Jurnal Ekonomi Malaysia 54(3) 2020 101 - 115
http://dx.doi.org/10.17576/JEM-2020-5403-8

The Role of Business Sophistication, Revenue Diversification, and Labor Relations on Firm Financing Choice

(Peranan Kecanggihan Perniagaan, Kepelbagaian Hasil, dan Hubungan Buruh terhadap Pilihan Pembiayaan Firma)

Moch. Doddy Ariefianto
Bina Nusantara University

Irwan Trinugroho
Universitas Sebelas Maret

Ahmad Erani Yustika
Universitas Brawijaya
Institute for Development of Economics and Finance (INDEF)

Wahyoe Soedarmono
Sampoerna University

ABSTRACT

We model and empirically estimate the relationship of ordinal scaled dependent variable: firm financing choice with business sophistication, revenue diversification and labor relationship using Indonesian data. We use controlling variables derived from Trade off Theory and Pecking Order Theory literature. We then elaborate the baseline model to include additional categoric variables of location and ownership, besides the interaction terms. The dataset is constructed from World Bank Enterprise Survey Year 2015 and Generalized logistic —partial proportional odds regression is employed as an estimator. We find that better business sophistication leads to greater acceptance to financing from outsiders and more diversified firms tend to prefer external financing. Finally, a better labor relationship corresponds to a greater preference for internal financing.

Keywords: Financing choice; business sophistication; revenue diversification; labor relationship.

ABSTRAK

Penyelidik memodelkan dan menganggarkan secara empirikal hubungan pemboleh ubah berskala ordinal: pilihan kewangan firma dengan kecanggihan perniagaan, kepelbagaian hasil dan hubungan buruh menggunakan data Indonesia. Pengkaji menggunakan pemboleh ubah kawalan yang diterbitkan daripada literatur Trade off Theory (TOT) dan Pecking Order Theory (POT). Pengkaji menghuraikan model asas untuk memasukkan pemboleh ubah kategori tambahan iaitu lokasi dan pemilikan serta beberapa istilah interaksi. Set data dibina daripada World Bank Enterprise Survey Year 2015 dan logistik umum – regresi ganjil berkadar separa telah digunakan sebagai penganggar. Pengkaji mendapati kecanggihan perniagaan yang lebih baik membawa kepada penerimaan yang lebih besar terhadap pembiayaan dari pihak luar dan firma yang lebih pelbagai cenderung memilih pembiayaan luaran. Akhir sekali, hubungan pekerja yang lebih baik sepadan dengan kecenderungan yang lebih besar kepada pembiayaan dalaman.

Kata kunci: Pilihan kewangan; kecanggihan perniagaan; kepelbagaian hasil; hubungan buruh.

INTRODUCTION

Even though empirical literature on financing structure is abundant, academics and practitioners have yet to reach consensus on exactly how firms choose their financing method (An et al 2016; Denis & McKeon 2012). The findings in this area are quite diverse, with a low to moderate robustness. It seems the result is highly context specific (Hang et al., 2018) - unsurprising, given the very wide spectrum of samples and methodologies in terms of firm size and characteristics, sectors, regions, and economies. This lack of consensus means the field is still wide open for new insights.

In this study, we investigate some qualitative aspects of firm financing choice, namely business sophistication, diversification, and labor relations, in addition to more-established variables hypothesized by the trade-off theory (TOT) and the pecking order theory (POT). A recent literature review by Fan et al (2011) emphasizes the role of the more qualitative aspects of a firm's financing choice. The "soft aspect" of firm business influence the decision on a variety of channels like signaling bankruptcy protection, business risk diversification and employee entrenchment. To the best of our knowledge, empirical study on the role of these aspects to financial structure is still limited.

We use data from the 2015 World Bank Enterprise Survey (WB-ES) for Indonesia, which had 1,320 respondents from across the country. The questionnaire covered a range of key aspects in details; there are more than 250 questions, excluding control and general information. Several key aspects covered by the questions are finance, regulation, taxation, law enforcement, competition, innovation, land and permit, crime, and labor. As a member of G20, Indonesia is a large and important emerging market in the global economy. Nevertheless, publications on business environment comparisons (like those from Doing Business-World Bank or Competitiveness Report-World Economic Forum) rate the country at the lowest quartile. Among often-cited problems with business environment in Indonesia, and generally in Asia Pacific Countries (Abe et al, 2015) is financing. Businesses (especially Small Medium Enterprises; SME) still prioritize internal financing and/or find external financing generally difficult (Mahmud & Huda 2011). This is an interesting result that spark our interest for further investigation. Specifically, we would like to know how financing decision of Indonesian enterprises are made. We agree with Fan et al (2011) assertion that qualitative aspects must have played an important role here.

We attempt to relate the WB-ES extensive information content to financing decision of business. TOT and POT are used as starting point of the study; they serve as qualitative basis choice of financing. Due to asymmetric information problem, the choice of financing would follow either as a trade-off between tax shield and cost of bankruptcy as in TOT (Kraus & Litzenberger 1973) or a preferred sequence as in POT (Myers & Majluf 1984). We model the dependent variable as an ordered response in which we transform original numeric financing structure data into ordinal type[1]. Initially we used ordered response regression (following Aitchison & Silvey 1957). Later, after we found violations on the proportional odds (also called parallel lines) assumption, we employed generalized ordered logistic regression (Williams 2016).

We elaborate on our analysis by including the effects of ownership (foreign versus domestic), location, and sectors both as a standalone impact and as an interaction factor. Who owns the company does matter to financing structure, although not conclusively (see Bandyopadhyay & Barua 2016; Quartey et al 2017). As outlined by Kayo and Kimura (2011), financing structure is influenced by firm-level characteristics as well as industry and country.

After this introduction, the paper proceeds as follows. In Section 2 (Literature Study), we present some relevant and recent theoretical and empirical studies on financing structure, which inform how we structure the research design. We then explain our methodology in Section 3, including the description of data, hypotheses, and econometric techniques used. In Section 4, we present estimation results along with the discussion, diagnostic, and robustness checks. Section 5 summarizes the study.

LITERATURE REVIEW

The literature in modern capital structure can be traced back to Modigliani and Miller (1958), who hypothesized that capital structure is irrelevant to firm value. This proposition was obtained under strict assumptions of no taxes, no transaction costs, no asymmetric information, and no agency problem. Other early theoretical works on capital structure is the static trade-off theory proposed by Krauz and Litzenberger (1973), firms optimize on both direct and indirect trade-off distress costs (Haugen & Senbet 1978) and tax shield benefits. This theory postulates preference of firms using debt over equity for financing. Jensen and Meckling (1976) added the consideration of agency costs in making a trade-off. Subsequent study by Myers (1977) proposed the underinvestment hypothesis of leveraged firm managers forgoing positive-NPV projects. Using the same framework, Jensen (1986) put forth the free cash flow hypothesis: that debt exerts a disciplining effect on managers.

On the other hand, pecking order theory (POT, Myers & Majluf 1984) states that because of asymmetric information, there exists different valuation on different debt-equity instruments between insiders (managers and owners) and outsiders (investors). This valuation gap causes financing to be biased toward those who are the most informed (minimizing adverse selection). Hence there exists a sequence of financing from inside through retained earnings, then debt, and new equities as the last option.

Nevertheless, because of financial access constraints, small firms might depend more on credit provided by their suppliers than on bank loans. Corporate finance practices appear to be influenced mostly by firm size and to a lesser extent by shareholder orientation, whereas differences by country are weak at best (Brounen et al 2004; Drobetz et al 2006; Kayo & Kimura 2011). Fan et al. (2011) highlight several future directions for corporate finance research. They emphasize the role of more qualitative aspects of financing choice by firms. They also recognize a hierarchy of variables at the firm, industry, and country level and point out the rule of law, society characteristics, labor relationship, market condition, ownership, business practices, and governance as important sources of variation in financing structure.

Vos et al (2007) study on UK SME revealed that business sophistication increase probability of firms to be more financially diversified. Margaritis and Psillaki (2010) find support for the efficiency risk hypotheses (suggested by Berger and Di Patti, 2006) Using a sample of French manufacturing firms. More-efficient firms are perceived to have lower bankruptcy cost, which lower their cost of debt. Business sophistication is also associated with production efficiency as found by Salas-Velasco (2018) on his study of corporates across OECD countries.

Ngah-Kiinglim et al. (2009), using panel data from 245 Singaporean public firms, find a positive correlation between a firm's product diversification strategy and its debt financing level. Akhtar and Oliver (2009) find that the degree of revenue exposure to external sources has a negative effect on leverage among Japanese firms. This phenomenon is hypothesized to result from risk management practices, wherein Japanese multinational corporations prefer using derivatives while domestic-oriented firms prefer debt. Abe et al. (2015) conducted experts' interview for SME financing determinants in Asia Pacific countries in which they concluded that diversification and bankruptcy law could improve the inclusion of firms to formal financing.

Berk et al. (2010) developed a model of financing structure that incorporates the role of human capital, bankruptcy, and capital structure. They postulate that cost of bankruptcy is mostly borne by the employee (not the investor, as previous literature suggested). Their model produces following projections: (a) Employee risk aversion will negatively affect the leverage ratio, (b) highly leveraged firms have to pay a premium to hire employees, (c) capital-intensive firms will choose higher leverage, and (d) riskier firms will choose lower leverage.

The role of employees in financing structure could also manifest in terms of strategic negotiation. Matsa (2010) developed and tested a model with US firm data in which he finds evidence that firms deliberately choose high leverage to improve their bargaining power with labor unions. Stronger labor ownership might pose a negative impact to financial performance including aversion to outside financing (Guedri & Hollandts 2008; O'Boyle et al. 2016). Nevertheless, the net impact remains inconclusive as higher bonding might also increase motivation and effort (Matsa 2018).

In recent empirical literature, tangible asset, size, growth, profitability and valuation are several most commonly cited conventional factors to influence capital structure (Fan et al. 2011; Fan et al. 2012; Bhaird & Lucey 2014; Hang et al. 2018). Higher tangible asset ownership, company's growth and size are positively correlated to leverage; while profitability and valuation impact to leverage is negative. These findings shown that the empirical body of knowledge have elements of both TOT and POT.

Company age impact to leverage could be positive as found by Forte et al. (2013), Borgia and Newman (2012) and Quartey et al. (2017) or negative (found by Bhaird & Lucey 2014; Kieschnick & Moussawi 2018). Fan et al. (2012) cross country study found the significant positive role of tax rate and bankruptcy cost to external financing. Bankruptcy cost could be proxied by asset riskiness; Forte et al. (2013) study based on Brazilian firms found that it negatively correlated with external financing. Foreign ownership impact to leverage is context dependent. Phung and Ley (2013) and Quartey et al. (2017) studies found that foreign ownership to be negatively affect leverage. On the other hand, Li et al. (2009), Margaritis and Psillaki (2010), Gurunlu and Gursoy (2010) and Bandyopadhyay and Barua (2016) found this relationship to be negative.

In Indonesia context, Machmud and Huda (2011) conducted an interesting survey on SMSE's financing and found almost equal portion of firms that have access to finance (56%) and those which don't have it (44%). Of those which have financial access; mostly (96%) opted to rely on internal financing due to culture or traditional way of doing business. For those firms who don't have financial access usually caused by high transaction cost, insufficient collateral and lack of business skills (ie. producing financial reports and busines plan). Moosa and Li (2012) based on cross section study of public companies found the order of importance of liquidity, size, profitability, tangibility and income variability to capital structure (leverage ratio). Haroon (2018) also found the role of liquidity, profitability, age and ownership to leverage.

METHODOLOGY

We model the estimated relationship using a linear form as follows:

$$Y_i^* = X\beta + u_i; E\left(u_i\right) = 0 \tag{1}$$

in which the cutoff the latent variable for category *j* of dependent variable Y_i^* is given by

$$\begin{gathered} Y_i = 1; -\infty < Y_i^* < \tau_i \\ Y_i = j; \tau_{j-1} < Y_i^* < \tau_j \quad j = 2, \ldots, m-1 \\ Y_i = m; \tau_m < Y_i^* < \infty \end{gathered} \tag{2}$$

where *Y* is the financing structure, an ordinal variable[2], and *X* is the vector of regressors.

We are trying to cover a substantial portion of rich information provided by the dataset. To do so, we combine various items in questionnaire into three metrics: a measure of firm sophistication (SOPHIST), a

TABLE 1. Description of Variables and Hypotheses

No	Variable	Symbol	Description	Expected Sign/ Hypotheses
1	Financing Choice	FIN_CHOICE	Ordinal Measure as a proxy for financing choice of firm: 1 for Retained Earnings; 2 for Loans from Banks or Non Bank Financial Institutions (NBFIs), 3 for from Suppliers-Others. The indicator is constructed by first grouped the percentage of financing into three categories: retained earnings, loan by banks and NBFIs and suppliers-others. Then an ordinal number is assigned to the most used (shown by greatest percentage) type of financing. It is assigned 1 if the financing is obtained mostly from retained earnings, 2 if from loans provided by banks and/or NBFI's and 3 if others.	
2	The Size of The Firm	SIZE	Ordinal measure variable as proxy of firm size: 1 if sales<Rp. 500 Million; 1 if sales between Rp. 500 Million-Rp. 5.000 Million and 3 if sales>Rp. 5.000 Million	Positive (ToT)/ Negative (POT)
3	Value of Tangible Assets	PL_OWN	Percentage of Total Property and Land owned by the firm	Positive (ToT)/ Negative (POT)
4	A measure of profitability	4a. SALES_G	Latest annual growth of sales	Positive (ToT)/ Negative (POT)
		4b. TOBIN_Q	The ratio of replacement cost (based on firm own assesment) to book value of Machine and Land	
5	A qualitative proxy of tax burden	TAX_INSPECT	Measured as number of visits by Tax Officials last year	Positive
6	A measure of probability of Bankrupcty	BURDEN	Constructed as simple sum of three standardized normal variables : (a) percentage power from generators (of total power consumed), (b) percentage of import cost (to total production cost) and (c) Days of Inventory	Negative (ToT)/ Positive (POT)
7	Maturity of Firms	YEAR_OPS	Number of years the firm has been operational	Positive/Negative
8	A measure of Business Sophistication	SOPHIST	Constructed as simple sum of eight dummy variables: (a) Legal formalilty of the firm, (b) Possesed at least one international certification in business-operation conduct, (c) perform R&D activities at least once in the last 3 years, (d) use email for communication, (e) own a website, (f) conduct a formal training for employee, (g) own a line of credit and (h) use external auditor.	Positive
9	A Measure of firm Revenue Diversification	DIVERS	Constructed as simple sum of two standardized normal variables: (a) Percentage of revenue diversification not from main product and (b) Percentage of revenue that is from export (either direct or indirectly)	Positive
10	A measure of labour relationship quality	LABREL	Constructed as simple sum of standardized normal variables of three indicators: (a) ratio of Permanent to Non Permanent employee, (b) Average education of permanent employee and (c) percentage of labour cost to total cost	Positive
11	Ownership	FORJV	FORJV=1 if >0% shares owned by foreign entity and/or joint venture; 0 for others.	
12	City Category	CITY	CITY=1 if population of the city< 250.000, 2 if population between 250.000-1.000.000 and 3 if population > 1.000.000	
13	Province Category	PROV	PROV=1 if a particular province is located in Java or Sumatera Island and 0 for other	
14	Sector category	SECTOR	SECTOR=1 if the firm belongs to sector chemical, non metallic mineral product and garments; zero for others (Food, retail, rubber and plastic, other manufacture, other service and textile)	

Note: This table reports (a) the symbol and construction of variables used in the study and (b) the hypotheses in form of expected sign obtained from estimation.

measure of firm revenue diversification (DIVERS), and a measure of labor relationship quality (LABREL). The definition, symbol, details of construction, and expected sign hypotheses for each variable appear in Table 1.

To start, we use an ordered logistic estimation technique. Then we test the proportional odds assumption using the Brant test. Williams (2016) showed that violations of the parallel lines assumption could result not only in a loss of efficiency but even in a bias of estimates. Long and Freese (2014) suggested that in this assumption is often violated in practice. Should such violations happen, we will then use the generalized ordered logistic technique as proposed by Williams (2016). In this study, we use a variant of the generalized logit model, which allows some variables to have the same logit coefficients (called beta coefficients) while others do not (called gamma coefficients). This approach is called the partial proportional odds (PPO) model. An illustration for a model with M categories and three regressors in which the third variable (X_3) is relaxed from the assumption is given as follows (Williams 2016):

$$P(Y_i > j) = \frac{\exp\left(\alpha_j + X_{1i}\beta_1 + X_{2i}\beta_2 + X_{3i}\beta_{3j}\right)}{1+\exp\left(\alpha_j + X_{1i}\beta_1 + X_{2i}\beta_2 + X_{3i}\beta_{3j}\right)}, j = 1, 2, \ldots, M-1 \quad (3)$$

We extend our basic model to include foreign ownership (FORJV), classification of the city (CITY) and province (PROV) in which a firm resides, and the sector in which a firm receives the majority of its revenue (SECTOR)[3.]

In addition to the parallel assumption test on the final model, we also conduct robustness checks through sequential inclusion on variables of interest (SOPHIST, DIVERS, and LABREL). We want to see whether each of these variables will affect the estimation results. We use the World Bank Enterprise Survey Year 2015 dataset for Indonesia. We review for data defect: improper responses and outliers before using it for estimation. We had 1,320 observations to begin with. In the next section after data screening, we eventually worked with 774 observations.

RESULTS AND DISCUSSION

In this section, we present the process of estimation and the estimation results. First, we present descriptive statistics and notes on the data process. Next, we present the estimation results and a brief discussion of the key findings. Finally, we present our diagnostic check to gauge the robustness of the findings. Here, we use statistical cut-off point of p value at 5% at most to indicate significance of variables.

TABLE 2. Descriptive Statistics

Variable	Mean	Median	Max	Min	Std. Dev.	Obs
FIN_CHOICE	1.401	1.000	3.000	1.000	0.749	774
SIZE	2.009	2.000	3.000	1.000	0.789	774
PL_OWN	86.017	100.000	100.000	0.000	31.728	774
SALES_G	0.132	(0.001)	27.889	(1.000)	1.739	774
TOBIN_Q	4.580	1.333	275.000	0.007	18.921	774
TAX_INSPECT	1.923	2.000	5.000	1.000	0.979	774
BURDEN	0.175	(0.611)	16.143	(1.327)	1.839	774
YEAR_OPS	21.428	19.000	95.000	2.000	11.032	774
SOPHIST	2.363	2.000	8.000	0.000	2.081	774
DIVERS	0.067	(0.852)	6.800	(0.852)	1.604	774
LAB_REL	0.478	0.525	8.980	(5.412)	1.623	774

Note: This table reports descriptive statistics of the variables used in the study. We start with 1,320 observations and then exclude observations based on the following qualifications: tallies on financing choice, zero sales, zero book value of machine and land, winsorizing 1% of sales growth, and Tobin_Q. After filtering out the foregoing observations, we have 774 observations to be analyzed. The lower part is number of cases in each category of dependent and explanatory variables.

#Cases of Categorical Variables									
FIN PRTY		SIZE CAT		CITY		D FORJV		SECTOR	
Category	#Cases	Category	#Cases	Category	#Cases	Category	#Cases	Category	#Cases
1	588	1	237	1	64	1	88	1	327
2	62	2	293	2	209	0	686	0	447
3	124	3	244	3	501				
Sum	774		774		774		774		774

TABLE 3. Correlation Table

	FIN_CHOICE	SIZE	PL_OWN	SALES_G	TOBIN_Q	TAX_INSPECT	YEAR_OPS	BURDEN	SOHPIST	DIVERS	LAB_REL
FIN_CHOICE	1.000										
SIZE	0.018	1.000									
PL_OWN	(0.114)	(0.140)	1.000								
SALES_G	(0.007)	(0.114)	0.062	1.000							
TOBIN_Q	(0.052)	0.030	0.066	(0.023)	1.000						
TAX_INSPECT	0.042	0.241	(0.007)	0.069	(0.061)	1.000					
YEAR_OPS	0.032	0.178	0.133	0.048	0.098	0.071	1.000				
BURDEN	0.141	0.340	(0.130)	(0.004)	0.225	0.024	0.243	1.000			
SOHPIST	0.244	0.561	(0.112)	0.077	0.174	0.085	0.331	0.414	1.000		
DIVERS	0.253	0.283	(0.095)	0.100	0.002	(0.074)	0.146	0.162	0.303	1.000	
LAB_REL	(0.162)	(0.110)	0.078	0.119	(0.153)	0.078	0.142	0.019	0.006	(0.018)	1.000

Note: This table reports matrix of correlation (Pearson correlation) between dependent variables and (non-categoric) explanatory variables. The calculation is based on 774 observations.

DESCRIPTIVE STATISTICS

Table 2 presents the descriptive statistics of the variables used in the estimation. After the filtering process, it looks like the data are reasonably well behaved. Except for TAX_INSPECT, all variables have 774 observations. The correlations, shown in Table 3, indicate that a somewhat high correlation exists between variables SIZE and SOPHIST (0.561). Nevertheless, we find that overall bivariate correlation structure is quite acceptable.

REGRESSION RESULTS

As explained earlier, we first perform ordered logistic regression. The results show that the parallel line assumption has been violated based on the Brant test. As Table 4 shows, the Brant test chi squares are 19.35 and 16.96 for Model A and Model B, respectively, both statistically significant at the 5% level. Therefore, at least one of the regressors must have a different coefficient for different category equation.

Because ordered logistic is not the correct method to use, we then proceed to generalized ordered logistic regression. To preserve parsimony, we impose coefficient restrictions on variables in which proportional assumptions hold (verified by a Wald test); this is the PPO model. For these variables, we could use the same coefficients for each values of *j* category, called

TABLE 4. Ordered Logistic Regression Estimation and Brant Test

Coefficient	Model A		Model B	
	Coef.	P_val	Coef.	P_val
SIZE	1.196***	0.005	1.108***	0.006
PL_OWN	-0.011*	0.086	-0.010	0.136
SALES_G	0.033	0.662		
TOBIN_Q			-0.038	0.329
TAX_INSPECT	-0.005	0.976	-0.025	0.876
BURDEN	0.054	0.338	0.082	0.159
YEAR_OPS	-0.006	0.735	-0.005	0.771
SOPHIST	0.164*	0.097	0.190**	0.050
DIVERS	0.188***	0.010	0.184***	0.013
LAB_REL	-0.166**	0.042	-0.191**	0.019
Pseudo R2	0.123		0.129	
$\chi 2$ Model	43.78***	0.000	48.78***	0.000
$\chi 2$ Brant Test	19.35**	0.022	16.96**	0.049

Note: This table reports the result of ordered logistic regression and test on the parallel line assumption (Brant test) with dependent variable FIN_CHOICE. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

TABLE 5. Baseline PPO Regressions

Coefficient	Model 1		Model 2	
	Coef.	P_val	Coef.	P_val
Beta				
SIZE	0.526***	0.002	0.503***	0.003
PL_OWN	-0.018***	0.000	-0.018***	0.000
SALES_G	0.056	0.162		
TOBIN_Q			0.007**	0.050
BURDEN	0.007	0.880	0.006	0.904
YEAR_OPS	0.000	0.986	0.000	0.972
SOPHIST	0.100*	0.090	0.111*	0.059
DIVERS	0.198***	0.000	0.198***	0.000
LAB_REL	-0.248***	0.000	-0.242***	0.000
Gamma				
TOBIN_Q			-0.011**	0.037
SOPHIST	-0.105**	0.013	-0.119***	0.005
Pseudo R2	0.130			0.137
$\chi 2$ Model	124.89***	0.000	126.04***	0.000
$\chi 2$ Prop. Assumption	8.070	0.326	4.990	0.545
Negative Pred. Prob		0.000		0.000

Note: This table reports the result of PPO regression with dependent variable FIN_CHOICE, complemented by tests on parallel assumption (Wald test) and specification (in sample cases of negative predicted probability). *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

beta. The test and estimation are worked like a stepwise regression using an autofit mechanism (Williams, 2006). We report here only that the chosen model no longer has a parallel line violation issue. Variables in which assumptions are not required to hold could have separate effect coefficients (called gamma). In addition to testing for the proportional odds assumption, we also test for proper specification. Williams (2016) states that a proper PPO model should not produce negative probability in sample cases[4].

As Table 5 illustrates, we find strong empirical support for our variables of interest: Business Sophistication, Revenue Diversification, and Labor Relationship. The coefficients for Business Sophistication are all positive (in the range of 0.100 to 0.111) but barely statistically significant (at the 10% level). Hence it seems that more-sophisticated enterprises tend to use greater leverage. More sophisticated business entities have better transparency and risk management hence would be more willing to accept outside financing. These findings are also confirmed by Fan et al. (2011) and Quartey et al. (2017).

Revenue Diversification is also positively correlated with financing choice in all model specifications (coefficient of 0.198, significant at the 1% level). Firms that have more-diversified revenue are more willing to accept financing from outsiders (i.e., creditors). Hang et al (2018), Bhaird and Lucey (2010), and Quartey et al. (2017) all find similar results. Aligned with these studies, we find diversification could be associated with more profit and less risk business, which subsequently linked with greater propensity in taking leverage.

The quality of the labor relationship seems to exert adverse influence on leverage. The coefficients are negative (in the range of –0.248 to –0.242) and statistically significant (at the 1% level). Our findings confirm the theoretical projection of Berk, Stanton, and Zechner (2010), in which labor-intensive firms are associated with low leverage. Higher bonding of labor to the firm will exert risk averse attitude in part of the labor that affect managerial financing decision. It might also

TABLE 6. Extended PPO Regressions with SALES_G as a Proxy for Profitability

Coefficient	**Model 3**		**Model 4**		**Model 5**		**Model 6**	
	Coef.	**p val**	**Coef.**	**p val**	**Coef.**	**p val**	**Coef.**	**p val**
Beta								
SIZE	0.521***	0.002	0.531***	0.002	0.544***	0.001	0.505***	0.003
PL_OWN	-0.018***	0.000	-0.019***	0.000	-0.018***	0.000	-0.018***	0.000
SALES_G	0.051	0.200	0.052	0.198	0.048	0.235	0.056	0.169
BURDEN	-0.001	0.991	0.029	0.545	0.004	0.935	0.009	0.852
YEAR_OPS	0.001	0.953	0.001	0.875	-0.001	0.950	0.000	0.974
SOPHIST	0.104*	0.076	0.150**	0.014	0.086	0.146	0.092	0.122
DIVERS	0.197***	0.000	0.208***	0.000	0.207***	0.000	0.199***	0.000
LAB_REL	-0.244***	0.000	-0.254***	0.000	-0.233***	0.000	-0.246***	0.000
CITY	-0.220	0.134						
FORJV			-0.855***	0.007				
PROV					-0.365***	0.047		
SECTOR							-0.105	0.297
Gamma								
SOPHIST	-0.114***	0.004	-0.107**	0.013	-0.107**	0.012	-0.105***	0.013
CITY	0.417***	0.002						
Pseudo R2	0.144		0.138		0.134		0.131	
$\chi2$ Model	133.85***	0.000	129.8***	0.000	130.66***	0.000	127.3***	0.000
$\chi2$ Prop. Assumption	14.97**	0.036	12.990	0.112	9.710	0.286	10.050	0.262
Negative Pred. Prob	0		0		0		0	

Note: This table reports the result of Extended PPO regression with dependent variable: FIN_CHOICE and Categoric Variables: CITY, FORJV, PROV and SECTOR. SALES_G is used as the profitability proxy. The results are complemented with tests on parallel assumption (Wald test) and specification, in sample cases of negative predicted probability. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

support Matsa's (2010) bargaining hypotheses, which suggests that firms use leverage, rather than labor, to improve their strategic position.

Size of the firm appears to have a positive effect on the odds proportion of taking financing from outsiders (banks and NBFIs, suppliers, or other sources). This finding supports the TOT hypothesis and is consistent with Kayo and Kimura (2011), Quartey et al. (2017), Fan et al. (2012), and Hang et al. (2018). Larger firm (hence larger revenue); ceteris paribus, means greater tax saving could be obtained from using leverage. Nevertheless, it seems that a higher percentage of tangible asset ownership exerts an inward tendency on the firm's financing choice. Higher percentage of property owned by the firm exerts a negative and highly significant impact to leverage. Therefore, our finding also supports the POT hypothesis: greater tangible assets means more private value that results in less incentive to get external financing. Bhaird and Lucey (2010), Forte et al. (2014), and Bandyopadhyay and Barua (2016) are studies that find similar results.

The influence of profitability if measured by sales growth is positive but not statistically significant. Nevertheless, if we use Tobin's Q, we find a positive and significant (at the 5% level) coefficient. This finding supports the TOT hypothesis and is aligned with empirical evidence by Graham and Harvey (2001), Bhaird and Lucey (2014), and Forte, Barros, and Nakamura (2014). We find no supporting evidence from bankruptcy and years of operation proxies. The coefficients are not statistically significant.

There are two variables for which the proportional odds assumption does not hold: TOBIN_Q (Model 1) and Business Sophistication (Models 1 and 2). Note that these gammas are the coefficients of respective variables in regressions for dependent variable: Financing choice of odds ratio using Retained earnings (category 1) and Loan from Banks and NBFIs (category 2) versus Other (category 3). Because the dependent variable has only three categories, they can be thought of as the (algebraic) sign inverse probability of other type of financing versus retained earnings and loans from bank and NBFIs.

TABLE 7. Extended PPO Regressions with TOBIN_Q as a Proxy of Profitability

Coefficient	**Model 7**		**Model 8**		**Model 9**		**Model 10**	
	Coef.	**p val**	**Coef.**	**p val**	**Coef.**	**p val**	**Coef.**	**p val**
Beta								
SIZE	0.505***	0.003	0.510***	0.003	0.531***	0.002	0.481***	0.004
PL_OWN	-0.018***	0.000	-0.018***	0.000	-0.018***	0.000	-0.018***	0.000
TOBIN_Q	0.003	0.253	0.007*	0.058	0.007**	0.036	0.007*	0.054
BURDEN	0.000	0.999	0.028	0.563	0.002	0.961	0.007	0.879
YEAR_OPS	0.000	0.958	0.001	0.899	-0.001	0.923	0.000	0.964
SOPHIST	0.112**	0.056	0.160***	0.009	0.094	0.108	0.104*	0.081
DIVERS	0.196***	0.000	0.208***	0.000	0.207***	0.000	0.199***	0.000
LAB_REL	-0.238***	0.000	-0.249***	0.000	-0.226***	0.000	-0.240***	0.000
CITY	-0.218	0.139						
FORJV			-0.855***	0.007				
PROV					-0.387**	0.035		
SECTOR							0.193	0.306
Gamma								
TOBIN_Q			-0.011**	0.039	-0.011**	0.034	-0.011**	0.037
SOPHIST	-0.114***	0.004	-0.121***	0.004	-0.121**	0.004	-0.119***	0.004
CITY	0.421***	0.002						
Pseudo R2	0.143		0.144		0.141		0.138	
$\chi 2$ Model	136.330***	0.000	130.200***	0.000	133.120***	0.000	128.550***	0.000
$\chi 2$ Prop. Assumption	14.460**	0.044	9.100	0.245	7.320	0.397	8.410	0.298
Negative Pred. Prob	0.000		0.000		0.000		0.000	

Note: This table reports the result of Extended PPO regression with dependent variable: FIN_CHOICE and categoric variables: CITY, FORJV, PROV, and SECTOR. TOBIN_Q is used as the profitability proxy. The results are complemented with tests on parallel assumption (Wald test) and the specification test: in sample cases of negative predicted probability. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

TABLE 8. Extended PPO Estimation: Interaction Variables with SALES_G as Profitability Proxy

Coefficient	Model 11		Model 12		Model 13		Model 14		Model 15		Model 16		Model 17		Model 18		Model 19	
	Coef.	p val	Coef.	p val	Coef.	p val	Coef.	p val	Coef.	p val	Coef.	p val	Coef.	p val	Coef.	p val	Coef.	p val
Beta																		
SIZE	0.530**	0.017	0.492***	0.004	0.539***	0.002	0.506***	0.003	0.507***	0.003	0.523***	0.002	0.524***	0.002	0.488***	0.005	0.526***	0.002
PL_OWN	-0.018***	0.000	-0.020***	0.000	-0.018***	0.000	-0.019***	0.000	-0.018***	0.000	-0.018***	0.000	-0.018***	0.000	-0.020***	0.000	-0.018***	0.000
SALES_G	0.048	0.221	0.058	0.165	0.059	0.139	0.051	0.203	0.056	0.175	0.058	0.151	0.050	0.223	0.050	0.227	0.056	0.162
BURDEN	0.006	0.900	0.005	0.920	0.011	0.822	0.028	0.558	0.010	0.829	0.008	0.861	0.005	0.925	0.009	0.844	0.007	0.880
YEAR_OPS	-0.001	0.893	-0.001	0.950	-0.002	0.867	0.001	0.870	0.001	0.912	0.000	0.998	0.000	0.985	-0.002	0.863	0.000	0.985
SOPHIST	0.187	0.296	0.107*	0.071	0.100*	0.089	0.164***	0.009	0.115**	0.050	0.098*	0.094	0.131**	0.034	0.112*	0.060	0.100*	0.092
DIVERS	0.183***	0.001	-0.011	0.964	0.200***	0.000	0.207***	0.000	0.239***	0.000	0.203***	0.000	0.206***	0.000	0.120	0.142	0.198***	0.000
LAB_REL	-0.240***	0.000	-0.247***	0.000	-0.466***	0.002	-0.256***	0.000	-0.243***	0.000	-0.229***	0.000	-0.236***	0.000	-0.248***	0.000	-0.248***	0.000
SIZE*SOPHIST	-0.020	0.776																
SIZE*DIVERS			0.087	0.313														
SIZE*LAB_REL					0.093	0.132												
FORJV*SOPHIST							-0.154***	0.009										
FORJV*DIVERS									-0.247**	0.034								
FORJV*LAB_REL											-0.110	0.364						
PROV*SOPHIST													-0.083	0.126				
PROV*DIVERS															0.163	0.120		
PROV*LAB_REL																	0.001	0.994
Gamma																		
SIZE	-0.846**	0.033	0.275**	0.030											0.333**	0.013		
PL_OWN			0.005**	0.026											0.005**	0.026		
SALES_G																		
SOPHIST	-2.798**	0.017	-0.164***	0.000	-0.103**	0.015	-0.107**	0.013	-0.129***	0.006	-0.106**	0.013	-0.107**	0.012	-0.187***	0.000	-0.105**	0.013
DIVERS			0.293**	0.047														
SIZE*SOPHIST	0.902**	0.021																
SIZE*DIVERS			-0.132**	0.029														
FORJV*DIVERS									0.212**	0.031								
PROV*DIVERS															-0.124**	0.046		
Pseudo R2	0.158		0.141		0.132		0.137		0.136		0.131		0.133		0.141		0.130	
χ2 Model	125.240***	0.000	134.690***	0.000	123.620***	0.000	127.970***	0.000	131.340***	0.000	127.940***	0.000	128.670***	0.000	128.630***	0.000	125.29***	0.000
χ2 Prop. Assumption	7.380	0.287	1.990	0.737	9.060	0.337	12.210	0.142	9.950	0.191	9.150	0.330	7.890	0.445	3.270	0.659	8.790	0.360
Negative Pred. Prob	162		27		0		0		10		0		0		72		0	

Note: This table reports the result of Extended PPO regression with dependent variable FIN_CHOICE and interaction variables. SALES_G is used as the profitability proxy. The results are complemented with tests on parallel assumption (Wald test) and the specification test: in sample cases of negative predicted probability. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

TABLE 9. Extended PPO Estimation: Interaction Variable with TOBIN_Q as Profitability Proxy

Coefficient	Model 20		Model 21		Model 22		Model 23		Model 24		Model 25		Model 26		Model 27		Model 28	
	Coef.	p val	Coef.	p val	Coef.	p val	Coef.	p val	Coef.	p val	Coef.	p val	Coef.	p val	Coef.	p val	Coef.	p val
Beta																		
SIZE	0.557**	0.015	0.514***	0.002	0.509***	0.003	0.485***	0.005	0.485***	0.005	0.500***	0.003	0.506***	0.003	0.476***	0.006	0.503***	0.003
PL_OWN	-0.018***	0.000	-0.018***	0.000	-0.018***	0.000	-0.019***	0.000	-0.018***	0.000	-0.018***	0.000	-0.018***	0.000	-0.020***	0.000	-0.018***	0.000
TOBIN_Q	0.007**	0.045	0.007**	0.045	0.006*	0.078	0.007*	0.058	0.007*	0.052	0.007**	0.047	0.007**	0.046	0.003	0.203	0.007**	0.050
BURDEN	0.005	0.914	0.005	0.925	0.009	0.851	0.027	0.576	0.009	0.850	0.007	0.885	0.003	0.951	0.010	0.830	0.006	0.907
YEAR_OPS	-0.001	0.872	0.000	0.998	-0.001	0.869	0.001	0.891	0.001	0.940	0.000	0.977	0.000	0.959	-0.002	0.853	0.000	0.974
SOPHIST	0.243	0.172	0.106*	0.071	0.111*	0.058	0.174***	0.005	0.126**	0.031	0.110*	0.061	0.143**	0.019	0.119**	0.044	0.111*	0.060
DIVERS	0.184***	0.001	-0.042	0.862	0.199***	0.000	0.207***	0.000	0.239***	0.000	0.202***	0.000	0.206***	0.000	0.117	0.154	0.198***	0.000
LAB_REL	-0.235***	0.000	-0.239***	0.000	-0.460***	0.006	-0.252***	0.000	-0.237***	0.000	-0.224***	0.000	-0.230***	0.000	-0.240***	0.000	-0.239***	0.001
SIZE*SOPHIST	-0.039	0.578																
SIZE*DIVERS			0.096	0.282														
SIZE*LAB_REL					0.091	0.179												
FORJV*SOPHIST							-0.154***	0.009										
FORJV*DIVERS									-0.248**	0.035								
FORJV*LAB_REL											-0.106	0.387						
PROV*SOPHIST													-0.087*	0.104				
PROV*DIVERS															0.168	0.109		
PROV*LAB_REL																	-0.005	0.962
Gamma																		
SIZE	-0.934**	0.021													0.339**	0.012		
PL_OWN															0.005**	0.025		
TOBIN_Q	-0.011**	0.029	-0.011**	0.031	-0.011**	0.033	-0.011**	0.038	-0.011**	0.039	-0.011**	0.038	-0.011**	0.037			-0.011**	0.037
SOPHIST	-2.848**	0.016	-0.109***	0.008	-0.118***	0.005	-0.121***	0.004	-0.143***	0.002	-0.120***	0.004	-0.121***	0.004	-0.187***	0.000	-0.119***	0.004
DIVERS			0.347**	0.024														
SIZE*SOPHIST	0.922**	0.020																
SIZE*DIVERS			-0.143**	0.031														
FORJV*DIVERS									0.206**	0.036								
PROV*DIVERS															-0.125**	0.044		
Pseudo R2	0.164		0.141		0.138		0.144		0.142		0.137		0.139		0.141		0.137	
χ2 Model	126.410***	0.000	139.620***	0.000	124.440***	0.000	128.600***	0.000	132.410***	0.000	128.490***	0.000	129.650***	0.000	134.61***	0.000	126.220***	0.000
χ2 Prop. Assumption	3.920	0.561	5.290	0.381	5.150	0.642	8.360	0.302	6.780	0.342	6.510	0.481	4.840	0.679	4.990	0.417	5.460	0.604
Negative Pred. Prob	162		16		0		0		8		0		0		72		0	

Note: This table reports the result of Extended PPO regression with dependent variable FIN_CHOICE and interaction variables. TOBIN_Q is used as the profitability proxy. The results are complemented with tests on parallel assumption (Wald test) and the specification test: in sample cases of negative predicted probability. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

The TOBIN_Q gamma coefficient is negative: 0.011 and statistically significant in Model 1. It means that the higher TOBIN_Q, the higher the probability of using another type of financing (in the "other type of financing" odds regression). The gamma coefficients of Business Sophistication are all negative in the range of –0.119 to –0.105 (and statistically significant), which means the odds of using other type of financing is greater the higher Business Sophistication (in other type of financing odds regression).

We extend our baseline model by including categoric variables: City Category, Ownership (Foreign-Joint Venture versus Domestic), Province Category, and Economic Sector Category. We first estimate using Sales Growth as a profitability proxy; Table 6 presents the results. Of the four additional categoric variables, only Ownership and Province Category have statistically significant coefficients. Interestingly, we find a large negative magnitude effect of foreign-Joint Venture dummy ownership (FORJV). The coefficient is –0.855 and highly significant (at the 1% level). This finding shows a strong tendency among foreign-JV firms for using retained earnings compared with other financing types. This finding is similar to Li et al. (2009), Margaritis and Psillaki (2010), and Gurunlu and Gursoy (2010). It could be that foreign-joint venture entities have more private information, or they have limited need of funds due to financing facilities provided by the parent company (or their foreign partner). Other studies produce different results, indicating that foreign firms tend to be more open to outsiders (Phung & Ley 2013; Quartey et al. 2017).

The coefficient of Province Category is also negative (–0.365) and significant (at the 5% level). This result offers evidence that firms located in Java and Sumatra are more conservative in terms of financing. They prefer using retained earnings to outside financing and we suspect that it might be cultural related factors. Categoric variables: City and Economic Sector are not significant. We can see also that PPO regression on City category suffers from proportional odds assumption violation.

We obtain a qualitatively similar finding when we change the profitability proxy from Sales Growth to TOBIN_Q. From four additional categoric variables, again, only Ownership and Province Category coefficients are statistically significant. Here we find the coefficients to be –0.855 and –0.387 for Foreign-Joint Venture and Province Category, respectively.

Finally, we extend the analysis further by incorporating interaction variables. We are interested in possible interaction of firm size, ownership, and province category with our variables of interest: Business Sophistication, Revenue Diversification, and

TABLE 10. Robustness Check: Limited Model

Coefficient	Ordered Logit		Ordered Probit		Generalized Logit		Generalized Probit		PPO	
	Coef.	p val	Coef.	p val	Coef.	p val	Coef.	p val	Coef.	p val
Beta										
SOPHIST	0.145***	0.001	0.082***	0.001					0.170***	0.000
DIVERS	0.242***	0.000	0.145***	0.000					0.245***	0.000
LAB_REL	-0.251***	0.000	-0.150***	0.000					-0.253***	0.000
Eq1										
SOPHIST					0.170***	0.000	0.104***	0.000		
DIVERS					0.250***	0.000	0.147***	0.000		
LAB_REL					-0.258***	0.000	-0.154***	0.000		
Eq2										
SOPHIST					0.055	0.290	0.034	0.270		
DIVERS					0.244***	0.000	0.141***	0.000		
LAB_REL					-0.237***	0.000	-0.140***	0.000		
Gamma										
SOPHIST									-0.115***	0.004
Pseudo R2	0.063		0.062		0.072				0.072	
$\chi2$ Model	73.130***	0.000	73.320***	0.000	78.560***	0.000	82.030***	0.000	78.480***	0.000
$\chi2$ Prop. Assumption									0.480	0.788
Negative Pred. Prob									0	

Note: This table reports the results of several regressions methods of FIN_CHOICE only on variables of interest: SOPHIST, DIVERS, and LAB_REL. Regression methods used are ordered logit, ordered probit, generalized logit, generalized probit, and PPO. The results are complemented with tests on parallel assumption (Wald test) and specification test: in sample cases of negative predicted probability. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

TABLE 11. Robustness Check Baseline Model; Dependent Variable: Financing Choice

Coefficient	Model 29		Model 30		Model 31		Model 32		Model 33		Model 34	
	Coef.	P_val	Coef.	P_val	Coef.	P_val	Coef.	P_val	Coef.	P_val	Coef.	P_val
Beta												
SIZE	0.649***	0.000	0.600***	0.000	0.500***	0.003	0.638***	0.000	0.585***	0.000	0.492***	0.003
PL_OWN	-0.018***	0.000	-0.019***	0.000	-0.019***	0.000	-0.018***	0.000	-0.019***	0.000	-0.018***	0.000
SALES_G	0.064*	0.093	0.056	0.190	0.048	0.244						
TOBIN_Q							0.007**	0.049	0.007**	0.043	0.008**	0.023
BURDEN	0.050	0.275	0.009	0.847	0.017	0.715	0.053	0.238	0.008	0.864	0.014	0.756
YEAR_OPS	0.002	0.845	-0.002	0.854	-0.003	0.773	0.002	0.838	-0.002	0.829	-0.003	0.745
SOPHIST			0.130**	0.023	0.098*	0.089			0.139**	0.014	0.108*5	0.061
DIVERS	0.206***	0.000			0.188***	0.000	0.207***	0.000			0.189***	0.000
LAB_REL	-0.247***	0.000	-0.241***	0.000			-0.241***	0.000	-0.235***	0.000		
Gamma												
TOBIN_Q							-0.010**	0.048	-0.010**	0.040	-0.011**	0.046
BURDEN	-0.09**	0.018					-0.102***	0.010	-0.116***	0.005	-0.114***	0.005
SOPHIST			-0.102**	0.014	-0.101**	0.014						
Pseudo R2	0.129		0.118		0.111		0.134		0.124		0.119	
$\chi2$ Model	114.490***	0.000	115.560***	0.000	105.990***	0.000	116.600***	0.000	116.590***	0.000	110.090***	0.000
$\chi2$ Prop. Assumption	4.020	0.674	8.200	0.224	7.860	0.248	2.090	0.836	4.790	0.442	4.870	0.432
Negative Pred. Prob	0		0		0		0		0		0	

Note: This table reports the results regressions of baseline model in which the variables of interest (SOPHIST, DIVERS, and LAB_REL) are included. The results are complemented with tests on parallel assumption (Wald test) and specification test: in sample cases of negative predicted probability. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Labor Relationship. Because of limitations in degrees of freedom (especially at the categorical level), we estimate only a partial interaction effect (subsequentially included). There are 18 interaction coefficients estimated from each profitability proxy: Sales Growth and TOBIN_Q.

Table 8 and Table 9 present the result of extended model, in which we included the interaction variables for each profitability proxy. From 18 coefficients of interaction terms, we find only three that are statistically significant and of acceptable specification. The coefficients are FORJV*SOPHIST (Model 13); coefficient = –0.154 (significant at the 1% level), FORJV*SOPHIST (Model 23); coefficient = –0.154 (significant at the 1% level) and PROV*SOPHIST (Model 26); coefficient = –0.067 (significant at the 10% level). Other interaction terms are either not statistically significant, have negative probability in sample cases, or both. Based on these findings, qualitatively we conclude that the interaction terms might not play an important role in determining financing choice.

ROBUSTNESS CHECK

We conducted two types of robustness checks, aiming to verify the statistical importance of our variable of interest. The first is by regressing Financing Choice to our variables of interest only, called a limited model. Here we employ five estimation techniques: ordered logit, ordered probit, generalized logit, generalized probit, and PPO. The second check is by sequentially inserting our variables of interest to the regression. No algebraic sign or substantial numerical changes were considered as a support of robustness to our findings. We conduct our robustness check only to the baseline regression (Table 5).

Table 10 presents the result of limited model estimation. Here we can see that quantitively, none our variables of interest deviate from the baseline regressions, either in algebraic sign or numerical size. We find a similar qualitative conclusion when performing the second robustness check (see Table 11 below).

CONCLUSION

In this study, we estimate the relationship of financing choice with various regressors. Specifically, we want to see how our variables of interest (Business Sophistication, Revenue Diversification, and Labor Relationship) affect Financing Choice. We also include variables from established theories, notably TOT and POT: Firm Size, Percentage of Property Owned by the Firm, Tax Burden, Profitability and Probability of Bankruptcy. We then go further and include additional categoric variables: City, Ownership and Province, as well as some interaction terms.

As a straightforward application of financing structure theories, we employ ordinal response logistic regression. Upon testing and reviewing variables and data, we find that a variant of generalized logistic regression—partial proportional odds regression, introduced by Williams (2016)—is preferred over standard ordered logistic jekoregression

We find the following important insights from estimation. First, business sophistication is positively correlated with financing choice. The better a firm's business sophistication, the more willing the firm will be to accept financing from outsiders. Second, revenue diversification is positively associated with financing choice. On average, a more diversified firm tends to prefer external financing. Third, quality of labor relationship has negative effect on external financing. A better labor relationship corresponds to a greater preference for internal financing. Fourth, findings in support of trade-off theory are the positive and significant coefficients of SIZE and TOBIN_Q. On the other hand, the negative and significant coefficient of PL_OWN supports POT. Fifth, foreign ownership and province location both have a negative influence on financing choice. Foreign firms and firms located in Java and Sumatra prefer internal financing. Lastly, there seems to be a weak effect from interaction between SIZE, FORJV, and PROV with variables of interest to financing choice.

The above key insights show that a better business sophistication and greater revenue diversification tend to make firms to be open to outside financing. Outside financing in turn would bring better corporate governance as a disciplining device to management (Brealey et al, 2017). Better corporate governance will improve transparency and credit information spur innovation and eventually economic growth itself (Allen & Gale 1999). Therefore, regulator should play an active role in encouraging adoption of modern business practices by firms. Especially due to current advancement; many technologies are cheap to adopt.

A concern should be in place since we find a negative effect of better labor relationship on external funding. It perhaps signaling an entrenched attitude of employee that might potentially lead for unfavorable outcome like non optimal financial performance (Guedri & Hollandts 2008; O'Boyle et al. 2016). On the other hand, this finding could also be interpreted as heightened ownership of employee which can also be beneficial (Matsa 2018). Therefore, this issue perhaps should be approached cautiously by practitioner and regulator alike. The role of labor relationship to simultaneously financing and performance is open to further study.

Our study provides evidence of the role of business sophistication, revenue diversification and quality of labor to financial choice of the firms. Since World Bank Enterprise Survey also provides database for 40 other countries and some of them are of panel structure; therefore, it could be avenues for future research. We also recommend using the econometric method: PPO as it has relaxed and more realistic assumption to use.

NOTES

1 There are two types of capital financing structure (in percentage of capital expense) in the dataset: (a) working capital and (b) capital expenditure. Further investigation of the dataset shows, however, that using capital expenditure would not yield reliable estimates because of the small degrees of freedom (only 84 valid responses). Therefore, we rely only on the working capital structure and hence use the term "financing structure" rather than capital structure.

2 In defining financing priority, we used working capital only because of adequacy of sample. We grouped the percentage of financing by three categories: retained earnings, loan by banks and non-bank financial institutions (NBFIs), and other sources. Then we assigned an ordinal number to indicate the most-used type of financing: 1 if the financing is obtained mostly from retained earnings, 2 if from loans provided by banks and/or NBFIs, and 3 if from other sources.

3 We modify the definition of variables from the original (WB Survey) to increase our degrees of freedom. CITY is simplified to three categories (from four in World Bank) by merging the category of city population of 50,000 into the 250,000-population category. PROV is simplified into two categories (Java or Sumatra) from the original 10. Java and Sumatra are Indonesia's most populated islands and are growth centers within the nation. SECTOR is simplified into two categories: sectors that we perceive as capital intensive (SECTOR=1) versus non-capital intensive (SECTOR=0). Originally this variable had nine categories.

4 Unfortunately, after performing estimation and testing, it turned out that TAXINSPECT is no longer viable. Every PPO estimation that includes this variable suffers from negative predicted probability in sample cases. Therefore, we conclude that we should remove this variable.

REFERENCES

Abe, M., Troilo, M., & Batsaikhan, O. 2015. Financing small and medium enterprises in Asia and the Pacific. *Journal of Entrepreneurship and Public Policy*.

Aitchison, J., & Silvey, S. D. 1957. The generalization of probit analysis to the case of multiple responses. *Biometrika* 44(1/2): 131-140.

Akhtar, S., & Oliver, B. 2009. Determinants of capital structure for Japanese multinational and domestic corporations. *International Review of Finance* 9(1-2): 1-26.

Allen, F., & Gale, D. 1999. Diversity of opinion and financing of new technologies. *Journal of Financial Intermediation* 8(1-2): 68-89.

An, Z., Li, D., & Yu, J. 2016. Earnings management, capital structure, and the role of institutional environments. *Journal of Banking & Finance* 68: 131-152.

Bandyopadhyay, A., & Barua, N. M. 2016. Factors determining capital structure and corporate performance in India: Studying the business cycle effects. *The Quarterly Review of Economics and Finance* 61: 160-172.

Berger, A. N., & Di Patti, E. B. 2006. Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry. *Journal of Banking & Finance* 30(4): 1065-1102.

Bhaird, C.M, & Lucey, B. 2010. Determinants of capital structure in Irish SMEs. *Small Business Economics* 35(3): 357-375.

Bhaird, C. M, & Lucey, B. 2014. Culture's influences: An investigation of inter-country differences in capital structure. *Borsa Istanbul Review* 14(1): 1-9.

Berk, J. B., Stanton, R., & Zechner, J. 2010. Human capital, bankruptcy, and capital structure. *The Journal of Finance* 65(3): 891-926.

Borgia, D., & Newman, A. 2012. The influence of managerial factors on the capital structure of small and medium-sized enterprises in emerging economies: Evidence from China. *Journal of Chinese Entrepreneurship* 4(3): 180-205.

Brounen, D., De Jong, A., & Koedijk, K. 2004. Corporate finance in Europe: Confronting theory with practice. *Financial Management* : 71-101.

Brant, R. 1990. Assessing proportionality in the proportional odds model for ordinal logistic regression. *Biometrics*, 1171-1178.

Brealey, R. A., Myers & S. C., Allen, F. 2017. *Principles of Corporate Finance, 12/e* (Vol. 12). McGraw-Hill Education.

Denis, D. J., & McKeon, S. B. 2012. Debt financing and financial flexibility evidence from proactive leverage increases. *The Review of Financial Studies* 25(6): 1897-1929.

Drobetz, W., Pensa, P., & Wöhle, C. B. 2006. Capital structure policy in theory and practice: results of an empirical survey. *Journal of Business Economics* 76(3): 253-285.

Fan, J. P., Wei, K. J., & Xu, X. 2011. Corporate finance and governance in emerging markets: A selective review and an agenda for future research, *Journal of Corporate Finance* 17(2): 207-2014.

Fan, J. P., Titman, S., & Twite, G. 2012. An international comparison of capital structure and debt maturity choices. *Journal of Financial and quantitative Analysis* 47(1): 23-56.

Forte, D., Barros, L. A., & Nakamura, W. T. 2013. Determinants of the capital structure of small and medium sized Brazilian enterprises. *BAR-Brazilian Administration Review* 10(3): 347-369.

Graham, J. R., & Leary, M. T. 2011. A review of empirical capital structure research and directions for the future. *Annu. Rev. Financ. Econ.* 3(1): 309-345.

Guedri, Z., & Hollandts, X. 2008. Beyond dichotomy: The curvilinear impact of employee ownership on firm performance. *Corporate Governance: An International Review* 16(5): 460-474.

Gurunlu, M., & Gursoy, G. 2010. The Influence of Foreign Ownership on Capital Structure of Non-Financial Firms: Evidence from Istanbul Stock Exchange. *IUP Journal of Corporate Governance* 9(4).

Hang, M., Geyer-Klingeberg, J., Rathgeber, A. W., & Stöckl, S. 2018. Measurement matters—A meta-study of the determinants of corporate capital structure. *The Quarterly Review of Economics and Finance* 68: 211-225.

Haron, R. 2018. Firm Level, Ownership Concenteration and Industry Level Determinants of Capital Structure in Emerging Market: Indonesia Evidence. *Asian Academy of Management Journal of Accounting & Finance* 14(1).

Haugen, R. A., & Senbet, L. W. 1978. The insignificance of bankruptcy costs to the theory of optimal capital structure. *The Journal of Finance* 33(2): 383-393.

Jensen, M. C. 1986. Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review* 76(2): 323-329.

Jensen, M. C., & Meckling, W. H. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3(4): 305-360.

Kayo, E. K., & Kimura, H. 2011. Hierarchical determinants of capital structure. *Journal of Banking & Finance* 35(2): 358-371.

Kieschnick, R., & Moussawi, R. 2018. Firm age, corporate governance, and capital structure choices. *Journal of Corporate Finance* 48: 597-614.

Kraus, A., & Litzenberger, R. H. 1973. A state-preference model of optimal financial leverage. *The journal of finance*, *28*(4), 911-922.

Li, K., Yue, H., & Zhao, L. 2009. Ownership, institutions, and capital structure: Evidence from China. *Journal of Comparative Economics* 37(3): 471-490.

Long, J. S., & Freese, J. . 2014Regression Models for Categorical Dependent Variables Using Stata. 3rd Edition. Stata Press.

Machmud, Z. & A. Huda. 2011. 'SMEs' Access to Finance: An Indonesia Case Study', in Selected East Asian Economies', in Harvie, C., S. Oum, & D. Narjoko (eds.), *Small and Medium Enterprises (SMEs) Access to Finance in Selected East Asian Economies*. ERIA Research Project Report 2010-14, Jakarta: ERIA. pp.261-290.

Margaritis, D., & Psillaki, M. 2010. Capital structure, equity ownership and firm performance. *Journal of Banking & Finance* 34(3): 621-632.

Matsa, D. A. 2010. Capital structure as a strategic variable: Evidence from collective bargaining. *The Journal of Finance* 65(3): 1197-1232.

Matsa, D. A. 2018. Capital structure and a firm's workforce. *Annual Review of Financial Economics* 10: 387-412.

Modigliani, F., & Miller, M. H. 1958. The cost of capital, corporation finance and the theory of investment. *American Economic Review* 48(3): 261–297.

Moosa, I., & Li, L. 2012. Firm-specific factors as determinants of capital structure: evidence from Indonesia. *Review of Pacific Basin Financial Markets and Policies 15*(02): 1150007.

Myers, S. C. 1977. Determinants of corporate borrowing. *Journal of Financial Economics* 5(2): 147-175.

Myers, S. C., & Majluf, N. S. 1984. Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics* 13(2): 187-221.

Ngah-Kiing Lim, E., Das, S. S., & Das, A. 2009. Diversification strategy, capital structure, and the Asian financial crisis (1997–1998): Evidence from Singapore firms. *Strategic Management Journal* 30(6): 577-594.

O'Boyle, E. H., Patel, P. C., & Gonzalez-Mulé, E. 2016. Employee ownership and firm performance: a meta-analysis. *Human Resource Management Journal* 26(4): 425-448.

Phung, D. N., & Le, T. P. V. 2013. Foreign Ownership, Capital Structure and Firm Performance: Empirical Evidence from Vietnamese Listed Firms. *IUP Journal of Corporate Governance* 12(2).

Quartey, P., Turkson, E., Abor, J. Y., & Iddrisu, A. M. 2017. Financing the growth of SMEs in Africa: What are the contraints to SME financing within ECOWAS? *Review of Development Finance* 7(1): 18-28.

Salas-Velasco, M. 2018. Production efficiency measurement and its determinants across OECD countries: The role of business sophistication and innovation. *Economic Analysis and Policy* 57: 60-73.

Vos, E., Yeh, A. J. Y., Carter, S., & Tagg, S. 2007. The happy story of small business financing. *Journal of Banking & Finance* 31(9): 2648-2672.

Williams, R. 2006. Generalized ordered logit/partial proportional odds models for ordinal dependent variables. *The Stata Journal* 6(1): 58-82.

Williams, R. 2016. "Understanding and interpreting generalized ordered logit models. *The Journal of Mathematical Sociology* 40(1): 7-20.

Welch, I. 2004. Capital structure and stock returns. *Journal of Political Economy* 112(1): 106-131

Moch. Doddy Ariefianto
Accounting Department
BINUS Graduate Program-Master Accounting
Bina Nusantara University
Jakarta, 11480
INDONESIA
E-mail: moch.areifianto@binus.eduE-mail:

Irwan Trinugroho*
Faculty of Economics and Business
Universitas Sebelas Maret
Jalan Ir. Sutami 36 A
Surakarta, Central Java
INDONESIA
E-mail: irwan_t@staff.uns.ac.id

Ahmad Erani Yustika
Department of Economics
Faculty of Economics and Business
Brawijaya University and Institute for Development of Economics and Finance (INDEF)
Jl. MT Haryono No. 165, Malang, 65145
INDONESIA
E-mail: erani@indef.or.id

Wahyoe Soedarmono
Faculty of Business
Sampoerna University
L'Avenue Office, Jl. Raya Pasar Minggu Kav.16A
Pancoran, Jakarta 12780
INDONESIA
E-mail: wahyoe.soedarmono@sampoernauniversity.ac.id

*Corresponding author

Jurnal Ekonomi Malaysia

COUNTRY

Malaysia

Universities and research institutions in Malaysia

SUBJECT AREA AND CATEGORY

Business, Management and Accounting
└ Business, Management and Accounting (miscellaneous)

Economics, Econometrics and Finance
└ Economics, Econometrics and Finance (miscellaneous)

PUBLISHER

Penerbit Universiti Kebangsaan Malaysia

Penerbit Universiti Kebangsaan Malaysia in Scimago Institutions Rankings

H-INDEX

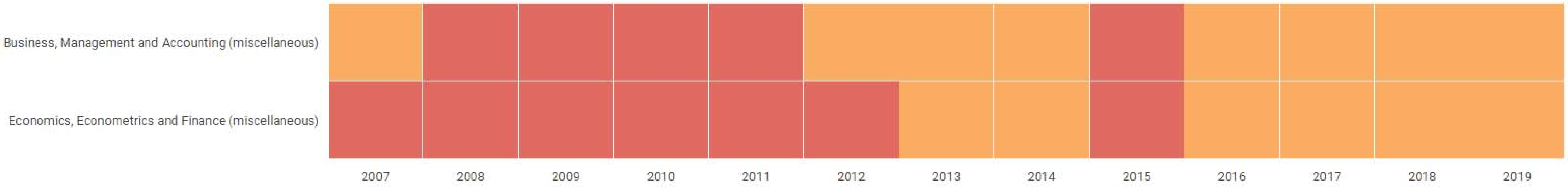
7

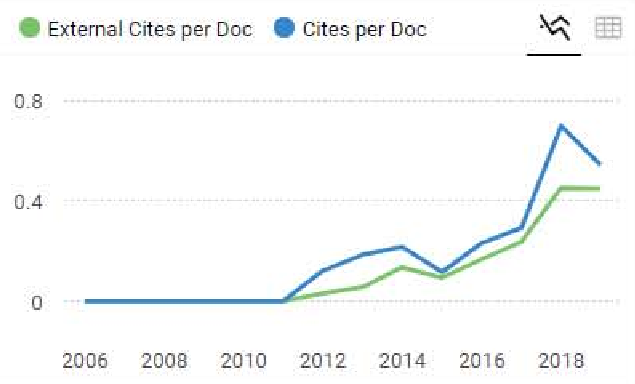
PUBLICATION TYPE	ISSN	COVERAGE	INFORMATION
Journals	01261962	1981, 1983, 2006-2019	Homepage How to publish in this journal jem@ukm.my; jurnalfep@gmail.com

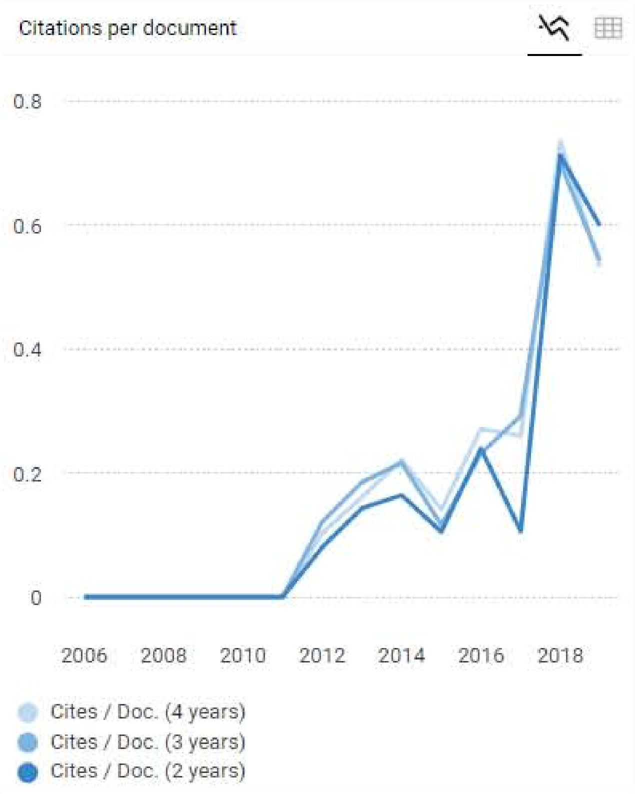
SCOPE

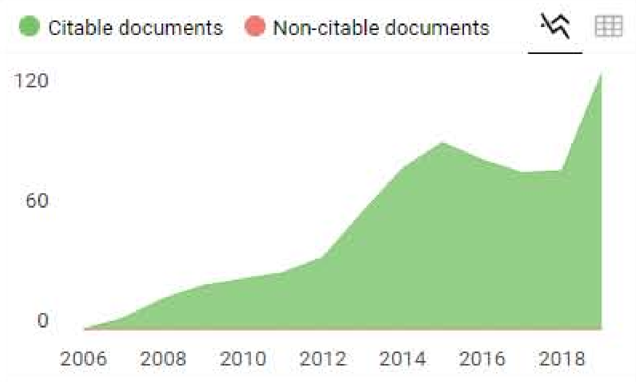
Jurnal Ekonomi Malaysia (JEM) is a Scopus indexed peer reviewed journal published by UKM Press (Penerbit UKM), Universiti Kebangsaan Malaysia. The journal publishes original research articles as well as short notes, comments and book reviews on all aspects of economics, particularly those pertaining to the developing economies. Articles are published in both English and Malay.

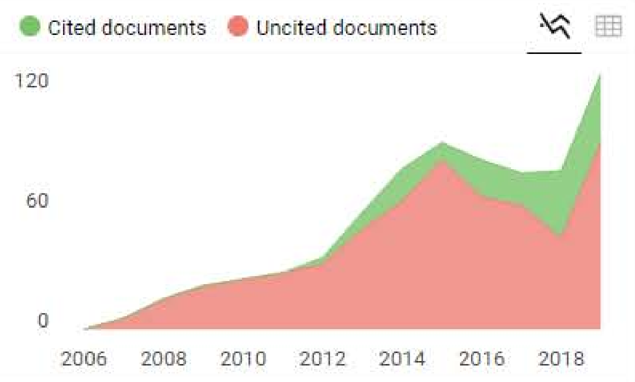
Quartiles


Business, Management and Accounting (miscellaneous)
Economics, Econometrics and Finance (miscellaneous)
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019









← Show this widget in your own website

Just copy the code below and paste within your html code:

<a href="https://www.scima