational networks. A consequence is that decision-making within firms and among firms belonging to the same network benefit from low transaction and governance costs. Redding (1990) claims that decision-making is typically fast, reliable, and flexible. The reason for these low intra-firm and intra-network transaction costs is that organizational power structures are highly centralized and hierarchical in ethnic Chinese firms. The owner-manager (in the case of small firms) or the inner circle of a very small number of owners and managers (in large firms) take all the decisions without having to consult employees or other affected individuals. The informal institutions of ethnic Chinese in both Hong

Kong and Taiwan are conducive to a decentralized and flexible form of competitive capitalism with few large firms.

Summary

A conclusion from the preceding sections is that Taiwan should be the one of the three countries with most severe corporate governance problems. Taiwan's legal tradition and weaker mechanisms for control through accounting and weaker creditor rights and contract enforceability should mean that agency problems are larger than in Sweden and Hong Kong. The wider scope for managerial discretion in Taiwan should be in line with the theory of Jensen and Meckling (1976) to a larger extent than in the other countries, such that investments that are not profit maximizing (do not increase the wealth of the shareholder) is a larger problem. The extent of agency problems should be lowest in Hong Kong, with English legal origin, and Sweden should be in between.

The rest of the paper will take a closer look at the investment performance in the three countries and investigate to what extent the performance of the firms in each country corresponds to what is expected.

4. Method and data

A marginal q approach is used in the evaluation of performance of firms in the three countries. Marginal q is directly linked to the well known Net Present Value (NPV) rule in corporate finance. A management that only has the collective interest of the shareholders/suppliers of

finance as objective will undertake all investment that promise a positive net present value and the last investment decided cannot have a lower net present value than zero (i.e. $NPV \geq 0$). On the other hand a management that caters to other objectives than those of the shareholders as a group will be prepared to choose projects with a negative NPV. A negative NPV will show up in a value of marginal q less than 1. A marginal q less than 1 imply that returns on investments are lower than their cost of capital.

Marginal q will be considered for investments in both tangible and intangible assets. Following Mueller and Reardon (1993) and Guglet et al (2003 and 2004), we calculate investments in each time period according to:

$$I = \text{After tax profits} + \text{Depreciation} - \text{Dividends} + \Delta \text{Debt} + \Delta \text{Equity} + R\&D + ADV \quad (1)$$

where ΔD and ΔE are funds raised using new debt and equity issues and ADV is advertising expenditures. The model used is:

$$\frac{M_{it} - M_{i,t-1}}{M_{i,t-1}} = -\delta + \beta_1 \frac{I_{it}}{M_{i,t-1}} + \frac{\varepsilon_t}{M_{i,t-1}} \quad (2)$$

where, M_{it} is the market value of a firm i in period t , β_1 is the marginal q and ε_{it} is the error term with the usual characteristics. In order to control for industry effects we impose industry dummies. In addition, we impose year dummies in order to control for time effects

The dataset is collected for firms traded on the stock exchange in Stockholm, Taipei and Hong Kong respectively during the time period 2000 to 2005 (data for 2006 has not been made available at the time being). The financial data is provided by Standard and Poor's COMPUSTAT Global. Due to differences in financial structure, financial firms such as banks, insurance and investment companies are not included in the dataset. This is in accordance with earlier research (Gugler et. al. 2002). Furthermore, since Standard and Poor does not provided advertising expenditures explicitly in COMPUSTAT Global, we are, in accordance to Bjuggren et. al. (2007), using a wider definition than Mueller and Reardon (1993). The wider definition includes "general selling expenses" as a proxy for the advertising expenditures.

5. Results

Previous results

By means of marginal q analysis it is possible to estimate investment efficiency in the sense of taking advantage of all investment opportunities with a net present value larger than zero and shunning all investments with negative net present value. As indicated above marginal q values less than one indicates that the management of a firm has made investments that are not in the interest of the shareholders (assuming that shareholders have wealth maximizing as objective). A number of earlier studies of investment efficiency in different countries using marginal q analysis have been made by Klas Gugler, Dennis Mueller and B. Burcin Yurtoglu at University of Vienna using a technique originally developed by Dennis Mueller and Elisabeth Reardon. In two recent studies by Gugler et al (2003 and 2004) developed and developing countries around the world are analyzed. Sweden, Hong Kong and Taiwan are amongst the countries analyzed.

They analyse the period 1985-2000 for Sweden and Hong Kong and the period 1985-1999 for Taiwan. Furthermore they use the same data sources and the same technique used in this paper (with exception of their estimate of advertising investment). The interesting finding is that Taiwan turns out to be the only of the three countries that do not face a corporate governance problem in form of overinvestment seen from the net present value rule (see Table 4). This result can be interpreted as the management in Taiwanese companies does not undertake investments that benefit themselves or any other subcategory at the expense of the shareholders. This is really surprising given that Taiwan scored so lowest on accounting standard and creditor rights. Furthermore, the legal origin, the German, is also supposedly less reasserting for shareholders according to empirical studies.

Table 4. *Taiwan, Sweden and Hong Kong 1985 - 2000.*

	<i>No. of firms</i>	<i>Marginal q</i>	<i>Annual GDP Growth 1970-93</i>	<i>Legal Origin</i>
Sweden	156	0.65	1.79	Scandinavian
Hong Kong	127	0.78	7.57	Anglo Saxon
Taiwan	126	1.26	11.56	Germanic

Source: Gugler et al (2004)

Our study

In all we have 297 firms that are followed the period from 2001 to 2005, such that each firm is observed five times in the data material. Using the COMPUSTAT database and removing financial firms we have 130 firms in Taiwan, 96 in Sweden and 71 in Hong Kong. Table 5 provides summary statistics for (i) change in market value and (ii) investments in the three countries (Sweden, Taiwan and Hong Kong) 2001-2005.

Table 5. Summary statistics for change in market value and investments.^a

	<i>Change in Market Value^b</i>			<i>Investments^c</i>		
	<i>Mean</i>	<i>Median</i>	<i>Std.dev</i>	<i>Mean</i>	<i>Median</i>	<i>Std.dev</i>
Taiwan	0.13	0.10	0.24	0.17	0.17	0.12
Sweden	0.24	0.12	0.37	0.18	0.13	0.29
Hong Kong	0.23	0.14	0.32	0.22	0.14	0.29

a) Reported figures are based on average values over the period 2001-2005 for the firms in each country. The number of firms (observations) in each country is: Taiwan (130), Sweden (96), Hong Kong (71).

b) Change in market value in each year is calculated as $(M_t - M_{t-1})/M_{t-1}$.

c) Investments in each year is calculated as I_t/M_{t-1} , (see Equation 1).

Taiwan stands out for having a much larger variation in the change in market value than investments. The relation between the standard deviation and the mean for change in market value is about 1.8, whereas the corresponding figure for investments in Taiwan is 0.71. It can also be observed that both the median and the mean change in market value is less than investments in Taiwan. The opposite holds for Sweden and Hong Kong.

Figures 1-3 present the rank-size distribution based on the market-value of the firms in each respective country. The estimated coefficient for log rank beneath each figure indicates the elasticity with which the size of the firms decreases as the rank increases. By comparing the elasticities between the countries we see that Taiwan has a much lower elasticity than Sweden and Hong Kong. The size distribution in Taiwan is more even than in Sweden and Hong Kong.

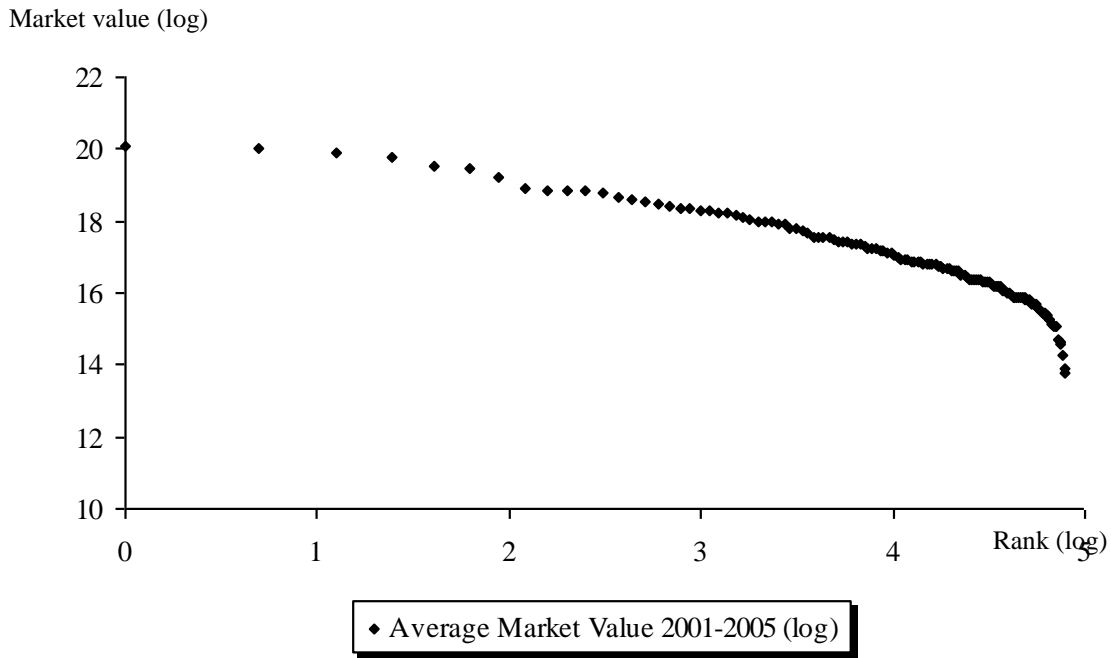


Figure 1. Rank-size relationship for Taiwan (firms ranked in descending order according to market value, $N=130$).

$$\text{Taiwan: } \ln MV = 21.91 - 1.28 \ln \text{Rank}$$

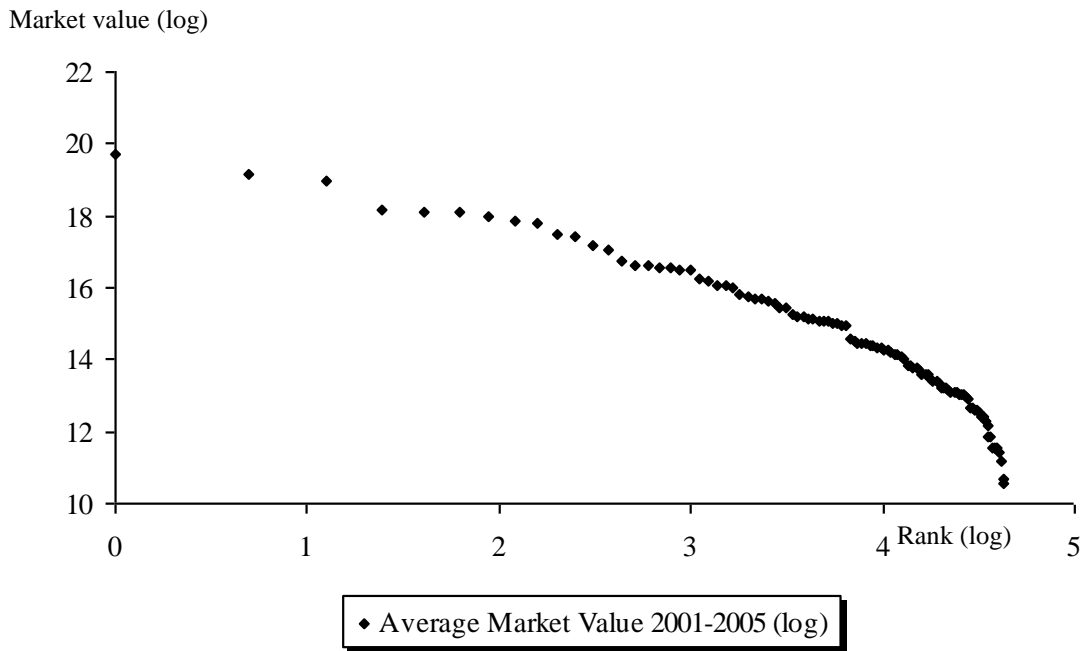


Figure 2. Rank-size relationship for Sweden (firms ranked in descending order according to market value, $N=96$).

$$\text{Sweden: } \ln MV = 22.01 - 2.04 \ln \text{Rank}$$

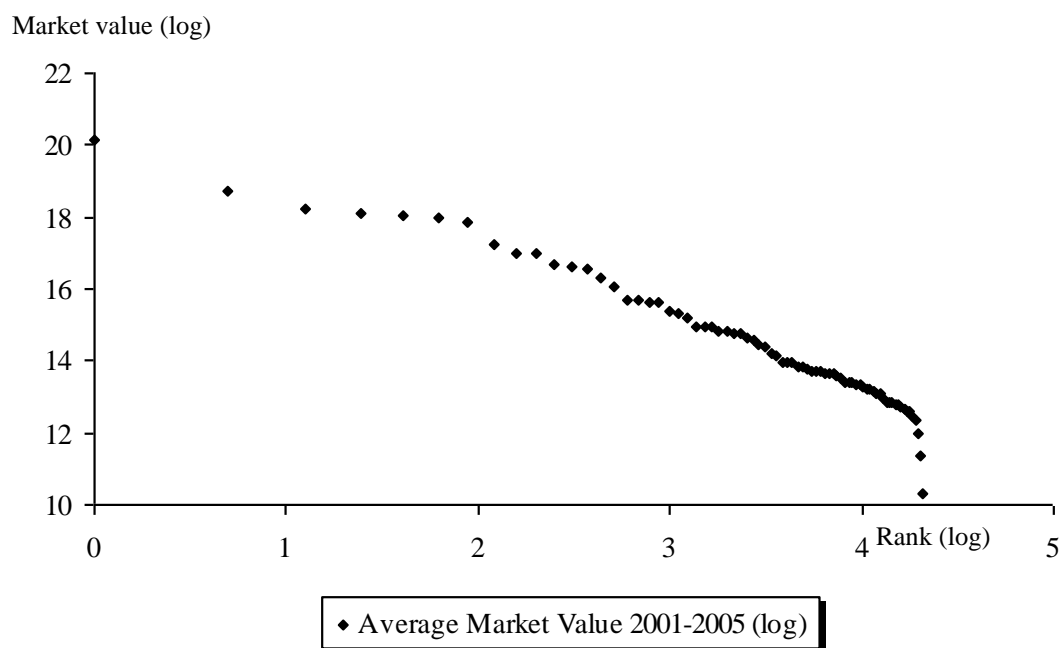


Figure 3. Rank-size relationship for Hong Kong (firms ranked in descending order according to market value, $N=71$).

$$\text{Hong Kong: } \ln MV = 21.18 - 1.99 \ln Rank$$

The pattern described by the figures is consistent with a predominance of small and medium-sized enterprises (SMEs) in Taiwan with roughly equal size. It is often claimed that a characteristic feature of Taiwan is the prevalence of SMEs (Wu, 1988; Hamilton, 1998).¹ According to Wu (1998) and Hamilton (1998), manufacturing firms with less than 300 employees accounted for 50 percent of Taiwan's manufacturing output and 65 percent of exports in the 1970s and 1980s.² Also, the share of large firms with more than 500 employees in Taiwan has fallen from about 50 percent of GDP in the 1960s to about a third of GDP after 2000.

¹The preponderance of SMEs is often explained by (i) the tradition of equal inheritance among sons which implies that large firms are likely to be broken up after the death of the firm's founder if the founder has more than one son and (ii) lack of trust in people outside one's relational network which makes it difficult to bring in professional managers and also implies a general distrust of employees from outside the family.

²The importance of SMEs is also illustrated by that one out of every eight Taiwanese adults is a business owner at any specific time (Hamilton, 1998).

The skewness of the distribution of firms according to market value is much larger in Hong Kong and Sweden. This is a reflection of that they are more dependent on a few very large firms, typically multinationals.

Investment Performance - Marginal Q estimates

Table 6 presents estimates of marginal q in the three countries based data-material over the period 2001-2005. The table reports the results obtained with an OLS with time and industry dummies. Results from a panel-data estimation with firm fixed effects (the within estimator) is presented in Appendix A and yields similar results. In view of the literature on how governance structures and legal origins affect firms' investment performance we should expect Hong Kong firms perform best, Swedish second and Taiwanese third.

Table 6. *Estimated Marginal Q for Taiwan, Sweden and Hong Kong, panel data 2001-2005.*

	Pooled Ordinary Least Square with industry (2-digit SIC) and time dummies			
	<i>All</i>	<i>Taiwan</i>	<i>Sweden</i>	<i>Hong Kong</i>
\hat{q}	0.73* (0.04)	1.25* (0.09)	0.61* (0.07)	0.80* (0.07)
R^2	0.23	0.25	0.30	0.38
# Observations	1 485	650	480	355
# Firms	297	130	96	71

a) Standard errors in parentheses.

b) * indicates significance at the 0.01 level.

In contradistinction, the estimations suggest that Taiwan is the only of the three that do not face a corporate governance problem in the form of overinvestment seen from the net present value rule. This result can be interpreted as that the management in Taiwanese companies does not

undertake investments that benefit themselves or any other subcategory at the expense of the shareholders. This is surprising given that Taiwan scored so lowest on accounting standard and creditor rights. Furthermore, the legal origin, the German, is also supposedly less reasserting for shareholders according to empirical studies.

Our estimates of marginal q for the period 2001-2005 thus gives approximately the same picture as the estimates obtained by Gugler et al (2004) (see Table 4). Taiwan is the only one of the three countries that has a marginal q larger than one. In the other countries, Sweden and Hong Kong, the investments are not profitable on the margin. The puzzle that Taiwan shows a higher investments efficiency is not a disappearing phenomenon. Traditional explanations of better legal framework cannot explain why Taiwan is doing better in terms of investment efficiency.

Another way to study the different countries is to look at ownership concentration. In general we expect countries with weak protection for minority shareholders to have more concentrated ownership. This means that Taiwan, with the lowest creditor rights, should have more concentrated ownership. Table 7 presents the number of firms for which the largest owner accounts for 10 and 20 % of the total shares, respectively. These ownership data come from OSIRIS.

Table 7. Ownership concentration in Taiwan, Sweden, Hong Kong

	Largest owner 10 %		Largest owner 20 %	
	<i>Number of firms</i>	<i>Percent of total number of firms</i>	<i>Number of firms</i>	<i>Percent of total number of firms</i>
Sweden	80	83 %	61	64 %
Taiwan	59	45 %	24	18 %
Hong Kong	60	85 %	50	70 %

The figures in the table reveal that Taiwan is the country in which ownership is least concentrated. Sweden and Hong Kong is however more similar to each other. For 45 % of the Taiwanese firms in our sample the largest owner owns at least 10 %. The corresponding figure in Sweden and Hong Kong is over 80 %.

How can the differences in investment performance between the countries reported in Table 6 be explained? One explanation put forward by Mueller (2006) is that a high growth rate in an economy mirrors an abundance of profitable investment opportunities and a high marginal q can be interpreted as a capital constraint on investments. An alternative interpretation is that informal rules and close association between owners serve as a check on investments. The management is bound by these informal rules and the capital constraints could be explained by not turning to outside shareholders for financing. In the subsequent section we evaluate the plausibility of these two explanations by decomposing total investments and estimating the returns on different sources of funds as well as their respective share of total investments. In doing so, we obtain an indication of whether it is capital constraints that explain the high performance of Taiwan. If the data suggest capital constraint, the validity of strong informal institutions as an explanation for the high performance in Taiwan is indirectly reduced.

Returns on and use of different sources of funds

Firms can finance their investments by funds from different sources. Internal funds (cash flows), equity and debt constitute three basic sources. Mueller (2006) and Gugler et al (2003) maintain that internal funds (cash flows) are always at the disposal of managers who want to invest either a good ($NPV \geq 0$) or a bad ($NPV < 0$) project. If internal funds are not sufficient, however, the

managers can approach a bank for funds or issue equity. In contrast to the traditional 'hierarchy of finance' hypothesis, Mueller (2006) and Gugler et al (2003) argue that firms investing in bad projects favour equity over debt. The reason is that banks can refuse to lend capital and they can also specify various obligations, etc. However, firms can issue equity for any investment as long as the share price does not drop to zero.

The hypothesis in Mueller (2006) and Gugler et al (2004) is that the returns on the three different sources of funds are in the following order depending on whether the firm invest in good or bad projects:

- Marginal $q \geq 1$ (good projects): *cash flow* > *debt* and *equity* > *debt*
- Marginal $q \leq 1$ (bad projects): *debt* > *cash flow* and *debt* > *equity*

They further discriminate between countries with strong and weak corporate governance structures. They maintain that when corporate governance structures are weak managers choose equity to finance bad investments. However, when investors are protected managers only choose equity when they have attractive investment projects.

In view of the above we expect that all three countries to, on average, have high returns on debt. Given the results in Table 6 we expect that the returns on cash flows to be larger than on debt in Taiwan but less than on debt in Sweden and Hong Kong. If there is a capital constraint in Taiwan, this should be reflected in the returns on equity and debt, as well as in their share of total investments.

Table 8 presents the estimated returns on (i) cash flows, which is defined as after tax profits plus depreciation, (ii) equity and (iii) debt. The returns are estimated with an OLS with time and industry dummies (results with a fixed effects panel data model is presented in Appendix B). As in the estimations for marginal q, the dependent variable is change in market value.

Table 8. *Estimated returns on cash flows, debt and equity for Taiwan, Sweden and Hong Kong, panel data 2001-2005.*

	Pooled Ordinary Least Square with industry (2-digit SIC) and time dummies			
	<i>All</i>	<i>Taiwan</i>	<i>Sweden</i>	<i>Hong Kong</i>
$\hat{q}_{\text{Cash Flows}}$	0.53* (0.08)	2.16* (0.21)	0.25 (0.11)	0.91* (0.21)
\hat{q}_{Debt}	1.36* (0.09)	1.95* (0.29)	1.33* (0.11)	1.19* (0.24)
\hat{q}_{Equity}	0.60* (0.09)	0.19 (0.75)	0.59* (0.12)	0.57* (0.27)
# Observations	1 485	650	480	355
# Firms	297	130	96	71

a) Standard errors in parentheses.

b) * indicates significance at the 0.01 level.

c) \hat{q}_{Debt} and \hat{q}_{Equity} are estimated with dummies for zero and negative values on change in equity and debt, respectively.

The results in the table are overall consistent with the hypotheses in Gugler et al (2003) and Mueller (2006). In Sweden and Hong Kong, with a marginal q below 1, the returns on debt exceed the returns on both cash flows and equity. In Taiwan, the returns on cash flows exceed the returns on debt. Interestingly, the returns on debt is greater than 1 in all countries, which is consistent with that banks and other lenders can exert power and discipline managers wishing to borrow capital in any institutional context and legal origin. An inconsistency compared to the hypotheses in Mueller (2006) and Gugler et al (2003) in the results is that returns on equity in

Taiwan is lower than the returns on debt. Gugler et al (2004) maintain that firms whose marginal q exceeds 1 are often young and fast-growing firms whose investments are often associated with substantial risks. Because of this they prefer the equity market when all the internal cash flows are exhausted. Compared to debt, the returns on equity should not only be higher but there should also be higher variance around these returns.

The estimated return on equity for Taiwan in Table 8 is insignificant, which can be attributed to a large variance in the returns. Yet, the magnitude of the coefficient estimate (the returns) is low, 0.19 which is lower than in both Sweden and Hong Kong. The insignificance of the returns on equity in Taiwan can be interpreted as a capital constraint, such that the external capital market in Taiwan is limited. Table 9 reports Equity and Debt as a share of total investments in each country.

Table 9. Share of equity and debt in total investment in Taiwan, Sweden and Hong Kong (value across firms and time periods, 2001-2005)

	$\Delta Debt / Investments$	$\Delta Equity / Investments$
	<i>Mean</i>	<i>Mean</i>
Sweden	0.24	0.26
Taiwan	0.31	0.03
Hong Kong	0.07	0.10

The share of equity in Taiwan is much lower than in both Sweden and Hong Kong. This confirms that a likely explanation for the large returns on investments in Taiwan is a combination of an abundance of profitable investment opportunities and capital constraint on investments. It is also

evident from the table that firms in Hong Kong use debt as a source of funds to much lower extent than Swedish and Taiwanese firms.

Conclusion

Earlier studies have shown that legal tradition and formal rules influences ownership structure and performance of firms. The received wisdom is that the Anglo Saxon legal tradition is outperforming in due order the Scandinavian and German legal traditions in producing and enforcing rules that have a positive impact on performance and alleviate governance problems associated with a dispersed ownership structure. These earlier studies have looked at aggregates of countries. This study differs by comparing investment performance in three specific countries, Sweden, Hong Kong and Taiwan, which represent the Scandinavian, the Anglo-Saxon respectively the German legal tradition. In light of earlier research Taiwanese firms should show the worst investment performance and have the most concentrated ownership structure. However, our analysis show that Taiwan has a much better investment performance than both Sweden and Hong Kong and has also the most dispersed ownership structure. Our allegations is that in countries like Taiwan informal rules matters more than formal and that an atmosphere stimulating entrepreneurship produces more profitable investment projects. The paper also presents a thorough description of the characteristics of informal rules in Taiwan and Hong Kong.

Our analysis stimulates to a series of research questions. A specific topic is the role played by informal institutions: do they condition the way formal institutions pertaining to corporate governance influence firm performance? Can strong informal institutions be 'substitute' for formal institutions? Conditional on formal institutions, can differences in the strength and

structure of informal institutions explain differences between countries in terms of firm performance?

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APPENDIX

A

	Panel estimation with firm fixed (within) effects			
	<i>All</i>	<i>Taiwan</i>	<i>Sweden</i>	<i>Hong Kong</i>
\hat{q}	0.83* (0.05)	1.28* (0.12)	0.75* (0.08)	0.85* (0.09)
R^2	0.20	0.18	0.19	0.26
# Observations	1 485	650	480	355

B

	Panel estimation with firm fixed (within) effects			
	<i>All</i>	<i>Taiwan</i>	<i>Sweden</i>	<i>Hong Kong</i>
$\hat{q}_{\text{Cash Flows}}$	0.46* (0.09)	2.73* (0.28)	0.15 (0.12)	0.84* (0.26)
\hat{q}_{Debt}	1.33* (0.09)	1.65* (0.32)	1.35* (0.13)	1.13* (0.26)
\hat{q}_{Equity}	0.57* (0.10)	0.30 (0.79)	0.57* (0.13)	0.70* (0.29)
# Observations	1 485	650	480	355
# Firms	297	130	96	71