

## 6. The Trade Off between Supervision Consolidation and Central Bank Involvement: the Econometric Analysis

The descriptive analysis conducted in the preceding Section claims that each country has its index of concentration of powers of financial supervision, which reaches its maximum level in cases where there is a single authority and the minimum when there are more than three supervisors.

We are spontaneously prompted to ask: can common determinants be found in the decisions the policymakers in each country have made in recent years to maintain or reform their control structure, and then to choose the features of the delegation scheme?

Our response is precisely to regard the supervisory structure with a single or multiple authorities as an *endogenous* variable, determined in turn by the dynamics of other structural, economic and institutional variables, which can summarize and explain the *political* process that leads the policymakers in one country to decide to maintain or reform its supervisory structure, and then their own delegation scheme.

What are the structural variables that can explain the decisions of national policymakers? Policymakers can decide the architecture of controls on the basis of *institutional* characteristics and the *economic* and *financial* characteristics of their country. In particular, we can assume that the physiognomy of the institutional system, and that of the banking and financial system, are relevant in each country. And having identified in the above Section a possible relevance of the role the central bank plays in the supervisory regime, it may be interesting to consider this aspect as well.

To assess the relationship between the policymakers decisions to determine the financial architecture and given country economic and institutional characteristics we can estimate a model of the probability of different regime decisions as a function of these structural variables.

In fact the IFAC regimes can be viewed as resulting from a continuous, unobserved variable: the *optimal degree of financial supervisors concentration*. Each IFAC regime corresponds to a specific range of the optimal financial supervisors concentration, with higher discrete IFAC values corresponding to a higher range of financial concentration values. Since the IFAC is a qualitative ordinal variable, the estimation of a model for such a dependent variable necessitates the use of a specific technique.

Our qualitative dependent variable can be classified into more than two categories, given that the FAC Index is a polychotomous variable. But the FAC Index is also an ordinal variable, given that it reflects a ranking. Then the ordered multinomial model can be use for estimation in a context of an ordinal polychotomous variable<sup>78</sup>.

Let assume the unobserved continuous variable, the optimal degree of financial supervisors concentration  $y^*$ , is a linear function of a set of explanatory variables  $x$ , with parameter vector  $\beta$ , and an error term  $\epsilon$ :

$$y^* = \mathbf{b}'x + \mathbf{e}$$

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<sup>78</sup> For further details on the ordinal polychotomous variable estimation see Wooldrige (2002).

As usual,  $y^*$  is unobserved. What is observed are the choice of every policymaker to maintain or to reform the financial supervisory architecture: this choice is summarized in the value of the FAC Index. Given that the FAC Index ranges from zero to seven:

$$y = 0 \text{ if } y^* \leq m_1$$

$$y = 1 \text{ if } m_1 < y^* \leq m_2$$

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$$y = 7 \text{ if } m_7 < y^*$$

The  $m$ s are unknown partition boundaries (or cut points) that define the ranges of the FAC Index; these parameters must be estimated in conjunction with the  $\beta$  vector. Estimation proceeds by maximum likelihood, assuming that  $\varepsilon$  is normally distributed across countries observations, and the mean and variance of  $\varepsilon$  are normalized to zero and one. This model can be estimated with an ordered probit model or with an ordered logit model<sup>79</sup>.

We have first produced an econometric analysis of the Probit type: the dependent variable is the FAC Index, while the independent regressors proved are a broad set of economic, financial and political variables, based both on our own assessment of variables that could play a significant role in explaining the financial regime, and on data availability. The selected sample is the broader one, represented by 68 countries<sup>80</sup>.

As it has claimed above, no theory exists on the relationships between politics and financial supervisory architecture. Therefore we try to test the more general hypotheses.

First, the policy maker choices in order to maintain or to reform the financial supervisory architecture could be depended on the structure of the financial systems itself. In the modern debate on financial structure, it's usual to confront the equity dominance model (or *market based regime*) with the bank dominance model (or *bank based regime*). Furthermore, recent literature pointed out the close relationship, in every country, between the financial structure model and corporate governance model, with a particular attention to the relative political determinants.<sup>81</sup> Therefore, the first relevant question is: does the financial structure model (i.e. the private governance model) (*private governance factor*) matter in defining the policy maker choices on the level of concentration in the supervisory structure?

The expected sign of the relationship between the degree of supervision consolidation and the private governance factor is undermined. In Section Two we stressed the importance of blurring process for the banking and the financial market worldwide. The blurring process means potential

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<sup>79</sup> The maximum likelihood estimations were carried out by a packaged ordered probit and ordered logit commands in STATA.

<sup>80</sup> Initially we drop the peculiar case of the Monetary Authority of Singapore (MAS), that only on 1 October 2002, after the merger with the Board of the Commissioners of the Currency, became a central bank. The nature of exception of Singapore is stressed in De Luna Martinez and Rose (2001). We have to note also that in Ireland in May 2003 the Department of Enterprise, Trade and Employment (DETE) responsibilities on insurance sector were attributed to the Irish Central Bank. In any case we perform the econometric analyses considering also these cases (see above).

<sup>81</sup> Pagano and Volpin (2000), Perotti and Von Thadden (2003).

changes in the nature and in the dimensions of intermediaries (the financial conglomerates effect). In a bank based regime, if we think that the policy makers choices depend on the features of their own regime, we can suppose a positive relationships between the kind of regime and the degree of financial supervision consolidation, in face of the financial conglomerates effect. At the same time, however, the blurring effects means potential changes in the nature and in the dimensions of the financial markets (the securitisation effects). Therefore, also in a market based regime, we can expect a positive relationships between the kind of regime nature and the degree of financial supervision consolidation, in face of the securitisation effect.

Second, , the institutional environment (i.e. the public governance climate) determines the ability of the policy makers to implement their choices. Then the second relevant question is: does the quality of the public governance (*public governance factor*) matter in defining the policy maker choices on the level of concentration in the supervisory structure?

Also the expected sign of the relationship between the degree of supervision consolidation and the public governance factor is undermined. In Section II we note that a policy maker, whatever is the financial regime of his country, can choose a higher degree of supervision in order to improve the capacity to face the challenges proposed by the blurring process. Then we can suppose a positive relationships between good governance indicators and financial supervision consolidation. But, at the same time, a policy maker can prefer a single financial agency in order to increase his probability to capture the financial supervisory structure. Therefore we could also expect a positive relationships between bad governance indicators and the financial supervision consolidation.

Finally, given the above descriptive analyses, we conclude our search for the explanatory variables by using the CBFA Index. The political choice of the optimal level of financial supervisors concentration could be depended on the role of central bank in the financial architecture. The third relevant question is: does the degree of central bank presence (*central bank factor*) in the financial supervision matter in defining the level of concentration in the supervisory structure? Given the descriptive analysis developed in the above Section and the two possible explanations – the blurring hazard effect and the monopolistic bureau effect - the expected sign of the relationship between central bank involvement and financial supervision consolidation is negative.

In Masciandaro and Porta (2003) we obtained as best specification the Equation (1):

$$\begin{aligned} (FAC)_i &= \mathbf{b}_1 + \mathbf{b}_2 (CBFA)_i + \mathbf{b}_3 (MvBdum)_i + \\ &+ \mathbf{b}_5 (mcap)_i + \mathbf{b}_6 (goodgov)_i + \mathbf{e}_t \end{aligned} \quad (1)$$

with country  $i = 1 \dots 68$

Where the independent variables are the following:

1. **CBFA Index** is the indicator of involvement of the bank in supervision, defined in the above Section;

**2. MvBdum Index (Market vs Bank Index):** is a structural indicator (dummy) that expresses the financial system model of a given country, market-based versus bank-based, constructed on the basis of the indices created by Demigüç-Kunt and Levine.<sup>82</sup>

**4. mcap = Market capitalization/GDP**<sup>83</sup>, it shows a measure of the securities market size, relative to the GDP.

**5. goodgov = Good Governance,** it shows the structural capacity of the government to formulate and implement sound policies. The index is built using all the indicators proposed by Kaufmann et al.(2003)<sup>84</sup>. They define (public) governance as the exercise of authority through formal and informal traditions and institutions for the common good, thus encompassing: 1) the process of selecting, monitoring and replacing governments; 2) the capacity to formulate and implement sound policies and deliver public services; 3) the respect of citizens and the state for the institutions that govern economic and social interactions among them. Furthermore, for measurement and analysis purposes, these three dimensions of governance can be further unbundled to comprise two measurable concepts per each of the dimensions above for a total of six components: 1) voice and external accountability; 2) political stability and lack of violence; 3) government effectiveness; 4) lack of regulatory burden; 5) rule of law; 6) control of corruption. The authors present a set of estimates of these six dimensions of governance for four time periods: 1996,1998,2000,2002. For every country, therefore, first we calculate the mean of the four time values for each dimension of governance; then we build up an index of global good governance in the period 1996-2002, calculating the mean of the six different dimensions.

The estimation results of Equation (1) are reported in the first column, Table 4. Second column of Table 4 reports the estimation results of the same Equation (1) using an ordered Logit model. Note that the impact of a change in an explanatory variables on the estimated probabilities of the highest and lowest of the order classifications – in our case the Single Authority model and the “pure” Multi Supervisory model – is unequivocal: if  $b_j$  is positive, for example, an increase in the value of  $x_j$  increases the probability of having the Single Authority model, while decreases the probability of having the “pure” Multi Supervisory model.

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<sup>82</sup> Demigüç-Kunt and Levine (1999).

<sup>83</sup> World Bank, 2001, *World Development Indicators*, Stock Markets 5.3.

<sup>84</sup> Kaufmann, Kaan and Mastruzzi (2003).

**TABLE 4: ORDERED PROBIT AND LOGIT ESTIMATES**

VARIABLES	probit	logit
DEPENDENT VARIABLE	FAC	FAC
<b>CBFA</b>		
Coefficient $\beta_2$	- 0.94	-1.61
Std. Error	(0.23)	(0.43)
P >z	0.00***	0.00***
<b>MvBdum</b>		
Coefficient $\beta_3$	0.70	1.39
Std. Error	(0.37)	(0.66)
P >z	0.05*	0.03*
<b>mcap</b>		
Coefficient $\beta_5$	- 0.62	-1.15
Std. Error	(0.26)	(0.46)
P >z	0.02**	0.01***
<b>goodgov</b>		
Coefficient $\beta_6$	0.88	1.56
Std. Error	(0.22)	(0.40)
P >z	0.00***	0.00***
No of observations	<b>68</b>	<b>68</b>
LR chi2(5)	39.53	40.46
Prob>chi2	0.00	0.00
Pseudo R2	0.17	0.17
Log Likelihood	-93.07	-92.60

**Note:\*\*\* indicates statistical significance at one percent; \*\* indicates statistical significance at three percent; \* indicates statistical significance at five percent**

These first econometric results seem interesting. The probability that a country will move toward a Single Authority model, is higher: 1) The lower the involvement of the central bank in these powers; 2) The smaller the financial system<sup>85</sup>; 3) the more equity dominated the private governance model; 4) the more the public governance is good.

<sup>85</sup> If we think to the sample of the countries (14) with a Single Supervisor only, the UK seems to be the exception in the inverse relationship between the degree of financial supervision consolidation and the financial market dimension. In fact if the same regressions are performed without the UK – Annex II, Table 8 – all the results are confirmed, with a bit improvement. If we include Singapore, using the post 2003 Reform indexes of FAC and CBFA, the results – Annex II, Table 9 – on the role of central bank involvement and of the governance are confirmed, while the other relationships became weaker. The same if we consider – Annex II, Table 10 - Ireland using the post 2003 Reform indexes of FAC and CBFA.

Now, how should the empirical results be interpreted in terms of political delegation approach?

The empirical analysis, firstly, seems to suggest that the choices of the policymaker in terms of “whom” to delegate the supervisory policy to are closely linked to those regarding “how many” institutions to delegate, according to an inverse relationship. In particular, the more the central bank is involved in financial supervisory powers, the lower the degree of unification of those powers is likely to be<sup>86</sup>. The first econometric analysis confirms the descriptive trade off between supervision consolidation and central bank involvement., that can be explain by the existence of a blurring hazard effect, and/or a monopolistic bureau effect.

Secondly, the choice of the degree of unification of supervisory powers seems to be influenced especially by the characteristics of the financial markets: more specifically, the smaller these markets, the more likely it seems that the probability of unification will increase, perhaps confirming the hypothesis of policymakers conditioned by the “small country” situation illustrated earlier.

Furthermore, a positive relationship between the market based regime and the degree of supervision consolidation seems to hold<sup>87</sup>. This fact could be explained by the focus of policymakers on the role of financial conglomerates, if there were evidence of a positive relationship between the degree of financial deepening and development of cross- sector intermediaries. The policymakers, in face of the possible effects of the growing presence of the financial conglomerates, prefer to increase the degree of consolidation in the supervision structure- Alternatively, the policymakers might be sensitive to the preferences of a highly concentrated banking and financial industry that appreciates a single supervisor (*captive hypothesis*).

Thirdly, the choice of policymakers to establish an unification of supervisory powers seems to be facilitated by an institutional environment characterized by good governance<sup>88</sup>. The relationship between good governance and supervision unification process can be explain if we suppose that a policymaker which care about the soundness and the efficiency can prefer the single financial authority as the optimal one in face of the blurring challenges.

Another hypothesis is that , in reality, good governance could be just a proxy of more deeper institutional factors, and so we do a further step: How robust are the results obtained thus far? To answer this question, we have attempted to insert control variables into the estimates.

Firstly, based on the descriptive analyses, we asked ourselves whether the choices of policymakers to increase the degree of concentration of supervisory powers might depend on the level of development in their respective countries. The geographical factor might also be important, in terms of membership, actual or potential, in the European Union.

Secondly, the relationship between the degree of concentration and the characteristics of the banking and financial markets might “obscure” the importance of other institutional variables,

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<sup>86</sup> At the same time, the variables that could explain the degree of central bank involvement in the financial supervision does not coincide with those that we use to analyze the degree of consolidation; in fact if you perform Probit and Logit regressions – Annex II, Table 11A and 11B – using CBFA as dependent variable and the same vector of financial and institutional variables, the result are not significant at all.

<sup>87</sup> Note that the correlation index between the financial regime variable (MvBdum) and the market capitalization variable ( mcap) is high (...), but they influence the dependent variable with opposite sign.

<sup>88</sup> All the three main results are confirmed if the FAC Two Index is used instead of FAC Index, as indicator of supervision consolidation. See Annex II, Table 12.

themselves determinants in explaining the characteristics of the banking and financial markets<sup>89</sup>. Recently, the structure of the financial markets was explained with three different approaches<sup>90</sup>: the law and finance view, in the static and dynamic versions; the politics and finance view; and the endowment view. In this paper, we have inserted control variables related to the law and finance view and the endowment view, while the politics and finance view was already represented by the indicator of governance. Furthermore, the same institutional variables can explain the significant role of the good governance variable in Equation (1).

Tables 6 and 7 report the probit and logit estimates with the inclusion of control variables. The results of the estimates, with the control variables inserted, show an improvement in their fitness and the robustness of at least two results. First the probability of a single financial authority is still inversely and significantly related to the involvement of the central bank. Second, the concentration of powers also seems to be linked to the institutional framework, especially to the Germanic and Scandinavian roots of the legal institutions. These results are confirmed with different samples too<sup>91</sup>, as Tables from A to D shown.

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<sup>89</sup> For example, in Demircuc-Kunt, Laeven and Levine (2003) regulation become insignificant in explain banking performances when controlling for institutional indicators.

<sup>90</sup> Different approaches have been proposed to explain the country choice between bank based model and market based model: the “legal approach”, (La Porta, Lopez –de-Silanes, Shleifer and Vishny 1997, 1998); the “economic approach”(Rajan and Zingales, 2000); the “political economy approach” (Pagano and Volpin 2000, Verdier 2001, Rosenbluth and Schaap, 2001, Carney 2002, Perotti and von Thadden ,2003).

<sup>91</sup> If the same regressions are performed without the UK – Annex II, Table 13 – all the results are confirmed. If we include Singapore, using the post 2003 Reform indexes of FAC and CBFA, the results – Annex II, Table 9 – on the role of the rules of law are confirmed, while the other relationships became weaker. The same if we consider – Annex II, Table 10 - Ireland using the post 2003 Reform indexes of FAC and CBFA. Finally all the results are completely confirmed if the FAC Two Index is used instead of FAC Index, as indicator of supervision consolidation. See Annex II, Table 16.

**TABLE 6: ORDERED PROBIT ESTIMATES WITH CONTROL VARIABLES**

VARIABLES	probit	I	II	III	IV
DEPENDENT VARIABLE	FAC	FAC	FAC	FAC	FAC
<b>CBFA</b>					
Coefficient $\beta_2$	- 0.94	-0.95	-0.96	-0.91	-0.88
Std. Error	(0.23)	(0.23)	(0.23)	(0.26)	(0.26)
P > z	0.00***	0.00***	0.00***	0.00***	0.00***
<b>MvBdum</b>					
Coefficient $\beta_3$	0.70	0.71	0.70	0.38	0.43
Std. Error	(0.37)	(0.37)	(0.37)	(0.41)	(0.42)
P > z	0.05*	0.05*	0.06	0.35	0.30
<b>mcap</b>					
Coefficient $\beta_5$	- 0.62	- 0.61	- 0.60	- 0.52	- 0.53
Std. Error	(0.27)	(0.27)	(0.28)	(0.30)	(0.30)
P > z	0.02**	0.02**	0.03**	0.08	0.07
<b>goodgov</b>					
Coefficient $\beta_6$	0.88	0.92	0.89	0.66	0.61
Std. Error	(0.22)	(0.32)	(0.35)	(0.39)	(0.40)
P > z	0.00***	0.00***	0.01***	0.09	0.12
<b>Gnpcapita</b>					
Coefficient $\beta$		-0.00000431	-0.00000372	-0.0000346	-0.0000301
Std. Error		(0.0000230)	(0.0000232)	(0.0000259)	(0.0000270)
P > z		0.85	0.87	0.18	0.26
<b>EU membership</b>					
Coefficient $\beta$			0.07	0.79	0.82
Std. Error			(0.32)	(0.43)	(0.44)
P > z			0.81	0.07	0.06*
<b>Anglo Saxon Law</b>					
Coefficient $\beta$				1.05	0.99
Std. Error				(0.55)	(0.55)
P > z				0.05*	0.07
<b>French Law</b>					
Coefficient $\beta$				0.96	0.87
Std. Error				(0.46)	(0.48)
P > z				0.04*	0.07
<b>German Law</b>					
Coefficient $\beta$				3.44	3.41
Std. Error				(1.08)	(1.07)



P >z				0.00***	0.00***
<b>Scandinavian Law</b>				2.61	2.60
Coefficient $\beta$				(0.87)	(0.87)
Std. Error				0.00***	0.00***
P >z					
<b>Latitude</b>					
Coefficient $\beta$					-0.26
Std. Error					(0.45)
P >z					0.55
No of observations	<b>68</b>	<b>68</b>	<b>68</b>	<b>68</b>	<b>68</b>
LR chi2(5)	39.53	39.57	39.62	54.93	55.28
Prob>chi2	0.00	0.00	0.00	0.00	0.00
Pseudo R2	0.17	0.17	0.17	0.25	0.24
Log Likelihood	-93.07	-93.05	-93.02	-85.73	-85.19

**Note:\*\*\* indicates statistical significance at one percent; \*\* indicates statistical significance at three percent; \* indicates statistical significance at five percent**

**TABLE 7: ORDERED LOGIT ESTIMATES WITH CONTROL VARIABLES**

VARIABLES	logit	I	II	III	IV
DEPENDENT VARIABLE	FAC	FAC	FAC	FAC	FAC
<b>CBFA</b>					
Coefficient $\beta_2$	-1.61	-1.61	-1.60	-1.57	-1.50
Std. Error	(0.43)	(0.43)	(0.44)	(0.46)	(0.48)
P > z	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***
<b>MvBdum</b>					
Coefficient $\beta_3$	1.39	1.39	1.40	0.91	1.01
Std. Error	(0.66)	(0.66)	(0.68)	(0.74)	(0.77)
P > z	0.03**	0.03**	0.04*	0.33	0.18
<b>mcap</b>					
Coefficient $\beta_5$	-1.15	-1.15	-1.16	-1.11	-1.12
Std. Error	(0.46)	(0.47)	(0.48)	(0.55)	(0.54)
P > z	0.01***	0.01***	0.01***	0.04*	0.04*
<b>goodgov</b>					
Coefficient $\beta_6$	1.56	1.54	1.56	1.08	0.99
Std. Error	(0.40)	(0.58)	(0.63)	(0.66)	(0.67)
P > z	0.00***	0.00***	0.01***	0.10	0.14
<b>Gnpcapita</b>					
Coefficient $\beta$		0.000000127	0.000000953	-0.0000500	-0.0000421
Std. Error		(0.0000445)	(0.0000400)	(0.0000468)	(0.0000486)
P > z		0.97	0.98	0.28	0.38
<b>EU membership</b>					
Coefficient $\beta$			0.04	1.32	1.34
Std. Error			(0.57)	(0.78)	(0.79)
P > z			0.94	0.09	0.08
<b>Anglo Saxon Law</b>					
Coefficient $\beta$				2.05	1.93
Std. Error				(1.01)	(1.03)
P > z				0.04*	0.06
<b>French Law</b>					
Coefficient $\beta$				1.85	1.69
Std. Error				(0.93)	(0.87)
P > z				0.02**	0.05*
<b>German Law</b>					
Coefficient $\beta$				5.76	5.69
Std. Error				(1.91)	(1.91)
P > z				0.00***	0.00***
<b>Scandinavian Law</b>					

Coefficient $\beta$				4.45	4.44
Std. Error				(1.55)	(1.56)
P > z				0.00***	0.00***
<b>Latitude</b>					
Coefficient $\beta$					-0.44
Std. Error					(0.74)
P > z					0.55
No of observations	<b>68</b>	<b>68</b>	<b>68</b>	<b>68</b>	<b>68</b>
LR chi2(5)	40.46	40.46	40.47	54.84	55.19
Prob>chi2	0.00	0.00	0.00	0.00	0.00
Pseudo R2	0.17	0.17	0.17	0.24	0.24
Log Likelihood	-92.60	-92.60	-92.60	-85.41	-85.24

**Note:\*\*\* indicates statistical significance at one percent; \*\* indicates statistical significance at three percent; \* indicates statistical significance at five percent**

**TABLE A: ORDERED PROBIT ESTIMATES : SUMMARY**

VARIABLES	68 countries	Without UK	With Singapore 2003	With Sing. & Ire. 2003	68 countries
DEPENDENT VARIABLE	FAC	FAC	FAC	FAC	FAC TWO
<b>CBFA</b>					
Coefficient $\beta_2$	- 0.94	- 0.93	- 0.60	- 0.44	- 0.92
Std. Error	(0.23)	(0.23)	(0.20)	(0.18)	(0.23)
P > z	0.00***	0.00***	0.00***	0.01***	0.00***
<b>MvBdum</b>					
Coefficient $\beta_3$	0.70	0.71	0.64	0.58	0.59
Std. Error	(0.37)	(0.37)	(0.36)	(0.36)	(0.37)
P > z	0.05*	0.05*	0.07	0.11	0.10
<b>mcap</b>					
Coefficient $\beta_5$	- 0.62	- 0.66	- 0.45	- 0.47	- 0.59
Std. Error	(0.26)	(0.27)	(0.26)	(0.26)	(0.27)
P > z	0.02**	0.01****	0.07	0.06	0.02**
<b>goodgov</b>					
Coefficient $\beta_6$	0.88	0.88	0.86	0.47	0.74
Std. Error	(0.22)	(0.22)	(0.21)	(0.21)	(0.21)
P > z	0.00***	0.00***	0.00***	0.00***	0.00***
No of observations	<b>68</b>	<b>67</b>	<b>69</b>	<b>69</b>	<b>68</b>
LR chi2(5)	39.53	37.90	32.47	29.13	32.74
Prob>chi2	0.00	0.00	0.00	0.00	0.00
Pseudo R2	0.17	0.17	0.14	0.12	0.17
Log Likelihood	-93.07	-92.16	-98.22	-98.92	-78.10

**Note:\*\*\* indicates statistical significance at one percent; \*\* indicates statistical significance at three percent; \* indicates statistical significance at five percent**

**TABLE B: ORDERED LOGIT ESTIMATES: SUMMARY**

VARIABLES	68 countries	Without UK	With Singapore 2003	With Sing. & Ire. 2003	68 countries
DEPENDENT VARIABLE	FAC	FAC	FAC	FAC	FAC
<b>CBFA</b>					
Coefficient $\beta_2$	-1.61	-1.59	-1.14	-0.88	-1.55
Std. Error	(0.43)	(0.43)	(0.39)	(0.38)	(0.42)
P > z	0.00***	0.00***	0.00***	0.02**	0.00***
<b>MvBdum</b>					
Coefficient $\beta_3$	1.39	1.39	1.31	1.21	1.18
Std. Error	(0.66)	(0.65)	(0.64)	(0.63)	(0.66)
P > z	0.03*	0.03*	0.04*	0.05*	0.07
<b>mcap</b>					
Coefficient $\beta_5$	-1.15	-1.21	-0.91	-0.86	-1.13
Std. Error	(0.46)	(0.47)	(0.45)	(0.44)	(0.47)
P > z	0.01***	0.01***	0.04*	0.05*	0.01***
<b>goodgov</b>					
Coefficient $\beta_6$	1.56	1.56	1.49	1.47	1.38
Std. Error	(0.40)	(0.40)	(0.38)	(0.38)	(0.40)
P > z	0.00***	0.00***	0.00***	0.00***	0.00***
No of observations	<b>68</b>	<b>67</b>	<b>69</b>	<b>69</b>	<b>68</b>
LR chi2(5)	40.46	38.86	34.59	30.99	33.46
Prob>chi2	0.00	0.00	0.00	0.00	0.00
Pseudo R2	0.17	0.17	0.15	0.13	0.17
Log Likelihood	-92.60	-91.72	-97.16	-99.99	-77.74

**Note:\*\*\* indicates statistical significance at one percent; \*\* indicates statistical significance at three percent; \* indicates statistical significance at five percent**

**TABLE C: ORDERED PROBIT ESTIMATES WITH CONTROL VARIABLES:  
SUMMARY**

<b>VARIABLES</b>	<b>68 countries</b>	<b>Without UK</b>	<b>With Singapore 2003</b>	<b>With Sing. &amp; Ire. 2003</b>	<b>68 countries</b>
<b>DEPENDENT VARIABLE</b>	<b>FAC</b>	<b>FAC</b>	<b>FAC</b>	<b>FAC</b>	<b>FAC TWO</b>
<b>CBFA</b>					
Coefficient $\beta_2$	-0.91	- 0.85	- 0.44	- 0.30	- 0.98
Std. Error	(0.26)	(0.26)	(0.21)	(0.20)	(0.26)
P > z	0.00***	0.00***	0.04*	0.14	0.00***
<b>MvBdum</b>					
Coefficient $\beta_3$	0.38	0.43	0.48	0.38	0.19
Std. Error	(0.41)	(0.41)	(0.41)	(0.41)	(0.42)
P > z	0.35	0.30	0.24	0.34	0.63
<b>mcap</b>					
Coefficient $\beta_5$	- 0.52	- 0.59	- 0.37	- 0.39	- 0.40
Std. Error	(0.30)	(0.30)	(0.29)	(0.29)	(0.29)
P > z	0.08	0.05*	0.19	0.17	0.18
<b>goodgov</b>					
Coefficient $\beta_6$	0.66	0.71	0.82	0.78	0.43
Std. Error	(0.39)	(0.39)	(0.38)	(0.38)	(0.38)
P > z	0.09	0.07	0.03*	0.03*	0.26
<b>Gnpcapita</b>					
Coefficient $\beta$	-0.0000346	- 0.0000364	- 0.0000335	- 0.0000293	- 0.0000304
Std. Error	(0.0000259)	(0.0000260)	(0.0000254)	(0.0000254)	(0.0000252)
P > z	0.18	0.16	0.43	0.24	0.22
<b>EU membership</b>					
Coefficient $\beta$	0.79	0.67	0.31	0.37	1.02
Std. Error	(0.43)	(0.44)	(0.40)	(0.41)	(0.43)
P > z	0.07	0.16	0.43	0.36	0.01***
<b>Anglo Saxon Law</b>					
Coefficient $\beta$	1.05	0.91	0.59	0.68	1.15
Std. Error	(0.55)	(0.55)	(0.52)	(0.53)	(0.55)
P > z	0.05*	0.10	0.25	0.19	0.03**
<b>French Law</b>					
Coefficient $\beta$	0.96	0.93	.56	0.60	0.79
Std. Error	(0.46)	(0.46)	(0.44)	(0.44)	(0.46)
P > z	0.04*	0.04*	0.20	0.17	0.09
<b>German Law</b>					
Coefficient $\beta$	3.44	3.51	2.64	2.72	2.66
Std. Error	(1.08)	(1.09)	(0.99)	(1.00)	(0.90)
P > z	0.00***	0.00***	0.00***	0.00***	0.00***

<b>Scandinavian Law</b>	2.61				
Coefficient $\beta$	(0.87)	2.75	2.18	2.21	1.97
Std. Error	0.00***	(0.88)	(0.84)	(0.84)	(0.80)
P > z		0.00***	0.01***	0.00***	0.01**
No of observations	<b>68</b>	<b>67</b>	<b>69</b>	<b>69</b>	<b>68</b>
LR chi2(5)	54.93	54.65	44.06	40.83	44.31
Prob>chi2	0.00	0.00	0.00	0.00	0.00
Pseudo R2	0.25	0.24	0.19	0.17	0.23
Log Likelihood	-85.73	-83.82	-92.43	-93.07	- 72.31

**Note:\*\*\* indicates statistical significance at one percent; \*\* indicates statistical significance at three percent; \* indicates statistical significance at five percent**

**TABLE D: ORDERED LOGIT ESTIMATES WITH CONTROL VARIABLES:  
SUMMARY**

VARIABLES	68 countries	Without UK	With Singapore 2003	With Sing. & Ire. 2003	68 countries
DEPENDENT VARIABLE	FAC	FAC	FAC	FAC	FAC
<b>CBFA</b>					
Coefficient $\beta_2$	-0.91	-1.48	-0.99	- 0.73	- 1.69
Std. Error	(0.26)	(0.47)	(0.42)	(0.43)	(0.49)
P > z	0.00***	0.00***	0.02**	0.07	0.00***
<b>MvBdum</b>					
Coefficient $\beta_3$	0.38	1.00	1.01	0.92	0.49
Std. Error	(0.41)	(0.75)	(0.72)	(0.77)	(0.75)
P > z	0.35	0.18	0.16	0.20	0.51
<b>mcap</b>					
Coefficient $\beta_5$	- 0.52	- 1.25	- 0.89	- 0.87	- 0.89
Std. Error	(0.30)	(0.56)	(0.52)	(0.51)	(0.53)
P > z	0.08	0.02**	0.08	0.09	0.09
<b>goodgov</b>					
Coefficient $\beta_6$	0.66	1.16	1.21	1.19	0.73
Std. Error	(0.39)	(0.66)	(0.65)	(0.65)	(0.67)
P > z	0.09	0.08	0.06	0.07	0.27
<b>Gnpcapita</b>					
Coefficient $\beta$	-0.0000346	-0.0000521	- 0.0000469	- 0.0000422	- 0.0000476
Std. Error	(0.0000259)	(0.0000480)	(0.0000452)	(0.0000451)	(0.0000451)
P > z	0.18	0.27	0.29	0.34	0.29
<b>EU membership</b>					
Coefficient $\beta$	0.79	1.11	0.69	0.62	1.79
Std. Error	(0.43)	(0.79)	(0.75)	(0.75)	(0.80)
P > z	0.07	0.15	0.35	0.40	0.02**
<b>Anglo Saxon Law</b>					
Coefficient $\beta$	1.05	1.82	1.57	1.55	2.23
Std. Error	(0.55)	(1.01)	(0.96)	(0.96)	(1.03)
P > z	0.05*	0.07	0.10	0.10	0.03**
<b>French Law</b>					
Coefficient $\beta$	0.96	1.83	1.34	1.30	1.51
Std. Error	(0.46)	(0.83)	(0.79)	(0.79)	(0.82)
P > z	0.04*	0.02**	0.09	0.10	0.06
<b>German Law</b>					
Coefficient $\beta$	3.44	5.92	4.70	4.58	4.74
Std. Error	(1.08)	(1.94)	(1.79)	(1.79)	(1.63)
P > z	0.00***	0.00***	0.00***	0.00***	0.00***



<b>Scandinavian Law</b>	2.61				
Coefficient $\beta$	(0.87)	4.71	3.92	3.83	3.52
Std. Error	0.00***	(1.57)	(1.51)	(1.50)	(1.45)
P > z		0.00***	0.01**	0.01***	0.01***
No of observations	<b>68</b>	<b>67</b>	<b>69</b>	<b>69</b>	<b>68</b>
LR chi2(5)	54.93	54.64	46.10	42.30	44.86
Prob>chi2	0.00	0.00	0.00	0.00	0.00
Pseudo R2	0.25	0.24	0.20	0.18	0.23
Log Likelihood	-85.73	-83.82	-91.41	- 92.34	- 72.04

**Note:\*\*\* indicates statistical significance at one percent; \*\* indicates statistical significance at three percent; \* indicates statistical significance at five percent**