2019-0936 IJOI
http://www.ijoi-online.org/

International Journal of Organizational Innovation

# THE VOLUNTARY APPOINTMENT OF INDEPENDENT DIRECTORS, FOREIGN OWNERSHIP AND CORPORATE PERFORMANCE: EVIDENCE FROM TAIWAN

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## Abstract

The purpose of this paper is to investigate the effects of foreign ownership, the voluntary appointment of independent directors and corporate performance in Taiwan. Using three different corporate performance measures as proxy for operation, achieved market and profit value, this study examines the influence of foreign ownership and the voluntary appointment of independent directors. Empirical results show that foreign ownership is likely firms with stable independent directors. Firms with stable independent directors perform better than those with interim independent directors, and the higher foreign ownership is the more significantly positive effects are. Interestingly, firms with appointment of independent directors above the minimum required level positively affect firm value in the long-run. In contrast, during the deterioration of firm value, appointed interim independent directors could be used to signal "firm's ability" or aimed at appeasing unhappy investors.

Keywords**:** independent directors, foreign ownership, corporate governance, DEA

## Introduction

The agency conflict between the managers and shareholders derive from the manager's tendency to appropriate perquisites out of the firm's resources. Companies have both internal auditing control systems and external monitoring mechanism to mitigate the agency problems or influence their operating performance. Independent directors are supposed to proxy for internal auditing

control systems. Adams et al. (2010) highlight the special role that boards of directors play in fundamental importance issue. If we comprehend the actual roles of boards (or independent directors), we may understand of corporate behavior. Firms with a higher proportion of outside directors make better decisions, have better reputation, and report annual accounting earnings of higher quality (Min and Chizema, 2018; Kang & Zhang, 2018; Lanis & Richardson, 2018). Moreover, prior research indicated that independent directors positively relates to voluntary disclosure (García-Sánchez & Martínez-Ferrero, 2018; Chan et al., 2017). A firm with independent or outside directors may convey a signal to reduce conflict of interest between managers and investors. Thus, independent directors are able to audit activity by alleviating potential problems of information asymmetry and then firm's intrinsic value more credibly to outsiders.

Corporate governance is a global issue. After the worldwide wave of scandals, policymakers have reacted to require an increase of board independence from powerful subjects inside and outside firms. Since 2002, in the U.S., the Congress passed the Sarbanes-Oxley Act, and then the NYSE and NASDAQ require that a publicly traded firm has a majority of independent directors with no material relationship with the company. At the same time, Taiwan Government, in order to improve corporate governance, has required by laws all newly listed firms to appoint independent directors, not less than two and one-fifth of the total number of directors.

Like many other emerging economies, Taiwan corporate sector had been characterized by lack of shareholder activism, short of monitoring, and poor enforcement of regulations. Therefore, Taiwan government has enacted strict corporate laws to improve corporate governance on a national level. However, although all recently publicly traded companies must appoint independent directors, the previously listed firms can choose to appoint independent directors or not. How to decide what to do? Shareholders, managers and investors may pay close attention to this issue and wonder whether firms selected appointment independent directors associate with improving their performance.

On the other hand, foreign ownership is chosen to proxy for external monitoring mechanism. Foreign institutional investors have superior monitoring abilities; enhance transparency and shareholder rights; more likely terminate poorly performing CEOs; exert direct or indirect influencing managers' actions; play monitoring or disciplinary roles and alleviate agency problems (Desender et al., 2016; Bena et al., 2017; Aggarwal et al., 2005; Douma et al., 2006; Huang and Shiu, 2009; Aggarwal et al., 2011). Overall, foreign ownership may have potential to limit agency problems of managerial discretion, improve firm efficiency by reducing abuse of executive power, and then increase shareholders' wealth and improve corporate performance (Yi, et al., 2018).

In 2003, furthermore, Taiwanese government removed the rule of qualified foreign institutional investor (QFII). These changes reduced entry barriers to foreign investment shareholdings in response to revisions in political philosophy. Policymakers may wonder whether a more open stock market to foreign investors could help listed firms to raise

their efficiency or performance. Unfortunately, we know little about their influence on companies' performance, especially firm efficiency.

The resulting changes in independent directors (or board composition) and foreign investment restrictions (or ownership structure) raise some important questions. In particular, what roles do the voluntary appointment of independent directors or foreign ownership play in corporate performance? How (or what) do these changes (or selections) affect corporate performance? Do the dynamic changes following independent directors' changes correspond to predicted effects? In order to address these questions, this study uses an econometric methodology that builds on previous literature on the performance effects of two control mechanisms (i.e. foreign ownership and independent directors), and applies to a new annual data set of Taiwanese.

Taiwan is a more liberal and mature emerging market for foreign investors. Differ with the NYSE, NASDAQ or other securities markets, the previously Taiwanese listed firms can voluntarily choose whether to appoint independent directors or not. Hence the purpose of this article is to trace the effects of foreign ownership, voluntary appointment of independent directors and corporate performance.

Following the methodology proposed by Berger et al. (2005), This study extends the literature to nonfinancial industries and include variables that control for category (static), selection, and dynamic effects. Moreover, this study considers the three types of categories (i.e. firms with high, median and low level of foreign ownership) and the three types of selection events (i.e. no governance change, stable and interim independent directors). Additionally, selection effects refer to performance differences among listed firms that have observed the changes of independent directors and different categories over the sample period. Dynamic effects represent performance changes that are due directly to change in independent directors. Overall, this study conducts a joint analysis of the categories, selections, and dynamic effects in the same model.

## Related Literature and Hypotheses

### *Foreign Institutional Investors And Corporate Performance*

Foreign institutional investors (or QFII) may have better technological and quality of research, and can play credibility monitor or disciplinary roles than others. Aggarwal et al. (2005) find that greater transparency and disclosure are positively associated with U.S. mutual fund investment in emerging markets. Douma et al. (2006) provide that foreign institutional investors have superior monitoring abilities, resource endowments and skills to use the institutional environment to their advantage. That is, foreign ownership has monitoring incentives and positively affects corporate governance outcomes (Ni et al., 2017; Yang & Ren, 2017). They could exert direct or indirect influencing managers' actions through intervention, meetings with managers, voicing their interests to corporate management or voting with their feet (Ferreira and Matos, 2008). Moreover, Huang and Shiu (2009) argue that foreign institutional investors (QFII) of Taiwanese stocks may enjoy long-run information advantages, positively influence firm's operating, and thus ability improves corporate performance. Prior

research indicated that foreign ownership has a positive effect on firm's operational efficiency (Bentivogli & Mirenda, 2017). Li et al. (2011) proposed that large foreign ownership could mitigate stock return volatility and seems play a stabilizing or monitoring role in emerging stock markets. Choi et al. (2012) also mention that both foreign blockholders and foreign board membership can provide expertise and independent monitoring over management. Hence, this study expects that foreign ownership can link operating efficiency to corporate profitability:

Hypothesis 1: A firm with high level of foreign ownership associates with better operating efficiency and corporate performance.

*Independent Directors And Corporate Performance*

Independent directors may convey a signal for investors to reduce conflict of interest between managers and shareholders. They may alleviate potential problems of information asymmetry. From the perspective of institutional and signaling theories, more outside directors may make better decisions and reputation (Dahya and McConnell, 2005; Huang & Chan, 2018). Some Prior researches provide that independent directors are beneficial to shareholders. For example, Huang et al. (2008) find that there are significantly positive abnormal returns after the announcements of outside director appointments in Taiwan, especially poorer prior corporate performance or higher information asymmetry. Nguyen and Nielsen (2010) indicate that stock prices should react negatively to sudden deaths of independent directors. In order to shed light on their monitoring ability, Ravina and Sapienza (2010) show that independent directors possess abnormal profits when they purchase (or sell) their company stock. Previous literatures also find that independent directors significantly positively relate to corporate governance and firm performance or productivity (Reguera-Alvarado & Bravo, 2017).

Some studies, nevertheless, criticize independent (or non-executive) directors as uninterested and indifferent. Outside independent directors have an insignificant positive effect on firm performance (Masulis & Zhang, 2018; Huang & Chan, 2018). Greater board independence does not provide monitoring benefits or lead to better performance in the future. The poorly performing firms increase additional outside directors primarily to appease unhappy investors (Erickson et al., 2005). Moreover, Duchin et al. (2010) argue that outside directors' effective depends on the cost of acquiring information about the firm. When information cost is low, outside directors are associated with significantly better performance; whereas, if the cost is high, they relate to significantly worse performance. Thus, this study hypothesizes:

Hypothesis 2a: A firm selected for the voluntary appointment of independent directors associates relationship with corporate performance.

Hypothesis 2b: A firm selected for the voluntary appointment of independent directors has an insignificant relationship with corporate performance.

Intuitively, stable institutional investors play an effective role in monitoring, enhance firm's operational performance and reduce the cost of debt

(Choi et al., 2017). Gaspar et al. (2005) mention that short-term shareholders have weaker monitoring, and allow managers to proceed with value- reducing acquisitions or to bargain for personal benefits. Moreover, Rose (2009) provides evidence of a negative relationship between staggered boards and firm value. McNulty et al. (2013) indicate that financial risk taking was lower where boards have executives with longer tenure or non-executive directors have high effort norms. These researchers seem imply that under the stable employment relationship, independent directors may have incentives to obtain firm-specific skills and pressure for a firm gain. Hence, this study proposes:

Hypothesis 3: Firms with stable independent directors perform better than those with interim independent directors.

## Research Design

### *Data*

This study collects data from the Taiwan Economic Journal, the website of the Taiwan Stock Exchange (TWSE) and Taiwan Financial Supervisory Commission. The data set has the structure of a panel data, including 454 listed firms on the TWSE over the period of 2003-2010. This study excludes any other listed firms by law or industries limitation on foreign ownership of the stock such as cement industry and shipping & transportation industry, and also eliminate a mandatory requirement to appoint independent directors and supervisors by law such as financial industry. Overall, the sample observations exclude: restrictions on foreign ownership, compulsory appointments of independent directors on company boards, and a few lack adequate firm characteristic data.

## Methodology

Apart from standard financial measure ratios such as market value and profit performance, this study also chooses some naked finance information to derive firm efficiency measure. Because the sample of firms includes various industry sectors, this study uses data envelopment analysis (DEA) to evaluate firm efficiency.

The DEA uses a non-parametric technique that employs linear programming methods to construct a piecewise linear representation of the frontier technology. DEA measures efficiency by comparing each firm to a “best practice” efficient frontier formed. Efficiency scores vary between 0 and 1. Fully efficient firms have efficiencies scores equal to 1, if they are on the frontier; whereas inefficient firms have scores between zero and 1, if they are not on the frontier. Banker and Natarajan (2008) demonstrate that DEA performs better than parametric procedures in the estimation of individual decision making unit productivity. They also show that the two-stage approach is statistically consistent in a composed error framework. Using the DEA, the model could avoid functional form misspecification problems and the effects of endogeneity or incorrect error term distribution assumptions. Several papers have used DEA to measure firm efficiency (Margaritis & Psillaki, 2010). The DEA model of this article is constructed using one single output and four inputs (i.e. one single output is net sales, and four inputs include: total fixed assets, cost of goods sold, operating expenses, and number of employee).

*Empirical Model and Variables*

Following the proposed by Berger et al. (2005), this article evaluates the category effects of different forms of foreign ownership structure, the selection effects associated with different types of independent directors' changes, and the dynamic effects.

The three different corporate performance measures specified as the dependent variable are output-DEA efficiency, Tobin's Q, and ROA. (1) A measure of operation value: proxy for output-DEA efficiency. The DEA yields a "best-practice" operation value of each firm operation as well as an inefficiency firm between potential value and achieved value. That is, if a firm has some agency problems or abuses of executive power, it may worse operation value. (2) A measure of achieved market value: proxy for Tobin's Q ratio. This measure reflects investors' expectation of firm's future and is also affected by stock market psychology. (3) A measure of profit (book) value: proxy for ROA, which is particularly focused on current performance.

To be brief, the key exogenous variables in (*) are the category, selection and dynamic governance indicators. The means of the three no governance change indicators plus the means of the selection stable and interim independent directors' indicators sum to 100% because all firms either had no governance change or selected for one of the changes. The six dynamic dummy variables identify firms for which the selection dummies take the value to capture the change in performance. This study also considers the impact after firms abandoned interim independent directors. Moreover, some of the regression models include six separate annual-since governance change variables – for example, annual-since firms with high level of foreign ownership appointed stable independent directors defined as AS_HFO_S, and so forth – that indicate the number of years since a particular type of governance change occurred. To capture some of the differences between the short-term and long-term effects, annual-since variables can test whether the firms continue to evolve in predicted ways after a governance change versus tend to return to prior behavior.

To isolate the relationship among foreign ownership, independent directors and corporate performance, the regression models consider several control variables. The book-to-market ratio (BM) controls for the effect of firm's type. Growth-firm typically has low BM, whereas firm with higher ratio is referred to as value-firms. High growth exhibits superior performance (Dimitropoulos and Asteriou, 2010). This study expects that BM is negatively related to corporate performance. Leverage ratio represents a firm's financial structure. Higher leverage ratio increases the possibility of bankruptcy and is detrimental to corporate performance (Psillaki et al., 2010). Turnover is included to control for the effect of stock liquidity (Ferreira and Matos, 2008). To separate difference patterns of ownership structure, the models control difference between voting right and cash-flow right (DVC), and two dummy variables such as cross-shareholding (CRS) and pyramidal structure (PYS) (King & Santor, 2008). Additionally, to address the concern some unobserved firm or year characteristics and to account for the many changes in market or regulatory conditions over time and firm effects,

**Table 1: Variables employed in regression models explaining firm performance**

| Symbol | Definition | Mean |
|---|---|---|
| **Firm performance measures** | | |
| **Tobin's Q** | A measures achieved market value; (market equity value + total debt)/ total assets | **1.288** |
| **ROA** | A measure of profit (book) value; (EBIDA/ total assets) | **0.079** |
| **EFF** | A measure of operation value; The output-DEA efficiency distributes between 0 (worst) and 1 (full efficiency). | **0.761** |
| **Category: Foreign Ownership Structure Indicators** | | |
| **HFO_NGC** | Firms with high level of foreign ownership and without any independent directors or supervisors over the entire 2003-2010 interval equal to 1, and zero otherwise for all periods. | **0.286** |
| **LFO_NGC** | Firms with low level of foreign ownership and without any independent directors or supervisors over the entire 2003-2010 interval equal to 1, and zero otherwise for all periods. | **0.368** |
| **Selection Independent Directors Indicators** | | |
| **Stable independent directors (Stable ID)** | Firms with stable independent directors or supervisors over the entire 2003-2010 interval equal to 1, and zero otherwise for all periods. | **0.139** |
| **HFO & Stable ID** | Firms with high level of foreign ownership and with stable independent directors or supervisors over the entire 2003-2010 interval equal to 1, and zero otherwise for all periods. | **0.083** |
| **LFO & Stable ID** | Firms with low level of foreign ownership and with stable independent directors or supervisors over the entire 2003-2010 interval equal to 1, and zero otherwise for all periods. | **0.056** |
| **Interim independent directors (Interim ID)** | Firms with interim independent directors or supervisors over the entire 2003-2010 interval equal to 1, and zero otherwise for all periods. | **0.207** |
| **HFO & Interim ID** | Firms with high level of foreign ownership and with interim independent directors or supervisors over the entire 2003-2010 interval equal to 1, and zero otherwise for all periods. | **0.086** |
| **LFO & Interim ID** | Firms with low level of foreign ownership and with interim independent directors or supervisors over the entire 2003-2010 interval equal to 1, and zero otherwise for all periods. | **0.121** |
| **Dynamic Independent Directors Indicators** | | |
| **DY_ Stable** | Dummy variable =1, the year when firms appointed stable independent directors or supervisors, and zero otherwise. | **0.126** |
| **DY_HFO_S** | Dummy variable =1, the year when firms with high level of foreign ownership appointed stable independent directors or supervisors, and zero otherwise. | **0.076** |
| **DY_LFO_S** | Dummy variable =1, the year when firms with low level of foreign ownership appointed stable independent directors or supervisors, and zero otherwise. | **0.05** |

(continued on next page)

| Symbol | Definition | Mean |
|---|---|---|
| **DY_ Interim** | Dummy variable =1, the year when firms appointed interim independent directors or supervisors, and zero otherwise. | **0.099** |
| **DY_HFO_I** | Dummy variable =1, the year when firms with high level of foreign ownership appointed interim independent directors or supervisors, and zero otherwise. | **0.021** |
| **DY_LFO_I** | Dummy variable =1, the year when firms with low level of foreign ownership appointed interim independent directors or supervisors, and zero otherwise. | **0.059** |
| **DY_ Interim A** | Dummy variable =1, the year after firms abandoned interim independent directors or supervisors, and zero otherwise. | **0.093** |
| **DY_HFO_IA** | Dummy variable =1, the year after firms with high level of foreign ownership abandoned interim independent directors or supervisors, and zero otherwise. | **0.016** |
| **DY_LFO_IA** | Dummy variable =1, the year after firms with low level of foreign ownership abandoned interim independent directors or supervisors, and zero otherwise. | **0.054** |
| **Annual-Since Governance Change** | | |
| **AS_ Stable** | Number of years since firms appointed stable independent directors or supervisors, and zero otherwise. | **0.54** |
| **AS_HFO_S** | Number of years since firms with high level of foreign ownership appointed stable independent directors or supervisors, and zero otherwise. | **0.333** |
| **AS_LFO_S** | Number of years since firms with low level of foreign ownership appointed stable independent directors or supervisors, and zero otherwise. | **0.207** |
| **AS_ Interim** | Number of years since firms appointed interim independent directors or supervisors, and zero otherwise. | **0.266** |
| **AS_HFO_I** | Number of years since firms with high level of foreign ownership appointed interim independent directors or supervisors, and zero otherwise. | **0.107** |
| **AS_LFO_I** | Number of years since firms with low level of foreign ownership appointed interim independent directors or supervisors, and zero otherwise. | **0.159** |
| **Control Variables** | | |
| **BM** | Book-to-market ratio at the end of each year; (total book equity value/market equity value) | **0.971** |
| **Leverage** | Firms' debt to assets ratio; (total debt / total assets) | **0.383** |
| **Turnover** | a measure of the market liquidity of the firm's shares; (annual trading volume /total outstanding shares of a firm) | **2.210** |
| **DVC** | Difference between voting right and cash-flow right; (voting right – cash-flow right) | **0.051** |
| **CRS** | The value equal to one if firms had cross-shareholding, and zero otherwise. | **0.274** |
| **PYS** | The value equal to one if firms had pyramidal structure, and zero otherwise. | **0.410** |
| **Year fixed effects** | Year dummies, with 2003 excluded as the base case | |
| **Firm fixed effects** | Firm dummies, with a first firm excluded as the base case | |

the models also include year fixed effects and firm fixed effects. To conserve space, our empirical results tables do not show the year and firm dummy variables, but they were included in the underlying analyses. Table 1 shows more detail information about the variables specified in (*) and sample mean.

## Empirical Findings

As Table 2 shows, the main regressions run the EFF, Tobin's Q and ROA for panel data model. Each model has two ways: with and without the annual since indicators. The results show that firms with stable independent directors (Stable ID) better performance than those without. However, if firms appointed interim independent directors (Interim ID), the EFF and Tobin's Q are statistically significantly worse performance. The analysis of the dynamic effect follows the work by Berger et al., (2005). When the regressions exclude the annual-since indicators, the coefficients of the DY_Stable and DY_Interim were insignificant. These suggest relatively little after- versus before-change in firm performance. Then, if the regressions include the annual-since indicators, the coefficients of the AS Stable were significantly negative (-0.5%, -0.4%, and -2.6% respectively), suggesting any short-term gain may be reversed in the long run. As Table 3 reports additional information (separating nine indicators), the results are generally consistent with the Table 2. Additionally, firms with stable independent directors have better firm performance than those with interim independent directors, and the higher level of foreign ownership is the more significantly positive impact.

Our findings imply several issues. First, consistent with the views of Ferreira and Matos (2008) and Huang and Shiu (2009), empirical results support that a firm with high versus low foreign ownership associates with better firm efficiency and performance (H1). Moreover, complement the idea of Choi et al. (2012b), foreign ownership may not only play a pivotal role for local firms in technological innovation performance, but also improve firms' operating efficiency and performance. Second, consistent with the findings of Dahya and McConnel (2005) and Nguyen and Nielsen (2010), a firm selected for appointment independent directors or supervisors has a significantly relationship with firm performance. Thereby, the findings support H2 but fail to support a relation in the opposite (H2a) direction. Third, with different from the existing literature, this study separates independent directors or supervisors into stable and interim. Firms with stable independent directors or supervisors perform better than those with interim independent directors (H3). These findings may imply that stable independent directors seem to contribute to the convergence of better corporate performance.

This article also verifies causality relationship among independent directors, foreign investors and corporate performance. We test whether the changes in variables will impact on changes in other variables. This step could allay concerns about endogeneity being the cause of the results.

The Panel A of Table 4 shows that firms with high level of foreign ownership or better ROA prefer appointments of stable independent directors. However, Tobin's Q significantly negatively relates to interim independent directors. In addition, On Panel B, we also find

**Table 2: Stable or Interim Independent and Corporate Performance**

| | EFF | | ROA | | Tobin's Q | |
|---|---|---|---|---|---|---|
| | **1-a** | **1-b** | **2-a** | **2-b** | **3-a** | **3-b** |
| **Constant term** | 0.730 *** | 0.727 *** | 0.193 *** | 0.190 *** | 1.837 *** | 1.818 *** |
| | (0.026) | (0.026) | (0.022) | (0.022) | (0.145) | (0.145) |
| **Stable ID** | 0.144 *** | 0.152 *** | 0.156 *** | 0.164 *** | 1.015 *** | 1.069 *** |
| | (0.036) | (0.036) | (0.030) | (0.030) | (0.202) | (0.203) |
| **Interim ID** | -0.088 ** | -0.086 ** | -0.034 | -0.033 | -0.380 * | -0.363 * |
| | (0.035) | (0.035) | (0.030) | (0.030) | (0.198) | (0.198) |
| **DY_ Stable** | 0.006 | 0.019 | 0.018 | 0.028 ** | 0.043 | 0.107 |
| | (0.013) | (0.014) | (0.011) | (0.012) | (0.075) | (0.078) |
| **DY_ Interim** | 0.009 | 0.012 | -0.007 | -0.008 | -0.031 | -0.009 |
| | (0.011) | (0.013) | (0.010) | (0.011) | (0.063) | (0.070) |
| **DY_ Interim A** | -0.008 | -0.012 | -0.012 | -0.015 | 0.006 | -0.019 |
| | (0.012) | (0.012) | (0.010) | (0.010) | (0.064) | (0.065) |
| **AS_ Stable** | | -0.005 *** | | -0.004 *** | | -0.026 *** |
| | | (0.002) | | (0.001) | | (0.009) |
| **AS_ Interim** | | -0.002 | | -0.000 | | -0.013 |
| | | (0.003) | | (0.002) | | (0.015) |
| **BM** | -0.027 *** | -0.025 *** | -0.030 *** | -0.029 *** | -0.334 *** | -0.328 *** |
| | (0.003) | (0.003) | (0.003) | (0.003) | (0.018) | (0.018) |
| **Leverage** | -0.061 *** | -0.061 *** | -0.187 *** | -0.187 *** | -0.393 *** | -0.394 *** |
| | (0.015) | (0.015) | (0.012) | (0.012) | (0.083) | (0.083) |
| **Turnover** | 0.004 *** | 0.004 *** | 0.004 *** | 0.004 *** | 0.046 *** | 0.046 *** |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.005) | (0.005) |
| **DVC** | 0.104 ** | 0.098 ** | -0.073 ** | -0.079 ** | 0.602 ** | 0.575 ** |
| | (0.043) | (0.043) | (0.036) | (0.036) | (0.239) | (0.240) |
| **CRS** | -0.014 | -0.014 | 0.000 | 0.000 | -0.095 ** | -0.096 ** |
| | (0.008) | (0.008) | (0.007) | (0.007) | (0.047) | (0.047) |
| **PYS** | 0.013 ** | 0.014 *** | 0.004 | 0.005 | 0.022 | 0.025 |
| | (0.005) | (0.005) | (0.004) | (0.004) | (0.029) | (0.029) |
| **SIGMA** | 0.067 *** | -0.016 *** | | | | |
| | (0.001) | (0.004) | | | | |
| **Year fixed effects** | YES | YES | YES | YES | YES | YES |
| **Firm fixed effects** | YES | YES | YES | YES | YES | YES |
| **Model** | Tobit | Tobit | OLS | OLS | OLS | OLS |
| **Adj-$R^2$** | | | 0.64 | 0.64 | 0.71 | 0.71 |
| **observations** | 3632 | 3632 | 3632 | 3632 | 3632 | 3632 |

Note: The sample contains 454 listed firms in the TWSE from 2003 to 2010. We run the EFF, Tobin's Q and ROA by panel data model. The models also include control variables, such as book-to-market ratio (BM), Leverage, Turnover, difference between voting right and cash-flow right (DVC), cross-shareholding (CRS), pyramidal structure (PYS), year fixed effects and firm fixed effects. *, **, *** indicate significance at 5%, 1%, and 0.1% levels, respectively.

**Table 3: Foreign ownership, Independent Directors and combine them**

| | EFF | | ROA | | Tobin's Q | |
|---|---|---|---|---|---|---|
| | **1-a** | **1-b** | **2-a** | **2-b** | **3-a** | **3-b** |
| **Constant term** | 0.717 *** | 0.715 *** | 0.187 *** | 0.185 *** | 1.762 *** | 1.747 *** |
| **HFO_NGC** | 0.012 ** | 0.011 ** | 0.003 | 0.002 | 0.053 * | 0.048 * |
| **HFO & Stable ID** | 0.155 *** | 0.158 *** | 0.154 *** | 0.159 *** | 1.082 *** | 1.126 *** |
| **LFO & Stable ID** | 0.139 *** | 0.149 *** | 0.141 *** | 0.150 *** | 0.909 *** | 0.956 *** |
| **HFO & Interim ID** | -0.097 ** | -0.091 ** | -0.003 | -0.003 | -0.093 | -0.078 |
| **LFO & Interim ID** | -0.059 | -0.053 | -0.030 | -0.028 | -0.352 * | -0.340 * |
| **DY_HFO_S** | 0.007 | 0.006 | 0.024 * | 0.026 * | 0.041 | 0.110 |
| **DY_LFO_S** | 0.008 | 0.034 | 0.011 | 0.031 * | 0.064 | 0.132 |
| **DY_HFO_I** | 0.036 ** | 0.034 * | -0.002 | -0.008 | -0.040 | -0.009 |
| **DY_LFO_I** | -0.014 | -0.009 | -0.012 | -0.009 | -0.027 | -0.012 |
| **DY_HFO_IA** | 0.013 | 0.009 | -0.019 | -0.022 | -0.076 | -0.103 |
| **DY_LFO_IA** | -0.025 | -0.030 * | -0.009 | -0.013 | 0.063 | 0.035 |
| **AS_HFO_S** | | -0.001 | | -0.002 | | -0.025 ** |
| **AS_LFI_S** | | -0.011 *** | | -0.008 *** | | -0.031 ** |
| **AS_HFI_I** | | 0.000 | | 0.002 | | -0.017 |
| **AS_LFI_I** | | -0.003 | | -0.002 | | -0.011 |
| **BM** | -0.025 *** | -0.024 *** | -0.029 *** | -0.028 *** | -0.325 *** | -0.319 *** |
| **Leverage** | -0.060 *** | -0.061 *** | -0.183 *** | -0.184 *** | -0.366 *** | -0.369 *** |
| **Turnover** | 0.004 *** | 0.004 *** | 0.004 *** | 0.004 *** | 0.047 *** | 0.048 *** |
| **DVC** | 0.105 ** | 0.102 ** | -0.067 * | -0.072 ** | 0.658 *** | 0.633 *** |
| **CRS** | -0.013 | -0.013 | 0.000 | 0.000 | -0.098 ** | -0.099 ** |
| **PYS** | 0.012 ** | 0.013 ** | 0.005 | 0.005 | 0.024 | 0.027 |
| **SIGMA** | 0.067 *** | 0.067 *** | | | | |
| **Model** | Tobit | Tobit | OLS | OLS | OLS | OLS |
| **Adj-$R^2$** | | | 0.64 | 0.64 | 0.71 | 0.71 |
| **observations** | 3632 | 3632 | 3632 | 3632 | 3632 | 3632 |

that interim independent directors have been negatively caused by the changes in Tobin's Q, but positively caused by the change in ROA.

The results imply provide that foreign ownership makes more likely firms with stable independent directors, but less likely those with interim independent directors. Consistent with main arguments of Aggarwal et al. (2011), foreign institutional investors may have potential to limit agency problems and improve firm performance.

Furthermore, complement the arguments of McNulty et al. (2013), we find that firms with stable independent directors seem provide a signal to investors that managers may tend to mitigate information asymmetry and further positively affect firm value. However, when Tobin's Q performs deterioration, firms may more likely appoint interim independent directors because Tobin's Q significantly negatively relates to connect with interim independent directors. It is possible that appointed interim independent directors could be used to signal "firm's ability" or be aimed at appeasing unhappy investors.

**Table 4: Causality Relationship Test**

| | DY_ Stable | AS_ Stable | DY_ Interim | AS_ Interim |
|---|---|---|---|---|
| **Panel A** | | | | |
| **Constant term** | -1.434 *** | -1.434 *** | -0.646 ** | -0.646 ** |
| **FO $_{t-1}$** | 1.141 *** | 1.141 *** | -0.099 | -0.099 |
| **Tobin's Q $_{t-1}$** | -0.019 | -0.019 | -0.183 ** | -0.183 ** |
| **ROA $_{t-1}$** | 1.399 *** | 1.399 *** | 0.342 | 0.342 |
| **EFF $_{t-1}$** | 0.065 | 0.065 | 0.209 | 0.209 |
| **BM $_{t-1}$** | -0.113 | -0.113 | -0.352 *** | -0.352 *** |
| **Leverage $_{t-1}$** | 0.154 | 0.154 | -0.244 | -0.244 |
| **Turnover$_{t-1}$** | 0.047 *** | 0.047 *** | -0.011 | -0.011 |
| **DVC $_{t-1}$** | -0.908 ** | -0.908 ** | 1.057 ** | 1.057 ** |
| **CRS $_{t-1}$** | 0.080 | 0.080 | -0.404 *** | -0.404 *** |
| **PYS $_{t-1}$** | -0.077 | -0.077 | -0.295 *** | -0.295 *** |
| **Model** | Probit | Probit | Probit | Probit |
| **observations** | 3632 | 3632 | 3632 | 3632 |
| **Panel B** | | | | |
| **Constant term** | -1.125 *** | -1.125 *** | -1.325 *** | -1.325 *** |
| ▵FO t-1 | 0.301 | 0.301 | 0.137 | 0.137 |
| △Tobin's Q t-1 | -0.059 | -0.059 | -0.160 ** | -0.160 ** |
| △ROA t-1 | -0.301 | -0.301 | 1.642 *** | 1.642 *** |
| △BM t-1 | 0.052 | 0.052 | 0.034 | 0.034 |
| △Leverage t-1 | -0.599 | -0.599 | 0.776 * | 0.776 * |
| △Turnover t-1 | 0.030 * | 0.030 * | -0.027 | -0.027 |
| △DVC t-1 | -2.222 * | -2.222 * | 2.937 ** | 2.937 ** |
| **Model** | Probit | Probit | Probit | Probit |
| **observations** | 3178 | 3178 | 3178 | 3178 |

Notes:

DY_ Stable (DY_ Interim) defines as the value one when firms appointed stable (interim) independent directors and zero otherwise. AS_ Stable (AS_ Interim) defines as the number of years since firms appointed stable independent directors or supervisors, and zero otherwise. FO: the proportion of shares held by foreign ownership at the end of each year. The models include control variables: book-to-market ratio (BM), Leverage, Turnover, difference between voting right and cash-flow right (DVC), cross-shareholding (CRS), and pyramidal structure PYS).

t-1: lag one year.

△FO defines as the change in FO.

△Tobin's Q: change in Tobin's Q.

△ROA: change in ROA.

△BM: change in BM.

△Leverage: change in Leverage.

△Turnover: change in Turnover.

△DVC: change in DVC.

*, **, *** indicate significance at 5%, 1%, and 0.1% levels, respectively.

## Conclusion

Using three different firm performance measures as proxy for operation, achieved market and profit value, this study examines the monitoring role and influence of foreign investors and voluntary appointment of independent directors or supervisors. This article distinguishes between stable and interim independent directors or supervisors. These two categories of board directors need to be viewed and analyzed separately. We find that independent directors are associated with significantly better performance when their appointments are stable, and are associated with significantly worse performance if their appointments are interims. These findings suggest that the failure of previous studies to find an effect of independent directors on performance may have been because they failed to distinguish stable and interim independent directors. Findings highlight the fact that the impact of independent directors or supervisors on firm performance is not clear-cut.

In particular, those firms with voluntary above the minimum required level by regulatory authorities may have potential to limit agency problems, mitigate information asymmetry, and further positively affect firm value. Whereas, with the deterioration of the firm's Tobin's Q, it is possible that appointed interim independent directors could be used to signal "firm's ability" or be aimed at appeasing unhappy investors.

These results have important implications for the external monitoring mechanism and internal control systems. Specifically, standard required levels by regulatory authorities are unlikely to mitigate agency problems. As a result,

the screening and auditing activity may need to more employ alternative disciplinary measures. Simply stated, the empirical findings confirm listed firms may need for stable independent directors and foreign institutional investors (or vigilant ownership) to improve their performance in emerging markets.

## References

Adams, R.B., Hermalin, B.E., & Weisbach, M.S. (2010). The Role of Boards of Directors in Corporate Governance: A Conceptual Framework and Survey. *Journal of Economic Literature*, *48*(1): 58-107.

Aggarwal, R., Erel, I., Ferreira, M., & Matos, P. (2011). Does governance travel around the world? Evidence from institutional investors. *Journal of Financial Economics*, *100*, 154-181.

Aggarwal, R., Klapper, L., & Wysocki, P.D. (2005). Portfolio preferences of foreign institutional investors, *Journal of Banking and Finance*, *29*(12), 2919-2946.

Banker, R.D., & Natarajan, R. (2008) Evaluating contextual variables affecting productivity using DEA. *Operations Research*, *56*(1), 48-58.

Bena, J., Ferreira, M.A., Matos, P., & Pires, P. (2017). Are foreign investors locusts? The long-term effects of foreign institutional ownership. *Journal of Financial Economics*, *126*(1), 122-146.

Bentivogli, C., & Mirenda, L. (2017). Foreign Ownership and Performance: Evidence from Italian Firms. *International Journal of the Economics of Business*, *24*(3), 251-273.

Berger, A.N., Clarke, George R.G., Cull, R., Klapper, L., & Udell, G.F. (2005). Corporate governance and bank performance: A joint analysis of the static, selection, and dynamic effects of domestic, foreign, and state ownership. *Journal of Banking and Finance*, *29*(8-9), 2179-2221.

Chan, A.L.C., Lee, E., Petaibanlue, J., & Tan, N. (2017). Do board interlocks motivate voluntary disclosure? Evidence from Taiwan. Review of Quantitative Finance and Accounting, 48(2), 441-466.

Choi, N., Fedenia, M., Skiba, H., & Sokolyk, T. (2017). Portfolio concentration and performance of institutional investors worldwide. *Journal of Financial Economics*, *123*(1), 189-208.

Choi, H.M., Sul, W., & Min, S.K. (2012). Foreign board membership and firm value in Korea. *Management Decision*, *50*(2), 207-233.

Choi, S.B., Park, B.I., & Hong, P. (2012b). Does Ownership Structure Matter for Firm Technological Innovation Performance? The Case of Korean Firms. *Corporate Governance: An International Review*, *20*(3), 267- 288.

Dahya, J., & McConnell, J.J. (2005). Outside Directors and Corporate Board Decisions. *Journal of Corporate Finance*, *11*(1-2), 37-60.

Desender, K.A., Aguilera, R.V., López-puertas-Lamy, M., & Crespi, R. (2016). A clash of governance logics: Foreign ownership and board monitoring. *Strategic Management Journal*, *37*(2), 349-369.

Dimitropoulos, P.E., & Asteriou, D. (2010). The effect of board composition on the informativeness and quality of annual earnings: Empirical evidence from Greece. *Research in International Business and Finance*, *24*(2), 190-205.

Douma, S., George, R., & Kabir, R. (2006). Foreign and domestic ownership, business groups, and firm performance: evidence from a large emerging market. *Strategic Management Journal*, *27*(7), 637-657.

Duchin, R., Matsusaka, J.G., & Ozbas, O. (2010). When are outside directors effective? *Journal of Financial Economics*, *96*(2), 195-214.

Erickson, J., Park, Y.W., Reising, J., & Shin, H.H. (2005). Board composition and firm value under concentrated ownership: the Canadian evidence. *Pacific-Basin Finance Journal*, *13*(4), 387-410.

Ferreira, M.A., & Matos, P. (2008). The Colors of Investors' Money: the Role of Institutional Investors around the World. *Journal of Financial Economics*, *88*(3), 499-533.

García - Sánchez, I.M., & Martínez - Ferrero, J. (2018). How do Independent Directors Behave with Respect to Sustainability Disclosure? *Corporate Social Responsibility and Environmental Management*, *25*(4), 609-627.

Gaspar, J.M., Massa, M., & Matos, P. (2005). Shareholder investment horizons and the market for corporate control. *Journal of Financial Economics*, *76*(1), 135–165.

Huang, H.H., & Chan, C.Y. (2018). Firms' performance following the initial resignation of independent directors: evidence from Taiwan. *Asia Pacific Business Review*, *24*(5), 714-729.

Huang, H.H., Hsu, P., Khan, H.A., & Yu, Y.L. (2008). Does the Appointment of an Outside Director Increase Firm Value? Evidence from Taiwan. *Emerging Markets Finance & Trade*, *44*(3), 66-80.

Huang, R.D., & Shiu, C.Y. (2009). Local Effects of Foreign Ownership in an Emerging Financial Market: Evidence from Qualified Foreign Institutional Investors in Taiwan. *Financial Management*, *38*(3), 567-602.

Kang, J.K., & Zhang, L. (2018). Do Outside Directors with Government Experience Create Value? *Financial Management*, *47*(2), 209-251.

King, M., & Santor, E. (2008). Family values: Ownership structure, performance and capital structure of Canadian firms. *Journal of Banking & Finance*, *32*(11), 2423-2432.

Lanis, R., Richardson, G. (2018). Outside Directors, Corporate Social Responsibility Performance, and Corporate Tax Aggressiveness: An Empirical Analysis. *Journal of Accounting, Auditing & Finance*,

*33*(2), 228-251.

Li, D., Nguyen, Q.N., Pham, P.K., & Wei, S.X. (2011). Large Foreign Ownership and Firm-Level Stock Return Volatility in Emerging Markets. *Journal of Financial and Quantitative Analysis*, *46*(4), 1127-1155.

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

McNulty,T., Florackis, C., & Ormrod, P. (2013). Boards of Directors and Financial Risk during the Credit Crisis. *Corporate Governance: An International Review*, *21*(1), 58-78.

Min, B.S., & Chizema, A. (2018). Board Meeting Attendance by Outside Directors. *Journal of Business Ethics*, *147*(4), 907-917.

Nguyen, B.D., & Nielsen, K.M. (2010). The value of independent directors: Evidence from sudden deaths. *Journal of Financial Economics*, *98*(3), 550-567.

Ni, Y., Liao, Y., & Huang, P. (2017). Foreign Institutional Investors, Shareholding Change, and Corporate Governance. *Emerging Markets Finance and Trade*, *53*(4), 764-775.

Psillaki, M., Tsolas, I.E., & Margaritis,D. (2010). Evaluation of credit risk based on firm performance. *European Journal of Operational Research*, *201*(3), 873-881.

Ravina, E. and Sapienza, P. (2010) What Do Independent Directors Know? Evidence from their trading. Review of Financial Studies 23(3): 962-1003.

Reguera-Alvarado, N., & Bravo, F. (2017). The effect of independent directors' characteristics on firm performance: Tenure and multiple directorships. *Research in International Business and Finance*, *41*, 590-599.

Rose, M.J. (2009). Heterogeneous impacts of staggered boards by ownership concentration. *Journal of Corporate Finance*, *15*(1), 113-128.

Yang, S., & Ren, X. (2017). Qualified Foreign Institutional Investor Shareholdings and Corporate Operating Performance. Canadian Public Policy, 43(2), S99-S106.

Yi, J., Teng, D., & Meng, S. (2018). Foreign ownership and bribery: Agency and institutional perspectives. *International Business Review*, *27*(1), 34-45.