Family Power and Corporate Investment Efficiency

Ahmed Al-Hadi, Baban Eulaiwi, Lien Duong, Grantley Taylor & Saurav Dutta

Abstract: This study examines the relationship between family power and corporate investment efficiency in Gulf Cooperative Council (GCC) countries. Family power in firms is manifested in how much decision-making power is concentrated in the hands of family members who are active either on the board of directors, or as executives of a firm. Using a unique measure of "family power", we contribute to a growing interest in the role of family influence in the GCC emerging markets, where firms and business practices are typically controlled by families. We find that increased family power reduces firms' level of under- and over-investment. We assert that this relation arises because firms are able to exhibit high levels of family power through socioemotional wealth preservation in reducing both management agency costs and earnings management.

Keywords: Family power, investment efficiency, socioemotional wealth, GCC.

JEL: M41, G11, G34

1.0 Introduction

Family representation on boards and in the executive management of GCC firms can have significant impacts on their operational, financing and investment activities and achievements, particularly in an emerging market setting where access to resources can be dependent on family-based connections[1]. For instance, family influence and power can determine firms' borrowing capacity, the effectiveness of firms' internal controls and oversight, their capital structure, the nature and level of their investment and the extent of their international focus (Hamadi 2010). Given the importance of family in facilitating business in the GCC countries,

[1] Reports provided by PwC and Deloitte show that family-owned businesses make up the largest sector of the GCC economy and around 80% of the companies in the region, and produce approximately more than 90% of GCC non-oil wealth (See https://www2.deloitte.com/ae/en/pages/about-deloitte/articles/deloitte-family-owned-businesses-make-up-the-largest-sector-of-GCC-economy.html; https://www.pwc.com/m1/en/publications/documents/pipwc-report.pdf

[2] The six governance attributes used to generate our family power measures are detailed in Section 3.2.2.

a high level of family power is likely to result in improved investment decision-making, and the development of a wider set of investment choices and projects (DeAngelo and DeAngelo 1985). Family power, from a socioemotional wealth (SEW) perspective, also controls agency related risks that lead to moral hazard and information asymmetry which would otherwise lead to investment inefficiencies (Chirico et al. 2020).

We argue that firms with high levels of family power are associated with higher-quality investment decisions than firms with low levels of family power. It is expected that firms with high levels of family power will reduce the risks of firms' under- or over-investing to save SEW and this will lead to a greater level of investment efficiency. Prior research shows that family firms perform better than non-family firms because family ownership can constitute an effective governance tool thereby effecting strict financial management and control (Anderson and Reeb 2003). Whilst the weight of the evidence provided in prior research suggests a positive relationship between family ownership and firm performance, there are also a series of potential costs associated with family ownership that may impede firm performance and investment efficiency, particularly if firm equity is concentrated in the hands of a small number of powerful family members. Potential costs may include the expropriation of wealth by family members from the firm through excessive compensation, perquisites, and employment of, or dealings with related-parties. Hence powerful family members may reduce investment efficiency (Bennedsen et al. 2007).

This study is motivated by a growing interest in the role played by family board members and executive managers in varying aspects of firm performance, particularly since governance rules and regulations are, in many ways, still in a state of flux in the GCC countries. In this research, we investigate the relationship between family power on corporate investment efficiency of GCC firms. We develop a new measure of family power that captures the decision-making power concentrated in the hands of family members active on the board of directors or

as executives of a firm. This decision making power reflects the ability of family members to influence firms' strategic decisions. Our measure of family power is based on tenets of agency theory and resource-dependency theory that collectively encapsulate a bundle of management behavioural factors, resources and capabilities. Specifically, the family power measure incorporates six attributes that encapsulate governance structure, ownership structure and control within a firm.[2] We utilize these six variables to develop an index of family power for each of our sample firms. This index encompasses a set of attributes of family effects far more comprehensive than a measure that indicates solely the existence of family representation on the board, such as those most often used in prior literature.

We also investigate how family power influences firms' level of investment efficiency through reductions in the agency cost of Selling, General and Administrative (SG&A) expenses and earnings management. Based on a final sample of 856 firm-year observations of public non-financial firms in the GCC region for the 2005-2013 period,[3] we find evidence to support our expectations. Our finding that family power reduces both under- and over-investment is consistent with the view that family power assists in monitoring and disciplining firm's investment decisions and actions. We also find that high levels of family power and investment efficiency are associated with low levels of SG&A expenses for over-investment, and a reduced incentive to engage in opportunistic earnings management for both under- and over-investment. Our results are robust to the use of alternative measures of family power and investment efficiency and with tests of endogeneity.

Our study contributes to the growing family business literature in several important ways. First, we develop a unique measure of family power that encapsulates several family-

[2] The six governance attributes used to generate our family power measures are detailed in Section 3.2.2.
[3] There are six countries in the GCC region: Saudi Arabia (KSA), United Arab Emirates (UAE), Qatar, Oman, Kuwait and Bahrain.
[4] We used 2005 as the base year for our analysis as it is the first year that GCC firms started releasing corporate governance reports.

related effects on firms' business. Yuan and Wu (2018) assert that many prior family related empirical studies use a dummy variable to measure family ownership. In their investigation of the relationship between family power and firm performance, prior studies (Bennedsen et al. 2007; Anderson and Reeb 2003; Maury 2006) measured family power using a dichotomous measure. Maury (2006) uses four different proxies of family power, all of which are measures as dichotomous variables. Whilst these measures capture elements of family control and ownership, they do not explicitly test the effect of how family members manage and govern firms' financial arrangements, operations and strategies. In our study, we provide a more sophisticated measure of family ownership and control by using a proxy of 'family power' that captures political, governance and managerial control and entrepreneurship in firms. An index of family power is developed using Principal Component Analysis (PCA) technique to identify the commonalities among the six individual proxies of family control. One of the six variables in the family power index, *EX_CEOFAM,* is unique to the GCC region as the existence of executive committee is very common in the GCC while it is not popular in the U.S and Europe (BDI 2009). Our measure of family power then enables us to provide an empirically more robust and verifiable set of findings as opposed to previous studies which based conclusions on a single dichotomous measure of family ownership. In fact, our measure of family power offers a methodological contribution and innovation that supersedes prior measures of family involvement/ownership.

Second, to the best of our knowledge, this study is the first to examine how family power may influence firms' investment efficiency in an emerging market setting based on SEW tenets. This is particularly important in the emerging economies that comprise the GCC because of the influence family management or board members have on the direction and operations of the firms in which they have significant control, and also because investments in infrastructure and growth of these firms are of importance given the emerging status of many

GCC countries. Prior studies on family influence have largely been done on a single country basis where governance systems are reasonably well established such as Denmark, the U.S and Western Europe (Bennedsen et al. 2007; Anderson and Reeb 2003; Maury 2006). It is well-documented that family members own substantial equity and have significant control of firms in GCC countries (Eulaiwi et al. 2016). The extent of family involvement in the GCC emerging markets is very different to that in developed countries. For example, approximately one-third of U.S (S&P500) firms or Western European firms are family controlled (Maury 2006) while 60% of GCC firms' equity is owned by the 20 largest family groups (Hawkamah 2013). Although GCC countries have established equity markets and adopt regulations for investors to manage and protect their investments, these markets are not well-developed and are less liquid compared to those in developed countries (Al-Yahyaee et al. 2011). Further, corporate governance in GCC countries is still in the development stage, investors have limited protection and they face severe agency and information asymmetry issues (Al-Hadi et al. 2016).

Third, we contribute to the debate as to whether agency or stewardship theoretical tenets could assist in explaining the effect of family ownership on managerial behaviour and business outcomes (Yuan and Wu 2018). We find evidence that SEW plays a vital role in reducing agency problems and there is a strong self-transcendence of family directors and executives in that they enhance the investment efficiencies and opportunities of the firms in which they manage. Finally, this study contributes to the literature on family power and investment efficiency in an emerging market context. Prior research on investment efficiency concentrates on developed economies such as U.S (Biddle et al. 2009) and UK (Abdallah and Abdallah 2019), or other emerging countries like China (Chen et al. 2011). Using all six countries that make up the GCC region, we capture differences in governance, political and other country-level effects within an emerging market context. The GCC country setting is unique and provides a natural experiment within which we can assess how competing theories could

explain behavioural attributes of family members in management and how family power can influence firm investment efficiency. The GCC is also an ideal setting because of the dynamics involved in establishment of governance and regulatory systems over the study period.

The remainder of the study proceeds as follows. In Section 2, we develop our hypotheses. Section 3 describes the research design. We document the results of our study in Section 4. Section 5 then provides the study's conclusions.

2.0 Literature Review and Hypotheses Development

Investment efficiency is referred to a reduction in both under-and over-investment, and firms may over- or under-invest because of two primary market imperfections: moral hazard and adverse selection (Biddle et al. 2009). Managers may have a propensity to over-invest to obtain self-benefits, rather than to serve the best interests of shareholders (Jensen and Meckling 1976). Moral hazard theory suggests that managers may invest in some projects with negative net present value (NPV) in order to maximize their own interests, leading to investment inefficiency (Biddle et al. 2009). Firm managers with free cash flows have a tendency to over-invest through empire building, rather than to select projects that maximize shareholders' interest (Richardson 2006). On the other hand, moral hazard may also be associated with under-investment when firm managers do not invest in positive NPV projects when they clearly have the resources to do so, as they prefer a quiet life to avoid material risks. The adverse selection model provided by Myers and Majluf (1984) contends that information asymmetry between managers and investors leads to under-investment. With a constrained ability to raise capital and a potentially higher cost of capital, a firm's manager may subsequently be forced to under-invest, even in the presence of positive NPV projects (Myers and Majluf 1984).

2.1 Family Power and Investment Efficiency

Family power can be used to monitor and discipline managerial investment decisions (DeAngelo and DeAngelo 1985). From the perspective of agency costs, the presence of family

members that serve as top management or members on the board of directors increases family members' ability to monitor managers more efficiently, leading to an improvement in investment decisions and a reduction in agency costs (Stein 1989). Based on SEW considerations, family involvement in business leads to distinctive performance outcomes, develop and protect family reputation and social capital (Berrone et al. 2012). With family power, those family members are able to monitor and discipline managerial investment activities more effectively through reducing the agency (Cascino et al. 2010). Thus, family power can be associated positively with investment efficiency through reductions in moral hazard and information asymmetry (Anderson et al. 2003).

The resource-dependency theory argues that family members constitute an important resource for the firm, enhancing organizational capabilities, networks and control (Danes et al. 2009). It suggests that family power could provide a sustainable competitive advantage for firms, ultimately leading to enhanced firm performance (Habbershon and Williams 1999). Yuan and Wu (2018) assert, based on stewardship theory, that family executives may resist pressure to act in their own interest and use their connections to enhance the business of family based firms. More powerful families tend to have long-term investment horizons, and specialized knowledge that generates rational investment policies to protect their wealth.

While prior research provides evidence of a positive relationship between family ownership and firm performance, there are also costs associated with family ownership that may reduce firm performance and investment efficiency. For instance, given information asymmetry may be higher in firms with higher levels of family ownership and control due to differences in information between controlling and non-controlling family shareholders, this may exacerbate agency related costs (Gomez-Mejia et al. 2011). Family members may embark on power games with non-family management that may divert investment activities away from

value creation, and powerful family members might reduce investment efficiency (Bennedsen et al. 2007). We thus develop the following non-directional hypotheses:

***H1a**. High levels of family power are associated with over-investment.*

***H1b**. High levels of family power are associated with under-investment.*

2.2 Family Power and SG&A expenses:

We further test the effect of agency costs through an analysis of SG&A expenses which are represented by the sum of advertisement costs, rent, stationary, office functions and payroll, insurance, commissions and salaries, executive salaries and support, travel and entertainment and supplies (Banker et al. 2014). There is evidence in the literature that managers have incentives to reduce the agency costs of SG&A expenses in (i) firms having independent board directors, (ii) firms with a high proportion of institutional shareholders, and (iii) firms with an active market for corporate control (Denis and Shome 2005). Bruton et al. (2002) provide evidence that SG&A costs are more likely to decrease in privately held firms. Gomez-Mejia et al. (2011) argue that compensation of family CEOs is generally lower than that of non-family CEOs due to the preservation of SEW. The dynamic system of dominant family power and management ties in the GCC, can be viewed as partially mitigating the misalignment of interests between managers and shareholders. We argue that the incentive to reduce agency costs of SG&A expenses can be strong in firms with high levels of family power since they are keen to sustain their SEW endowment (Berrone et al. 2012). We thus expect family power decreases over-investment through reducing agency problem proxy by SG&A expenses.

***H2** Family power reduces SG&A expenses in firms with over-investment.*

2.3 Family Power and Earnings Management

Previous literature provides mixed evidence with regard to earnings management and family firms. Razzaque et al. (2016) contend that family firms have strong incentives to engage in opportunistic behaviour and this is reflected by an increase in earnings management. Wang

(2006) finds that family firms have poor earnings quality compared to non-family firms. Hence, firms having greater family ownership may experience the undermining of their long-term investment potential. However, family ownership in the board or management teams can mitigate agency conflicts and information asymmetry between owners and managers as they have higher incentives to protect family reputation and wealth due to goal alignment (Anderson et al. 2003). DeAngelo and DeAngelo (2000) show that family managers who are also CEOs of firms are more likely to act as stewards by serving family interests. Davis et al. (1997) suggest that family managers often act with altruism for the benefit of the entire organization rather than purely seeking self-benefits. Stein (1989) shows that family owners are less likely to engage in myopic and value decreasing activities, because of the consequences for their long-run investment horizon.

The GCC business environment is characterized by a unique and long standing tradition of tribal and family cultures which impact on inter-personal relationships and reputation (Kearney 2014). Thus, incentives for the controlling family owners to expropriate wealth from firms for their personal benefits, will be reduced and, consequently, the incentive for accounting earnings management is reduced in order to achieve long-term growth and to increase family wealth. Biddle et al. (2009) and Chen et al. (2011) show that high levels of financial reporting quality reduce both under- and over-investment of firms. It is therefore expected that family power could further decrease the level of earnings management and enhance firms' investment efficiency. Earnings management is found to be less likely among family firms than non-family firms as family firms place greater emphasis on SEW (Yang 2010). Consistent with the SEW preservation motive, Berrone et al. (2012) find that family CEOs have a positive impact on firm decisions and outcomes. We assume that the family power status a significant effect on earnings quality depending on the level of concerns with SEW

preservation experienced by family power which leads to reduce the over- and under-investment of firms. We therefore state our last hypotheses as follows:

H3a. *Family power reduces earnings management in firms with over-investment.*

H3b. *Family power reduces earnings management in firms with under-investment.*

3.0. Research Design

3.1. Data and Sample Selection

Our sample consists of data on public non-financial firms listed in seven GCC capital markets for the 2005-2013 period.[4] Financial institutions and insurance firms were excluded from the sample due to significant differences in the application of accounting policies and the derivation of accounting estimates, and the different regulatory constraints faced by these firms. Data on family power characteristics were hand collected from annual reports, and data on the control variables were obtained from the Standard & Poor's (S&P) *Capital IQ* database. Firms that do not have family power data in their annual reports were excluded from the dataset. All continuous variables were winsorized at the 1st and 99th percentiles to mitigate the influence of outliers. We also control for heteroscedasticity using the White test (White 1980). Table 1 shows that there were initially 1,670 firm-year observations. The exclusion of joint-listed firms (72 firm-years), firms with no family and corporate governance data (133 firm-year observations), firms with missing control variables (467 firm-years), and observations omitted due to the use of lead values in the regression models (142 firm-years) yielded a final sample of 856 firm-year observations for 164 unique firms.[5]

[Insert Table 1 here]

[4] We used 2005 as the base year for our analysis as it is the first year that GCC firms started releasing corporate governance reports.

[5] From the final sample of 856 firm-year observations in the GCC, there are 32 firm-year observations (9 unique firms) in Bahrain, 286 observations (58 unique firms) in KSA, 19 observations (5 unique firms) in Kuwait, 411 observations (66 unique firms) in Oman, 8 observations (2 unique firms) in Qatar, and 100 observations (24 unique firms) in UAE.

3.2. Variable Measurement

3.2.1. Dependent Variable: Investment Efficiency

We measure investment efficiency (i.e. under-investment or over-investment) using Biddle et al. (2009)' model (Model 1) that estimates firm-specific investment as a function of growth opportunities (measured by sales growth). The below regression residuals are used as a firm-specific proxy for deviations from expected investment.

$$Investment_{i,\,t+1} = \beta 0 + \beta 1 \;\; SalesGrowth_{i,t} + \; e_{i,\,t+1} \qquad \text{Equation (1)}$$

where $Investment_{i,t+1}$ is total investment of a firm at time $t+1$, measured as the sum of new investment in machinery, equipment, vehicles, land and building minus depreciation, amortization and the sales of property, plant and equipment, scaled by total assets in prior year. $SalesGrowth_{i,t}$ is a firm's sales growth at year t, expressed in the percentage difference.

Following Biddle et al. (2009), the residuals from Equation (1) are first sorted into quartiles. Firms are then classified into three groups: under-investing firms (firms with residuals in the bottom quartile), over-investing firms (firms with residuals in the top quartile), and the benchmark group (firms with residuals in the middle two quartiles). A multinomial logit model is estimated to predict the likelihood that a firm will be in one of the two extreme quartiles as opposed to the middle quartiles.

3.2.2. Independent Variable: Family Power

Following Berrone et al. (2012), we construct an index of family power based on six family board member characteristics. Higher family stock ownership increases the influence of voting rights and, thus, increases family power. We adopt three dichotomous variables to identify the dimensions of ownership power. The first variable, *FAMFOUND,* takes a value of 1 if firms are founded by families, otherwise 0. The second variable is family share ownership (*FAMOWN*) that takes value of 1 if the family member has greater than 5% of a firm's equity ownership, otherwise 0. The third variable of family power is *CEO_FAMOWN* which is scored

as 1 if the CEO or chairman is a family member, otherwise 0. We also draw upon three other binary variables to assess the strength of family power through family members' involvement in the board, and in management generally. The fourth variable to measure family power takes a value of 1 if the firm has at least more than two family members on board of directors, and 0 otherwise (*FAMMEM*). The fifth variable takes a value of 1 if the firm's CEO comes from a founding family and he is also a member of the executive committee,[6] and 0 otherwise (*EX_CEOFAM*). The sixth variable to measure family power takes a value of 1 if the CEO and chairman of the board come from the same family (*CH_CEOSAME*), otherwise 0. A CEO and chairman of the board from same family (brothers) indicate greater family power.

We utilize these six variables to develop an index of family power for each of our sample firms. *FamPwr1* is an eigenvalue obtained from six family characteristics. A family power factor is also created using Principal Component Analysis (PCA). We use *Tetrachoric* correlation, which is a special case of the *polychoric* correlation, and it is applicable when both observed variables are dichotomous. This identifies commonalities or factors underlying our measures of family power. Following Bushman et al. (2004), we hold the factors with eigenvalues greater than 1 and the analysis shows one factor for family power using this criterion. We then rotate the factors using the *varimax* rotation technique to clarify the interpretation of these factors. Table 2 Panel A shows factor loadings of the PCA is 100% with an eigenvalue of 3.397. It is clear that the *CEO_FAMMEM* variable appears relatively unimportant with a weight of less than 1%. The final factor (***FamPwr1***) represents and captures substantial commonalities among the six attributes of family power. We also use the second measure of family power (***FamPwr2)*** which is calculated as the sum of the six family attributes

[6] We choose the executive committee as the existence of this committee is very common in the GCC while it is not in Europe and the U.S (BDI 2009). The establishment of an executive committee backs the high level of authority and acts on behalf of the board, even in major decisions (BDI 2009). Furthermore, this committee tends to take on a great deal of power over time, and runs the corporate for all intents and purposes (Aurell 1964).

that were used to generate ***FamPwr1,*** scaled by the total expected score of these six variables. The higher the value of ***FamPwr2***, the higher the level of family power in a firm.

[Insert Table 2]

3.2.3. Control variables

Based on prior literature (Chen et al. 2011, Asiri et al. 2020), we include several control variables that may affect investment efficiency. Firm size (*SIZE*), measured as the natural logarithm of total assets, controls for firms' resources that could be used to make investments. *Tobin's Q*, controls for firms' growth characteristics, and is measured as the ratio of market value to book value of total assets. To control for differences in firms' liquidity, we include total cash from operations scaled by total sales (*CFO*). Institutional ownership (*InstitOwn*), measured as the percentage of equity owned by institutional investors, controls for the effect of ownership structure and investor-related effects on firms' propensity to engage in investment projects and to make investment-related decisions. To control for firms' free cash flows, we include *SLACK* in our models, measured as the total cash balance divided by total assets. We also control for a firm's profitability by including return on assets (*ROA*), measured as pretax income divided by total assets. We incorporate firm leverage (*LEV*), measured as total short-term and long-term liabilities divided by total assets. We also include a firm's level of tangible assets (*TANG*), measured as property, plant, and equipment scaled by total assets, the dividend payout indicator *(DIV)* which takes a value of one if the firm paid a dividend during a year, otherwise zero. Strength of governance structure is measured using a corporate governance index *(Firm_CG)* comprising three indicator variables: the independence of the board of directors, the duality of the CEO/chairman, and the firm's directors with outside directorship. We also include firm age (*Age*), measured as the natural logarithm of the number of years since incorporation. Besides country effects, we also add a country economic variable, Gross Domestic Product (*GDP*) per year, which is measured in natural logarithm.

3.2.4. Empirical Model

To test H1a and H1b, we use the following multinomial logistic model:

$$Investment_{i,t+1,}[Under]or[Over] = \alpha_0 + \alpha_1 FamPwr_{i,t} + \alpha_k[Control\ Variables] + Year\ Industry\ Countries\ Dummies + e_{i,t} \quad \text{Equation (2)}$$

To test H2a and H2b, we use the following multinomial logistic model:

$$Investment_{i,t+1,}[Under]or[Over] = \beta_0 + \beta_1 FamPwr_{i,t} + \beta_2 SGA_{i,t} + \beta_3 FamPwr_{i,t} * SGA_{i,t} + \beta_k[Control\ Variables] + Year\ Industry\ Countries\ Dummies + e_{i,t} \quad \text{Equation (3)}$$

To test H3a and H3b, we use the following multinomial logistic model:

$$Investment_{i,t+1,}[Under]or[Over] = \beta_0 + \beta_1 FamPwr_{i,t} + \beta_2 DAC_{i,t} + \beta_3 FamPwr_{i,t} * DAC_{i,t} + \beta_k[Control\ Variables] + Year\ Industry\ Countries\ Dummies + e_{i,t} \quad \text{Equation (4)}$$

In equations (2)-(4), the dependent variable $Investment_{i,t+1}$ is defined in Section 3.2.1, the independent variables (*FamPwr1* and *FamPwr2)* are specified in Section 3.2.2, and the control variables are in Section 3.2.3. $SGA_{i,t}$ in Equation (3) is calculated as the total expenses of advertisement, rent, stationary, insurance costs, commissions and salaries, executive salaries, support, travel and entertainment and supplies (Banker et al. 2014). $DAC_{i,t}$ in Equation (4) is discretionary accrual as developed by Jones (1991).[7]

4.0 Empirical results and discussion

4.1. Descriptive statistics

Table 2 Panel B reports the summary statistics for the variables included in the regression models. For investment efficiency Model 1 (Biddle et al. 2009), the mean (median) for the multinomial logistic regression using the investment absolute value is 0.316 (0.244) with a standard deviation of 3.10. The mean (median) value of the first measure of family power (*FamPwr1*) is 0.188 (0.0894), with a standard deviation of 0.3041. The mean (median) value of the second measure of family power (*FamPwr2*) is 0.2391 (0.1667). The average values of our family power variables, i.e. *FAMOWN, FAMFOUND, FAMMEM, CEO_FAMOWN*,

[7] Details about estimating the *DAC* variable using the model of Jones (1991) are in the supplementary file.

CH_CEOSAME, and *EX_CEOFAM,* are 32.8%, 28.7%, 39.7%, 12.4%, 10.4% and 29.4%, respectively. The values of our control variables are consistent with the GCC literature (Eulaiwi et al. 2016).

4.2. Regression analysis

4.2.2. Association between family power and investment efficiency

Table 3 reports the coefficients of our two measures of family power (*FamPwr1* and *FamPwr2*) are negative and statistically significant for all investment efficiency estimates. These results provide support for our hypotheses H1a and H1b that family power reduces over- and under-investments, consistent with the socioemotional wealth preservation. In columns (1) and (2) of Table 3, we find the coefficients of *FamPwr1* variable for under- and over-investment are -0.0138 and -0.0126 (p<0.01), respectively. Columns (3) and (4) show similar results for *FamPwr2* variable with negative and significant coefficients (p<0.01) for both under- and over-investment. In all models, the adjusted R-squares range from 20.87% to 20.93%.

Using the Delta method, we also test the marginal effect of family power on a reduction in inefficient investments and provide the results as Table 3. It is found that the average marginal effect of firms with investment inefficiency and having family power are all negative and significant at p<0.05, suggesting that the probability of a one unit increase in family power, on average, reduces investment inefficiency compared to non-family power firms. In summary, our results are consistent with the argument that family power reduces information asymmetry and limits managerial opportunistic behavior related to participation in value-destroying investment. In particular, family power appears to align firms' investment activities with best practice policies and the monitoring of firms' investment.[8]

[Insert Table 3 here]

[8] We also perform additional robustness tests and report the results in the supplementary file of this paper. They include different measures of investment efficiency using Chen et al. (2012) model, propensity score matching (PSM) method, regressions with firm fixed effects, and adding family ownership and square family ownership variables in the main regression.

4.2.3. Association between family power, SG&A expenses and investment efficiency

In the H2, we expect family power to reduce the management's cash exploitation via SG&A costs. If this hypothesis is true, the interaction term between family power and SG&A expenses is expected to be negative for over-investment. In columns (2) and (4) of Table 4, we find consistent results that support our H2, in that the coefficients of interaction terms between *FamPwr1* (*FamPwr2*) and *SGA* are significantly negative at $p<0.01$ for over-investment firms. However, no significant association of the interaction term between SG&A expenses and family power measures (*FamPwr1 and FamPwr2*) is found for under-investment firms. Our results suggest that family power exhibits resilient family influence and management ties, and is likely to be associated with a decrease in agency costs of SG&A expenses when firms are over-invested. Our findings supports the concept that socioemotional wealth preservation is important for family owners.

[Insert Table 4 here]

4.2.4. Association between family power, earnings management and investment efficiency

We also investigate whether family power decreases information asymmetry and adverse selection and, thereby, also reduces earnings management in firms exhibiting investment inefficiency. The results in Table 5 support our hypotheses H3a and H3b that family power further reduces earnings management in firms with under- and over-investment. For instance, in columns (2) and (4), we find the interaction terms between *FamPwr1 (FamPwr2)* and *DAC* are negative and significant ($p<0.01$) for over-invested firms. Similar results are observed for under-invested firms. Our findings are consistent with the socioemotional wealth preservation motive that family power has a positive impact on firm outcomes.

[Insert Table 5 here]

5.0 Conclusion

We investigate the effects of family power on the investment efficiency of GCC firms and the influence of family power on the firm's level of investment efficiency through an analysis of SG&A expenses and earnings management. Family power in the firm *per se* is a "Double-edged Sword" that can used as a wealth transfer mechanism to family members (e.g., through arm's length transactions, or through obstructing information dissemination), or to maximize shareholders' wealth (e.g., through funding internal financing, family connections, or private information acquisition). A unique measure of family power using six attributes encapsulating governance structure, ownership structure and controls within a firm is developed. We find that family power assists firms in mitigating risks associated with under- and over-investment and thereby, improves the level of investment efficiency. Family power reduces agency cost of SG&A expenses in firms with over-investment and it also reduces managerial incentives to engage in earnings management in firms with both under- and over-investment. Our results are robust to potential endogeneity, and to different measures of family power and investment efficiency.

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Table 1: Sample Selection

Total Observations	
Number of non-financial firms	1,670
Less	
Joint-listed firms	-72
Firms with unavailable annual reports	-133
Firm with missing control variables	-467
Firms with no lead values of variables for regression analyses	-142
Final Observations	856

Table 2 Panel A: Principal Component Analysis

Factors	Eigenvalue	Difference	Proportion	Cumulative
FAMOWN	3.397	3.126	1.000	1.000
FAMFOUND	0.271	0.219	0.080	1.080
FAMMEM	0.051	0.070	0.015	1.095
CEO_FAMOWN	-0.019	0.072	-0.006	1.089
CH_CEOSAME	-0.091	0.122	-0.027	1.063
EX_CEOFAM	-0.213	.	-0.063	1.000

Factor	Variance	Proportion	Rotated factors are correlated
FamPwr1	3.397	1.000	

There are six variables to measure family power using Principal Component Analysis (PCA). Definitions of those variables are in Section 3.2.2 (Independent Variable: Family Power)

Table 2 Panel B: Descriptive statistics

Variable	N	Mean	S.D.	0.25	Median	0.75
FamPwr1	856	0.188	0.304	0.000	0.089	0.181
FamPwr2	856	0.239	0.253	0.000	0.166	0.333
FAMOWN	856	0.328	0.470	0.000	0.000	1.000
FAMFOUND	856	0.287	0.390	0.000	0.000	0.000
FAMMEM	856	0.397	0.490	0.000	0.000	1.000
CEO_FAMOWN	856	0.124	0.330	0.000	0.000	0.000
CH_CEOSAME	856	0.104	0.305	0.000	0.000	0.000
EX_CEOFAM	856	0.294	0.456	0.000	0.000	1.000
|Investment| Model 1	856	0.316	0.301	0.109	0.244	0.457
SIZE	856	5.238	1.875	3.917	5.123	6.385
Tobin's Q	856	3.094	4.083	0.815	1.219	3.772
CFO	856	15.986	32.599	4.447	14.380	30.705
InstitOwn	856	0.265	0.271	0.000	0.180	0.458
SLACK	856	11.597	12.753	3.011	6.898	15.929
ROA	856	5.231	5.264	2.195	4.750	7.960
LEV	856	23.374	22.116	3.330	18.967	37.111
TANG	856	1.978	4.011	0.045	0.280	1.601
PPE ($MM)	856	1113.3	5579.6	14.2	62.4	248.7
DIV	856	0.676	0.468	0.000	1.000	1.000
Firm_CG	856	0.578	0.111	0.467	0.600	0.667
AGE	856	3.005	0.557	2.639	3.045	3.466
GDP	856	0.048	0.031	0.039	0.048	0.069
SGA	856	0.149	0.178	0.058	0.108	0.182
DAC	856	0.072	0.152	0.016	0.038	0.072

All variables are described in Section 3.2 (Variable Measurement).

Table 3: Family Power and Investment Efficiency

	(1)	(2)	(3)	(4)
	Under-Invest	Over-Invest	Under-Invest	Over-Invest
FamPwr1	**-0.0138*** **	**-0.0126*** **		
	(-3.48)	**(-3.06)**		
FamPwr2			**-0.0151*** **	**-0.0150*** **
			(-3.26)	**(-3.17)**
Control variables	Yes	Yes	Yes	Yes
Year, Country, Industry	Yes	Yes	Yes	Yes
Marginal effects	-0.00147	-0.0114	-0.0155	-0.00143
Delta method -Z	(-2.64)	(-2.04)	(-2.40)	(-2.24)
N	856		856	
Adj. R-sq	0.2087		0.2093	

This table presents the regression results of family power on investment efficiency (full regression results with estimated coefficients for control variables are in the supplementary file of the paper). All variables are defined in Section 3.2 (Variable Measurement). ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively. Figures in parenthesis refer to *t*-statistics.

Table 4: Family Power, SG&A Expenses and Investment Efficiency

	(1)	(2)		(3)	(4)
	Under-Invest	Over-Invest		Under-Invest	Over-Invest
FamPwr1	-0.0370***	-0.0012	**FamPwr2**	-0.0140**	-0.0014
	(-2.61)	(-0.08)		(-2.42)	(-0.24)
SGA	0.9428	3.5863***	**SGA**	1.2200	5.3999***
	(1.26)	(3.49)		(1.16)	(3.76)
SGA*FamPwr1	**-0.0137**	**-0.2100*** **	**SGA*FamPwr2**	**-0.0077**	**-0.0932*** **
	(-0.26)	**(-3.02)**		**(-0.29)**	**(-3.12)**
Control variables	Yes	Yes		Yes	Yes
Year, Country, Industry	YES	YES		Yes	Yes
N	856			856	
Adj. R-sq	0.2225			0.2245	

This table presents the regression results of family power and SGA on investment efficiency (full regression results with estimated coefficients for control variables are in the supplementary file of the paper). All variables are defined in Section 3.2 (Variable Measurement). ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively. Figures in parenthesis refer to *t*-statistics.

Table 5: Family Power, Earnings Management and Investment Efficiency

	(1)	(2)		(3)	(4)
	Under-Invest	Over-Invest		Under-Invest	Over-Invest
FamPwr1	-0.2226	0.0011	**FamPwr2**	-0.0072	-0.0018
	(-1.54)	(-0.01)		(-1.60)	(-0.32)
DAC	-1.213	-4.6913***	**DAC**	1.4287	0.5181
	(-1.11)	(-3.46)		(1.31)	(0.46)
FamPwr1*DAC	**-0.3234***	**-0.71749*** **	**FamPwr2*DAC**	**-0.1256*** **	**-0.2547*** **
	(-1.80)	**(-3.50)**		**(-3.08)**	**(-3.33)**
Control variables	Yes	Yes		Yes	Yes
Year, Country, Industry	Yes	Yes		Yes	Yes
N	856			856	
Adj. R-sq	0.2156			0.2148	

This table presents the regression results of family power and earnings management on investment efficiency (full regression results with estimated coefficients for control variables are in the supplementary file of the paper). All variables are defined in Section 3.2 (Variable Measurement). ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively. Figures in parenthesis refer to *t*-statistics.