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**Journal of
Accounting
and
Public Policy**

ELSEVIER Journal of Accounting and Public Policy 25 (2006) 574–595

www.elsevier.com/locate/jaccpubpol

Public policy, political connections, and effective tax rates: Longitudinal evidence from Malaysia

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Abstract

This study examines the link between effective tax rates (ETR) and political connections in developing economies. The *political connections* explanation is informed by the observation that developing economies tend to be “relationship-based” rather than “market-based” capitalisms. Two proxies of political patronage are developed and applied to a group of Malaysian firms over a 10-year period. We find firms with political connections pay tax at significantly lower effective rates than other firms. Our results suggest that political connections are an important determinant of ETR in relationship-based economies.

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Keywords: Political connections; Public policy; Effective tax rates; Relationship-based economies

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1. Introduction

The finding that some firms pay lower actual or effective tax than others has been a source of concern in the US (Citizens for Tax Justice, 1984, 1985, 1986; Wilkie and Limberg, 1990; Kern and Morris, 1992; McIntyre and Nguyen, 2000). The main reason for this is that the difference in effective tax rates (ETR hereafter) between firms runs contrary to the notion of tax equity in Western capitalisms (Hagan and Larkins, 1992).² This notion of tax equity is also responsible for the *firm size* explanation adopted in current ETR research.³ However, there are reasons to suggest that *firm size* alone may not be sufficiently useful as an explanation in understanding the largely unexplored issue of ETR determinants of non-western firms.⁴

A major difference between developed capitalisms in the West (e.g., in North America) and non-western developing capitalisms (e.g., in East Asia) is that the latter tend to be “relationship-based” or “crony” rather than “market-based” capitalisms (Rajan and Zingales, 1998, 2003). The multi-faceted relation between business and politics in East Asia attests to this notion of “relationship-based” capitalism (Gomez and Jomo, 1997, 1998; Gomez, 2002). The Malaysian government, for example, plays the role of political patron to selected firms, which have been referred to as firms with *political connections* (Perkins and Woo, 2000; Fisman, 2001; Johnson and Mitton, 2003).

Some researchers (Rajan and Zingales, 1998, 2003) argue that capitalism in its initial developing stage tends to be “relationship-based” (with political connections being an important form of relationship) and that, as the economy develops, it transforms itself from “relationship-based” to “market-based.” The notion of “relationship-based” capitalism suggests that the *political connections* explanation may complement the *firm size* explanation in understanding ETR in developing economies.

Research concerning the importance of political connections as a determinant of ETR is important for several reasons. Very little is currently known about the determinants of ETR in relationship-based economies. Yet the economic importance of countries with relationship-based economies has increased substantially and their significance is likely to grow even more in coming decades. It is, therefore, important that current research be expanded to capture the complexities of ETR and its determinants in relationship-based economies. Such research, while certainly worthwhile by itself, may also provide insights into the forces that shape ETR in Western countries. Moreover,

² Tax equity requires that all firms pay the same amount of effective tax.

³ Large firms pay more effective tax due to higher “political cost” (e.g., Zimmerman, 1983) or large firms pay less effective tax due to stronger “political clout” (e.g., Porcano, 1986).

⁴ With the exception of Kim and Limpaphayom (1998) and Derashid and Zhang (2003), there are no studies examining ETR of non-western firms.

such research also has important methodological implications. The omission of political connections from studies of ETR may lead to unreliable results, especially for “relationship-based” economies. If firms with political connections should have a different effective tax rate, this must be taken into account when relative firm performance (e.g., between politically connected firms and other firms) is assessed. Finally, the possible link between ETR and political connections has not been sufficiently explored.⁵

This paper contributes to the currently scarce ETR literature on non-western firms by exploring the link between political connections and ETR in Malaysia.⁶ We first examine factors that may account for the policy and personal dimensions of political connections based on an institutional assessment of Malaysia. We also argue that the relevant studies in this area (i.e., Kim and Limpaphayom (1998); Derashid and Zhang (2003)) may not capture all the important aspects of public policy. Based on our analysis, we hypothesize that firms with political connections pay tax at lower effective rates. Two proxies of political connections are developed. Finally, we study the link between ETR and political connections based on a group of Malaysian firms over a 10-year period.

We find that firms with political connections pay tax at significantly lower effective rates in Malaysia. Our results suggest that political connections are an important determinant of ETR in “relationship-based” economies. Our evidence is longitudinal and is adjusted for firm-specific and time-specific effects in addition to size and sector effects.

The rest of the paper is organized as follows. The next two sections provide a review of prior research on ETR and a discussion of the Malaysian context. The following section outlines the research design and data. Empirical results are then reported and explained. Finally, the last section explores the implications of our findings and concludes.

2. Prior research

Prior research on ETR has focused on the neutrality of the corporate tax system with respect to firms of different size or the *firm size* explanation (Salamon and Siegfried, 1977; Zimmerman, 1983; Porcano, 1986; Wilkie and Limberg, 1990; Kern and Morris, 1992; Gupta and Newberry, 1997; Kim

⁵ The ETR research thus far has been based mainly on US, firms and chiefly (if not exclusively) concerned with the effective tax burden borne by firms of *different* size (Salamon and Siegfried, 1977; Zimmerman, 1983; Porcano, 1986; Wilkie and Limberg, 1990; Kern and Morris, 1992; Gupta and Newberry, 1997; McIntyre and Nguyen, 2000).

⁶ Malaysia is a relevant context for two reasons: (1) it is a “relationship-based” capitalism; (2) the link between business and politics is close and multi-faceted (Gomez, 2002).

and Limpaphayom, 1998; McIntyre and Nguyen, 2000). In general, studies of US firms on the relation between ETR and firm size have produced conflicting results (Zimmerman, 1983; Porcano, 1986; Wilkie and Limberg, 1990; Kern and Morris, 1992; Gupta and Newberry, 1997). While Zimmerman (1983) observes a positive association between ETR and firm size using a cash flow based ETR proxy, Porcano (1986) observes a negative association using an income based ETR proxy. The Gupta and Newberry (1997) study is notable because it uses more rigorous panel estimation procedures to examine the longitudinal effects of firm size on ETR within a multi-variate framework. Interestingly, they find that firm size has *no* effects on ETR of US firms over time.

Very little is known about ETR determinants in non-western economies. In view of the significant institutional differences between developed, “market-based” economies (e.g., in North America) and developing, “relationship-based” economies (e.g., in East Asia), one should be cautious about generalising US-based ETR findings to developing economies. Moreover, initial non-western evidence also warrants the need for caution. Kim and Limpaphayom (1998) provide initial evidence that *large* firms in East Asia pay tax at significantly lower effective rates. Derashid and Zhang (2003) provide further evidence that *manufacturing* firms in Malaysia pay tax at significantly lower effective rates. Both studies attribute their results to an economic explanation in the form of the long-standing “industry policy” in these economies. However, these two studies choose to address the policy question within the narrower confine of industrialization rather than within the context of “relationship-based” capitalisms, which also suggests a relational (or personal) dimension in public policy. Thus, prior research may not capture all the important aspects of public policy.

Additionally, with the exception of Gupta and Newberry (1997), a potential methodological problem with extant ETR studies is that the results are obtained using simply pooled OLS procedures, which cannot account for firm-specific and time-specific effects and produce potentially biased and inconsistent results. This problem, however, can be overcome by using longitudinal firm-level data and the panel estimation procedures as carried out in this study.

3. ETR and the Malaysian context

3.1. Political connections

When Malaysia gained independence from Britain in 1957, it was primarily a producer of two commodities: tin and rubber. In the subsequent years, it has been the government’s long-standing public policy (known as the industrializa-

tion strategy) to diversify the economy and industrialize the country.⁷ One important objective of this policy has been to promote and support Malaysian firms so as to enable these firms to provide for the domestic economy and eventually compete internationally. The industrialization policy continues to be actively pursued by the Malaysian government. This policy, in part, explains the link between politics and business in Malaysia and the political connections between the government and selected firms (e.g., firms deemed compatible with the industrialization policy).

In 1969 (after the ethnic riot), the Malaysian government also began to address the social-economic imbalance between the three ethnic groups in the country: Malays (known as Bumiputeras), Chinese, and Indians. As a matter of continuing public policy, the government promotes and supports Bumiputera ownership and participation in the corporate sector of Malaysia.⁸ One result is that Bumiputera firms are given various forms of support ranging from financing to investment opportunities (Gomez and Jomo, 1998). The policy to support Bumiputera firms forms an important link between politics and business in Malaysia.

While the above discussion uncovers a *public policy* dimension of political connections, political connections are likely to be multi-dimensional. In the context of a “relationship-based” capitalism, it is logical for political connections to have a *personal* dimension based on, for example, informal ties between firms and politicians. However, these informal ties should (at least partially) facilitate the implementations of public policies or it would be difficult for them to be sustained long enough to take on political significance and be documented (Gomez and Jomo, 1997).

In other words, the *policy* dimension of political connections overlaps with its *personal* dimension in Malaysia. Heavy Industries Corporation of Malaysia (listed as Hicom in the Kuala Lumpur Stock Exchange) is a good illustration of this overlap (Gomez and Jomo, 1998). Dr. Mahathir Mohamad, Prime Minister of Malaysia from 1981 to 2003, *personally* helped set up Hicom (a *Bumiputera* controlled firm and one of the largest *manufacturing* firms in Malaysia) when he was the finance minister in 1980. The Department of Finance of Malaysia provided significant resources to finance Hicom. Dr. Mahathir, who had remained close to Hicom, is also President of UMNO (United Malays’ National Organization), a powerful advocate of Bumiputera capitalism and a dominant member of Barisan Nasional, the ruling coalition in Malaysia for the last 30 years.

Thus, as part of the public policy in relationship-based economies, government privileges are provided to selected firms for overlapping *policy* and *per-*

⁷ See, for example, Alavi (1996) for a detailed discussion.

⁸ See, for example, Gomez and Jomo (1998) for a detailed discussion.

sonal reasons. Government support results in explicit and implicit subsidies. These can include special tax deductions and tax-free government bailouts (e.g., Jayasankaran, 1999), all of which result in a lower effective rate.⁹ Given that some privileges/subsidies may result in a different ETR for firms with political connections, the possible impact of political connections on ETR is an important and so far yet to be examined issue. We hypothesize that politically connected firms pay tax at lower effective rates:

Hypothesis. *Ceteris paribus*, firms with *political connections* pay tax at lower effective rates (i.e., corporate effective tax rates in Malaysia are negatively related to political connections).

4. Research design

4.1. Sample

The sample data used in this paper is a balanced panel hand-gathered from 1990–1999 annual reports published by firms listed in the Kuala Lumpur Stock Exchange (KLSE). This method of data gathering, while laborious, has at least three benefits. First, the KLSE requires all its listed firms to abide by the KLSE listing requirements. Paragraph 9.26 of the listing requirements states that all listed firms should prepare their annual audited accounts in accordance with standards approved by the Malaysian Accounting Standards Board (MASB) and the 9th Schedule of the 1965 Malaysian Companies Act.¹⁰ Thus, one can be reasonably confident that the accounting figures from the sample are consistent with accounting standards. Second, the KLSE requires all its listed firms to abide by its disclosure standards, which include the requirement that data filed with the KLSE must be certified by qualified auditors and made publicly

⁹ However, to identify the exact mechanisms by which political connections translates into ETR is difficult and beyond the scope of this study. While politically connected firms enjoy government privileges (e.g., tax subsidies and government investment) that may help lower their ETR, such concessions are often quite discretionary and disclosure about them is quite limited. There are various discretionary tax breaks which can lead to lower ETR for selected firms. These tax breaks are often in the form of tax shields such as allowances, non-taxable income and special deductions. One well-known example of non-taxable income or subsidy is the substantial government cash injection to the financially distressed Proton, the national car company. Another example is the tax deduction provided for some activities (e.g., selected training schemes). Yet another example is the tax-deductions available to approved hotel operators to promote convention trade. However, it is difficult to systematically document and isolate such government privileges because most of these are granted as concession at the discretion of the Malaysian authorities and disclosure is not mandatory.

¹⁰ MASB has developed Malaysian Accounting Standard (MAS) as well as adopted extant International Accounting Standards (IAS).

available (KLSE, 2001). Thus, one can be fairly confident that the financial information in this data set is consistent in quality. Finally, KLSE classifies listed firms into sectors based on core business. Thus, this data set enables the adjustment of sector effects.

For the time period covered (1990–1999), all listed firms were included in the original sample. There were 474 firms in the original sample. These firms were classified into nine different sectors according to their core business: consumer, manufacturing, mining, finance, construction, trading/services, hotels, plantations, and properties. The original sample was reduced by the following exclusions:

- (1) Firms for which we have incomplete information. 65 firms fall into this category.
- (2) Firms with net operating loss (NOL) carry-forwards. These firms are excluded because they would introduce confounding effects and the results would be difficult to interpret. Their exclusion is also consistent with previous studies (Kim and Limpaphayom, 1998; Gupta and Newberry, 1997; Wilkie and Limberg, 1990). 101 firms fall into this category.
- (3) Firms whose effective tax rate exceeds one. This exclusion is consistent with previous studies (Stickney and McGee, 1982; Zimmerman, 1983; Singh et al., 1987; Gupta and Newberry, 1997; Kim and Limpaphayom, 1998). The effective tax rate of a firm may be greater than one for a number of reasons. One reason is that in the process of consolidation within a group of firms, subsidiaries/associated firms with net operating profits are combined with those subsidiaries/associated firms with net operating losses. Another reason is that tax expense on an asset sold in a prior year at a gain is recognized in the current period and has the effect of distorting the numerator of the effective tax rate but not the denominator (Zimmerman, 1983). 51 firms fall into this category.

Panel A of Table 1 summarizes the sample selection procedure which ensures that each firm included in the sample is a firm listed on the KLSE in 1990 and continues trading as a sole concern up to 1999. Our sample of a balanced panel comes to 257 firms for 10 consecutive years (2570 firm years). Panel B of Table 1 provides the sector distribution of the sample. A majority of the firms, 98 (38%), are from the manufacturing sector followed by the property, 41 (16%), and the plantation sector, 39 (15%), respectively. This is consistent with the Malaysian government policy to promote the manufacturing sector.

Another measurement issue concerns firms which report either negative income (negative denominator) or tax refunds (negative numerator). Following Gupta and Newberry (1997), we retain these firms in the sample. However, their ETRs are distorted in certain situations. One example is a firm with a book loss (negative denominator) and tax refund (negative numerator) because

Table 1
Sample selection (panel A) and sector distribution of the sample (panel B)

<i>Panel A</i>		
All firms listed on the KLSE in 1999		474
Less		
Firms missing data for one or more of the panel years		65
Firms with net operating loss carry-forward		101
Firms with ETR more than one		51
Final sample (number of firms)		257
Final Sample (firm years)		2570
Industrial sector	Number of firms	Percentage of firms (%)
<i>Panel B</i>		
Consumer	20	7.78
Manufacturing	98	38.13
Mining	8	3.11
Financial	23	8.95
Construction	5	1.95
Trading	20	7.78
Hotel	3	1.17
Plantation	39	15.18
Property	41	15.95
Total	257	100.00

the ETR for this firm would be positive even though it pays no taxes. Another example is a firm that paid taxes (positive numerator) but reported a book loss (negative denominator) because the ETR for this firm would be negative even though it paid taxes. To address this problem, we use the recoding scheme proposed by Gupta and Newberry (1997) by setting the ETR: (1) to zero for firms with tax refunds; and (2) to one for firms with positive taxes and negative/zero income or cash flow.

4.2. Regression model and variable definition

We use a regression model of the following general form:

$$ETR_{it} = a + b_1POLCON_{it} + b_2SIZE_{it} + b_3LEV_{it} + b_4CAPINT_{it} + b_5INVINT_{it} + b_6ROA_{it} + b_7MKBK_{it} + \mathbf{b} \text{ Sector Effects}$$

The dependent variable, ETR_{it} , is the average effective tax rate for firm i in year t . The independent variables include proxies for political connections (POLCON), firm size (SIZE), capital structure (LEV), asset mix (CAPINT and INVINT), firm performance (ROA), growth prospects (MTBK), and sector dummies (Sector Effects). The definitions of these variables are discussed below.

4.2.1. *Effective tax rate measures*

It has been suggested that there are two issues in the selection of ETR measures (Callihan, 1994; Omer and Molloy, 1991). These issues are related to which taxes to consider and how profit should be measured. To be consistent with previous studies, we use only the current portion of a firm’s income and exclude the deferred portion (Kim and Limpaphayom, 1998; Gupta and Newberry, 1997; Porcano, 1986). The issue of how profit should be measured arises because of the difference between accounting (book) income and tax income. This difference suggests that accounting profit might not represent the actual chargeable income of the firms. In addition, different accounting policies adopted by firms would result in different incomes. The accounting policy induced income difference would render financial information incomparable across firms. According to Zimmerman (1983), the use of cash flow (rather than operating income) would eliminate the effects of different accounting treatments on income. A number of subsequent researchers have also used cash flow from operations as an alternative to operating income to calculate ETR (Gupta and Newberry, 1997; Singh et al., 1987).

To account for the factors discussed above, we include two different ETR measures in our study. ETRI is the measure used by Porcano (1986): $(\text{Tax expenses} - \text{Deferred tax expenses}) / (\text{Profit before interest and tax})$. ETRC is the measure used by Zimmerman (1983): $(\text{Tax expenses} - \text{Deferred tax expenses}) / (\text{Operating cash flow})$.

4.2.2. *Explanatory variables*

Fig. 1 models the mechanisms through which political connections influence ETR in a relationship-based economy such as Malaysia. The model suggests that political connections in a relationship-based economy are multi-faceted consisting of public policy and personal factors. Political connections in such countries often translate into government support for a number of overlapping

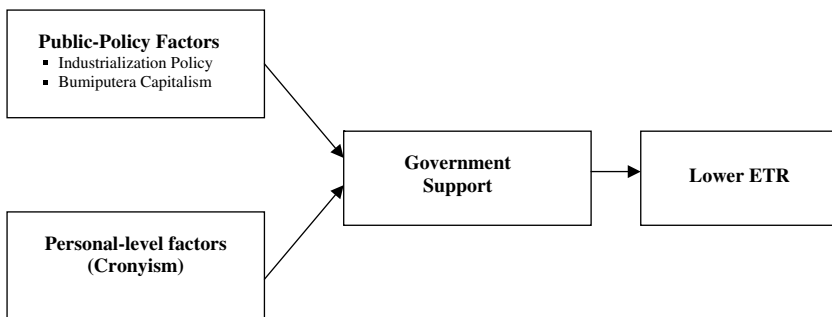


Fig. 1. Linking dimensions of political connections to ETR in a relationship-based economy.

reasons. One reason may be that the firm is compatible with the government's industrialization policy. Another reason may be that the firm has substantial Bumiputera participation and therefore deserving of government involvement. Yet another reason may well be the ties developed between the firms and leading politicians. Thus, several dimensions (economic, social, and personal) may explain government support in a firm as the Hicom case illustrates. Our model also suggests that political connections may also be the result of informal ties beyond that captured by public policy factors.

We use two proxies of political connections (POLCON). The first proxy (POLCON1) is the percentage of government ownership in a firm. This is a proxy for government support. Although direct equity ownership may not be the only mechanism through which government supports selected firms, it is a reasonable proxy and the best we can do. Government ownership of firms is also something not observed in any of the US based studies and thus not examined before. However, it is a long established practice in Malaysia and other developing countries. POLCON1 is a continuous variable reflecting the changing level of political connections at a point in time.

For robustness, we also use a second proxy of political connections (POLCON2), based on the proxy used by Johnson and Mitton (2003). This proxy of political connections is based on whether or not a firm's directors or major shareholders have informal ties with leading politicians through chance personal encounters. Following Johnson and Mitton (2003), we rely on the analysis of Gomez and Jomo (1998) to identify firms politically connected with leading politicians. Gomez and Jomo (1998) provide a detailed analysis of Malaysian corporations and their political connections.¹¹ There is no doubt that a *personal* dimension exists in these informal ties and that this personal dimension may well be responsible for initiating these ties in the first place. However, this proxy may contain overlapping *policy* and *personal* dimensions since these informal ties are not likely to be sustained in the long-run without policy considerations. The proxy is a dummy variable equal to one, if the firm's directors or major shareholders have close relationships with a leading politician in Malaysia, zero otherwise. We expect a negative relation between ETR (corporate effective rate) and POLCON2 (political connections).

Because *policy* and *personal* dimensions may well overlap in a relationship-based economy, POLCON1 and POLCON2 both function as alternative proxies for political connections. However, they do not contain all elements

¹¹ One drawback of the Gomez and Jomo (1998) list is that they do not claim to have exhaustively identified all firms in Malaysia with political connections. The subset of firms identified by the authors, however, must be those firms with the strongest political connections (Johnson and Mitton, 2003). Thus, in our sample, the number of politically connected firms drops from 167 firms for POLCON1 to 41 firms for POLCON2.

associated with political connections to the same extent. POLCON1 more broadly captures the economic (industrialization), the social (Bumiputera capitalism), and the personal (informal ties) dimension present in a relationship-based economy, while POLCON2 is more focused on the personal (informal ties). As such, POLCON1 is likely to have more and broader *policy* content than POLCON2.

In addition to POLCON, we include a number of variables (all of which are used in previous ETR studies) to control for other effects. SIZE, the natural log of total asset value, is used as the proxy for size effects.¹² Since large firms in relationship-based economies pay tax at lower effective rates due to *economic* or “industrialization” reasons (Kim and Limpaphayom, 1998; Derashid and Zhang, 2003), we would expect to see a negative relation between ETR and firm size in Malaysia even after we account for the *personal* dimensions of public policy captured by the political connections proxy. Financial leverage (LEV) is the ratio of total debt to total assets (both book values). Capital intensity (CAPINT) is the ratio of net property, plant, and equipment to total assets. Previous studies (Gupta and Newberry, 1997; Porcano, 1986; Stickney and McGee, 1982) all suggest that LEV and CAPINT are negatively related to ETR. LEV is negatively related to ETR because of tax-deductible interest payments and CAPINT is negatively related to ETR because of accelerated depreciation charges relative to asset lives. INVINT, the ratio of inventory to total assets (both at book values), is also included in the model. Gupta and Newberry (1997) argue that given the tax benefits associated with capital investments, capital intensive firms should face lower ETR and to the extent that INVINT is a substitute for CAPINT, inventory intensive firms should face relatively higher ETR. They find a significant and positive relationship between INVINT and ETR. We also include a profitability proxy, ROA (return on assets) and a growth proxy, MKBV (Market-to-book ratio) in our analysis (e.g., Spooner, 1986; Kim and Limpaphayom, 1998).

Sector Effects is a vector of dummy variables denoting the different sectors to which the firms in the sample belong. The sector dummies are: consumer, manufacturing, mining, finance, construction, trading/services, and hotel and plantation (with properties being the omitted sector). Since one important objective of the industrialization policy in Malaysia has been to promote and support the manufacturing sector, previous work (Derashid and Zhang, 2003) also suggests that the relation between ETR and the manufacturing sector is likely to be negative.

¹² Some concerns have been raised (e.g., Ball and Foster, 1982) that this proxy for size may also be capturing other effects. For reasons of robustness, we also used an alternative size proxy, the number of subsidiaries. The results we obtained are qualitatively similar.

4.3. Panel data estimation procedures

Estimates obtained using panel data estimation procedures have a number of advantages over the simply pooled OLS procedures (Hsiao, 1989; Slemrod and Shobe, 1990). Specifically, simple pooled estimation procedures cannot adjust firm-specific and time-specific effects which may result in an omitted variable bias and a mis-specified model. Thus, the problems are potentially serious. The fixed-effects model (FEM) overcomes this problem by adjusting for individual firm effects through the firm-specific and time-specific intercepts in the model. These intercepts can capture unobserved and/or immeasurable firm-specific and time-specific characteristics. Alternatively, the problem of omitting firm-specific effects can be overcome by the random-effects model (REM), which assumes that the firm-specific and time-specific characteristics are randomly generated from a normal distribution and are uncorrelated with other regressors in the model. Various statistical tests can be used to determine which model (simply pooled, FEM, REM) produces the most adequate specifications. In this paper, we estimated all three models and selected the appropriate model based on statistical tests.

5. Results

Table 2 reports descriptive statistics for the dependent variables (ETRC and ETRI) and selected explanatory variables over the period 1990–1999. On the whole, examination of the data suggests no obvious outliers. ETRC has a mean of 0.2297 and a median of 0.2358. ETRI has a mean of 0.2662 and a median of 0.3485. Given that cash flows are generally larger than book income, ETRC is on average smaller than ETRI as expected.

Table 3 provides a breakdown between politically connected versus unconnected firms using the proxies for political connections, POLCON2, and a modified version of POLCON1. The modified variable (MPOLCON1), a dummy variable equal to one if a firm has government ownership and zero otherwise, is for descriptive purposes only, for all other tests we use a continuous variable for POLCON1. Politically connected firms have significantly lower ETR than unconnected firms irrespective of how ETR or political connection is defined. Additionally, politically connected firms are larger and more highly leveraged compared to politically unconnected firms. There are, however, no significant differences in terms of profitability and the amount of inventory firms carry between politically connected and unconnected firms.

Bivariate (Pearson product-moment) correlation among explanatory variables is presented in Table 4. The low correlation between explanatory variables suggests that the problem of multi-collinearity is not serious in the data

Table 2
Descriptive statistics of effective tax rates and explanatory variables of Malaysian firms in the 1990–1999 period

	ETRC (<i>n</i> = 257 firms: 2570 firm years)	ETR1 (<i>n</i> = 257 firms: 2570 firm years)				
<i>Panel A: Dependent variables</i>						
Mean	0.2297	0.2662				
Median	0.2358	0.3485				
Standard deviation	0.2827	0.2246				
	POLCON1	POLCON2				
<i>Panel B: Political connection proxies</i>						
<i>N</i>	2570	2570				
Value = 1		16%				
Value = 0		84%				
Mean	11%					
Median	10%					
Standard Deviation	0.182					
	SIZE	LEV	MKBV	CAPINT	ROA	INVINT
<i>Panel C: Other explanatory variables (n = 257 firms: 2570 firm years)</i>						
Mean	13.0207	0.1466	2.9590	0.2356	0.0809	0.1226
Median	13.0458	0.1675	1.9296	0.1676	0.0742	0.0938
Standard Deviation	1.6266	0.2516	11.3738	0.3328	0.2265	0.1239

Note: ETRC = (Tax expenses – Deferred tax expenses)/(Operating cash flows); ETR1 = (Tax expenses – Deferred tax expenses)/(Profit before interest and tax); POLCON1 = Percentage of government equity ownership; POLCON2 = 1 if the firm is connected with top politicians; 0 otherwise; SIZE = Natural log of total assets; LEV = (Total debt)/(Total assets); CAPINT = (Property, plant and equipment)/(Total assets); INVINT = (Inventory/Total assets); ROA = (Pre-tax profits)/(Total assets); MKBV = (Market price of share)/(Shareholders equity/Number of ordinary shares outstanding).

set. Both of the political connections measures are negatively and significantly correlated with each of the two ETR measures consistent with our main hypothesis. Overall, the univariate results reported in Tables 3 and 4 suggest that politically connected firms enjoy lower effective tax rates.

5.1. Regression results

We obtain estimates from all three models: simple-pooled regression model (OLS), fixed-effects model (FEM), and random-effects model (REM). We run three tests to determine the most appropriate model to use (see e.g., Gupta and Newberry, 1997; Green, 1993). The Likelihood Ratio Test suggests FEM outperforms simply pooled OLS at the 99% confidence level. The Lagrange Multiplier (LM) test suggests that REM outperforms simply pooled at the 99% confidence level. The Hausman Chi Square Test suggests that REM

Table 3
Comparative statistics of effective tax rate and explanatory variable means of Malaysian firms in the 1990–1999 period

	All	MPOLCON1			POLCON2		
		Politically connected	Unconnected	Means difference (<i>t</i> -statistics)	Politically connected	Unconnected	Means difference (<i>t</i> -statistics)
Number of observations	2570	1670	900		410	2340	
<i>ETR</i>							
ETRC	0.2297	0.2085	0.2376	−2.264 ^{***}	0.1904	0.2347	−2.225 ^{***}
ETRI	0.2662	0.2335	0.2864	−2.537 ^{***}	0.2412	0.2785	−2.246 ^{***}
<i>Control</i>							
SIZE	13.0207	13.294	12.489	12.298 ^{***}	13.703	12.897	9.169 ^{***}
LEV	0.1446	0.1512	0.1374	12.267 ^{***}	0.2054	0.1359	5.902 ^{***}
MKBV	2.9590	2.3673	4.1279	−3.811 ^{***}	4.5083	2.6776	3.022 ^{***}
CAPINT	0.2356	0.2323	0.1858	6.555 ^{***}	0.2120	0.2431	−3.257 ^{***}
ROA	0.0809	0.0780	0.0803	−1.601	0.0783	0.0825	−1.550
INVINT	0.1226	0.1329	0.1189	1.273	0.1031	0.1342	−1.472

Variable definitions: ETRC = (Tax expenses – Deferred tax expenses)/(Operating cash flows); ETRI = (Tax expenses – Deferred tax expenses)/(Profit before interest and tax); MPOLCON1 = 1 if government equity ownership is positive; 0 otherwise; POLCON2 = 1 if the firm is connected with top politicians; 0 otherwise; SIZE = Natural log of total assets; LEV = (Total debt)/(Total assets); CAPINT = (Property, plant and equipment)/(Total assets); INVINT = (Inventory/Total assets); ROA = (Pre-tax profits)/(Total assets); MKBV = (Market price of share)/(Shareholders equity/Number of ordinary shares outstanding).

^{***} Denotes statistical significance at the 0.01 level.

Table 4
Pearson pairwise correlations among the dependent and explanatory variables

	ETRC	ETRI	CAPINT	LEV	SIZE	POLCON1	POLCON2	MKBV	INVINT	ROA
ETRC	1									
ETRI	0.031*	1								
CAPINT	-0.033**	-0.044**	1							
LEV	-0.051*	-0.021	-0.041**	1						
SIZE	-0.124	-0.190	-0.163**	0.337**	1					
POLCON1	-0.023**	-0.047**	0.129	0.031**	0.146**	1				
POLCON2	-0.011*	-0.044*	-0.064	0.116	0.179**	0.138**	1			
MKBV	0.045	-0.036	-0.051	-0.035	-0.077**	-0.130	-0.026	1		
INVINT	0.020	-0.014	0.067**	-0.128**	-0.195**	0.193**	-0.005	-0.041	1	
ROA	0.073*	0.047*	0.067**	-0.038	0.073	0.049	0.012	0.053	-0.019	1

Variable definitions: ETRC = (Tax expenses – Deferred tax expenses)/(Operating cash flows); ETRI = (Tax expenses – Deferred tax expenses)/(Profit before interest and tax); POLCON1 = Percentage of government equity ownership; POLCON2 = 1 if the firm is connected with top politicians; 0 otherwise; SIZE = Natural log of total assets; LEV = (Total debt)/(Total assets); CAPINT = (Property, plant and equipment)/(Total assets); INVINT = (Inventory/Total assets); ROA = (Pre-tax profits)/(Total assets); MKBV = (Market price of share)/(Shareholders equity/Number of ordinary shares outstanding).

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 5
Two-way random-effects regression results effective tax rates in Malaysia (with government ownership as the proxy for political connection)

Variables	Predicted sign	ETRC	ETRI
POLCON1	–	–0.0422***	–0.0042**
SIZE	–	–0.0132	–0.0125***
LEV	–	–0.0810**	–0.0541
CAPINT	–	–0.0401**	–0.0205***
INVINT	+	0.0279	–0.0814
ROA	?	–0.1105**	–0.1108***
MKBV	?	0.0017	–0.0067
Sector Effects			
<i>Manufacturing</i>	–	–0.1123	–0.1090*
Consumer	?	–0.0125	–0.0731
Mining	?	0.0603	0.0523
Finance	?	–0.0233	–0.0630
Construction	?	0.0224	0.0114
Trading	?	0.0250	0.0451
Hotel	?	0.0808	0.1301
Plantations	?	–0.0321	–0.0871
Observations		2570	2570
Adjusted R^2		0.228	0.283
Adjusted R^2 excluding POLCON1		0.195	0.174

Variable definitions: ETRC = (Tax expenses – Deferred tax expenses)/(Operating cash flows); ETRI = (Tax expenses – Deferred tax expenses)/(Profit before interest and tax); SIZE = Natural log of total assets; POLCON1 = Percentage of government equity ownership; LEV = (Total debt)/(Total assets); CAPINT = (Property, plant and equipment)/(Total assets); INVINT = (Inventory/Total assets); ROA = (Pre-tax profits)/(Total assets); MKBV = (Market price of share)/(Shareholders equity/Number of ordinary shares outstanding); Sector Effects = sector dummy (consumer, manufacturing, mining, construction, trading/services, hotel, and plantation, with properties being the omitted sector).

* Denotes statistical significance at the 0.10 level.

** Denotes statistical significance at the 0.05 level.

*** Denotes statistical significance at the 0.01 level.

outperforms FEM at the 99% confidence level. Thus, REM estimates are reported in the paper.

Results from the regression analysis are presented in Tables 5 and 6. Table 5 shows that the coefficient of POLCON1, the political connections proxy, is negative and highly significant in both ETRC and ETRI regressions. There is strong evidence to suggest that Malaysian firms with political connections (when measured as percentage of government equity ownership) pay significantly lower effective tax. This result is the first and potentially significant result to point to the importance of political connections: (1) in relation to implementing public policies and (2) in understanding ETR in Malaysian and non-western firms. This result is in strong support of our hypothesis. Table

Table 6

Two-way random-effects regression results effective tax rates in Malaysia (with personal connection as the proxy for political connection)

Variables	Predicted sign	ETRC	ETRI
POLCON2	–	–0.210*	–0.249*
SIZE	–	–0.0964	–0.0554*
LEV	–	–0.1130	–0.1168
CAPINT	–	–0.0424***	–0.1707***
INVINT	+	0.0310	–0.1001
ROA	?	–0.7191***	–0.1414***
MKBV	?	0.0018	–0.0047
Sector Effects			
<i>Manufacturing</i>	–	–0.6100	–0.5600**
Consumer	?	–0.0407	–0.0374
Mining	?	0.2440	0.2467
Finance	?	–0.8930	–0.5603
Construction	?	0.2501	0.1979
Trading	?	0.2379	0.1590
Hotel	?	0.5761	0.1420
Plantations	?	–0.2330	–0.1286
Observations		2570	2570
Adjusted R^2		0.231	0.212
Adjusted R^2 excluding POLCON2		0.195	0.174

Variable definitions: ETRC = (Tax expenses – Deferred tax expenses)/(Operating cash flows); ETRI = (Tax expenses – Deferred tax expenses)/(Profit before interest and tax); SIZE = Natural log of total assets; POLCON2 = 1 if the firm is connected with top politicians; 0 otherwise; LEV = (Total debt)/(Total assets); CAPINT = (Property, plant and equipment)/(Total assets); INVINT = (Inventory/Total assets); ROA = (Pre-tax profits)/(Total assets); MKBV = (Market price of share)/(Shareholders equity/Number of ordinary shares outstanding); Sector Effects = sector dummy (consumer, manufacturing, mining, construction, trading/services, hotel, and plantation, with properties being the omitted sector).

* Denotes statistical significance at the 0.10 level.

** Denotes statistical significance at the 0.05 level.

*** Denotes statistical significance at the 0.01 level.

6 shows that the coefficient POLCON2 is also negative and statistically significant in both ETRI and ETRC regressions. This result also supports our hypothesis and points to a personal element in the implementation of public policies in Malaysia.

Results for control variables are largely consistent across the two models reported in Tables 5 and 6. The coefficient of SIZE is negative in both ETRC and ETRI regressions. Moreover, the coefficient is statistically significant in the ETRI regression. Our results suggest that larger Malaysian firms pay significantly lower effective tax when effective tax rate is measured as income-based ETRI. The result on size is consistent with previous studies that have examined ETR in East and Southeast Asian firms (Kim and Limpaphayom, 1998; Derashid and Zhang, 2003).

The coefficient of LEV is negative and statistically significant when ETR is measured by ETRC but negative and not statistically significant when ETR is measured as ETRI, providing some evidence that Malaysian firms with more debt pay lower effective tax as expected.¹³ The coefficient of CAPINT is negative and statistically significant however ETR is measured, suggesting that Malaysian firms with more capital investments pay significantly lower effective tax as expected. Finally, the coefficient of ROA is negative and statistically significant, however ETR is measured, suggesting that a profitability measure should be included in the regression analysis. The coefficients of INVINT and MKBV are, however, not significantly different from zero.

With the exception of the manufacturing sector, none of the sector dummies appear to be significantly different from zero. The coefficient of the manufacturing sector dummy is negative and statistically significant when ETR is measured as ETRI but not as ETRC. After adjusting for firm-specific and time-specific effects and other factors, there is some evidence to suggest that manufacturing firms in Malaysia pay significantly lower effective tax than other firms.

Finally, it is worth noting that our results of a significant link between political connections and ETR are obtained after adjusting for the effects of the policy aspects captured by firm size and the manufacturing sector. This evidence suggests firm size and the manufacturing sector explored in prior research do not reflect all aspects of public policy within the context of a relationship-based capitalism. As such our results expand the existing literature, which incompletely demonstrates the role of political connections on ETR.

5.2. Additional robustness tests

We perform several additional procedures to validate our findings. To further assess the significance of political connections as a determinant of ETR, we rerun the regressions excluding the political connections proxies (POLCON1 and POLCON2). We find a reduced adjusted R square in all regressions (Tables 5 and 6). However, the coefficients of other variables (not reported) stay broadly the same. This result suggests that: (1) the inclusion of the political connections proxies enhances the explanatory power of the model and (2) other variables also possess explanatory power. The statistically significant coefficient of political connections (for both POLCON1 and POLCON2) and the improvement in adjusted R square from the inclusion of the political connections variables suggest that political connections as a determinant of ETR should not be ignored. A test of restriction (i.e., the *F*-test) also rejects the

¹³ When political connections is measured by POLCON2 (Table 6), the coefficient of LEV is negative but not statistically significant when ETR is measured by ETRC.

hypothesis that the coefficient of political connections (both POLCON1 and POLCON2) is equal to zero at the 99% level. This also suggests that political connections should be included as a determinant of ETR.

We also rerun the regressions including both POLCON1 and POLCON2 at the same time. The statistical significance of POLCON1 is reduced and POLCON2 ceases to be significant. This suggests that POLCON1 appears to be more reliable in capturing the different elements of political connections. This finding is consistent with our model which suggests that government support (POLCON1) incorporates the effects of cronyism (POLCON2) as well as public policy factors.

To assess the impact of the political connections relative to that of other variables, we first normalize the variables by subtracting each from its mean and dividing it by its estimated standard deviation. We then rerun the regressions using normalized variables to obtain standardized coefficients. There is virtually no difference between the standardized coefficients and non-standardized coefficients as expected. When measured as direct government ownership (POLCON1), the impact of political connections appears to be larger than that of size, similar to that of capital intensity, but less than that of leverage and profitability. When measured as informal ties to politicians (POLCON2), the impact of political connections appears to be larger than that of other coefficients except for that of profitability. The evidence suggests that political connections is an important determinant of ETR in Malaysia and its impact on ETR is as much if not larger than that of firm size, the major determinant of ETR identified in previous US studies.

A limitation of the POLCON2 proxy is that some of the “connections” identified by Gomez and Jomo (1998) were based on early 1990 information giving rise to the possibility that some of these connections may have disappeared by 1999. Johnson and Mitton (2003, p. 358), argue that given the stability of the government during this period, this limitation should not be too troublesome. To test the stability argument and isolate the effect of the Asian financial crisis in 1997, we subdivide the sample into two sub-samples: 1990–1996 (before the crisis) and 1998–1999 (after the crisis). The results from the sub-samples are virtually the same as those from the entire sample and provide support for the stability argument. The results also confirm that the panel estimation procedure has effectively adjusted for observable and/or immeasurable year-specific (as well as firm-specific) effects in the entire sample.

As shown in Table 4, Pearson pairwise correlation coefficients suggest that multi-collinearity is not a problem. However, the correlation between SIZE and LEV may be considered as relatively large. This is consistent with the general evidence found in the finance literature (e.g., Rajan and Zingales, 1995) that large firms tend to be more leveraged. We re-estimate our regressions excluding LEV but find no change in the significance of the coefficient of SIZE. This result suggests that the correlation between SIZE and LEV in our sample

is not serious. To deal with the potential problems associated with outliers, we re-estimate the regressions after excluding a few “outliers” based on the method suggested by Neter et al. (1990).¹⁴ We find that the results, both in terms of signs and statistical significance, are not materially different. We also use the winsorization procedure to trim our sample at the 99% level (0.5% at each end) and we obtain similar results. We also re-estimate the regressions including NOL carry-forward firms, the results are very similar in coefficient signs but much weaker in statistical significance as expected. Finally, we re-estimate the regressions excluding recoded ETRs and obtain qualitatively similar results. Our results are on the whole robust.

6. Conclusions

This paper adopts the *political connections* rather than the *firm size* explanation to study ETR in Malaysia. This explanation is informed and justified by the realization that Malaysia is a developing, “relationship-based” capitalism rather than a developed, “market-based” capitalism. Specifically, we examine the relation between ETR and political connections based on a group of Malaysian firms over a 10-year period. We find a statistically significant negative link between ETR and political connections. Firms with political connections pay tax at significantly lower effective rates in Malaysia. Our evidence suggests that political connections are a significant determinant of ETR and their impact should be accounted for.

More generally, our results are consistent with the well-documented fact that the Malaysian government supports selected firms for overlapping *policy* and *personal* reasons. The Malaysian results, as a case in point, indicate that significant differences may exist between firms of developing (i.e., “relationship-based”) capitalisms and firms of developed (i.e., “market-based”) capitalisms in relation to ETR. Finally, our results hold two implications in relation to public policy. One is that public policy is a byproduct of the underlying political economy (e.g., a developing capitalism) and should be understood as such. Another and more general aspect is that public policy can impinge on accounting issues and thus aid our understanding of accounting issues.

A major limitation, which is common to all ETR studies, is that mechanisms or processes, which are actually responsible for certain firms to pay tax at lower effective rates than other firms, are not examined. An interesting issue for

¹⁴ We calculate the hat matrix through which the fitted dependent values can be expressed as linear combinations of dependent observations. An observation is considered as an outlier if its element on the hat matrix diagonal is more than twice as large as the mean leverage value (number regression parameters/number of observations).

future studies would be to investigate the specific mechanisms by which a lower ETR may be achieved. While beyond the scope of the current study, one possible way forward would be to study how accounting choice is used in Malaysia and whether there is a material difference in accounting standards between sectors and firms in Malaysia.

Acknowledgements

We thank L. Gordon and M. Loeb (the editors), two anonymous reviewers, and Augustine Duru and Davit Adut for their helpful comments and suggestions on this paper. Professor Adhikari acknowledges support from the Associate Professor Development Program at the Kogod School of Business.

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