Final Report of the AFAANZ Grant received for 2017-2018

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(2) Project Title

Original Application Title: The Joint Effects of Ownership Concentration, Board Independence and Innovation on Idiosyncratic Risk

Project Undertaken: Effects of institutional ownership on innovation and firm performance: Evidence from OECD and emerging economies

(3) Updated Project Summary (500 words) including any variations between the project undertaken and the original application

Updated Project Summary: This study examines the effects of institutional ownership on innovation and firm performance. This study therefore expands the literature by addressing two research questions raised in the study. They are, *First*, whether institutional ownership influences firm performance and *Second*, whether the stage of the economy influences the effects of institutional ownership on innovation and performance. These questions are important, given the differences in the regulatory environment and ownership structures, generalization of the findings from U.S to emerging countries and non-US OECD (Rong et al, 2017).

Following the subprime crisis of 2008, the focus on the monitoring role of institutional investors became crucial for investors and regulators (OECD, 2009; Tee, 2018) and is viewed as a corporate governance tool in dealing with agency issues and in reducing the manager's ability to hold negative information (Guedhami et al., 2014; Tee et al., 2017).

In this study, we consider the companies listed on NYSE/NASDAQ. With annual data spanning the period 2003 - 2016, our sample has 33,595 firm–year observations. Data on all constructs in the model are collected using publicly available data sources. We obtained annual financial data and institutional investors data from COMPUSTAT and the centre for research in security prices (CRSP). Likewise, the data on patents and citations sourced from PATSNAP were merged with the financial and institutional investors dataset.

This study models firms performance as a function of institutional ownership and innovation. We reduce the problem of endogeneity and isolate causal relationships, by utilizing a natural experiment approach (Meyer, 1995). Three exogenous events are considered in the study includes: pension funds regulations on disclosure and transparency, 2012; global financial crisis of 2008 and post-global financial 2010. We undertake robustness check and control for the potential problem of selection bias with the two-stage Heckman (1976) procedure. This study adds to the literature in the following ways.

This study finds evidence on the moderating effects (interaction) of institutional ownership on firm performance through pressure resistant institutional investors. Further, the results suggest that the monitoring by institutional investors can act as an important mechanism to promote firm innovation and firm performance. From the emerging markets context, the evidence also suggests that institutional ownership has a significant and positive moderating effect in influencing firm performance in these economies. This suggests that the emerging economies are moving towards incentivizing institutional investors to monitor management. The results from natural experiments approach confirm positive and significant relationship between institutional ownership and firm performance.

Variations between the project undertaken and the original application:

The Title of the project in the original application slightly differs from the project undertaken: *Effects of institutional ownership on innovation and firm performance: Evidence from OECD and emerging economies.* Prof.Anne D' Arcy joined our project as a co-author. She is Professor at the Institute for Corporate Governance, WU Vienna University of Economics and Business, Austria.

We replaced board independence with institutional ownership and considered firm level performance instead of idiosyncratic risk. However, we have a second working paper that includes idiosyncratic risk.

(4) Funds Granted

AUD$5, 000.00

(5) Detailed Report on Expenditure of Funds against Budget Items, with variations explained

Details of the support requested	Description	Budgeted Amount ($AUD)	Actual Expenditure
Resource support	Research Assistants (RAs) collect corporate governance variables	4400.00	4400.00
	Research Assistants (RAs) collect daily stock returns data	2600.00	2600.00
	Research Assistants (RAs) collects data on Patents and Innovation	3000.00	2714.00
Databases	Databases	5500.00	5500.00
Overseas Travel	Travel to University of Queensland for four weeks to UQ to work with Prof Robert Faff (Accommodation + Per diem)		2286.00
	Total Budget	**15500.00**	**17500.00**
Other Sources of Funding			
	Amount of support in kind (UQ) towards Research assistance	5500.00	7000
	Amount of support in kind (Waikato University & UQ) Access to innovation and Corporate Governance databases		5500
	Net Grant Funding Requested	**10000.00**	**10000.00**
	Funds Granted	**5000.00**	**5000.00**

(6) Outcomes, for example, working papers, presentations and publications (give full details, including abstracts)

The following are the details of the outcomes associated with the project undertaken:

Title: Effects of institutional ownership on innovation and firm performance: Evidence from OECD and emerging economies.

Conference Presentations:

A full-length manuscript was submitted and presented at the ICGS conference (13th & 14th Oct, 2018) and has been ***nominated for best paper award***. The research grant award received from ***AFAANZ*** was acknowledged at all of the following presentations:

- Paper presentation on 24th April 2018 at Institute for Corporate Governance, WU Vienna University of Economics and Business, Austria.

- Paper Presentation on 14th October 2018, at ICGS conference held at Fudan University in Shanghai, China;

Invited presentation at a one-day Research Workshop organised in Nagoya city University:

- Presentation in a one-day research-workshop held on 16th October 2018, at Nagoya City University, Nagoya, Japan;

Invited presentation to the Management School Faculty in Zhejiang University on 17th October, 2018.

- Presentation on 17th October 2018 at Zhejiang University, Hao Zhang, China

Draft includes 11,148 words and 42 pages

Abstract: This study examines the effects of institutional ownership on innovation and firm performance. This study therefore expands the literature by addressing two research questions raised in the study. They are, *First*, whether institutional ownership influences firm performance and *Second*, whether the stage of the economy influences the effects of institutional ownership on innovation and performance. These questions are important, given the differences in the regulatory environment and ownership structures, generalization of the findings from U.S to emerging countries and non-US OECD (Rong et al, 2017). It provides evidence from OECD and Emerging nations on the relationships between institutional ownership, innovation and performance differentiating between different types of institutional investors. This study finds evidence on the moderating effects (interaction) of institutional ownership on firm performance through pressure resistant institutional investors. The results also show that efficiency (labor productivity) has a critical role as a mediator between institutional ownership and firm performance when compared to the innovations. Further, the results suggest that the monitoring by institutional investors can act as an important mechanism to promote firm innovation and firm performance. From the emerging economies context, the evidence also suggest that the institutional ownership has a significant and positive moderating effect in influencing firm performance in emerging economies. This suggests that the emerging economies are moving towards incentivizing institutional investors to monitor management.

(7) Future Intentions for this Project (give full details)

a. Journal submissions

Title: Effects of institutional ownership on innovation and firm performance: Evidence from OECD and emerging economies.

Currently, the above-mentioned paper is being revised after receiving the feedback from the conference participants and reviewers and comments from Robert Faff.

We plan to submit this paper to Journal of Corporate Finance in 2019.

b. Conference submissions

The second working paper titled: ***Joint Effects of Corporate Ownership and Innovation on Idiosyncratic Risk***

Will be submitted to the AFAANZ conference, 2019 and subsequently, the revised version following the comments from the conference reviewers, we plan to submit this paper to Accounting and Finance, Journal or Pacific Basin Finance Journal.

Abstract: **Working Paper:**

Title: Joint Effects of Corporate Ownership and Innovation on Idiosyncratic Risk

Abstract: In this paper we provide evidence on the effects of ownership and innovation on the idiosyncratic risk of a firm. This study primarily discusses ownership from the context of institutional ownership because the role and influence of institutional investors has grown over time in US listed companies.

Since idiosyncratic risk is affected, among other factors, by decisions taken by firms, it is important to understand the firm-specific determinants of idiosyncratic risk. Literature suggest that high level of idiosyncratic risk reflects greater emphasis on growth strategies (Campbell et al. 2001), efficient capital allocation (Durnev, Morck, and Yeung, 2004) predictor for future returns (Goyal and Santa-Clara, 2003) and Fu, 2009). Roll (1988), emphasises the role of idiosyncratic volatility and shows that idiosyncratic price changes are driven at least seven times more by information than by noise even on days with no identifiable public information.

Yet, there are few theoretical tensions that exists on the relevance of asset pricing for assuming idiosyncratic risk. According to traditional capital asset pricing model, the idiosyncratic risk can be eliminated in a well-diversified portfolio and therefore, cannot be priced. Conversely, literature suggests that investors might not be able to hold well-diversified portfolios, due to transaction costs (Liow and Addae-Dapaah, 2010), wealth constraints or by choice (Xu and Malkiel, 2003). Further, a significant relationship between idiosyncratic risk and asset returns is well documented (Ang , Hodrick, Xing, and Zhang, 2009; Malkiel and Xu, 1997, 2006 and Mi, Benson & Faff, 2016). Merton (1987) also posits that in a world of incomplete information, it is not optimal for an investor to track the information of all the securities in the market. Prior literature has argued for the effects ownership shareholding (Ferreira and Laux, 2007) and innovation (Hessman, 2013).

Further, prior literature also argues that innovation is a key factor that leads to high uncertainty, hence higher volatility (Mazzucato, 2002 and Campbell et al. 2001). Since innovation is a proxy for uncertainty (Knight 1921), a relationship between idiosyncratic risk and innovation is expected and the firms that invest more in innovation are likely to face more volatility of their returns (Mazzucato and Tancioni, 2008). While those firms not undertaking innovation carry a risk of competitive decline (Hessman, 2013). Additionally, empirical evidence in the literature confirms a relationship between ownership concentration and innovation. Though a number of studies confirm a positive relationship (Aghion, et al., 2013, and Olivier, 2013), some studies also report a negative relationship between ownership concentration and innovation (Cebula & Rossi, 2015 and Minetti, et al 2012).

Likewise, a positive relationship between institutional ownership and idiosyncratic risk is evident (Campbell et al. (2001), Dennis and Strickland (2004), Sias (1996), and Xu and Malkiel (2003). Conversely, Zhang (2010) shows that since 2001 aggregate idiosyncratic volatility consistently declined, while institutional ownership has maintained an upward trend. While, Panousi & Papanikolaou (2012) argue that managerial risk aversion induces a negative relation between idiosyncratic volatility and investment.

Taken together, the cumulative findings suggest that the relationship between ownership concentration, innovation and idiosyncratic risk may be more complex than previously hypothesized. However, till date literature shows empirical evidence on for the direct and independent effects of both corporate ownership/corporate governance, and innovation on idiosyncratic risk (Nguyen , P, 2011; John, Litov, and Yeung, 2008). In this study we extend the prior literature and propose that since investments in innovations are influenced by corporate ownership (Aghion, et al., 2013; Helmer et al., 2017), the effect of corporate ownership on idiosyncratic risk is mediated through innovation.

Therefore, the main research questions pursued in this study are:

- Does corporate ownership and innovation jointly affect idiosyncratic risk?

c. Grant applications

- AFAANZ 2019 Grant: We plan to expand this study to include the effects of hedge funds and mutual funds (open-end and closed end funds) on environmental responsible performance and innovation. We plan to seek funding opportunity to support this project from AFAANZ 2019 GRANT.

- This enables us to apply for the Ministry of Business, Innovation and Employment (MBIE) – Endeavour Research Fund or Catalyst Fund, 2019.

d. Projects

(8) Summary of Outcomes and Benefits

This research grant supported me to evolve as a researcher and work under the expertise of Professor Robert Faff.

This provided me with an opportunity to expand my research capabilities, skills and expertise.

I received this research grant support during the period that coincided my study leave. This gave me an opportunity to present at WU Vienna University of Economics and Business, Austria.

This project enabled me to access a very decent data on institutional ownership, Risk and innovation for a reasonable length of period 2003-2016.

This has helped me to come up with a nice write up and my paper was nominated for best paper award by the ICGS conference organisers.

The president of the ICGS conference (where I presented my paper), Douglas Cumming shared some views on expanding this research to hedge funds and the two types of mutual funds and link them to innovation (incremental and static) for further interpreting the effects of these institutional investors on risk and performance.

In general, the AFAANZ research grant helped me to evolve as a researcher and undertake a research project which is topical and has potential to expand the literature further-more.