APPLIED FINANCE LETTERS

VOLUME 12.1* SPECIAL ISSUE, 2023

BANK EFFICIENCY AND GOVERNANCE: EVIDENCE FROM JOINT VENTURE AND FOREIGN COMMERCIAL BANKS IN VIETNAM

ENG-TUCK CHEAH[1], THONG DAO[1], THAO NGOC NGUYEN[1]

1. Nottingham Trent University, United Kingdom

* Corresponding Author: Thao Ngoc Nguyen, Nottingham Business School, Nottingham Trent University, United Kingdom. ✉ thao.nguyen@ntu.ac.uk

Abstract

In this paper, we intend to examine the influence of national governance on the bank efficiency of joint ventures and foreign commercial banks in Vietnam. Joint venture and foreign commercial banks have been instrumental in introducing new financial products to the Vietnamese market (e.g., mortgage services and medium-term certificates of deposit). At the same time, they have also penetrated the retail market through automobile and housing loans and international credit card services. We use the DEA double bootstrap method to develop a bank network function to evaluate bank efficiency. The findings from our random-effects model demonstrate that world governance indicators, as proposed by the World Bank, independently determine the bank efficiency of the joint venture and foreign commercial banks in Vietnam. There are important implications to be highlighted for policymakers and stakeholders of joint venture and foreign commercial banks and other types of banks in the banking industry elsewhere around the world.

Keywords: Efficiency; Banking; Bootstrap; Governance indicators

1. Introduction

We first provide background information on the roles played by joint venture commercial banks (JVCBs) and foreign commercial banks (FBs) in Vietnam, along with the motivation, contributions, and major findings, before discussing the impact of institutional theory on bank efficiency. Through our hypotheses, we also examine and discuss the relationships between national governance indicators and bank efficiency.

1.1 Research Background

Vietnam has recently experienced a surge in JVCBs and FBs' growth. What makes them more efficient than local banks? Domestic banks may possess more informational advantages, while JVCBs and FBs may face fewer domestic credit allocation restrictions. Crucially, JVCBs and FBs continue to boost efficiency and competition in the banking sector (Cull & Peria, 2016). Yet, few studies have focused on the effects of national governance on JVCBs and FBs, although numerous have examined the effects of corporate governance on businesses and financial institutions (Koerniadi, 2013; Andries et al., 2018).

Our main motivation is to investigate the role of institutional theory in bank efficiency. Specifically, we investigate how the different national governance indicators provided by the World Governance

Indicators (WGI)[1] influence JVCBs and FBs' overall efficiency. These indicators include corruption control (CC), government effectiveness (GE), political stability and absence of violence (PS), regulatory quality (RQ), rule of law (RL), and voice and accountability (VA). In addition, we included the Corruption Perceptions Index (CPI)[2] as a comparison to CC. To the best of our knowledge, this is the first study to examine the relationship between FB efficiency and national governance in Vietnam.

Studies on national governance have employed a global dataset, reducing specific country features (Lensink et al., 2008; Barth et al., 2013). Furthermore, compared to domestic banks, JVCBs and FBs' performance is influenced by host markets. In developing countries, JVCBs and FBs frequently outperform domestic banks because of their ownership advantages (Claessens et al., 2001; Havrylchyk & Jurzyk, 2005; Pasiouras & Kosmidou, 2007). A banking sector may function at its best if it operates in a financial system predominantly owned by foreigners and heavily regulated by foreign regulators (Tripe, 2013). Furthermore, domestic banks were weakened after the financial crisis (Manlagñit, 2011). In Vietnam, state-owned commercial banks have the largest market share and the best financial outcomes because of their experience and familiarity with the local market, government support, and long history. However, their dominant role will be steadily replaced by foreign-owned and active private banks is a relatively free market. Indeed, in developed countries, JVCBs and FBs underperform domestic banks because of intense competition and lower earnings (De Young & Nolle, 1996). Greenfield banks (100% foreign-owned banks) are more efficient and less risky than other types of JVCBs and FBs (Wu et al., 2011). Thus, determining how JVCBs and FBs perform under the influence of the current national governance in Vietnam can help identify their responsibilities in emerging markets.

Our contributions are three-fold. First, we consider liquidity and overhead expenses as additional determinants of efficiency, which, to our knowledge, has not been done in many studies. This can make our results more reliable and representative of the Vietnamese context. Second, our study has implications for FB practices in developing countries. JVCBs and FBs should account for the economic situation of the country in which they operate and the different aspects of national governance. Hence, market participants, such as traders, investors, and analysts, should pay particular attention to national governance concerns when accounting for FB efficiency. Third, our findings suggest that policymakers should strengthen their country's institutions at the national level and foster an environment conducive to outsiders entering and conducting business successfully for the healthy growth of foreign investment in the banking sector (via JVCBs and FBs). Regulatory quality is the most important factor that influences bank efficiency. Importantly, our results are of direct interest to policymakers in Vietnam and other emerging countries who are assessing the merits of national governance to enhance FB efficiency.

1.2. Institutional Theory and Bank Efficiency

To our knowledge, few studies explore how institutional mechanisms influence bank efficiency, especially in relation to institutional analyses in sociology (Fligstein & Freeland, 1995; Hall & Soskice, 2001; Campbell, 2007). National institutional factors are important determinants of corporate governance behaviours and practices (Denis & McConnell, 2003; Grosvold & Brammer, 2010). Foreign investors and local partners may differ in their corporate governance practices, including the regulatory and political systems arising from legal traditions, education, and welfare. These mutually reinforcing characteristics are known as institutional systems. They can influence bank efficiency input

[1] These indicators are based on hundreds of variables and reflect the views of thousands of citizens, firm survey respondents, and experts worldwide (Kaufmann et al., 2008). Data are available at https://info.worldbank.org/governance/wgi/

[2] https://www.transparency.org/en/cpi

and output measures, including loans, deposits, and securities (Jackson & Deeg, 2008). Based on an unbalanced panel analysis of 4,050 bank observations in 72 countries from 1999 to 2007, Barth et al. (2013) found that tighter restrictions on bank activities are negatively associated with bank efficiency, while greater capital regulation stringency is marginally and positively associated with bank efficiency. Here, we use the WGI to measure national governance. Note that World Governance Indexes (average) and World Governance Indexes (principal component) are the mean values. The principal components include CC, GE, PS, RQ, RL, and VA. Both the average and principal component indexes are positively and significantly related with bank efficiency scores. Next, we propose hypotheses for each indicator's relationship with JVCBs and FBs' efficiency in Vietnam.

1.3. National Governance and Bank Efficiency

1.3.1. Corruption Control

Corruption control (CC) is the extent to which public power is exercised for private gain. This includes petty and grand forms of corruption. Osei-Tutu (2021) found negative effects of increased corruption on bank efficiency. These effects apply to banks of all sizes and countries with various levels of economic development. However, corruption is not always detrimental to bank costs. Corruption may rather help them overcome the distortions created by ill-functioning institutions resulting in faster decision-making and more efficient resource allocation. Using more than 2,000 commercial banks in 27 European Union (EU) countries, Chortareas et al. (2013) found that bank efficiency scores were positively and significantly related with CC. Kamarudin et al. (2016) examined the efficiency of Islamic and conventional banks in Gulf Cooperation Council countries during 2007–2011. The authors found that CC enhances the revenue efficiency of conventional banks. Based on this discussion, we hypothesise the following:

Hypothesis 1: CC is positively related to the efficiency of JVCBs and FBs in Vietnam.

1.3.2. Government Effectiveness

Government effectiveness (GE) represents the quality of the public and civil services, and their independence from political pressure. It also includes the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. GE can be explained by the organisational environment related to economic development and educational status (Garcia-Sanchez et al., 2013). Chortareas et al. (2013) argued that bank efficiency scores are positively and significantly related with GE. Kamarudin et al. (2016) stated that GE enhances the revenue efficiency of both Islamic and conventional banks.

Hypothesis 2: GE is positively related with the efficiency of JVCBs and FBs in Vietnam.

1.3.3. Political Stability and Absence of Violence

Political stability (PS) represents perceptions of the likelihood of governments being destabilised or overthrown by unconstitutional or violent means, including political violence and terrorism. Chortareas et al. (2013) suggested that bank efficiency scores are positively and significantly related with PS. Kamarudin et al. (2016) found that PS enhances the revenue efficiency of conventional banks.

Hypothesis 3: PS is positively related with the efficiency of JVCBs and FBs in Vietnam.

1.3.4. Regulatory Quality

The literature suggests a positive correlation between bank efficiency and regulatory quality (RQ). Banks tend to be more efficient in the presence of better regulations in a country, including regulations for the whole country/economy and the banking sector. Figueira et al. (2009) found that regulatory quality in Latin American countries affects the efficiency of their banks, while Kamarudin et al. (2016) and Özkan-Günay et al. (2013) reached similar conclusions for Islamic countries and Turkey, respectively. Regulations that improve banks' market discipline and the supervisory role of authorities

help enhance bank efficiency in terms of both costs and profits (Pasiouras et al., 2009). Interestingly, the favourable impact of supervision is only observed for independent and experienced supervisory bodies (Barth et al., 2013). Profit and cost efficiencies are also boosted by Basel-related regulations and restrictions designed to ensure the robust and efficient operation of banks (Chortareas et al., 2012; Lozano-Vivas & Pasiouras, 2010). Meanwhile, Chortareas et al. (2012) confirmed the adverse effects of interventionist policies (e.g., monitoring the private sector) on bank efficiency. Importantly, Pasiouras et al. (2009) reported a complex relationship between regulations and efficiency, where strict capital requirements help cost efficiency but hurt profit efficiency, whereas activity restrictions demonstrate the opposite effects. Based on this discussion, we hypothesise that:

Hypothesis 4: RQ is positively related with the efficiency of JVCBs and FBs in Vietnam.

1.3.5. Rule of Law

Rule of law (RL) refers to the fundamental principle that everyone (including the government) is equally subject to the law. This is a universal constraint on the behaviour of individuals and institutions. Countries with better RL are 2.5 times as efficient as other countries (Scully, 1988). Better institutional quality and environments also promote more efficient banks and financial institutions (Barth et al., 2013; Chortareas et al., 2013). Kamarudin et al. (2016) documented the positive impact of RL on the revenue efficiency of both traditional and Islamic banks. Although different from banks, microfinance institutions also enjoy the favourable effects of RL on their financial efficiency, while still suffering from managerial inefficiency (Hussain et al., 2021). Meanwhile, Hasan & Marton (2003) argued that the influence of RL is not straightforward, as it negatively affects profit efficiency but positively affects cost efficiency. Among the various aspects of RL, crime and theft are considered the most problematic for business performance (Roxas et al., 2012). Based on this discussion, we hypothesise that:

Hypothesis 5: RL is positively related with the efficiency of JVCBs and FBs in Vietnam.

1.3.6. Voice and Accountability

Voice and accountability (VA) refer to the influence and freedom citizens can enjoy (e.g., voting rights and freedom of speech) (Chortareas et al., 2012). Higher VA is associated with increased bank efficiency (Barth et al., 2013). A banking system tends to be more efficient if political rights and civil liberties are well protected (Figueira et al., 2009). Kamarudin et al. (2016) observed this effect for both conventional and Islamic banks. Interestingly, VA is highly relevant and beneficial to JVCBs and FBs because independent and unbiased media enhance the transparency/coverage and quality of local information and affairs. Examining many countries, Lensink et al. (2008) discovered that although FBs are less efficient than domestic banks, superior national governance alleviates this disadvantage. Based on this discussion, we hypothesise that:

Hypothesis 6: VA is positively related with the efficiency of JVCBs and FBs in Vietnam.

2. Data and Methodology

This section briefly discusses JVCBs and FBs' actions in Vietnam over the past 30 years. Next, we present the dependent and independent variables, and describe the two-stage bootstrap method.

2.1. Joint Venture Commercial Banks and Foreign Banks in Vietnam

Vietnam is one of Asia's recent economic successes, growing at 7.8% annually in the last decade. Compared to other countries, Vietnamese banks are more influenced by economic conditions and

government policies. After Vietnam joined the World Trade Organization in 2007,[3] JVCBs and FBs have increasingly challenged domestic banks with their advanced technology, products, and professional management. FBs can also form partnerships with local banks, who can benefit from FBs' expertise in technology, operation processes, financial products, and other areas (Tran et al., 2015). The number of JVCBs has increased from four to six during 1995–2009, whereas that of FBs increased from five to nine during 2014–2018 (Table 1). Despite being governed by the Communist Party, Vietnam is a democratic country that focuses on political stability and economic prosperity.

Table 1: The number of commercial banks from 1990 to 2020

Type of banks	1990	1995	2000	2005	2009	2014	2018	2020
State-owned commercial banks	4	4	5	5	5	4	7	4
Other commercial banks								
Joint stock banks	0	36	39	37	37	34	28	31
JVCBs	0	4	5	5	6	4	2	2
FBs	0	0	0	0	5	5	9	9
Total	**4**	**44**	**49**	**47**	**53**	**47**	**46**	**46**

Note: Sources: SBV (2009, 2014, 2018, 2020).

2.2. Dependent and Independent Variables

Table 2 lists the descriptive statistics of our dependent and independent variables. The dependent variables were the efficiency scores estimated from the input and output variables. The independent variables are the national governance indicators.

Table 2: Descriptive statistics of efficiency inputs and outputs as well as national governance variables

	Mean	Median	Std. Dev.	Min	Max	Skewness	Kurtosis	5%	25%	75%	95%
Panel A: Efficiency inputs											
Deposits											
Customer	31,226	18,868	29,928	775	111,451	1.2694	0.8382	2,683	9,954	43,948	96,067
Other	4,410	3,204	3,398	0	12,901	0.9650	0.2697	385	1,831	6,708	11,548
Staff	562	337	417	50	1,438	0.6629	-0.8374	60	216	805	1,307
Panel B: Efficiency outputs											
Loans											
Customer	20,164	14,340	15,456	523	64,065	0.9178	0.1958	2,102	8,465	31,129	47,494
Other	15,488	9,469	15,851	878	71,348	1.8945	3.8459	2,667	4,125	22,356	44,527
Securities	6,257	4,682	5,523	3	19,740	0.7729	-0.3443	316	1,548	9,405	16,964
Panel C: National governance variables											
CPI	32.860	33.000	2.4579	29.000	37.000	0.2310	-1.1400	29.0000	31.0000	35.0000	37.0000
CC	-0.4896	-0.4807	0.0733	-0.6073	-0.3527	0.0667	-0.7116	-0.6073	-0.5280	-0.4402	-0.3527
GE	-0.0451	0.0057	0.1474	-0.2699	0.2003	-0.2974	-0.9801	-0.2699	-0.2325	0.0383	0.2003
PS	0.1274	0.1891	0.1190	-0.0734	0.2674	-0.3069	-1.4825	-0.0734	0.0255	0.2336	0.2674
RQ	-0.4487	-0.4538	0.1620	-0.6687	-0.1479	0.3093	-1.0022	-0.6687	-0.5988	-0.3494	-0.1479
RL	-0.2058	-0.1339	0.2506	-0.5516	0.0753	-0.2670	-1.6675	-0.5516	-0.5149	-0.0037	0.0753
VA	-1.4059	-1.4057	0.0388	-1.4765	-1.3589	-0.6218	-0.9584	-1.4765	-1.4201	-1.3734	-1.3589

Note: In Panels A and B, the numbers are in million Vietnamese dongs except for Staff (number of people).

[3] Vietnam has further liberated the banking sector to allow greater presence of FBs. Following Decree 22/2006/ND-CP, five FBs (HSBC, Standard Chartered, ANZ, Shinhan, and Hong Leong) can establish their wholly foreign-owned subsidiary banks in Vietnam.

Our inputs include: (i) staff (number of employees), (ii) purchased funds (deposits from the State Bank of Vietnam and other banks), and (iii) customer/core deposits (corporate and private customers). Our outputs include: (i) customer loans (corporate and private sectors), (ii) other loans, and (iii) securities (investment and trading securities) (Berger and Mester, 1997). Our unique dataset included six JVCBs and FBs in Vietnam from 2011 to 2020. Data were collected from the State Bank of Vietnam and annual reports of individual banks. For all variables, the mean and median in Table 2 differ significantly and are closer to the minimum than to the maximum values. This suggests a non-normal and positively skewed distribution with a wide range of values, as shown by the gap between the minimum and maximum values. Furthermore, from the annual reports, we use five bank characteristics (total assets, return on assets, loans, deposits, and staff expenses relative to assets) as control variables.

Our main independent variables include seven national governance indicators for Vietnam. One is from Transparency International (CPI), while six are from the World Bank (CC, GE, PS, RQ, RL, and VA). These variables reflect various aspects of the macroenvironment. By construction, the CPI ranges from 0 (highly corrupt) to 100 (very clean), while the rest range from -2.5 to 2.5, with a higher value indicating better *governance*. Panel C in Table 2 summarises the *national governance* variables. According to the mean and median, national governance in Vietnam is below average, with a CPI below 50, and most other variables are negative. This may be due to an underdeveloped governance system (Nguyen et al., 2015). The only exception is PS, perhaps due to the single-party system (Nam, 1969), and GE to some extent (with a slightly positive median despite a negative mean).

As shown by the standard deviation and range, some variables are more volatile than others because the development of Vietnam's national governance over time is not uniform in all areas. JVCBs and FBs should pay close attention to this variation if they are interested in certain aspects of national governance. For example, GE had a median of only 0.0057, standard deviation of 0.1474, and range of 0.4702. Meanwhile, PS had a higher median of 0.1891 but a lower standard deviation (0.119) and range (0.3408). The variables demonstrate varying degrees of stability over time, suggesting that some areas of governance are more consistent and stable than others. Three variables are positively skewed (CPI, CC, and RQ), while the rest are negatively skewed. In other words, corruption and RQ occasionally get much better than usual, while other areas sometimes get much worse than usual. Negative values of excess kurtosis across the board indicate that all the variables are platykurtic. Therefore, national governance variables follow a non-normal distribution.

2.3. Bootstrap Two-stage Procedure

We use Simar & Wilson's (2007) two-stage efficiency analysis method. First, data envelopment analysis (DEA) is employed to estimate the technical efficiency of banks based on the inputs and outputs in the sample using either constant (CRS) or variable returns to scale (VRS). Second, a truncated bootstrapped regression is used to bootstrap the DEA scores. We used Algorithm 2 of Simar & Wilson (2007) because it is corrected for bias, and thus, preferred for proper inference. The second stage incorporates the seven national governance indicators besides the five control variables for bank characteristics (Wijesiri et al., 2015).

Consider the *j*th bank with outputs and inputs Y_{rj} and X_{ij} (all positive), where U_r and V_i are the variable weights determined by solving the following problem (Charnes et al., 1978).

$$\text{Max } \hat{\delta}_0 = \frac{\sum_{r=1}^{s} U_r Y_{r,0}}{\sum_{i=1}^{m} V_i X_{i,0}} \qquad (1)$$

$$\text{Subject to: } \frac{\sum_{r=1}^{s} U_r Y_{r,j}}{\sum_{i=1}^{m} V_i X_{i,j}} \leq 1 ; \text{j} = 1, 2, \ldots, \text{n} \qquad (2)$$

$$U_r, V_i \geq 0 ; \text{r} = 1, 2, \ldots, \text{s}; \text{i} = 1, 2, \ldots, \text{m}$$

The true efficiency score, $\hat{\delta}_0$, is not observed directly but rather empirically estimated. Simar & Wilson's (2007) procedure provides a confidence interval for efficiency estimates and yields consistent inferences for factors explaining efficiency. To implement the bootstrap procedure for DEA, we assume that the original data are generated by a data-generating process and that we can simulate this process using a new (pseudo) dataset drawn from the original data. We then re-estimate the DEA model using the new data. By repeating this process 2000 times, we can derive an empirical distribution of these bootstrap values (Balcombe et al., 2008; Wijesiri et al., 2015). The efficiency scores, $\hat{\delta}_{i,t}$, of bank i obtained in the first stage are regressed on the explanatory variables in the second stage using the following regression.

$$\hat{\delta}_{i,t} = \alpha + \sum_{j=1}^{J} \beta_j X_{i,t}^{j} + \sum_{m=1}^{M} \beta_m X_{i,t}^{m} + \varepsilon_{i,t} \qquad (3)$$

where $\hat{\delta}_{i,t}$ is bank *i*'s technical efficiency in period t, which is measured as CRS, CRS biased corrected (CRS-BC), VRS, and VRS biased corrected (VRS-BC); and $X_{i,t}^{t}s$ are the explanatory variables which are grouped into bank-specific $X_{i,t}^{j}$, and industry specific and governance variables $X_{i,t}^{m}$.

3. Empirical Results

We first present the efficiency scores, followed by the regression results and implications. Finally, we outline our steps to ensure the robustness of our findings.

3.1. Efficiency Scores

Tables 3 and 4 show the efficiency scores based on CRS and VRS. The average initial technical efficiency scores are 0.89 (CRS) and 0.96 (VRS), indicating good performance of JVCBs and FBs during 2011–2020. Next, we apply Simar & Wilson's (2007) method. The average double-bootstrap technical efficiency scores are 0.83 (CRS) and 0.94 (VRS). The efficiency scores were the lowest in 2014 at 0.78 (CRS) and 0.91 (VRS), and then rose to 0.80 (CRS) and 0.94 (VRS) in 2016. The VRS measures pure technical efficiency, which reflects management skills; notably, its average score is higher than that of the CRS, which measures overall technical efficiency. As shown in Table 4, the HSBCVN had the lowest average CRS (0.69) and highest average VRS (0.96). SHINHANVN and HONGLEONG achieved the highest average CRS (0.98), whereas the VID bank had the lowest average VRS (0.93).

Table 3: Average technical efficiency scores of all JVCBs and FBs from 2011 to 2020

Year	CRSEff	CRSEff biased correct	CRSEff lower bound	CRSEff upper bound	VRSEff	VRSEff biased correct	VRSEff lower bound	VRSEff upper bound
2011	0.91	0.83	0.78	0.9	0.98	0.96	0.9	0.98
2012	0.89	0.83	0.78	0.89	0.96	0.94	0.89	0.96
2013	0.84	0.81	0.78	0.84	0.91	0.9	0.86	0.91
2014	0.81	0.78	0.76	0.81	0.93	0.91	0.88	0.93
2015	0.82	0.78	0.75	0.82	0.93	0.92	0.88	0.93
2016	0.85	0.8	0.76	0.84	0.96	0.94	0.91	0.96
2017	0.95	0.9	0.85	0.95	0.97	0.95	0.9	0.97
2018	0.94	0.88	0.82	0.94	0.99	0.96	0.9	0.99
2019	0.96	0.89	0.83	0.95	0.99	0.96	0.89	0.99
2020	0.94	0.84	0.77	0.93	1	0.96	0.88	0.99

Note: Source: Financial statements of JVCBs and FBs in Vietnam from 2011 to 2020.

Table 4: Bank-wise average technical efficiency scores. Note: (*) Banks with data less than 10 years

ID	State	CRSEff	CRSEff bias corrected	CRSEff lb	CRSEff ub	VRSEff	VRSEff bias corrected	VRSEff lb	VRSEff ub
1	INDOVINA	0.86	0.83	0.79	0.86	0.92	0.9	0.85	0.92
2	VID	0.94	0.91	0.87	0.93	0.95	0.93	0.9	0.95
3	HSBCVN	0.74	0.69	0.64	0.74	0.98	0.96	0.91	0.98
4	SHINHANVN	0.98	0.9	0.84	0.97	0.99	0.96	0.9	0.99
5	HONGLEONG (*)	0.98	0.88	0.81	0.98	0.98	0.96	0.88	0.98
6	ANZVN (*)	0.93	0.86	0.81	0.93	0.99	0.96	0.9	0.99
	Average	0.89	0.83	0.79	0.89	0.96	0.94	0.89	0.96

Note: Source: Financial statements of JVCBs and FBs in Vietnam from 2011 to 2020.

3.2. Regression Results for Environmental Variables

We regress the bias-corrected DEA efficiency scores on national governance indicators and bank characteristics using Equation 3 with random effects. We run panel data regressions, each of which includes only one national governance variable to avoid multicollinearity, as these variables measure closely related aspects of the macro environment and tend to be highly correlated. The results are summarised in Table 5 reports.

Table 5: Regression results of national governance variables

	CC	GE	PS	RQ	RL	VA	CPI
Panel A: CRS-BC							
Intercept	1.0374**	1.3878***	1.1647***	1.8526***	1.5438***	0.7034	0.9817***
	(0.4202)	(0.3889)	(0.4104)	(0.3954)	(0.3838)	(0.5972)	(0.3341)
Governance	-0.0222	0.2872***	-0.1491	0.3465***	0.1877***	-0.2904	0.0240***
	(0.2164)	(0.0989)	(0.1235)	(0.0842)	(0.0532)	(0.3707)	(0.0053)
LNTA	0.2467	1.6017	0.5711	1.7768	1.9114*	0.1828	1.9636*
	(1.2870)	(1.1903)	(1.2074)	(1.0827)	(1.1557)	(1.2049)	(1.0578)
ROA	-0.0051	-0.0287	-0.0127	-0.0523**	-0.0366	-0.0097	-0.0564**
	(0.0266)	(0.0256)	(0.0269)	(0.0253)	(0.0250)	(0.0270)	(0.0246)
LA	-0.3289**	-0.3062**	-0.3242**	-0.1910	-0.2377*	-0.2895*	-0.1663
	(0.1589)	(0.1429)	(0.1535)	(0.1365)	(0.1399)	(0.1641)	(0.1334)
DTA	0.2808**	0.3533***	0.3103**	0.3648***	0.3090**	0.2693*	0.3395***
	(0.1411)	(0.1286)	(0.1377)	(0.1187)	(0.1219)	(0.1385)	(0.1143)
EXTA	-2.3675	-2.1891	-1.8647	-2.0304	-3.3219*	-2.5013	-2.5641
	(2.0046)	(1.8119)	(1.9870)	(1.6798)	(1.7664)	(1.9784)	(1.6305)
N	50	50	50	50	50	50	50
Adjusted R^2	0.2625	0.3833	0.2865	0.4706	0.4282	0.2726	0.5007
Panel B: VRS-BC							
Intercept	0.5355***	0.6251***	0.5909***	0.7516***	0.6573***	0.1945	0.5469***
	(0.1848)	(0.1842)	(0.1826)	(0.1967)	(0.1875)	(0.2542)	(0.1755)
Governance	-0.0426	0.0576	-0.0434	0.0838**	0.0380	-0.3050*	0.0037
	(0.0952)	(0.0468)	(0.0549)	(0.0419)	(0.0260)	(0.1578)	(0.0028)
LNTA	0.1619	0.5132	0.3317	0.6097	0.5782	0.1349	0.5050
	(0.5659)	(0.5639)	(0.5371)	(0.5387)	(0.5646)	(0.5129)	(0.5556)
ROA	0.0238**	0.0190	0.0215*	0.0123	0.0173	0.0190*	0.0159
	(0.0117)	(0.0121)	(0.0120)	(0.0126)	(0.0122)	(0.0115)	(0.0129)
LA	-0.0740	-0.0748	-0.0777	-0.0459	-0.0609	-0.0353	-0.0548
	(0.0699)	(0.0677)	(0.0683)	(0.0679)	(0.0684)	(0.0699)	(0.0701)
DTA	-0.0175	0.0021	-0.0041	0.0077	-0.0067	-0.0271	-0.0034
	(0.0620)	(0.0609)	(0.0612)	(0.0591)	(0.0595)	(0.0589)	(0.0601)
EXTA	1.5189*	1.6089*	1.7167*	1.6534**	1.3800	1.4059*	1.5447*
	(0.8814)	(0.8584)	(0.8839)	(0.8358)	(0.8629)	(0.8422)	(0.8564)
N	50	50	50	50	50	50	50
Adjusted R^2	0.1060	0.1324	0.1147	0.1783	0.1444	0.1736	0.1365

*Note: This table shows the estimated coefficients of the seven national governance variables in the panel regression model with random effects while controlling for bank characteristics. The dependent variables are CRS-BC and VRS-BC, or the bias-corrected bank efficiency measures. Each regression run only includes one national governance variable (e.g., in the CPI column, the governance variable is CPI). All the variables are explained in Appendix A. Standard errors are in parentheses. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.*

When CRS-BC is the dependent variable (Panel A), the coefficients are positive and statistically significant at 1% for four national governance variables (CPI, GE, RQ, and RL); that is, improved *national governance* enhances bank efficiency. This is consistent with the results of previous studies (Figueira et al., 2009; Pasiouras et al., 2009; Lozano-Vivas & Pasiouras, 2010; Chortareas et al., 2013; Kamarudin et al., 2016; Osei-Tutu, 2021;). RQ has the largest impact, whereas the effect of corruption (CPI) is the smallest. Although the other variables (CC, PS, and VA) counterintuitively show negative coefficients, none are statistically significant. When VRS-BC is the dependent variable (Panel B), only two governance variables are statistically significant (RQ at 5% and VA at 10%). While VA shows a negative coefficient, RQ's coefficient is positive, consistent with the literature. However, its magnitude is smaller than that in CRS-BC.

The adjusted R^2 is substantially higher for the CRS-BC than for the VRS-BC; even the lowest value for the CRS-BC (0.26 for CC) is still much higher than the highest value for the VRS-BC (0.18 for RQ). National governance demonstrates considerable explanatory power for bank efficiency, with adjusted R^2 ranging from 0.11 (VRS-BC, CC, and PS) to as much as 0.5 (CRS-BC, CPI). RQ offers the best explanatory power, showing the highest adjusted R^2 for VRS-BC (0.18) and a close runner-up for CRS-BC (0.47). The

control variables for bank characteristics are often insignificant, except for LA, DTA (CRS-BC), and EXTA (VRS-BC). The intercept is almost always significant at the 1% level, except for VA.

Thus, we intuitively find that banks should become more efficient if national governance improves. A more favourable macro environment should facilitate banks' operations so that they can utilise their inputs (e.g., deposits and staff) more efficiently for greater outputs (e.g., loans and securities). This is especially vital for JVCBs and FBs because the macro environment strongly influences many of their crucial decisions, such as entry and exit (whether to enter and do business in the country or leave if already there). RQ seems to be the most important in national governance, as evidenced by its largest coefficient and adjusted R^2 overall. Interestingly, the CRS-BC efficiency measure seems much better at reflecting governance impacts (many significant results) than the VRS-BC. Finally, some bank characteristics (e.g., loans, deposits, and staff expenses relative to assets) can help explain bank efficiency.

3.2.1 Implications

Our results show that merely focusing on the economic conditions of the target market is not enough for foreign institutions when they are planning their expansion. National governance is also important. It can make or break their business, and hence, requires due diligence and careful scrutiny. Even during their operations in the country, JVCBs and FBs should constantly monitor the macro environment and their own efficiency so that they can make timely decisions about future business (e.g., stay, scale up/down, or leave). Meanwhile, participants in financial markets (e.g., investors, traders, and analysts) should consider national governance when analysing the performance of JVCBs and FBs to make the most informed decisions. Further research could investigate: (i) other aspects of governance that have not yet been studied, (ii) different types of banks, (iii) other countries (developing or even developed), and (iv) different periods (perhaps longer and more recent). These studies can help us develop a more multifaceted and comprehensive understanding of how national governance affects bank efficiency.

3.3. Robustness

Several steps were taken to increase the robustness of the results. First, regarding bank characteristics as control, initially we had 11 candidates: profit before tax over asset (ROA), profit before tax over equity (ROE), total asset (LNTA), loan loss provision (LLPL), equity over asset (ETA), deposit over asset (DTA), loan over asset (LA), staff expense over asset (EXTA), number of years since establishment (LNAGE), number of branches (LNBR) and non-performing loans (LNPL). However, they tend to be highly correlated (Appendix B). The absolute values of the correlation coefficients even exceed 81%. The only way to eliminate multicollinearity is to use only one variable, which is insufficient to control for the relevant effects. Hence, we use a reasonable number of variables (five), including ROA, LNTA, DTA, LA, and EXTA. They are less correlated, but still reflect various important aspects of operations (bank size, liquidity, and expenses).

Second, before conducting the regression, we ensured data stationarity. For extra robustness, we employ several tests from Im et al. (2003) and Maddala & Wu (1999), and multiple tests in Choi (2001). The null hypothesis of a unit root is always rejected at the 1% level, which confirms stationarity.

Third, we apply the Hausman specification test, including the original version in Hausman (1978) and an alternative version in Wooldridge (2010), to choose fixed- or random-effects models. The null hypothesis is no correlation between the explanatory variables and error terms. These results favour random effects models which can generate lower variances in estimation than fixed-effects models (Wooldridge, 2010). Moreover, the absence of a correlation between the explanatory variables and error terms indicates that these variables are not endogenous (i.e., exogenous and not influenced by other variables in the system).

For completeness, we also estimate fixed-effects models (see Appendix C). When CRS-BC is the dependent variable, the results from the random- and fixed-effects models are relatively similar in terms of the coefficient signs of national governance variables. Nevertheless, these coefficients are only significant at the 5% level for the fixed-effects models (compared to 1% for random-effects models), suggesting that random effects may be better at reflecting the influence of national governance. When VRS-BC is the dependent variable, the national governance coefficients are not statistically significant with fixed effects, while some are significant with random effects. Moreover, the negatively adjusted R^2 of the fixed effects models indicates that random effects may be a more appropriate setting.

Finally, we consider endogeneity concerns, which is the potential simultaneous mutual effects between the dependent (bank efficiency) and independent variable (national governance). This could be a problem if bank efficiency affects and is affected by national governance. However, bank efficiency is a firm-level variable; therefore, it should be affected by country-level national governance rather than vice versa. Therefore, there should be no problem with the feedback loop from the dependent to independent variables.

4. Conclusion

Using Simar & Wilson's (2007) double bootstrap method, we find that the average technical efficiency score for the JVCBs and FBs are 0.83 (CRS) and 0.94 (VRS). These more accurate estimates indicate lower efficiency than the traditional method. The efficiency scores are then regressed on environmental variables to identify the main determinants of efficiency. Most governance indicators are statistically significant and show that better governance increases efficiency, with RQ having the greatest impact and explanatory power. This is consistent with previous studies (Denis & McConnell, 2003; Grosvold & Brammer, 2010) in which national institutional factors strongly influence corporate behaviours and practices.

If governments want to promote the healthy growth of foreign investment in the banking sector (via JVCBs and FBs), they should improve national governance and create a favourable environment for outsiders to enter and do business successfully. RQ (the government's ability to adopt robust policies beneficial for the private sector) seems the most important; therefore, governments need to focus even more on this area, including both general and banking-specific regulations. Solid national governance should help (foreign) banks to achieve superior efficiency and profitability. In turn, this will strongly encourage existing institutions to stay in the country and attract new players from abroad. This is especially crucial, given the role of JVCBS and FBs in the economy. Hasan & Marton (2003) found that the involvement of JVCBs and FBs with domestic institutions helps build a strong and efficient banking system since banks with foreign ownership are associated with higher efficiency. However, strong governance does not always mean 'strict' governance because excessive restrictions and interventionist policies may obstruct banks' operations and make them less efficient (Barth et al., 2004; Chortareas et al., 2012; Barth et al., 2013).

References

Andrieș, A. M., Căpraru, B., & Nistor, S. (2018). Corporate governance and efficiency in banking: evidence from emerging economies. *Applied Economics*, *50*(34-35), 3812–3832. https://doi.org/10.1080/00036846.2018.1436144

Balcombe, K., Fraser, I., Latruffe, L., Rahman, M., & Smith, L. (2008). An application of the DEA double bootstrap to examine sources of efficiency in Bangladesh rice farming. *Applied Economics*, *40*(15), 1919–1925. https://doi.org/10.1080/00036840600905282

Barth, J. R., Caprio, G., & Levine, R. (2004). Bank regulation and supervision: what works best? *Journal of Financial Intermediation*, *13*(2), 205–248. https://doi.org/10.1016/j.jfi.2003.06.002

Barth, J. R., Lin, C., Ma, Y., Seade, J., & Song, F. M. (2013). Do bank regulation, supervision and monitoring enhance or impede bank efficiency? *Journal of Banking & Finance*, *37*(8), 2879–2892. https://doi.org/10.1016/j.jbankfin.2013.04.030

Berger, A. N., & Mester, L. J. (1997). Inside the black box: What explains differences in the efficiencies of financial institutions? *Journal of Banking & Finance*, *21*(7), 895–947. https://doi.org/10.1016/s0378-4266(97)00010-1

Campbell, J. L. (2007). Why would corporations behave in socially responsible ways? an institutional theory of corporate social responsibility. *Academy of Management Review*, *32*(3), 946–967. https://doi.org/10.5465/amr.2007.25275684

Charnes, A., Cooper, W. W., & Rhodes, E. (1978). Measuring the efficiency of decision-making units. *European Journal of Operational Research*, *2*(6), 429–444. https://doi.org/10.1016/0377-2217(79)90229-7

Choi, I. (2001). Unit root tests for panel data. *Journal of International Money and Finance*, *20*(2), 249–272. https://doi.org/10.1016/s0261-5606(00)00048-6

Chortareas, G. E., Girardone, C., & Ventouri, A. (2012). Bank supervision, regulation, and efficiency: Evidence from the European Union. *Journal of Financial Stability*, *8*(4), 292–302. https://doi.org/10.1016/j.jfs.2011.12.001

Chortareas, G. E., Girardone, C., & Ventouri, A. (2013). Financial freedom and bank efficiency: Evidence from the European Union. *Journal of Banking & Finance*, *37*(4), 1223–1231. https://doi.org/10.1016/j.jbankfin.2012.11.015

Claessens, S., Demirgüç-Kunt, A., & Huizinga, H. (2001). How does foreign entry affect domestic banking markets? *Journal of Banking & Finance*, *25*(5), 891–911. https://doi.org/10.1016/s0378-4266(00)00102-3

Cull, R., & Peria, M. S. M. (2016). *Foreign Bank Participation in Developing Countries: What Do We Know About the Drivers and Consequences of this Phenomenon?* World Bank Policy Paper No. 5398.

De Young, R., & Nolle, D. E. (1996). Foreign-Owned Banks in the United States: Earning Market Share or Buying It? *Journal of Money, Credit and Banking*, *28*(4), 622. https://doi.org/10.2307/2078074

Denis, D. K., & McConnell, J. J. (2003). International Corporate Governance. *The Journal of Financial and Quantitative Analysis*, *38*(1), 1. https://doi.org/10.2307/4126762

Figueira, C., Nellis, J., & Parker, D. (2009). The effects of ownership on bank efficiency in Latin America. *Applied Economics*, *41*(18), 2353–2368. https://doi.org/10.1080/00036840701222546

Fligstein, N., & Freeland, R. (1995). Theoretical and Comparative Perspectives on Corporate Organization. *Annual Review of Sociology*, *21*(1), 21–43. https://doi.org/10.1146/annurev.so.21.080195.000321

Garcia-Sanchez, I. M., Cuadrado-Ballesteros, B., & Frias-Aceituno, J. (2013). Determinants of Government Effectiveness. *International Journal of Public Administration*, *36*(8), 567–577. https://doi.org/10.1080/01900692.2013.772630

Grosvold, J., & Brammer, S. (2010). National Institutional Systems as Antecedents of Female Board Representation: An Empirical Study. *Corporate Governance: An International Review*, *19*(2), 116–135. https://doi.org/10.1111/j.1467-8683.2010.00830.x

Hall, P. A., & Soskice, D. W. (2001). An introduction to varieties of capitalism. In *Varieties of capitalism: The institutional foundations of comparative advantage* (pp. 1–70). Oxford University Press.

Hasan, I., & Marton, K. (2003). Development and efficiency of the banking sector in a transitional economy: Hungarian experience. *Journal of Banking & Finance*, *27*(12), 2249–2271. https://doi.org/10.1016/s0378-4266(02)00328-x

Hausman, J. A. (1978). Specification Tests in Econometrics. *Econometrica*, *46*(6), 1251–1271.

Havrylchyk, O., & Jurzyk, E. (2005). Profitability of Foreign and Domestic Banks in Central and Eastern Europe: Does the Mode of Entry Matter? *Economics of Transition*, *19*(3), 443–472.

Hussain, H. I., Kot, S., Kamarudin, F., & Yee, L. H. (2021). Impact of Rule of Law and Government Size to Microfinance Efficiency. *Economic Research-Ekonomska Istraživanja*, *34*(1), 1–28. https://doi.org/10.1080/1331677x.2020.1858921

Im, K. S., Pesaran, M. Hashem., & Shin, Y. (2003). Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, *115*(1), 53–74. https://doi.org/10.1016/s0304-4076(03)00092-7

Jackson, G., & Deeg, R. (2008). Comparing Capitalisms: Understanding Institutional Diversity and Its Implications for International Business. *Journal of International Business Studies*, *39*(4), 540–561. https://www.jstor.org/stable/25483287

Kamarudin, F., Sufian, F., & Md. Nassir, A. (2016). Does country governance foster revenue efficiency of Islamic and conventional banks in GCC countries? *EuroMed Journal of Business*, *11*(2), 181–211. https://doi.org/10.1108/emjb-06-2015-0026

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2008). Governance Matters VII: Aggregate and Individual Governance Indicators, 1996-2007. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1148386

Koerniadi, H. (2013). Impact of Corporate Governance on Financial Practices of New Zealand Companies. *Applied Finance Letters*, *2*(2), 14. https://doi.org/10.24135/afl.v2i2.14

Lensink, R., Meesters, A., & Naaborg, I. (2008). Bank efficiency and foreign ownership: Do good institutions matter? *Journal of Banking & Finance*, *32*(5), 834–844. https://doi.org/10.1016/j.jbankfin.2007.06.001

Lozano-Vivas, A., & Pasiouras, F. (2010). The impact of non-traditional activities on the estimation of bank efficiency: International evidence. *Journal of Banking & Finance*, *34*(7), 1436–1449. https://doi.org/10.1016/j.jbankfin.2010.01.006

Maddala, G. S., & Wu, S. (1999). A Comparative Study of Unit Root Tests with Panel Data and a New Simple Test. *Oxford Bulletin of Economics and Statistics*, *61*(s1), 631–652. https://doi.org/10.1111/1468-0084.0610s1631

Manlagñit, M. C. V. (2011). The economic effects of foreign bank presence: Evidence from the Philippines. *Journal of International Money and Finance*, *30*(6), 1180–1194. https://doi.org/10.1016/j.jimonfin.2011.06.015

Nam, T. Y. (1969). Singapore's One-Party System: Its Relationship to Democracy and Political Stability. *Pacific Affairs*, *42*(4), 465. https://doi.org/10.2307/2754128

Nguyen, T., Locke, S., & Reddy, K. (2015). Ownership concentration and corporate performance from a dynamic perspective: Does national governance quality matter? *International Review of Financial Analysis*, *41*, 148–161. https://doi.org/10.1016/j.irfa.2015.06.005

Osei-Tutu, F. (2021). High Corruption, Less Bank Efficiency? *Comparative Economic Studies*. https://doi.org/10.1057/s41294-021-00167-y

Özkan-Günay, E. N., Günay, Z. N., & Günay, G. (2013). The Impact of Regulatory Policies on Risk Taking and Scale Efficiency of Commercial Banks in an Emerging Banking Sector. *Emerging Markets Finance and Trade*, *49*(sup5), 80–98. https://doi.org/10.2753/ree1540-496x4905s505

Pasiouras, F., & Kosmidou, K. (2007). Factors influencing the profitability of domestic and foreign commercial banks in the European Union. *Research in International Business and Finance*, *21*(2), 222–237. https://doi.org/10.1016/j.ribaf.2006.03.007

Pasiouras, F., Tanna, S., & Zopounidis, C. (2009). The impact of banking regulations on banks' cost and profit efficiency: Cross-country evidence. *International Review of Financial Analysis*, *18*(5), 294–302. https://doi.org/10.1016/j.irfa.2009.07.003

Roxas, B., Chadee, D., & Erwee, R. (2012). Effects of rule of law on firm performance in South Africa. *European Business Review*, *24*(5), 478–492. https://doi.org/10.1108/09555341211254544

SBV. (2009). *Annual report*. SBV.

SBV. (2014). *Annual report*. SBV.

SBV. (2018). *Annual report*. SBV.

SBV. (2020). *Annual report*. SBV.

Scully, G. W. (1988). The Institutional Framework and Economic Development. *Journal of Political Economy*, *96*(3), 652–662. https://doi.org/10.1086/261555

Simar, L., & Wilson, P. W. (2007). Estimation and inference in two-stage, semi-parametric models of production processes. *Journal of Econometrics*, *136*(1), 31–64. https://doi.org/10.1016/j.jeconom.2005.07.009

Tran, B. T., Ong, B., & Weldon, S. (2015). *Vietnam banking report*. Duxton Asset Management.

Tripe, D. (2013). Light-handed Regulation in New Zealand Banking and Financial Services: Has it worked? *Applied Finance Letters*, *2*(2), 20. https://doi.org/10.24135/afl.v2i2.15

Wijesiri, M., Viganò, L., & Meoli, M. (2015). Efficiency of microfinance institutions in Sri Lanka: a two-stage double bootstrap DEA approach. *Economic Modelling*, *47*, 74–83. https://doi.org/10.1016/j.econmod.2015.02.016

Wooldridge, J. (2010). *Econometric Analysis of Cross Section and Panel Data*. MIT Press.

Wu, J., Luca, A. C., & Jeon, B. N. (2011). Foreign bank penetration and the lending channel in emerging economies: Evidence from bank-level panel data. *Journal of International Money and Finance*, *30*(6), 1128–1156. https://doi.org/10.1016/j.jimonfin.2011.05.011

Appendices

Appendix A.

Notations, measures, and expected effects of the independent and control variables on bank efficiency.

Variables	Notations	Measures	Expected effect
Dependent variables			
	CRS-BC	Constant returns to scale bias-corrected	
	VRS-BC	Variable returns to scale bias-corrected	
Bank characteristics variables			
	Bank size (LNTA)	Natural logarithm of total assets	+
	ROA	Net profits before taxes/total assets	+
	Liquidity (LA)	Loans/assets	-
	DTA	Deposits/assets	+
	EXTA	Staff expense/assets	-
National governance variables			
	CPI	Corruption perception index	+
	CC	Corruption control	+
	GE	Government effectiveness	+
	PS	Political stability and absence of violence	+
	RQ	Regulatory quality	+
	RL	Rule of law	+
	VA	Voice and accountability	+

Appendix B.

Correlation matrix of the control variables for bank characteristics.

	ROA	ROE	LNTA	LLPL	ETA	DTA	LA	EXTA	LNAGE	LNBR	LNPL
ROA	1.0000	-	-	-	-	-	-	-	-	-	-
ROE	0.5161	1.0000	-	-	-	-	-	-	-	-	-
LNTA	0.0507	0.6639	1.0000	-	-	-	-	-	-	-	-
LLPL	0.0770	0.0457	-0.2016	1.0000	-	-	-	-	-	-	-
ETA	0.2944	-0.4929	-0.7306	-0.0854	1.0000	-	-	-	-	-	-
DTA	-0.1260	0.5580	0.8127	-0.0108	-0.7918	1.0000	-	-	-	-	-
LA	-0.2010	0.0559	0.0899	0.3568	-0.4828	0.2033	1.0000	-	-	-	-
EXTA	0.3784	0.2325	-0.1867	0.0077	0.3821	-0.1554	-0.4764	1.0000	-	-	-
LNAGE	-0.4020	-0.1797	0.2096	-0.0513	-0.5666	0.2360	0.6510	-0.6336	1.0000	-	-
LNBR	-0.1440	0.2203	0.5844	-0.0374	-0.5561	0.3989	0.5196	-0.5985	0.5425	1.0000	-
LNPL	-0.2758	0.4410	0.7124	0.0896	-0.6988	0.7115	0.4041	-0.1388	0.2683	0.5108	1.0000

Appendix C.

Regression results for the national governance variables. This table shows the estimated coefficients of the seven national governance variables in the panel regression model with fixed effects, while controlling for bank characteristics. The dependent variables are CRS-BC and VRS-BC, which are bias-corrected bank efficiency measures. Each regression run only includes one national governance variable (e.g., in the CPI column, the governance variable is CPI). Standard errors are indicated in parentheses. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.

	CPI	CC	GE	PS	RQ	RL	VA
Panel A: CRS-BC							
Governance	0.0152**	0.0160	0.1988**	-0.0464	0.2053**	0.1283**	0.2620
	(0.0061)	(0.1856)	(0.0893)	(0.0986)	(0.0975)	(0.0623)	(0.3046)
LNTA	0.0228	0.1018**	0.0843**	0.0957**	0.0366	0.0624	0.1225**
	(0.0502)	(0.0454)	(0.0409)	(0.0446)	(0.0507)	(0.0447)	(0.0499)
ROA	2.7279**	2.8206*	3.0111**	2.8075**	2.3808*	2.6360**	3.3071**
	(1.2128)	(1.4478)	(1.2410)	(1.3349)	(1.2598)	(1.2515)	(1.4599)
LA	0.9476***	1.0988***	1.0435***	1.0916***	0.9430***	0.9050***	1.1694***
	(0.2096)	(0.2294)	(0.2065)	(0.2214)	(0.2189)	(0.2269)	(0.2363)
DTA	-0.2755*	-0.3400*	-0.4048**	-0.3312*	-0.3271**	-0.3842**	-0.3715**
	(0.1543)	(0.1705)	(0.1582)	(0.1679)	(0.1566)	(0.1586)	(0.1706)
EXTA	-8.0691***	-10.6501***	-9.3885***	-10.3696***	-7.7407**	-8.8968***	-11.3480***
	(2.6600)	(2.7303)	(2.5664)	(2.7545)	(2.8723)	(2.6681)	(2.8076)
N	50	50	50	50	50	50	50
Adjusted R^2	0.4971	0.3879	0.4772	0.3924	0.4690	0.4659	0.4030
Panel B: VRS-BC							
Governance	-0.0029	-0.0992	0.0060	0.0048	0.0035	-0.0173	-0.1905
	(0.0034)	(0.0951)	(0.0504)	(0.0517)	(0.0546)	(0.0347)	(0.1571)
LNTA	0.0609**	0.0391	0.0455*	0.0465*	0.0449	0.0511**	0.0301
	(0.0285)	(0.0232)	(0.0231)	(0.0234)	(0.0284)	(0.0249)	(0.0257)
ROA	1.0753	0.7707	1.0738	1.0631	1.0599	1.0851	0.6784
	(0.6899)	(0.7420)	(0.7008)	(0.6993)	(0.7060)	(0.6963)	(0.7528)
LA	0.2739**	0.2153*	0.2444**	0.2461**	0.2433*	0.2713**	0.1910
	(0.1192)	(0.1176)	(0.1166)	(0.1160)	(0.1227)	(0.1263)	(0.1218)
DTA	-0.1061	-0.0787	-0.0962	-0.0949	-0.0940	-0.0879	-0.0695
	(0.0878)	(0.0874)	(0.0893)	(0.0880)	(0.0877)	(0.0882)	(0.0880)
EXTA	-2.1942	-1.5331	-1.6671	-1.7302	-1.6549	-1.9365	-1.1768
	(1.5132)	(1.3992)	(1.4492)	(1.4430)	(1.6096)	(1.4846)	(1.4477)
N	50	50	50	50	50	50	50
Adjusted R^2	-0.2512	-0.2358	-0.2815	-0.2817	-0.2819	-0.2712	-0.2202