Firm Growth and Institutional Factors: Panel Data Evidence from Malaysia

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ABSTRACT

Studies on the effect of institutional factors on growth have gain popularity amongst researchers over the years, particularly at the macroeconomics level. However, studies on the effects of institutional factors on growth at the firm data level has yet to gain widespread popularity, more so in the context of Malaysia. Thus, this paper explores the effects of institutional factors of firm growth in Malaysia, emphasising primarily on three key areas. Firstly, this paper estimates the determinants of firm growth, taking into account factors other than institutional factors, namely; internal finance and external finance. Next, this paper examines if there are variations in the effect of factors which attributes to firm growth, with regard to the size of firms. Thirdly, this paper examines if there are difference in the effect of the abovementioned factors on firm growth, with regard to the different subsectors of the economy. This study uses a panel data sample of 973 firms for the period of 2000 to 2009. Dynamic panel data estimation using the one-step system GMM method was adopted to estimate firm growth. This study found a positive and significant relationship between institutional factors and firm growth, albeit the relationship was founds to be higher between large firms. In addition, this study ascertained that the effects of institutional factors on firm growth within different industries are not the same. Besides institutional factors, internal financing was founds to have a positive and significant relationship with firm growth. The findings of this study provide several important implications towards policy makers and firms. The increment in the level of institutional factors, which reflects an increase in the quality of the nation's institutions, and combined with an increase in internal financing to support growth processes contributes to firm growth.

Keywords: Institutional Factors, Firm Growth, Internal Finance, External Finance, System GMM

INTRODUCTION

The number of firms being listed on Bursa Malaysia increased nearly 27% in the previous decade; from 767 firms in 2000 to 973 firms in 2009. The increment is indeed a good sign for the economy as it reflects the increase in the number of firms with robust financial and operational positions. Alongside the increase in the number of listed firms, the nation's Gross Domestic Product, GDP also witnessed an average increase of 4.8% within the same period. Hence, it cannot be denied that firm growth is vital to spur the nation's economy.

Amongst the many studies conducted on firm growth is the study by Henrekson and Johansson (2008) who researched on firms with high growths, also known as "Gizelles". The study found that these firms are important in creating new job opportunities, which in turn leads to economy growth. Over the years, many studies have been conducted in the hopes of identifying factors which contribute to firm growth. Amongst the factors which were found to have contributed significantly to firm growth are internal and external finance, by Guariglia et al. (2011), law and finance structure, by Kunt and Maksimovic (1998), and political instability by Alesina et al. (1992).

Firm growth is closely related to the source of finance, which is internal and external financing. Internal financing is the situation in which growth is funded by the earnings of the firms themselves, or more accurately the firms' retained earnings. External financing on the other hand is the situation in which growth is funded by funds which are obtained from outside the firms; such as through bank loans and the issuance of the firms' shares or bonds. The study of Guariglia et al. (2011) in China found that internal financing is significant to firm growth, whilst Rahaman (2010) found through his study that internal and external financing are statistically significant and quantitatively important to generate firm growth. In simple terms, firms require funding, or capital to generate growth; such as for the purchase of new machines, hiring of trained manpower as well as funds for research and development. Hence, in order to obtain funding, firms will have to rely on its retained earnings, or to obtain funding externally.

The role of institutions on economic growth was firstly introduced by Douglas North. According to North (1991), institutions are the humanly devised constraints that structure political, economic and social interaction in order to create order and reduce uncertainty in exchange. Together with the standard constraints of economics, institutions determine profitability and feasibility of engaging in economic activities. In other words, institutional factors set the environment and choice set in which economic activities take place. Hence, institutional factors could possibly contribute significantly to growth, both at the macro and micro levels, and thus should not be taken lightly. Although other conditions are fulfilled and provided for, such as the availability of finance; the absence of optimum institutional factors, such as the existence of a high level of corruption or the instability of the government would render positive economic growth an almost impossible feat.

Past studies on the effect of institutional factors on growth have been rather limited, and mostly constricted to the macroeconomic level studies, such as Esfahani and Ramirez (2003) who studied on the effects of institutional factors on economic growth. The results indicated that the ability of institutions to implement effective government policies which are credible is vital in the economic growth process, through the improvement of infrastructure. In Malaysia, Karim et al. (2012) studied the relationship between institutional factors and FDI growth in Malaysia and found the relationship to be a significantly positive one. Institutional factor with regard to the political environment in Malaysia has been rather tensed towards the end of the study period. In 2008, Malaysia has had its twelfth general election. Despite the government winning and retaining their position, they have for the first time since the nation's independence in 1957, lost the two third majority votes. This has more or less disrupted the government's stability as well as affected the country's image in the eyes of the world, particularly with regard to foreign investors. The instability of institutional factors, such as the frequent alteration in government policies could be detrimental to firm growth as firms will then have to keep abreast and adapt the operations of the firm to the frequent changes, instead of focusing on the firm growth.

Firm growth is important for Malaysia's economic growth as the nation strives towards its Vision 2020; the mission in which the country achieves a developed nation status. In view of the lack of past studies on the effects of institutional factors on growth at the micro level in Malaysia, this paper explores the effects of institutional factors on firm growth in Malaysia, emphasising primarily on three key areas. Firstly, this paper estimates the determinants of firm growth, taking into accounts factors other than institutional factors, namely; internal finance and external finance. Next, this paper examines if there are variations in the effect of the three factors which attributes to firm growth, with regard to the size of firms. Finally, this paper examines if there are difference in the abovementioned factors on firm growth, with regard to the different subsectors of the economy. This paper will contribute significantly towards the "institution-led growth" literature, with regard to studies at the microeconomic level, particularly in Malaysia. Past literature that studies the effect of institutional factors on growth is limited as most of the previous studies conducted focused primarily on other factors, such as the source of finance. Secondly, most of the past studies on the effects of institutional factors on growth have focused at the macroeconomic level, particularly towards economic growth and FDI growth. Hence, this paper will add value towards the literature on the effects of institutional factors on growth at the microeconomic level.

METHODOLOGY

This paper uses secondary data which is obtained primarily from two sources. Financial data of all 973 firms from ten industries which are listed on the Bursa Malaysia, such as total tangible and intangible assets, total cash flow, total sales, short-termed and long-termed loans, total liabilities and total work force were obtained from 'Thomson Financial Data Stream' for a period of ten years; from 2000 to

2009. Institutional data on the other hand is adapted from the political risk index based on the International Country Risk Guide (ICRG).

The 973 firms are then categorised into two different groups based on the total asset size. Firms in which their average asset size throughout the ten years is larger than the median asset size are categorised as large firms. On the contrary, firms in which their average asset size throughout the study period is lower than the median asset size are categorised as small firms. Through the categorisation exercise, there are 487 large firms and 486 small firms. At the same time, the 973 firms are also categorised based on the ten different types of industries. The data which are missing are assumed to be 'Missing Completely at Random', MCAR. In other words, the randomly missing data are not affected by other variables and hence will not affect the results of this study.

The dependent variable in this study is the firm growth. There are various methods in measuring firm growth, such as the growth in sales, growth in manpower, growth in share price, and the growth in total asset. This study uses total asset growth as a measure of firm growth, as was used by Guariglia (2011); where the value of the total asset is the sum of tangible and intangible assets. Total asset growth is tabulated using the following equation:

$$GA_{(i,t)} = \frac{A_{(i,t)} - A_{(i,t-1)}}{A_{(i,t-1)}} \qquad i = 1,2,3,...,973 \qquad t = 2000,2001,2002,...,2009$$

Where, 'GA' is the asset growth and 'A' represents the total asset.

There are three independent variables in this study; institutional factors, internal finance and external finance. Institutional factors reflect the institution quality with regard to public peace and political risk. The institutional factor variable is adapted from the political risk index, based on the ICRG method. The political index which initially consists of twelve components was adapted to consist of ten components which are more relevant to the Malaysian environment. A higher index value is more desirable as it represents a higher standard of institution. Internal finance is obtained through retained earnings and the sales of a firm's assets. With internal financing, firms need not bear transaction costs. The amount of internal financing is obtained using the following equation:

$$IF_{(i,t)} = \frac{CF_{(i,t)}}{A_{(i,t)}} \qquad i = 1,2,3,...,973 \qquad t = 2000,2001,2002,...,2009$$

Where, 'IF' is the amount if internal financing, 'CF' is the firm's cash flow which is obtained by taking the firm's profit before tax, after deducting for depreciation value. 'A' represents the firm's total asset.

External financing refers to funds which are obtained from a third party source; either through debt or equity. Loans or borrowings from a financial institution refer to the issuance of debentures, whereas equity refers to the issuance of shares which apportions out an ownership portion of the firm to be shared with the public. External financing enables firms to obtain additional funding. The amount of external financing is obtained using the following equation:

$$EF_{(i,t)} = \frac{D_{(i,t)}}{A_{(i,t)}} \qquad i = 1,2,3,...,973 \qquad t = 2000,2001,2002,...,2009$$

Where, 'EF' is the amount of external financing, 'D' is the firm's long-termed and short-termed debt and 'A' is the firm's total asset.

After the values of asset growth, internal finance and external finance are obtained, outliers are observed through a plotted scatter plot of asset growth. The outliers are eliminated through the DFITS statistics, which is a method that combines leverage and studentised residual. Through the DFITS statistical exercise, data with high likelihoods of detrimentally affecting the study's results are identified. To identify the outliers, the DFITS value was firstly obtained using the following equation:

$$(DFITS)_i = e_i \sqrt{\frac{(n-p-1)}{sse(1-h_i)-e_i^2}} \text{X} \sqrt{\frac{h_i}{1-h_i}}$$

Data with large absolute DFITS values are very likely to be outliers. To verify this possibility, a cut-off value was obtained. The cut-off value only takes on the values '0' or '1', in which '1' confirms that the particular data significantly affects the study's results and is recommended to be omitted from the sample.

After the omission of outliers from the sample, a regression model was modelled to study the effect of institutional factors, internal finance and external finance on firm growth. A new variable was introduced into the model, which is the lagged firm growth variable to include the dynamic effect as well as to eliminate autocorrelation. The model is an augmented version of the dynamic panel data. The basic model which was modelled is as follows:

$$GA_{(i,t)} = \alpha_1 GA_{(i,t-1)} + \alpha_2 INS_t + \alpha_3 IF_{(i,t)} + \alpha_4 EF_{(i,t)} + u_{(i,t)} \qquad (1)$$

$$i = 1,2,3,...,973 \qquad t = 2000,2001,2002,...,2009$$

Where, 'α' is the respective coefficient and 'u' is the error term.

The inclusion of the lagged firm growth variable into the model implies that there exist a correlation between the regressor and the error term and as such is vulnerable to 'Nickell bias', but can easily be overcome. To overcome this endogenous issue, the 'Generalised Method of Moments', GMM which was introduced by Arellano and Bond (1991) and further enhanced by Blundell and Bond (1998) was used. This method was modelled to fit a large data set with a relatively short time period. In addition, the estimation method is ideal for panel data with heteroscedasticity and autocorrelation between variables in a model.

Referring back to the model in equation (1); Blundell and Bond (1998) showed that as α_1 approaches 1, the dependent variable follows a random walk. Thus, they proposed an estimation method, called the 'Arellano-Bond System GMM', which is obtained through the estimation of two simultaneous equations; one at the level form, using the first lagged differentiation as an instrument and the second at the first differentiation, using the lagged level as an instrument. According to Blundell et al. (2001), the 'System-GMM' estimation is found to be more effective in a multivariate panel model, more so when α_1 approaches 1. However, Roodman (2006) cautioned that the use of 'System-GMM' could results in 'instrument breeding'. A high number of instruments via the 'System-GMM' method could over-fit the endogenous variables in addition to weakening the Hansen test. Hence, to overcome this challenge, this study combines the instruments through collapsing the matrix' instrument blocs. This method has also been used in previous studies, such as by Beck and Levine (2004) and Roodman (2006).

RESULTS AND FINDINGS

The 'Arellano-Bond System GMM' one step estimation method was adopted to estimate the dynamic model. The estimation was conducted using the STATA software.

Through the panel data estimation of the entire data set, institutional factors were found to have a positive relationship with firm growth and the relationship is statistically significant. The positive relationship is however found to be relatively small, in which a 1% increase in the institutional factors level increases firm growth by a mere 0.0006%. The lagged firm growth variable is also found to have a significantly positive relationship with firm growth; where a 1% increase in lagged firm growth is found to increase firm growth by 0.2875%. On another note, firm growth is found to have a significantly positive relationship with financing, more so with regard to internal financing. 1% increase in internal financing increases firm growth by 0.3486%, whilst an increase of 1% in external financing increases firm growth by only 0.0025%. The estimation results indicate that in order to facilitate firm growth, the nation's institutional level has to be increased. In addition, firms which experienced growth in the previous period have higher likelihoods of experiencing firm growth in the current period. The estimation results also proved that both internal and external financing play important roles in the firm growth process, albeit internal financing plays a bigger role in firm growth as compared to external financing. This means that firms are more likely to finance its growth through its internal funds, as opposed to issuing shares and obtaining bank loans.

Through the panel data estimation of large-sized firms, institutional factors and internal financing were found to have significantly positive relationships with firm growth. Similarly with the

estimation of the entire data set, a 1% increase in the institutional factors level increases firm growth by 0.0006%. Whereas, 1% increase in internal financing increases firm growth by a whopping 0.8001%. Through the estimation of small-sized firms, institutional factors were found to also have a significantly positive relationship with firm growth, albeit the relationship is weaker; where a 1% increase in institutional level increases firm growth by 0.0005%. In addition, a 1% increase in internal financing of small-sized firms increases firm growth by 0.3225%. The panel data estimation of different sized firms however rendered the lagged firm growth and the external financing variables statistically insignificant. The estimation based on different sized firms proved that an increase in institutional level, such as the increase in government stability, increase in socioeconomic standards and the reduction in corruption, contributed towards the growth of both large and small-sized firms. However, the stronger relationship between institutional level and large firms prove that the operations of large firms are more susceptible towards variations in the institutional level, such as investment profile and corruption. In addition, a stronger relationship is also observed between internal finance and the growth of large firms. This is possibly due to the fact that larger firms have larger cash flows and reserves to finance their own growth processes.

The whole sample data consisting of 973 firms were divided into ten subsectors of the economy; of which this study focuses on five subsectors, which were randomly decided upon. The first subsector; real estate involves data from 113 firms. Institutional factors were observed to positively affect firm growth, in which a 1% increase in the institutional level increases firm growth by 0.0007%. In addition, both internal and external financing were also observed to positively affect firm growth. However, the relationship was observed to be stronger with internal financing; 1% increment in internal financing increases firm growth by 0.3430%, whereas 1% increment in external financing was observed to increase firm growth by a mere 0.0016%. The second subsector which is construction involves data from 62 firms. Institutional factors were observed to positively affect firm growth; 1% increase in the institutional level increases firm growth by 0.0009%. Similarly, both internal and external financing were observed to positively affect firm growth. 1% increase in internal financing was observed to increase firm growth by 0.6253%, whereas a 1% increase in external financing was observed to increase firm growth by only 0.0616%. The relationships between firm growth and institutional factors, internal and external financing are significant statistically, but the relationship between lagged firm growth and firm growth is statistically insignificant for both the real estate and construction subsectors.

The third subsector is services, which involves data from 243 firms. Institutional factors positively affect firm growth; where a 1% increase in institutional level increases firm growth by 0.0012%. Internal financing was observed to also affect firm growth positively; where a 1% increase in internal financing managed to increase firm growth by 0.4873%. However, the relationship between firm growth, lagged growth and external financing variables were found to be statistically insignificant. The fourth subsector is consumer goods, which involves data from a total of 142 firms. Internal financing was observed to positively affect firm growth, where a 1% increase in internal finance increases firm growth by 1.0044%. External financing on the other hand affects firm growth negatively, where a 1% increase in external finance was observed to decrease firm growth by 0.0044%. Similarly for the final subsector, which is agriculture, an increase of 1% in internal financing was observed to increase firm growth by 1.7804%. The relationship between external finance and firm growth is the opposite, where a 1% increase in external finance was observed to decrease firm growth by 0.0333%. For both consumer goods and agriculture industries, the relationships between firm growth, institutional factors and the lagged firm growth variables were observed to be statistically insignificant.

Based on the panel data estimation of the five different subsectors, institutional level is observed to have a significantly positive relationship with all the subsectors, except for consumer goods and agriculture. The subsector which has the strongest positive relationship with regard to institutional factors and firm growth is the services industry. The increase in institutional level, such as a reduction in corruption and an increase in the nation's socioeconomic standards contributes significantly towards the growth of firms in this industry. This result is in line with a study by Julian Messina (2004), which found that an increase in the institutional level contributed towards a reduction in unemployment rate within the services industry, and hence contributed towards firm growth. On the other hand, firm growth in the consumer goods and agriculture industry is not affected by institutional factors as the day-to-day operation of firms within these industries are not dependent on institutional level, but instead are dependent on other operational factors, such as the consumer market demand. This is because most of the products of these firms are staple products; such as food and other basic necessities, and as such are not dependent on institutional factors.

Internal financing is observed to have significantly positive relationships with firm growth of firms from all the five subsectors. This finding implies that firms within the five different subsectors rely upon internal financing to fund growth. However, it is observed that firms within the agriculture industry rely most on internal financing to fund growth. This is most probably due to the fact that agriculture firms have high turnover due to the almost constant market demand. As such, they would be more likely to have the capacity to have more retained earnings, which could fund firm growth; more so in the context of funding for research and development.

External financing on the other hand is found to have significant relationships with firm growth of firms from the real estate, construction, consumer goods and agriculture industries. External financing enables additional funds to be obtained, especially when the firms' internal funds are insufficient. External finance is observed to have a negative relationship with firms from the consumer goods and agriculture subsectors. This could possibly be due to the fact that these firms which acquire external financing, such as through bank loans will have to bear transaction costs as well as interest charges. This could be burdensome as these loans will have to be repaid within a specified timeframe in addition to the constant interest charges which have to be paid in a timely manner. Under these circumstances and for firms within the consumer goods and agriculture industries which receive more or less, constant consumer demand, firm sustainability could be a challenge, hence what more in the context of firm growth. Thus, it is not surprising that firms within these two industries will find external financing cumbersome, and that external financing could be detrimental to firm growth.

The lagged firm growth variable is observed to be statistically insignificant with firm growth within the five industries, except for firms in the agriculture subsector. In other words, firm growth in the previous period does not necessarily lead to firm growth in the current time period. The relationship between lagged firm growth and firm growth is observed to be negative between firms within the agriculture subsector. This could possibly be due to the fact that the growth of agriculture firms would be accompanied by the purchase of machines and tools. However, despite the capital expenditure, the existence of limitations, such as in market demand or technology factors could lead to a negative firm growth in the current time period.

A robustness test was conducted to verify the accuracy of the results obtained via the 'Arellano-Bond System GMM' one step estimation method. According to Huber (1981), a robustness test is conducted to prevent mistakes which could arise from the variations made in the assumptions. Hence, if the robustness test produces results which are similar to the original estimation method, then it could be concluded that most of the assumptions made were fulfilled. The robustness test for this study is conducted using the 'Arellano-Bond System GMM' two step estimation method, in which the standard covariance matrix is robust towards specific panel autocorrelation and heteroscedasticity. As the standard error via the two step estimation method tend to be downwardly biased, hence the two step robust estimator method is used to obtain the finite-sample corrected two-step. Through the robustness test, it can be concluded that there are no significant major changes on the estimators, and hence the results obtained via the 'Arellano-Bond System GMM' one step estimation method is acceptable.

CONCLUSION

Through this study, a few things can be concluded. Firstly, institutional factors were found to have a positive relationship with firm growth, and the relationship was found to be statistically significant. In other words, *ceteris paribus*, an increase in the nation's institutional level will contribute to firm growth as an increase in the institutional level reflects an increase in the quality of institutions. This is because an increase in the institutional level, such as the increase in government stability, the reduction or absence of conflicts and the increase in the socioeconomic standards will be able to attract foreign investors into Malaysia, in addition to increasing the operational efficiency of firms. These in turn are important aspects in contributing to firm growth.

This study has also managed to reveal that firm growth depends highly on internal financing, as compared to external financing or lagged firm growth. In other words, firm growth is funded more by its internal finance, such as through retained earnings. It was observed that external financing is not as popular amongst firms to fund growth as it involves a repayment, which is typically a long term commitment in which repayments will have to be completed in a timely manner, or firms may risk lawsuits, defamation, or even bankruptcy. Hence, it is not surprising that firms prefer to fund growth with internal finance.

Thirdly, this study managed to reveal that larger firms tend to be more susceptible towards changes in the institutional factors as compared to smaller firms. This is likely due to the fact that the operations of larger firms are more dependent on institutional factors, such as bureaucracy, investment

profile and corruption. The relationship between internal financing and firm growth was found to be higher amongst larger firms. This is probably due to the fact that larger firms have higher capacity to generate higher cash flows, in which the funds could be used to fund firm growth. On the other hand, external financing and lagged firm growth were both found to be statistically insignificant in contributing to the growth of both categories of large and small firms.

This study also managed to reveal that the relationship between institutional factors and firm growth within the different subsectors of the economy are different. Institutional factors were found to have significantly positive relationship with firm growth in all the five subsectors, except for firms in the consumer goods and agriculture industries. The positive relationship between institutional factors and firm growth was observed to be highest within firms in the services industry. Through this study, internal financing was observed to contribute significantly towards firm growth in all the five subsectors. However, this positive relationship was observed to be highest within firms in the agriculture industry. This observation proved that agriculture firms rely highly on internal financing to fund firm growth. External financing was observed to contribute significantly towards firm growth in the real estate, construction, consumer goods and agriculture; but the relationship is observed to be negative between firms in the consumer goods and agriculture industries. Lagged firm growth is observed to be statistically insignificant on firm growth in all the five industries.

In a nutshell, institutional factors were found to have statistically significant positive relationships with firm growth at the whole data set level, different sized firms' level as well as with three out of the five industries studied. Similarly, internal financing was also observed to have statistically significant positive relationship with firm growth at the whole data set level, different sized firms' level, but with all the firms in the five industries studied. The relationship between external financing and firm growth is observed to be a mixed one. External financing is observed to have statistically significant positive relationship with firm growth at the whole data set level and with firms in the real estate and construction subsectors. External financing is observed to have a negative relationship with firm growth in the consumer goods and agriculture industries. The effect of external financing is observed to be statistically insignificant at the different sized firms' level. The lagged firm growth variable is also observed to be statistically significant only at the whole data set as well as in the agriculture subsector, where the variable was observed to be negatively related with firm growth.

There are several important implications through the findings of this study, especially with regard to policymakers, the government and the firms themselves. Firstly, policymakers and the government of Malaysia should work hand-in-hand and monitor the institutional level of the country from time to time. In addition to monitoring, they should strive to increase the institutional index, which will reflect the increase in the nation's institutional quality. This can in turn contribute to firm growth. One of the main factors which should not be taken lightly is the maintenance of government stability and the reduction in corruption. In addition, the institutional factor index can also be increased through the increase in the socioeconomic standards. Amongst the steps which can be taken to increase the socioeconomic standards includes the increase in living standards and the increase in professional workforce. This study also revealed that internal financing contributes to firm growth more significantly as compared to external financing. Hence, firms can consider growing their cash flow and reserves to fund firm growth with internal finance as it is a relatively cheap source of funding and it is relatively free from risks. Through the results of this study, it is vital that policymakers, the government and the firms themselves take appropriate measures to work towards increasing the nation's institutional level as well as to apply heavier weightage on internal finance to fund firm growth as it has been observed that firm growth is a vital component in spurring economic growth.

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TABLE 1: "Arellano-Bond System GMM" One Step Estimation: Whole Data Set, Large-Sized Firms & Small-Sized Firms

Independent Variables	Whole Data Set			Large-Sized Firms			Small-Sized Firms		
	Coefficient	Robust Standard Error	P-Value	Coefficient	Robust Standard Error	P-Value	Coefficient	Robust Standard Error	P-Value
Lagged Firm Growth, $GA_{(i, t-1)}$	0.2875	0.1739	0.098*	0.2205	0.1731	0.203	0.2748	0.2310	0.234
Institutional Factors, INS	0.0006	0.0002	0.002***	0.0006	0.0002	0.017**	0.0005	0.0003	0.072*
Internal Finance, IF	0.3486	0.1812	0.054**	0.8001	0.3918	0.041**	0.3225	0.1810	0.075*
External Finance, EF	0.0025	0.0013	0.053**	0.0077	0.0072	0.286	0.0021	0.0016	0.194
Number of Observations	5870			3076			2776		
Observations in a Group	6.14			6.40			5.89		
AR(2): P – Value	0.429			0.278			0.672		
Sargan Test: P – Value	0.350			0.732			0.938		
Difference-in-Hansen tests of exogeneity of instrument subsets: GMM instruments for levels Hansen test excluding group	0.162			0.737			0.608		
Exogenous Variable (INS) Hansen test excluding group	0.591			0.478			0.190		

Note: ***Significant at a 1% degree of confidence,   **Significant at a 5% degree of confidence,   *Significant at a 10% degree of confidence
Rule of thumb; the number of instruments are lower than the number of groups

TABLE 2 (1): "Arellano-Bond System GMM" One Step Estimation: Subsectors of the Economy

Independent Variables	Real Estate			Construction			Services		
	Coefficient	Robust Standard Error	P-Value	Coefficient	Robust Standard Error	P-Value	Coefficient	Robust Standard Error	P-Value
Lagged Firm Growth, $GA_{(i,\,t-1)}$	0.0790	0.0694	0.255	-0.0920	0.0774	0.235	-0.0187	0.0747	0.802
Institutional Factors, INS	0.0007	0.0002	0.002***	0.0009	0.0003	0.002***	0.0012	0.0002	0.000***
Internal Finance, IF	0.3430	0.0881	0.000***	0.6253	0.1669	0.000***	0.4873	0.1076	0.000***
External Finance, EF	0.0016	0.0005	0.002***	0.0616	0.0306	0.044**	-0.0047	0.0106	0.659
Number of Observations	707			392			1411		
Observations in a Group	6.37			6.43			5.90		
AR(2): P – Value	0.543			0.960			0.288		
Sargan Test: P – Value	0.919			0.241			0.999		
Difference-in-Hansen tests of exogeneity of instrument subsets: GMM instruments for levels Hansen test excluding group	0.894			0.998			0.242		
Exogenous Variable (INS) Hansen test excluding group	0.445			0.170			0.288		

Note: ***Significant at a 1% degree of confidence,   **Significant at a 5% degree of confidence,   *Significant at a 10% degree of confidence
Rule of thumb; the number of instruments are lower than the number of groups

TABLE 2 (2): "Arellano-Bond System GMM" One Step Estimation: Subsectors of the Economy

Independent Variables	Consumer Goods			Agriculture		
	Coefficient	Robust Standard Error	P-Value	Coefficient	Robust Standard Error	P-Value
Lagged Firm Growth, $GA_{(i, t-1)}$	0.0067	0.1070	0.950	-0.4273	0.1995	0.032**
Institutional Factors, INS	-0.0001	0.0003	0.817	0.0005	0.0005	0.380
Internal Finance, IF	1.0044	0.2884	0.000***	1.7804	0.5026	0.000***
External Finance, EF	-0.0044	0.0027	0.096*	-0.0333	0.0136	0.014**
Number of Observations	844			304		
Observations in a Group	6.12			5.96		
AR(2): P – Value	0.803			0.347		
Sargan Test: P – Value	0.112			0.186		
Difference-in-Hansen tests of exogeneity of instrument subsets: GMM instruments for levels Hansen test excluding group	0.492			0.950		
Exogenous Variable (INS) Hansen test excluding group	0.201			0.655		

Note: ***Significant at a 1% degree of confidence,   **Significant at a 5% degree of confidence,   *Significant at a 10% degree of confidence
Rule of thumb; the number of instruments are lower than the number of group