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IMPACT OF CORPORATE GOVERNANCE AND OWNERSHIP STRUCTURE ON SURVIVAL OF INITIAL PUBLIC OFFERINGS: EVIDENCE FROM THE PHILIPPINES

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ABSTRACT

This paper examines the impact of corporate governance and ownership structure variables on the survival of initial public offerings in the Philippine Stock Exchange. Using a sample of 141 firms that went public from 1989-2011 and a seven-year observation period, the paper finds that 93.62% of IPOs survive. Employing the Cox proportional hazards model, the paper finds a negative significant relationship between survival and the ownership ratio between top five and non-top five owners. In addition, there is a negative significant relationship between survival and manufacturing industry sector and firm size. Furthermore, there is a positive significant relationship between survival and ownership retained by original owners. Moreover, there is an insignificant relationship between survival and percentage of independent directors, number of underwriters, age of the IPO firm, type of offering, and return on assets.

JEL: G3, G32, G34

KEYWORDS: Corporate Governance, Ownership Structure, Initial Public Offering, Survival, Delisting, Philippines

INTRODUCTION

Finance literature contains substantial studies on Initial Public Offerings (IPOs). One stream of studies focused on explaining the phenomenon of underpricing of IPOs (Ibbotson, 1975, Leland & Pyle, 1977, Beatty, 1989, Carter & Manaster, 1990, Loughran, Ritter & Rydqvist, 1994, Sullivan & Unite, 1999, Gumanti, Lestari & Manan, 2016). Another stream of studies focused on explaining the under-performance of IPOs in the aftermarket (Ritter J.R., 1991, Sullivan, M.J. & Unite, A.A., 2001). Researchers examined the performance at different times after the IPO event -- after six months, a year, and after three years. Studies related to underpricing of Philippine IPOs are scarce. The study conducted by Ybañez (1993) regarding Initial Public offering in the Philippines revealed that 32 IPOs that went public from 1989-1993 had an excess return of 40.0%. Interestingly, Sullivan and Unite (2001) found that IPOs affiliated with family business groups had greater underpricing especially if the affiliated firms used foreign lead underwriters. Just as underpricing is a worldwide phenomenon, delisting or non-survival of firms from stock exchanges is also a global phenomenon. Delisting is the removal of a publicly listed firm from trading in an exchange after a defined period. The reasons for removal can be voluntary, involuntary, or mergers. This paper uses seven-year observation period. Removal of a listed firm on or before the seven-year period means delisting of the firm. Otherwise, the IPO firm is a survivor. Studies from western countries dominate the delisting literature compared to that in emerging markets. To the knowledge of the author, there is none in the Philippines. The purpose of this paper is to investigate the possible factors that affect the survival of IPOs in the aftermarket in Philippines based on the information available in the prospectus during the time of the offering. Majority of studies on the survival of IPOs in the aftermarket investigate the effect of age

of the firm prior to the IPO, firm size, and the industry sector to which the IPOs belong (Audretsch, 1991, Audretsch & Mahmood, 1995, Hensler, Rutherford & Springer, 1997, Kim, Park, Wang & Joung, 2002). This paper differs from these previous studies by examining the effect of corporate governance and ownership structure on the survival of IPOs in the aftermarket. Specifically, the paper uses the percentage of independent directors and the number of underwriters as proxies for corporate governance. In addition, the paper uses ownership retention and ownership concentration as proxies for ownership structure. Furthermore, the study examines the effect of age of IPO firm, type of offering, industry sector, return on asset (ROA), and firm size on survival of IPO firms in the aftermarket.

The study is important to *corporate managers* who would want to see their firm survive in the capital market. This will give them information on what factors affect the survival. Survival is important for *publicly listed firms* that would want to have continued access to publicly available funds through subsequent offerings. Survival will also give them an idea about the market value of the firm as perceived by the investors. Survival is also important to the *marginal investors* who do not want their money tied up to a firm that suddenly got delisted. The study is also important to *regulators* such as the Securities and Exchange Commission and the Philippine Stock Exchange (PSE), which is a self-regulatory organization. The results of the study can provide inputs into the formulation of appropriate policies for the Philippine Stock Exchange. This paper contributes to literature in many ways. The study confirms that relevant information in the prospectus can predict the survival of IPOs in the Philippines. Specifically, the higher the ownership retained by original owners the higher the survival of IPO firms in the aftermarket. In addition, the higher the ownership concentration, the lower the tendency of IPO firms to survive. Moreover, firms that belong to the manufacturing industry sector tend to survive less than non-manufacturing firms do. Contrary to expectations, bigger firms tend to survive less. Organization of the rest of the paper is as follows. Section 2 presents the literature review and hypotheses. Discussion of the data and methodology follows in Section 3. Results and discussion follows in Section 4. The paper ends with the conclusion in Section 5.

LITERATURE REVIEW AND HYPOTHESES

Lamberto and Rath (2010) examined 154 samples of IPO firms from 1995 to 1997 in Australia. They defined a non-survivor IPO firm using a five-year and seven-year observation period. Firms that were suspended and acquired or merged within the observation period are non-survivors. This definition is similar to that of Bhabra and Pettway (2003). They studied 242 IPO firms from 1987 to 1991 and used a five-year observation period. This paper, consistent with Lamberto and Rath (2010) defines delisting or non-survivor as an IPO firm removed from listing in the PSE using a seven-year observation period due to either voluntary, involuntary or merger reasons. The dependent variable in a survival analysis considers the time to failure. Lane, Looney and Wansley (1986) assert that the absence of time to failure in multi discriminant analysis, logit, probit, and regression analyses lessens their usefulness. In addition, these methods are parametric in nature that is often hard to meet. On the other hand, the Cox (1972) proportional hazards model consider the time to failure. It is a semiparametric or partially parametric approach. The model does not specify the distribution of the event time making it nonparametric. The Cox proportional hazard model specifies a regression model with a functional form making it parametric.

Corporate Governance

Corporate governance refers to the role of the board of directors in implementing decisions and policies that are for the best interest of the firm. This paper uses two proxies for corporate governance - the percentage of independent directors (PBOD) and the number of lead underwriters (U_J) used during the IPO process. The agency theory (Jensen & Meckling, 1976) implies that the board of directors limit the opportunistic behavior of managers. Fama and Jensen (1983) highlighted the important role of outside directors in controlling opportunistic behavior of managers. The shareholders and managers do not

influence the independent external directors because they protect their reputation as experts. They bring their expertise to the firm and decide what is best for the firm. Thus, the higher the percentage of independent directors in the board, the more well managed the firm is. The board of directors decide the choice and number of lead and managing underwriters during the IPO process. Large IPO firms in terms of total assets, number of employees, and revenues, usually make IPOs with larger gross proceeds. Audretsch and Mahmood (1995) found that firm size relates positively with survival. Larger gross proceeds require more than one lead underwriters to sell the shares. This paper treats the number of lead underwriters as a categorical variable; one (1) represents two or more underwriters and zero (0) otherwise. Based on the preceding discussion the paper makes the following hypotheses:

H1: The higher the percent of independent directors the higher the survival.
H2: IPO firms underwritten by two or more underwriters have higher survival.

Ownership Structure

This paper uses two proxies for ownership structure variables, ownership retention (Own_Ret) and the ratio of the ownership of top five shareholders to non-top five shareholders (Own). Ownership retention is the ownership retained by the original owners after the IPO. Hensler et al. (1997) conducted one of the early important studies on survival analysis of IPOs. They found that survival time for IPO increases as the percentage of insider ownership increases. Higher ownership retention implies that the original owners believe in the viability and future prospects of the firm (Leland & Pyle, 1977). Ownership retention acts as a signal that the original owners believe in the quality of the firm. Thus, the paper makes the following hypothesis:

H3: The higher the ownership retention the higher the survival.

Because of structural deficiencies in emerging markets, conglomerates flourish. Ownership is concentrated among few shareholders (La Porta, Lopez-de-Silanes & Shleifer, 1999, Claessens, Djankov & Lang, 2020, Chen, 2001). Possible principal-principal conflicts happen between the majority shareholders and the minority shareholders in this situation due to poor institutional protection of minority shareholders (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1997). These conflicts could lead to poor results. In connection, this study makes the following hypothesis:

H4: The higher the ownership concentration the lower the survival.

Additional Predictor Variables

The age of the firm, measured as the time from incorporation to the time it went public is one of the first variables examined in explaining the survival of the firm. Many studies confirmed that age of the firm positively affects the survival of IPOs in the aftermarket. These studies indicate that indeed age positively and significantly affect survival of IPOs in the aftermarket (Carroll, 1983, Schultz, 1993, Hensler et al., 1997, Kim et al., 2002, Baluja & Singh, 2016). Thus, the study makes the following hypothesis:

H5: The higher the age of the IPO firm the higher the survival.

There is limited study on the influence of the type of offering on survival of IPOs in the aftermarket. An offering can be primary, secondary or a combination of both during an IPO. The paper measures type of offering (Primary) one (1) if the offering is one hundred percent primary offering and zero (0) otherwise.

H6: Primary offering relates significantly with survival.

Industry classification (Ind2) appeared frequently in literature as a variable that affected survival of IPOs in the aftermarket. For instance, Hensler et al. (1997) found that computer and data, wholesale, restaurant, and airline industries relate negatively with survival duration in the aftermarket while optical and drug industries relates positively with aftermarket survival duration. Rath (2008) found that the likelihood of survival in finance and natural resources industries is higher than the survival probabilities of firms in other industries. Lamberto and Rath (2010) arrived at the same finding. In addition, Baluja and Singh (2016) found that mining, construction, wholesale and retail, accommodation, information and communication, and finance and insurance sectors positively affect survival of IPOs in the aftermarket. Accordingly, this paper makes the following hypothesis:

H7: Industry sector relates significantly with survival.

Higher pre-operating performance is more likely to lead to survival of IPOs in the aftermarket. Studies conducted by Jain and Kini (1999), and Peristiani and Hong (2004) support this hypothesis. Most commonly used proxy for pre-operating performance is the return on assets (ROA). Consequently, consistent with this finding, this paper makes the following hypothesis:

H8: The higher the return on asset the higher the survival.

Mata and Portugal (1994) found that new entrants that are larger and are comprised of many establishments tend to stay longer periods in the market compared to smaller entrants. This implies that larger IPO firms will survive more than small IPO firms will. Kim et al. (2002) confirmed that in the case of South Korea firm size was positively associated with survivability. Thereby, consistent with these findings, the paper makes the following hypothesis:

H9: The bigger the firm size the higher the survival.

DATA AND METHODOLOGY

This study gathered data from the prospectuses gleaned from Thomson Reuters' Eikon database. Not all prospectuses were available from Eikon. Subsequently, prospectuses were purchased from the library of the Philippine Stock Exchange. The study covers the IPOs issued from 1989 to 2011 and excludes IPOs from 2012 to 2018 because of the 7-year observation period. IPO firms that survive more than seven years are survivors (Bhabra & Pettway, 2003, Lamberto & Rath, 2010). Two hundred ninety-two (292) IPOs were initially identified. However, only 141 IPOs have complete data. Table 1 summarizes the frequency distribution of the IPO firms. The industry sector classification follows the Philippine Standard Industrial Classification. The same table shows that majority of the IPOs come from the Real Estate and Manufacturing sectors with 28 companies each. Entities from the Financial and Insurance sector follow next with 20, and the Information and Communication sector with 15.

Table 1: Frequency Distribution of Sample IPOs

Sector	Frequency
Financial and Insurance	20
Real Estate	28
Wholesale and Retail Trade	7
Manufacturing	28
Mining and Quarrying	8
Holding	5
Professional, Scientific and Technical Services	3
Information and Communications	15
Transportation and Storage	6
Electricity, Gas, Steam, and Air-conditioning Supply	7
Arts, Entertainment and Recreation	3
Water Supply, Sewerage, Waste Management, and Remediation	3
Accommodation and Food Services	6
Agriculture, Fishery and Fishing	1
Construction	1
Total	141

This table shows the industry sectors of the IPO firms using the Philippine Standard Industrial Classification.

Table 2: Definition of Variables and Expected Relationship with Survival

Variable	Definition and Measurement	Predicted Relationship with Survival
PBOD	Percentage of independent directors in the board	+
U_J	Number of underwriter 1 if jointly underwritten by two or more lead underwriters, 0 otherwise	+
Own_Ret	Percentage of shares retained by original owners	+
Own	Ratio of the percentage of shares owned top 5 shareholders to non-top 5 shareholder	-
Age	Natural logarithm of 1 + number of years from the time the firm is incorporated to the time of the IPO.	+
Primary	Type of offering 1 if primary, 0 otherwise (secondary and a combination of primary and secondary offering)	?
Ind2	Ind2 - 1 if manufacturing industry sector, 0 otherwise	?
ROA	Return on Assets	+
Assets_Proceeds	Total Assets divided by Gross Proceeds	+

This table presents the variable definition, measurement, and the expected sign of the relationship between the independent variables and survival of IPO firms.

In the case of survival analysis, the dependent variables are the time variable and the event variable. The time variable refers to the length of time from the listing of the firm until the time the event happened or as long as they are in the study. The event variable is the recognition whether the event happened or not. It is equal to one (1) when the event happened and zero (0) otherwise. As previously mentioned, in this study, survivors are IPOs that continue to list in the PSE for a period of more than seven years after listing while non-survivors are IPOs that are delisted from the PSE due to voluntary, involuntary or mergers within the first seven years (Lamberto & Rath, 2010). The independent variables of interest in this study are variables that are proxies of corporate governance, ownership structure and additional variables used in survival analysis studies but not tested in the Philippines. Proxies for corporate governance used in this study are percentage of independent directors (PBOD) and number of underwriters (U_J) while the proxies for ownership structure are ownership retention (Own_Ret) and ownership concentration (Own). Additional variables used are age of the firm (Age), type of offering (Primary), industry classification (Ind2), return on asset (ROA) and firm size (Assets_Proceeds) Table 2 summarizes the definition, measurement of the independent variables, and the predicted relationship with survival.

Allison (1984) asserts that since the definition events are in terms of change over time, more authors recognized that the best way to study events and their causes is to collect event history data. Further, although event histories are ideal in studying the causes of events, they typically possess two characteristics that create problem for standard statistical methods such as simple linear regression. The first characteristic is censoring and the other one is time-varying explanatory variables. Censoring happens when the event has not yet happened at the end of the observation period or for some other reason, the firm left the sample before the end of the observation period. A time-varying explanatory variable such as income, which varies over time, also gives rise to a problem in a simple linear regression. Allison (1984) traced the history of studying events history data. It started with life tables used in demography. Cox's (1972) partial likelihood method, the most influential regression method found inspiration from the fundamental ideas behind life table. Early methods preferred by biostatisticians are nonparametric methods that make few assumptions, if any, about the distribution of event times. Parametric methods preferred by engineers in their studies on time to failure of machines follows next. Cox's (1972) proportional hazards model was a major bridge between the two approaches. It is a semiparametric or partially parametric approach. The model does not specify the distribution of the event time making it nonparametric. It specifies a regression model with a specific functional form making it parametric.

The Cox Proportional Hazard Model

The Cox proportional hazard model evaluates the effect of several factors, considered simultaneously, on survival. In this paper, the factors used are the percentage of independent directors, number of underwriters, ownership retention, ownership concentration, age of the firm, type of IPO, gross proceeds, industry classification, return on assets and firm size. The model allows the researcher to examine how these factors influence the rate of a particular event happening at a particular point in time that is the rate at which delisting is happening. There are important assumptions for the appropriate use of the Cox proportional hazards regression model. One assumption is the independence of survival times (t) between observations in the sample. Another assumption is a multiplicative relationship between the predictors and the baseline hazard compared to a linear relationship in multiple regression analysis. A third assumption is hazard ratios are proportional which means that they are constant over time. A fourth assumption is that the values of X's do not change over time. A fifth assumption is that censoring is non-informative which means that being censored or not is not a related to probability of event from occurring. Lastly, the baseline hazard $\lambda_0(t)$ is unspecified which means that it is free to vary over time. Below is the general form of the Cox proportional hazard model.

$$\lambda_i(t/\boldsymbol{Z}) = \lambda_0(t)exp(\beta_1 Z_{1i} + \beta_2 Z_{2i} + \cdots + \beta_k Z_{ki}) \quad (1)$$

Where λ_i (t) is the expected hazard at time t of the ith observation, λ_0(t) is the baseline hazard at time t and represents the hazard when all of the predictors Z_1, Z_2, Z_k are equal to zero.

$$\lambda_1(t\ /\boldsymbol{Z} = 0) = \lambda_0(t)exp(\beta_1 * 0 + \beta_2 X_2 * 0 + \cdots + \beta_k 0)$$

$$\lambda_1(t) = \lambda_0(t) \quad (2)$$

Equation 2 shows that hazard rate$\lambda_1(t)$ is equal to the baseline hazard $\lambda_0(t)$. Therefore if Z_k is not equal to zero, hazard rate is a multiple of the baseline hazard or the reference hazard and the covariate. Dividing both sides of equation 1 by $\lambda_0(t)$ yields,

$$\frac{\lambda_i(t)}{\lambda_0\,(t)} = exp(\beta_1 Z_{1i} + \beta_2 Z_{2i} + \cdots + \beta_k Z_{ki}) \quad (3)$$

Taking the log of both sides of equation 3 yields,

$$\text{Ln}\left\{\frac{\lambda_i(t)}{\lambda_0(t)}\right\} = \beta_1 Z_{1i} + \beta_2 Z_{2i} + \cdots + \beta_k Z_{ki} \quad (4)$$

Equation (4) shows that the Cox proportional hazard model is a linear model of the log of the hazard ratios. The Model uses partial likelihood estimation to estimate the coefficientsβ_i. If the hazard ratio is greater than one, it means lower duration and higher hazard rate, which means that the event is more likely to happen. If the hazard ratio is between 0 and 1 it means higher duration or lower hazard rate, which means that the event is less likely to happen. The regression result in a Cox proportional hazard model only shows the coefficient or the hazard ratios. The coefficients or the hazard ratios show the effect of the covariates on the dependent variable, which is a combination of the time variable and the event variable. The baseline hazard,$\lambda_0(t)$ is unspecified and free to vary and thus cannot be estimated.

RESULTS AND DISCUSSION

Table 3 summarizes the dependent and the independent variables used in the study. The mean duration (Duration) of the sample firms is 6.87 years with minimum duration of two years, and a maximum of 7 years. Delisting (Event_7) occurs in 6.38% of the samples. These are firms with life span of less than seven years from the time of listing. The proxies for corporate governance shown in Table 3 are the percentage of independent directors (PBOD) and number of underwriters (U_J). The table reveals that on the average, 5.81% of the board of directors are independent directors (PBOD). The study predicts a positive relationship between board independence and survival. This paper measures the number of lead underwriters as one (1) if the IPO is jointly underwritten by two or more lead underwriters and zero (0) if only one lead underwriter. Table 3 shows that 47.52% of the time, two or more lead underwriters jointly underwrites an IPO.

Table 3: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Duration	141	6.865	0.6461	2	7
Event_7	141	0.0638	0.2453	0	1
PBOD	141	0.0581	0.1133	0	0.4286
U_J	141	0.4752	0.5012	0	1
Own_Ret	141	0.7168	0.1126	0.2504	0.95
Own	141	2.469	2.091	0.1078	17.939
Age	141	2.267	1.205	0	4.7791
Primary	141	0.5887	0.4938	0	1
ROA	138	0.0687	0.1057	-0.6035	0.3855
Ind2	141	0.2128	0.4107	0	1
Assets_Proceeds	141	6.959	27.605	0	315.32

This table presents the descriptive statistics of the variables. Duration is length of time in years the IPO firms survive. Event_7 is one (1) if the firm is delisted zero (0) otherwise during the first seven years. PBOD is the percent of independent directors while U_J is one (1) if two or more underwriters underwrite the IPO and zero (0) otherwise. Own_Ret is the percentage shares retained by the original owners while Own is the ratio of the ownership of the top five owners to non-top five owners. Age is the natural log of one (1) plus the time from incorporation until the time of the IPO while Primary is one (1) if offering is primary shares zero (0) otherwise. ROA is the return on assets while Ind2 is one (1) if firm belongs to manufacturing industry sector and zero (0) otherwise. Assets_Proceeds is the total assets standardized by the gross proceeds of the offering.

The proxies for ownership structure shown in Table 3 are ownership retention (Own_Ret) and ownership concentration (Own). As shown, the mean ownership retention (Own_Ret) is 71.68%. This implies that the public owns the balance of 28.32%, on the average. It indicates that the original owners retain a substantial percentage. Ownership concentration is 2.47. Table 3 shows a collection of additional variables

namely: age of the firm (Age), type of offering (Primary), return on assets (ROA), industry sector (Ind2) and firm size (Assets_Proceeds). The measurement of age is the natural log of one (1) plus age of the firm from the time of incorporation. Table 3 reveals that 58.87% of the time, the offering is purely primary offering. The balance of 41.13% indicates secondary or a mix of primary and secondary offering. ROA on the average is 6.87%. In addition, 21.28% of the offering is under the manufacturing sector while 57.45% of the offering is non-manufacturing. Lastly, on the average, total assets to gross proceeds ratio is 6.96:1.

Table 4 shows the correlation matrix among variables. It shows that the highest correlation among the independent variables is 0.5727. This is between Own_Ret and Own. Testing the independent variables in an OLS regression and getting the variance inflation factor (VIF) obtain the highest value at 1.62. This shows that multicollinearity is not an issue in the estimation.

Table 4: Correlation Matrix of Independent Variables

	PBOD	U_J	Own_Ret	Own	Age	Primary	ROA	Ind2	Assets~s
PBOD	1								
U_J	-0.1202	1							
Own_Ret	0.0359	0.0729	1						
Own	0.0708	0.0747	0.5727	1					
Age	-0.0941	0.0727	0.1425	0.0982	1				
Primary	0.0542	-0.1691	-0.3136	-0.3297	-0.0869	1			
ROA	0.0037	0.1166	0.1327	0.2492	0.195	-0.3473	1		
Ind2	-0.0916	0.0046	-0.0044	0.0993	0.2887	-0.0369	0.1837	1	
Assets_Proceeds	-0.0444	-0.119	0.1024	-0.0038	0.0308	0.0349	-0.0853	-0.0655	1

This table shows the correlation between the independent variables. The values show the absence of multicollinearity issues.

Table 5 shows the survivor function. It shows that at t=1 100% of IPO firms survived. After that, One (1) IPO firm experienced the event each year from the second to the fourth year resulting in 97.87% survival at the end of year 4. Failures increased during year five and year six to two, and three respectively resulting in 94.33% survival at the end of year six. Finally, at year seven one more firm failed resulting in 93.62% survival. In addition, at the end of year seven 132 firms were censored. This result shows that as time goes on IPO firms are more likely to experience the event. This result is good for IPO investors because only a few exited the capital market. The risk of losing money due to delisting is minimal. The recorded survival is high compared with the study of Lamberto and Rath (2010) in Australia that reported a 71% survival using a seven-year observation period. Caution should be made in comparing the results since the periods of study are different. This paper covered the period from 1989 to 2011 while their study covered the period from 1995 to 1997.

Non-Parametric Estimation

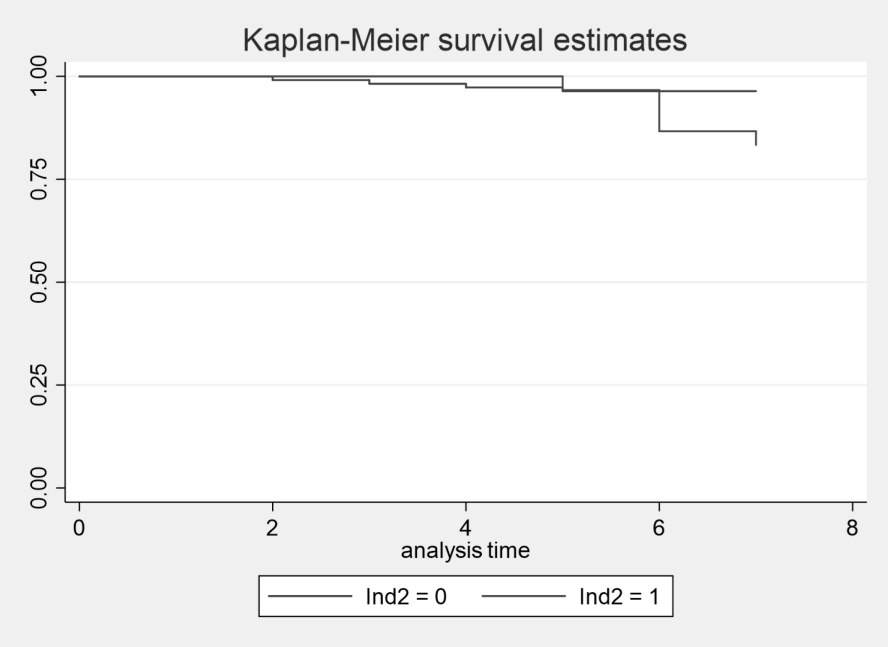
Table 5: Life Table

Time	Beg. Total	Fail	Net Lost /Censored	Proportion Fail	Proportion Surviving	Survivor Function	Std. Error of Survivor Function
1	141	0	0	0	1	1	
2	141	1	0	0.0071	0.9929	0.9929	0.0071
3	140	1	0	0.0071	0.9929	0.9858	0.01
4	139	1	0	0.0072	0.9928	0.9787	0.0122
5	138	2	0	0.0145	0.9855	0.9645	0.0156
6	136	3	0	0.0221	0.9779	0.9433	0.0195
7	133	1	132	0.0075	0.9925	0.9362	0.0206

This table shows the number of IPO firms observed, the number of firms that fail or experienced the event, number of firms censored, and the survival function.

Figure 1 shows the difference between the survival functions of manufacturing and the non-manufacturing sector. The Figure shows that the non-manufacturing sector has higher survival compared with the manufacturing sector. The figure shows that at year 6 there is a sharp decrease in the survival of the manufacturing sector.

Figure 1: Kaplan-Meier Survival Estimates



This figure shows the difference of the survival between the manufacturing and non-manufacturing sector.

The log-rank test for equality of survivor functions in Table 6 shows that the difference between the survival estimates of the manufacturing and the non-manufacturing sector is significant.

Table 6: Log-rank Test for Equality of Survivor Functions

	Events	Events
Ind2	**Observed**	**Expected**
0	4	7.09
1	5	1.91
Total	9	9
chi2(1)	=	6.37
Pr>chi2	=	0.0116

Semi-Parametric Estimation

The Cox hazard model in Table 7 shows two models. Model 1 uses all independent variables that theoretically have an effect on survival. Model 2 uses only the variables that show significant relationships in Model 1. The results show that Model 2 has a significant model fit with a Prob>chi2 of 0.0165 while Model 1 has an insignificant model fit with a Prob>chi2 of 0.1904. Table 7 presents the effect of the covariates effect on survival. The first proxy used for corporate governance is board independence (PBOD). Contrary to prediction that board independence (PBOD) can have a negative effect on hazard rate or conversely positive effect on survival, the result shows an insignificant relationship. Thus, the Philippine data do not support the improved board-monitoring role implied by Fama and Jensen (1983) when applied

to survival of IPO firms. It is possible that in the Philippines where ownership concentration is high, independent directors cannot perform their role properly. Table 3 reveals that the ratio of the shares owned by top five owners to non-top 5 owners is 2.47:1. This implies that top five shareholders own 71% of the firm. Thereupon, it is possible that independent directors do not perform their role properly for fear of losing their position if they do not agree with the majority.

Table 7: Cox Proportional Hazard Model Estimation Results

	Model 1	**Model 2**
_t	**Haz. Ratio**	**Haz. Ratio**
PBOD	0.4901	
U_J	1.177	
Own_Ret	0.0027*	0.0037*
Own	1.340**	1.320***
Age	0.9701	
Primary	0.6541	
ROA	0.3168	
Ind2	4.391*	4.275**
Assets_Proceeds	1.010*	1.010*
Log Likelihood	-37.896	-38.248
LR chi2(9)	12.43	12.12
Prob > chi2	0.1904	0.0165

*This table shows the covariates that explain the survival of IPO firms. Variables with ***, **, and * indicate significance at 1%, 5% and 10% respectively. Values of the dependent variables are expressed as hazard ratios. Values more than one imply shorter duration or event is more likely to happen while values between zero and one imply longer duration or the event is less likely to happen.*

Another proxy for corporate governance is number of underwriters. The results show an insignificant relationship with survival. The number of underwriter is not a risk factor. Ownership structure proxies were included in this study to see if principal-principal conflict is a factor in preventing failures. The results show that ownership retention negatively affects delisting and is significant at 10% level of confidence. This partially supports the hypothesis and the finding of Hensler et al. (1997) and is in line with Leland and Pyle's (1977) assertion that a higher retained ownership by the original owners signals confidence in the enterprise. It signals that the original owners see the value of their business and is communicating it by retaining a large portion of ownership. The second proxy for ownership structure used in this study is ownership concentration (Own). In emerging countries like the Philippines, family ownership dominates the ownership structure. In such case, principal-principal conflicts are common. The results show that ownership concentration positively affects failure and is significant at 1% level of confidence. This means that the delisting event happens quicker or survival time is shorter. Possible explanation for this is that conflicts between the majority shareholder and the minority shareholders are more frequent. These squabbles could lead to failure, which is consistent with the prediction.

The paper predicts the age of the firm negatively affect delisting. The results show an insignificant relationship, which is inconsistent with Schultz (1993) who found a significant negative relationship when he examined the survival of IPO firms in CRSP NASDAQ between 1986 and 1988. Schultz found that age positively relates with survival. Carroll (1983) asserts that the rate of death decline with age. Hensler et al. (1997) mentioned that longevity brings stability. They found that survival time for IPOs increases with age. In the same manner, Kim et al. (2002) found that age significantly and negatively relate with hazard rate, which implies that history of the firm matters. Established firms will last longer. In the case of the Philippines, the data do not support these findings. A priori expectation about the effect of the type of offering (Primary) on delisting is unsigned but significant. The results show an insignificant relationship.

The type of offering is not significantly different from zero. The variable total assets, deflated by the offer size (Assets_Proceeds) relates positively and significantly with firm failure. This result does not support the hypothesis and is contrary to the finding of Mata and Portugal (1994) where they found that new entrants that are larger tend to stay longer in the market. Kim et al. (2002) also found that in the case of South Korea, larger IPOs tend to survive longer. One possible explanation for this is that in the Philippines, majority of the failures are due to mergers. Six out of nine failures recorded during the 7-year observation period or 67% of the failures are due to mergers.

The effect of return on asset (ROA) on survivability is insignificant. This result does not support the hypothesis. In the literature, there is a positive relationship between higher pre-operating performance and survival (Jain & Kini, 1999, Peristiani and Hong, 2004). The result in Table 7 shows that industry classification (Ind2) is positively and significantly related with failure. The result is significant at 5% level. This means that in the case of the Philippines, IPOs that belong to manufacturing industry is more likely to fail in the aftermarket. Five out of the nine IPO firms that failed during the 7-year observation period come from the manufacturing industry.

CONCLUSION

The goal of the paper is to determine the effect of corporate governance variables, ownership structure variables, and some other variables found in literature on the survival of IPOs in the Philippines from 1989 to 2011 using a seven-year observation period . The study wants to know if information disclosed in the prospectus at the time of the offering affects survival. The paper used the non-parametric method by Kaplan-Meier to determine the survival rates. Next, the paper employed the Cox (1972) proportional hazards model to determine the effect of the identified covariates on survival. One hundred forty one (141) IPO prospectuses were collected from Thomson Reuters' Eikon and from the Philippine Stock Exchange Library. The results show that relevant information from the prospectus can explain the survival of IPOs. The two ownership structure proxies significantly affect survival. First, ownership retention signals important information. Particularly, the higher the ownership retention of the original owners the more likely the firm will survive. Second, ownership concentration signals another important information. The paper finds that the higher the ownership concentration the more likely the IPO firm will fail. Industry sector signals another important information. Particularly, firms that belong to the manufacturing industry are more likely to fail than non-manufacturing firms are. In addition, contrary to theory, bigger IPO firms tend to survive less. On the other hand, the effect of the two corporate governance proxies, the percent of independent directors and the numbers of underwriters, on survival are insignificant. Age of the firm, ROA, and type of offering have insignificant results.

The result is important to IPO investors because it gives them additional information on what IPO firms to buy. According to the result, it is ideal to buy IPO firms with high ownership retention, low ownership concentration, do not belong to the manufacturing sector, and low to medium sized firms. There is an important policy implication of the result to the Philippine Securities and exchange Commission. There is a need to improve the corporate governance code of the Philippines to make it more effective in monitoring opportunistic behavior of managers. The result shows that the role of independent directors is insignificant. The main limitation of the study is that the samples used are few. Because of this, the robustness of the empirical analysis is not established. The findings on the significance of ownership retention and ownership concentration need deeper scrutiny. Why do these variables affect survival significantly? Why does ownership concentration hasten the delisting event from happening? What is the nature of the conflicts between the majority and minority owners? There is a need for further research on why board independence is insignificant in explaining IPO survival. In addition, the current method in measuring underwriter prestige is hard to apply in the Philippines. Additional method of measuring underwriter prestige is another area for further research. There is also a need to do further research on why bigger firms tend to survive less.

REFERENCES

Allison, P. D. (1984) "Event history analysis: Regression for longitudinal event data," (No. 46), *Sage*.

Audretsch, D. B. (1991) "New-firm survival and the technological regime," *The review of Economics and Statistics*, p. 441-450

Audretsch, D. B., & Mahmood, T. (1995) "New firm survival: new results using a hazard function," *The review of economics and statistics*, p. 97-103

Baluja, G., & Singh, B. (2016) "The survival analysis of initial public offerings in India," *Journal of Advances in Management Research,* 13(1), p. 23-41

Beatty, R. P. (1989) "Auditor reputation and the pricing of initial public offerings," *Accounting Review*, p. 693-709

Bhabra, H. S., & Pettway, R. H. (2003) "IPO prospectus information and subsequent performance," *Financial Review*, 38(3), p. 369-397

Carroll, G. R. (1983) "A stochastic model of organizational mortality: Review and reanalysis," *Social Science Research*, 12(4), p. 303-329

Carter, R., & Manaster, S. (1990) "Initial public offerings and underwriter reputation," *The Journal of Finance*, 45(4), p. 1045-1067

Chen, M. J. (2001) "Inside Chinese business: A guide for managers worldwide," *Harvard Business Press*

Claessens, S., Djankov, S., & Lang, L. H. (2000) "The separation of ownership and control in East Asian corporations," *Journal of financial Economics*, 58(1-2), p. 81-112

Cox, D. R. (1972) "Regression models and life-tables," *Journal of the Royal Statistical Society: Series B (Methodological)*, 34(2), p. 187-202

Fama, E. F., & Jensen, M. C. (1983) "Separation of ownership and control," *The journal of law and Economics*, 26(2), p. 301-325

Gumanti, T. A., Lestari, A. R., & Manan, S. S. A. (2016) "Number of Risk Factors and the Underpricing of Indonesian Initial Public Offerings," *Working Paper*

Hensler, D. A., Rutherford, R. C., & Springer, T. M. (1997) "The survival of initial public offerings in the aftermarket," *Journal of Financial Research*, 20(1), p. 93-110

Ibbotson, R. G. (1975) "Price performance of common stock new issues," *Journal of financial economics*, 2(3), p. 235-272

Jain, B. A., & Kini, O. (1999) "The life cycle of initial public offering firms," *Journal of Business Finance & Accounting*, 26(9-10), p. 1281-1307

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

Kim, Y., Park, S. G., Wang, G. H., & Joung, S. Y. (2002) "A Study on the Determinants of the Survivorship of Listed Companies in Korea," *Journal of Economic Research-Seoul-*, 7(2), p. 161-176

Lamberto, A. P., & Rath, S. (2010) "The survival of initial public offerings in Australia," *International Journal of Business and Finance Research*, 4(4), p. 133-47

Lane, W. R., Looney, S. W., & Wansley, J. W. (1986) "An application of the Cox proportional hazards model to bank failure," *Journal of Banking & Finance*, 10(4), p. 511-531

La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (1999) "Corporate ownership around the world," *The journal of finance*, 54(2), p. 471-517

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1997) "Legal determinants of external finance," *The journal of finance*, 52(3), p. 1131-1150

Leland, H. E., & Pyle, D. H. (1977) "Informational asymmetries, financial structure, and financial intermediation," *The journal of Finance*, 32(2), p. 371-387

Loughran, T., Ritter, J. R., & Rydqvist, K. (1994) "Initial public offerings: International insights," *Pacific-Basin Finance Journal*, 2(2-3), p. 165-199

Mata, J., & Portugal, P. (1994) "Life duration of new firms," *The journal of industrial economics*, p. 227-245

Peristiani, S., & Hong, G. (2004) "Pre-IPO financial performance and aftermarket survival," *Available at SSRN 601144*

Rath, Subhrendu (2008) "The survival of initial public offerings in Australia," *Oxford Business & Economics Conference Program, UK, available at http://www. gcbe. us/2008_OBEC/data/confcd. htm. Accessed on August*, Vol. 30, p. 2012

Ritter, J. R. (1991) "The long-run performance of initial public offerings," *The Journal of Finance*, *46*(1), p. 3-27

Schultz, P. (1993) "Unit initial public offerings: A form of staged financing," *Journal of Financial Economics*, 34(2), p. 199-229

Sullivan, M. J., & Unite, A. A. (1999) "The underpricing of initial public offerings in the Philippines from 1987 to 1997," *Review of Pacific Basin Financial Markets and Policies*, 2(03), p. 285-300

Sullivan, M. J., & Unite, A. A. (2001) "The influence of group affiliation and the underwriting process on emerging market IPOs: The case of the Philippines," *Pacific-Basin Finance Journal*, 9(5), p. 487-512

Ybañez, R. C. (1993) "Initial Public Offerings (IPOs) in the Philippines," *Philippine Management Review*, 4, p. 11-19

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