DOI: https://doi.org/10.55164/ecbajournal.v16i2.268062

Do Intra-industry Peer Effects Influence the Debt Financing Policy of Companies Listed in Thailand?

Sirada Nuanpradit[1*]

Received : 15/06/2023
Revised : 31/08/2023
Accepted : 18/09/2023

Abstract

Rational imitation of financial policies, namely peer effects, was documented to prevail among firms within an industry in both developed and top emerging economies. Lacking evidence from medium-sized emerging Asian countries, this study examined intra-industry peer effects, i.e., imitation, on debt financing at Thai listed companies. The sample consisting of the firms listed on the Stock Exchange of Thailand (SET) during the years 2001–2018 was incorporated to discover those effects. Numerous databases associated with the SET (e.g., SETSMART) and the firms' websites were used to collect financial numbers. With 6,058 firm-year observations, unbalanced panel data was then analyzed by using the random-effects and fixed-effects ordinary least squares models as well as the two-stage least squares regression. The main findings show that a focal firm imitates the long-term debt financing of its industry peers. Using the instrument approach to address endogeneity, the key results are confirmed. Peers' equity shock as the instrumental variable decreases their financing with debt, subsequently lowering debt levels at a focal firm. This mimicking was operated through peer action, not peer character, i.e., performance. In additional tests, severe market competition was found to strengthen the uniformity of decision-making on debt finance among industry peers. Meanwhile, the high cost of information embedded in innovation-driven businesses has not been found to both promote and reduce peer effects on debt finance. Including the extra control variables at firm-specific levels, the key results remain robust. This study highlights a vein of social learning theory and competition-based theory in discussing herding behaviors toward all member firms in a certain industry. The conclusions enrich the literature on peer effects on debt finance policy.

Keywords: Peer Effects, Intra-Industry, Debt Finance, Imitation, Thai Listed Company

Introduction

According to previous literature, the term 'peer effects' is defined as an imitation of financial policy selection among peers, and this herding behavior is mostly rational (e.g., Devenow & Welch, 1996). Imitation strategy in corporate policies helps firms maintain an advanced position under fierce market competition (e.g., mimicking new

[1] Assistant Professor Dr., Faculty of Economics and Business Administration, Thaksin University
[*] Corresponding author: E-mail address: sirada_cu@hotmail.com, sirada@tsu.ac.th

product development), even if this practice benefits only their short-term performance (Peng et al., 2021). An externality that arises from its peers' current action, surroundings, and output exerts an influence on a focal firm to make its own decision through imitation (Sacerdote, 2011). Firms never make financial decisions in isolation, and competitor information notably shapes business practices and strategies (Ali-Rind et al., 2023). The accounting scandal that resulted from WorldCom's aggressive financial reporting, for example, made evident the peer pressure within the telecommunications industry that encouraged peers to imitate WorldCom's financial practices. Peer effects have a substantial impact on financial and accounting approaches such as accounting restatement (Gleason et al., 2008), dividend payment (John et al., 2011), cash in hand (Chen et al., 2019), and tax relief (Kelchtermans, 2020). Corporate financing policies of a firm's peers sometimes have a greater influence on the selection of the policies than its own fundamental information (Leary & Roberts, 2014). Capital structure mimicry is more prevalent in markets with limited investor protection (Francis et al., 2016), ineffective corporate governance (Fairhurst & Nam, 2020), and intimate business interconnection (Zhong & Zhang, 2018).

This current study presents the three interesting aspects that motivate the investigation of peer effects, i.e., imitation, on debt finance among Thai firms. Firstly, in Thailand, numerous businesses are characterized by family business groups, and family firms appear to have lower costs of debt than those of non-family firms (Swanpitak et al., 2020). Thai firms may then establish the same pattern of capital structure. Secondly, among the external fund sources, debt has been predominant in Thai businesses over the decades. Prior to the Asian economic crisis of 1997, Thai companies relied exclusively on lending from domestic financial sources, i.e., commercial banks, finance companies, and state-owned banks, with the entire system's assets constituting 190% of GDP. Thai firms seemed to follow similar patterns of financial structure. At that time, Thai financial institutions had lowered their lending standards, as preferential relationships had a greater impact than bank lending criteria on the extension of loans. In the subsequent corporate governance reform following the crisis, the pre-crisis regulations and institutions were replaced with something explicitly new (Limpaphayom & Connelly, 2004), resulting in changes in the financial and banking systems (e.g., downsized or consolidated banks, tight lending restrictions).

Later, the unrestricted mortgage lending and numerous financial instrument failures that caused the global financial crisis in 2007 plunged the US and the rest of the world into a deep recession (Kothari & Lester, 2012). However, the financial impact on East Asian economies, particularly in Thailand, was not as significant as it could have been in comparison to the serious disruptions experienced by Western nations. This suggests that the Thai financial reforms implemented after the Asian economic crisis enhanced the soundness of domestic banking and finance companies (Inoguchi, 2014).

Alternative explanations are that the perceived risks of Thai financial institutions are comparatively low or that irrational investors do not accurately price these risks (Vithessonthi, 2014). Using a variety of strategies, banks and financial companies have been continuing their fierce competition to supply funds for Thai firms. According to the report for 2011–2020 by Thanatawee (2023), Thai firms still have lower debt costs than those of firms from several Asian countries (China, Malaysia, and Vietnam). Meanwhile, both asymmetry of information and market competition among family-group businesses seize control over the Thai capital markets. It is expected that Thai companies would make debt finance decisions by mimicking the decisions of their counterparts in a normal manner.

Thirdly, to the best of my knowledge, this study seems to be the first to explore peer effects on debt finance choices for Thai companies. With the exception of studies from China (Zhong & Zhang, 2018; He & Wang, 2020), Spain (Maté-Sánchez-Val et al., 2017), and Romania (Brendea & Pop, 2019), peer effects on financing choices have not been studied much in other single economies since the seminal research of Leary and Roberts (2014) based on US firms. This study enhances our understanding of the association between the imitation of debt financing in Asian emerging markets outside China. The debt structure of developing markets differs from that of developed economies due to the underdeveloped capital markets and low availability of external financial sources (Abadi et al., 2016). For the Thai emerging market, incomplete and divergent information can result in suboptimal financial decisions that are driven by unknown conditions, and the country is currently in charge of the need for innovation. It is unclear whether and how focal firms follow the debt finance behavior of their industry peers, so this study fills the void by examining this mimic behavior within the industry and the motives behind the imitation.

Objective

The objective of this study is to investigate the influence of intra-industry peer effects on debt finance policy (debt finance imitation) among Thai listed firms.

Theory, Literature Review, and Hypothesis

Social Learning Theory

Social learning theory refers to the social behavior and learning process through which an individual's new behaviors arise from its direct experiences through the observation of its peers' actions and consequent outcomes (Bandura, 1971). The term 'peer effects' was first mentioned in the sociological literature to describe the tendency of members of a social group to learn and mimic their colleagues' actions and attitudes without engaging in a trial-and-error process (Hyman, 1942). Researchers in economics then adopted the concept and developed information asymmetry models to explain

the fact that a firm imitates and learns from its peers if the costs of making a decision are significant (Conlisk, 1980). Corporate finance scholars apply these economic models to test whether peer action explains financial decisions (e.g., Patnam, 2011). Damodaran (2010) states that "firms in a business tend to follow the leader... When this firm chooses a financing mix, presumably based upon its fundamentals, other firms in that sector then imitate the leader, hoping to imitate its success." An imitation strategy stemming from learning behavior was found among enterprises that must adapt rapidly to technological and innovative changes, and this strategy helps them improve market competitiveness (Peng et al., 2021; Wu et al., 2019).

Organizational Isomorphism and Institutional Theory

Aldrich (1979) argued that "the major factors that organizations must take into account are other organizations." Limited resources and customers are not the only factors driving competition in business. Instead, the enterprise pursues political authority and institutional legitimacy for social and economic sustainability. Institutional isomorphism exemplifies the political and ceremonial imperatives that dominate the survival of the majority of modern business organizations. Organizational isomorphism was conceptualized to describe homogeneity among businesses, particularly within the industry. According to Hawley (1968), isomorphism occurs when a company's processes and operations, as well as its information, are so constrained that it cannot make a decision. Thus, it is compelled to resemble counterparts in the industry that encounter the same environmental conditions. DiMaggio and Powell (1983) argued that as businesses continue to become more homogeneous, bureaucracy plays a crucial role in forming the common organization. Even though organizational structures have been altered to maintain productivity and competitiveness, this transformation is the result of processes that make businesses more similar without actually rendering them more effective. In line with organizational isomorphism and institution theory, peer effects within an industry likely exist to legitimize the power of organizations, including alliances, and facilitate access to financial sources. Following that, Ghani et al. (2023) conclude that a similar policy for the capital structure among the energy companies in ASEAN would enhance regional collaboration in the allocation of effective manufacturing resources.

Peer Effects and Hypothesis Development

Leary and Roberts (2014) were the pioneers of empirical research into the connection between peer effects and capital structures. The authors define peer effects as the behavior (e.g., leverage ratios) and characteristics (e.g., sales, growth) of the peer. They show that the leverage ratios of firms in the US sample are positively related to those of their peers. This view is supported by Francis et al. (2016), who reported that firms across 47 countries follow their peers' capital structure choices. In particular, the similarity of financing structures was more pronounced in countries with strong creditor

rights and less-protected investors. Moreover, Camara (2017) exhibits that imitation behavior of inter-industry capital structure is existent in the service industries during the economic contraction in the US, as their high procyclical nature makes for the worst performance. Im (2019) also reveals that over-levered firms in the US promptly adjust their leverage when their peers encounter extremely unfavorable or favorable shocks. Furthermore, Fairhurst and Nam (2020) conclude that US firms with weak corporate governance mimic their peers' debt policies. The tendency to imitate is noticeable in these firms with executive reputation concerns and high litigation risks.

Subsequent to Leary and Robert's original study, few have investigated the imitation of capital structures outside the US market, except for those in China and Romania. Zhong and Zhang (2018) concentrate on Chinese A-share-listed companies whose stock is only available to mainland Chinese investors. The authors find evidence for peer effects on capital structures only in the downward direction. When peers cut leverage levels, firms would replicate the peers' decision by reducing their own debt levels. In Romania, Brendea and Pop (2019) also found a herding behavior in the financing source and concluded that the average capital structure of the sector shapes firms' financing pattern. Later, He and Wang (2020) investigated peer effects during the period of the split-share structure reform in China. The authors suggest that firms adjust their capital structure in response to changes in their peers' leverage ratios. Such adjustments have profound impacts on industries characterized by intense competition and high debt volatility and on firms with a small market share, zero dividend payouts, and tight financial constraints. Chu et al. (2022) have also observed that the capital structure decisions of a firm are influenced not just by peer effects arising from the leading firm, but also by those originating from a little successful firm. In a recent study conducted by Liu et al. (2023), new evidence was presented on the influence of peer effects on the corporate capital structure within the Chinese capital markets. The researchers postulated that these impacts were observed through many mechanisms, including the industrial average, industrial leaders, and firms that share similarities within the industry.

This current study argues that the theoretical motivations underlying the imitation of capital structures are twofold. Firstly, firms compete in their industry by learning from their peers' actions and consequent outcomes based on social learning theory. Market competition mechanisms create agency problems that result in the predation behavior of rivals. For example, reliance on debt finance exposes a firm with a high level of debt to the ruthless competitive policy of a low-debt rival that adopts a price reduction strategy. If the expected costs of the predatory behavior are significant, the high-debt firm would mimic the capital structure of the low-debt firm (Bolton & Scharfstein, 1990). In this case, highly leveraged firms imitate the capital structure of their less leveraged peers in the same industry to reduce price competition from their

more solvent rivals. Imitation behaviors under competitive pressure are also found when going public. According to Aghamolla and Thakor (2022), in the drug industry, private firms are more likely to transition to public equity markets when a close competitor has recently gone public.

Second, organizational isomorphism and institutional theory, which say that limited business resources, operations, and information cause a focal firm's finance policies to look like those of its peer in similar environments, are likely the driving forces behind imitation of finance policy. This leads to homogeneity in capital structure among firms within the industry. If firms operate in a highly uncertain environment (Dodgson, 1993) and have poor-quality information (Bikhchandani et al., 1998) for the design of their optimal capital structure, imitation becomes meaningful. An alternative explanation of imitation is referred to as herding behavior, a tendency to follow the actions of the group norm. Managers might prefer to either hide in the herd—actions escape scrutiny—or ride with the herd—capability is assessed (Devenow & Welch, 1996). To avoid risks to their reputation, managers are well disposed to free ride on information about the capital structure of their industry peers. Krishnankutty et al. (2022) exhibit that, in the manufacturing, services, and real estate and construction sectors, there is imitation behavior in Indian firms to follow the mean capital structure of their sector. Even in decision-making on tax planning, Liao et al. (2022) conclude that the effect of information sources, namely peer effects, on corporate tax avoidance is existent. The authors find that a company has a higher level of tax avoidance if its peers in the same industry adopt an aggressive tax avoidance strategy. In an emerging economy like Thailand, the capital market is relatively young and lacks informational efficiency (Connelly, 2016), and Thai firms have substantially relied on external debt finance for many decades. The optimal capital structure has then been rigorously formulated. To either compete in the product market or free ride on inadequate information and resources, the imitation of debt finance structures exists among peers within a particular industry. The hypothesis is the following:

H1: Industry peers' debt financing is positively associated with the debt financing of a focal firm.

Methodology

Sample and Data

The scope of this study focuses on all Thai listed companies on the Stock Exchange of Thailand (SET) in the years 2001–2018 as the sample. The study compiles longitudinal financial data from numerous databases, including the SET Market Analysis and Reporting Tool (SETSMART), as well as the websites of the Securities and Exchange Commission of Thailand (SEC), the SET, the SETTRADE, and the listed firms. The study initially obtains data from those databases for 8,401 firm-year observations, ignoring

rehabilitated firms. The initial sample is comprised of firms from the eight industries of agro and food, consumer products, financials, industrials, property and construction, resources, services, and technology. Then, the study employs the following procedures. Due to missing or insufficient financial data, 2,301 firm-year observations were first eliminated from the original sample. 42 firm-year observations were then used to remove unusual values (the outlier, leverage, and influential data points) from a dataset that were hindering statistical analysis. Using unbalanced panel data, the final sample consists of 6,058 firm-year observations from 549 unique companies.

Regression Model and Variable Measure

To examine peer effects on financial decision-making, this study employs the following ordinary least squares (OLS) regression in the baseline model:

$$DFIN_{j,i,t} = \beta_0 + \beta_1 PEER_{-j,i,t} + \beta_2 PEERCHA_{-j,i,t} + \sum_{\delta=1}^{4} \delta\ FocalControls_{j,i,t} + Year\ FE + Industry\ FE + \varepsilon_{j,i,t}$$

Where subscripts j, -j, i, and t denote focal firm, peer firm, industry, and year, respectively. In this regression[2], focal firms' debt finance policy is the linear function of peers' debt financing and the control variables, including peers' character, focal firms' own characteristics, year fixed effects, and industry fixed effects.

This study measures debt finance policy ($DFIN_{j,i,t}$) by using the book value ratio of long-term debt to total assets of the focal firm j in the industry i at the end of fiscal year t. The ratio of long-term debt compared to that of short-term debt can improve constructive information about the existence of peer effects (Zhong & Zhang, 2018). As finance managers often utilize book leverage to make company choices (Graham & Harvey, 2001), adopting leverage book values as opposed to leverage market values is also a simpler approach.

Peer effects ($PEER_{-j,i,t}$) refer to debt finance policy among all peers (excluding a focal firm) within certain industries. Intra-industry peers' debt finance policy is calculated by the average book value ratio of long-term debt to total assets of the peer firms (–j), excluding firm j, within their own industry i at the end of fiscal year t. This variable displays the average long-term debt taken on by business competitors and has been widely used in prior studies (e.g., Liu et al., 2023).

Of the control variables, the first is the peer characteristic. In a similar business climate, firms' finance policies respond to those of their peers through two channels: action (decision) and characteristics. Peer characteristic pressure occurs if a focal firm reacts to a change in the characteristics of its peers (e.g., sales, risks) by imitating the adjustment of the peer characteristics that subsequently results in uniform financing

[2] Whether to select a fixed or random effects model is a common issue that arises when estimating models with panel data. This study presents the key findings of both models and uses the specification test to determine which model is superior for interpreting the results.

policies[3] (Leary & Roberts, 2014). The peer characteristic ($PEERCHA_{-j,i,t}$) is measured by the average net sales of the natural logarithm of the peer firm (-j) within the own industry i and year t. Firms' financial policies respond to peers' character and are likely to display either a positive or negative association.

Next, the four control variables of firm characteristics—FocalControls—are as follows: Firm size ($SIZE_{j,i,t}$), which is calculated by the natural logarithm of total assets for focal firm j in industry i at the end of fiscal year t, represents the firm's varying borrowing potential. The cost of insolvency will be reduced if businesses are diversified and large in size. Consequently, major enterprises will have smoother access to loans. According to previous research (e.g., Zhong & Zhang, 2018), a positive association between firm size and debt financing is expected. Profitability ($ROA_{j,i,t}$), calculated as the ratio of earnings before interest and tax to the average of last year's and current year's total assets for focal firm j in industry i at the end of fiscal year t, represents returns on total assets. In light of substantial borrowing costs and financial constraints, businesses respond with accumulated earnings as their primary source of funding. Previous research (e.g., Francis et al., 2016) suggests that financial performance will have a negative impact on debt levels.

Following that, growth opportunities ($GROWTH_{j,i,t}$) are computed by dividing the market value equity by the book value equity for the focal firm j in the industry i at the end of the fiscal year t to determine the potential for future business expansion. The propensity for high growth elicits dysfunctional managerial behavior, such as overinvestment, which exacerbates financial distress and devalues the firm. Prospective businesses then attempt to reduce their debt usage. The negative relationship between growth opportunities and debt financing is anticipated (e.g., Im 2019). Tangibility ($TANG_{j,i,t}$), measured by the ratio of property, plant, and equipment to total assets at the end of the fiscal year t, represents collateral for the firm j in the industry i. It is essential for the company to gain access to long-term loans. By requiring fixed-asset guarantees, lenders will compensate for enduring a customer's risk of default and insolvency exposure. Tangibility is expected to positively influence funding through debt.

Year FE is the year fixed effects variable, which consists of 17 dichotomous variables to account for differences in debt finance policy across the study periods. The variables are coded as one if the firm is in the years 2002–2018 and zero otherwise (the base year is 2001). Industry FE, the industry fixed effects variable, comprises seven dummy variables to control for business cycles across industry types. The variables are

[3] For instance, there are several rivals in a certain sector, including companies A and B. In order to finance its increased production when it introduces a new product into the market, Firm A issues seasonal stock, which lowers its leverage ratios. Firm B releases stock to finance its new product in reaction to the launch of the new product by its competition, reducing its leverage ratios. As a result, business B acts in response to the launch of the rival product rather than just duplicating the change in the financing strategy of its rival.

coded one if the firm is in the industries of agro and food, consumer products, financials, industrials, property and construction, resources, and services and zero otherwise (the technology industry is set as the baseline). $\varepsilon_{j,i,t}$ represents the error component for the focal firm j in the industry i in the year t.

Two-Stage Least Squares Regression

This study attempts to address endogeneity concerns by using the fixed effects approach in the baseline models, allowing for unobserved variables to have associations with observed variables. In addition, the study conducts a two-stage least squares (2SLS) regression to instrumentalize the potentially endogenous variables. In the first stage of the regression, this variable is regressed onto the instrumental variable to obtain the estimated values. Next, the estimated values are used in place of the actual values in the baseline models so as to examine H1. The appropriate instrumental variable must correlate with the endogenous variable, independent of other determinants of capital structure.

This study adopts the peers' equity shocks (SHOCK) as an instrument for the peer decision, following previous studies (e.g., Fairhurst & Nam, 2020). Equity shocks are measured by the idiosyncratic equity returns that are derived from the market model, with the backward, 24-month rolling regression of the monthly returns as the following model of the expected return:

$$r_{j,i,t} = \alpha_{j,i,t} + \beta^{M}_{j,i,t}(rm_t - rf_t) + \beta^{IND}_{j,i,t}(rm_{-j,i,t} - rf_t) + \eta_{j,i,t}$$

where $r_{j,i,t}$ refers to the total return for focal firm j in industry i over month t, $(rm_t - rf_t)$ is the excess market return, and $(rm_{-j,i,t} - rf_t)$ is the excess return on a weighted industry portfolio excluding focal firm j's return. To calculate the instrumental variable, this study first analyzes the rolling regression for each observation.

In this expected return model, the $\eta_{j,i,t}$ represents the idiosyncratic equity return for focal firm j in industry i and month t. In other words, the idiosyncratic equity return of firm j is equal to actual monthly returns minus expected monthly returns. The idiosyncratic equity returns are a price change's risk stemming from the unique circumstances of an individual firm, and these stock returns obviously affect the capital financing (Chen & Ma, 2017; Duong et al., 2015). This instrument is a potential source of exogenous variation in the peer decision, as it is serially uncorrelated and across-uncorrelated[4]. Second, this study compounds the monthly idiosyncratic returns to obtain their annual measure. Thus, the source of exogenous variation for peer firms' decisions—the instrumental variable—is the average peer firm's (except for focal firm j) equity return shock, i.e., $\eta_{-j,i,t.}$

[4] In other words, the firms' current equity shocks are found not to predict their own future shocks or their peers' future and current shocks.

Empirical Results and Discussion

Descriptive and correlation analysis

A summary of the descriptive statistics and correlation analysis for the baseline model's variables is presented in Table 1. The DFIN mean of 0.184 suggests that almost one-fifth of total assets were funded by long-term loans. In Thai listed companies, the use of long-term finance from debts is higher than that of Indonesian firms, as reported by Haron (2018). The average PEER is 0.190, suggesting that the long-term debt of peers within the industry makes up around 19 percent of total assets. Clearly, the value of the DFIN mean corresponds with that of the PEER mean. The PEERCHA mean of 16.300 indicates that average net sales at the end of the fiscal year account for around 20 billion baht for the industry peers.

The SIZE mean reveals that the sampled firms exhibited, on average, 4.5 billion baht in total assets. The mean of ROA reveals that the Thai firms generate approximately net income before interest and tax at eight percent of total assets, which is identical to the US finding of Duong et al. (2015). The mean of GROWTH suggests that the market value of the SET-listed firms is about double the book value per share. The average TANG value indicates that approximately one-third of total assets could be used as collateral. The tangibility of the Thai firms is comparable to that of US firms, as found by Hung et al. (2020), and Malaysian firms, as found by M'ng et al. (2017).

In the same table, the Pearson correlation matrix indicates the existence of a statistically significant correlation among the variables in the baseline model. The positive and significant correlations of DFIN with PEER, PEERCHA, SIZE, and TANG imply that the debt finances of a focal firm are positively related to the peers' debt finances and total revenues, including its size and fixed assets. The correlations of PEER with PEERCHA, SIZE, and TANG imply a positive association between the debt finances of the peers, total revenues of the peers, size of the focal firms, and tangibility of the focal firms. The correlations of SIZE with ROA and TANG indicate a negative association between the focal firms' size, financial performance, and tangible assets. The variance inflation factors, or VIFs scores, for the baseline regression model range from 1.01 to 4.02, suggesting that the variables are less likely to encounter multicollinearity problems.

Table 1 Descriptive and Pearson Correlation Analysis

Variables	Mean	SD	Q1	Q3		VIFs
DFIN	0.184	0.432	0.000	0.305		
PEER	0.190	0.121	0.130	0.223		1.75
PEERCHA	16.300	0.910	15.890	16.650		4.02
SIZE	15.524	1.669	14.338	16.383		1.12
ROA	0.080	0.706	0.024	0.103		1.01
GROWTH	2.151	0.156	0.790	2.230		1.01
TANG	0.350	0.256	0.118	0.534		1.15
Variables	**DFIN**	**PEER**	**PEERCHA**	**SIZE**	**ROA**	**GROWTH**
DFIN						
PEER	0.094***					
PEERCHA	0.029**	0.097***				
SIZE	0.184***	0.049***	0.093***			
ROA	-0.014	0.000	-0.005	-0.037***		
GROWTH	-0.005	-0.007	-0.004	-0.012	0.003	
TANG	0.022*	0.059***	0.081***	-0.063***	0.022*	0.009

Notes: *, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels (two-tailed), respectively. The VIFs are referred to the variance inflation factors. All variables are described in Appendix A.

Baseline results of the OLS analysis

Table 2 tabulates the hypothesis test's results by using the random-effects, fixed-effects, and 2SLS regressions in columns (1), (2), and (3), respectively. With the unbalanced panel data, the common issue regarding model estimations is whether to use fixed or random effects models. The chi-square values of the Hausman test (34.13) reject the null hypothesis of the random effects model in favor of the fixed effects model, suggesting that unexplained year-to-year variations exist in the observations. This study then uses the estimates from the fixed effects regression in column (2) to describe the findings. However, the empirical results from both random-effects and fixed-effects models are rather identical.

Table 2 Hypothesis Test

Variables	Sign	Coefficient (p-value)		
		(1) Random-effects GLS regression	(2) Fixed-effects regression	(3) 2SLS regression
Constant		-0.618 (0.000***)	-0.640 (0.000***)	-0.199 (0.000***)
PEER	(+)	0.296 (0.000***)	0.158 (0.002***)	
$\widehat{PEER}$				0.087 (0.074*)
PEERCHA	(+/-)	-0.000 (0.769)	0.000 (0.475)	0.001 (0.431)
SIZE	(+)	0.047 (0.000***)	0.049 (0.000***)	0.048 (0.000***)
ROA	(-)	-0.005 (0.585)	-0.006 (0.401)	-0.004 (0.572)
GROWTH	(-)	-0.000 (0.825)	-0.000 (0.750)	-0.000 (0.758)
TANG	(+)	0.042 (0.057*)	0.036 (0.097*)	0.097 (0.060*)
First stage instrument:				
SHOCK				-0.282 (0.000***)
Year FE		No	Yes	Yes
Industry FE		No	Yes	Yes
R^2		0.420	0.406	0.222
F-value			36.87	
Wald X^2		265.12 (0.000***)		289.42 (0.000***)
Hausman's test: X^2		34.13		
N		6,058	6,058	6,058

Notes: * and *** indicate statistical significance at the 0.10 and 0.01 levels (two-tailed), respectively. All variables are described in Appendix A.

In column (2), the coefficients for PEER (0.158) are positive and significantly associated with DFIN (p-value = 0.002) at the 0.01 statistical level. A 1% increase in the long-term debt ratios of peer firms leads to a 0.158 increase in those of focal firms. This supports the H1 that peers' decision-making on debt financing policy has a positive impact on the debt finance decision-making of a focal firm. The findings add to the evidence of the relationship between peer effects and the capital structure of US firms (Leary & Roberts, 2014) and firms in China (e.g., He & Wang, 2020). Consistent with Francis et al. (2016), flawed investor protection and established creditor rights trigger the mimicking behaviors of firms when they are deciding on the level of debt finance. In the Thai developing market, the Asian financial breakdown activates strong creditor protection. By learning from their peers' decisions on debt finance, firms are likely to imitate this action to alleviate the risks arising from competition, e.g., price wars and

innovation exploration. Another rationale is the informational cost and limited resources that make the organizations within a specific industry form an identical capital structure under these constraints. In industries with a highly uncertain environment and poor-quality information, free riding on information about the capital structure of their industry peers is appropriate.

By controlling for peer character, the coefficient for PEERCHA is insignificant, suggesting that peer performance does not influence the decision-making on debt by focal firms. The absence of this influence corresponds with the results of Leary and Roberts (2014), who did not find peers' sales effects on the market and book leverage ratios. The rationale behind this is that peer attributes (e.g., performance) do not directly cause firms' operating processes and outcomes, so the firms disregard those factors when making their finance choice decision. Of the firm-specific control variables in the same column, the coefficients for SIZE (0.049) and TANG (0.036) are positive and statistically significant, with DFIN at the 0.01 and 0.1 levels, respectively, and the conclusions are similar to those in previous studies (e.g., Im, 2019). Large-sized companies are diversified and less likely to hinge on bankruptcy costs and agency costs of debt, facilitating their supply of long-term loans. Numerous fixed assets of the companies allow them to supply sufficient collateral to back loans. However, the results of column (2) show that firms' ratios of returns on assets, ROA, and growth opportunities, GROWTH, do not affect their finance policy through debts.

Instrumental variable approach

To overcome endogenous problems in the PEER variable, the study adopts the 2SLS method and the SHOCK instrumental variable in the first stage of the regression. The results are shown in column (3) of the same table. The findings of the first stage regression show that the coefficient for the SHOCK (-0.282) is negative and statistically significant (p-value = 0.000) at the 0.01 level. These findings are consistent with those of prior work (e.g., Fairhurst & Nam, 2020). Therefore, when its peers encounter the equity shock, the focal firm will respond by lowering its long-term debt ratio. In the second stage, the coefficient for $\widehat{PEER}$ is positive (0.087) and statistically significant (p-value = 0.074), which is consistent with the main findings in the OLS regression. In the remaining control variables, the conclusions are similar to those reported in the OLS models. Accordingly, the baseline conclusions for the association between peer effects and long-term debt are robust.

Further investigation and robustness tests

Market competition motive

In this section, this research analyzes the underlying mechanisms behind peer effects on debt finance policy. According to social learning theory, firms compete in the market by learning from their peers' actions and subsequent outcomes. Imitation of

financial policy helps preserve competitive parity and limit rivalry. Adopting a financial approach different from that of industry peers may raise product market risks and capital costs. As such, peer effects are expected to be stronger in more competitive markets (Liang et al., 2021). This study uses the Herfindahl-Hirschman index (HHI) as a proxy for industry concentration (competition) faced by focal firms, measured by the sum of the squares of the annual market shares of the focal firms. A higher HHI suggests lower product market competition. To examine the competitive motives behind peer effects, this study analyzes the interaction term between the PEER and HHI variables. The results derived from the additional and robust tests are reported in Table 3. In column (1) of this table, the coefficient for PEER x HHI is negative (-0.996) and statistically significant (p-value = 0.035) at the 0.05 level. This indicates that peer effects on debt finance decision-making are lessened when the product market has low rivalry. In line with social learning theory and market competition views, the evidence in this test summarizes that an intense rivalry encourages the debt finance mimicry

Costly Information Motive

Within a particular industry, its member firms experienced a comparable economic climate. On the basis of organizational isomorphism and institutional norms, a firm's financial policies should resemble those of society's members. As such, imitation of financial approaches becomes more prominent when business sectors are characterized by limited resources and a highly unpredictable environment. This raises high information costs and a lack of information for selecting optimal finance sources. Currently, Thailand is encouraging innovation-driven corporate policies. Due to costly investments in technology and innovation, Thai businesses have struggled to gain access to the data required to promote new investment strategies and lack of capital funds. Peer effects on innovation investment were discovered by Xiao et al. (2022) in Chinese firms, particularly in modern industries with few newcomers.

This study then uses the targeted s-curve industries (SCUV) as a measure of information costs. A focal company is designated with a value of one if its operations align with the definitions of the 10 targeted s-curve industries and zero otherwise. By matching the s-curve definitions with the definitions of the SET's total 28 sectors, the s-curve firms consist of those in the following nine sectors: (1) agribusiness, (2) food and beverage, (3) automotive, (4) energy and utilities, (5) health care services, (6) tourism and leisure, (7) transportation and logistics, (8) electronic components, and (9) information and communication technology. Again, this study employs the interaction term between the PEER and the SCUV, i.e., a dichotomous variable, to discover costly information motives that lead to peer effects. It is anticipated that industries with higher information costs will exhibit a similar capital structure to those with low information costs.

In column (2) of the same table, the PEER x SCUV coefficient is insignificant. As such, information costs that are assumed to be incurred in s-curve industries have no

effect on peer imitation of a debt finance policy. One potential cause is that an innovation-driven company is solely focused on minimizing liquidity risks, thereby disregarding industry peers' capital structures. Informational costs therefore discourage industry partners from imitating debt financing. Perhaps financial distress costs are a major concern when selecting inappropriate sources of capital through mimicking.

Table 3 Additional Analysis and Robustness Check

Variables	Sign	Coefficient (p-value) (1) Market competition	(2) Costly information	(3) Extra control variables
Constant		-0.690 (0.000***)	-0.635 (0.000***)	-0.623 (0.000***)
PEER	(+)	0.267 (0.039**)	-0.118 (0.361)	0.026 (0.097*)
PEERCHA	(+/-)	0.000 (0.878)	0.000 (0.631)	-0.000 (0.845)
HHI		0.136 (0.296)		
PEER x HHI	(+)	-0.996 (0.035**)		
SCUV			-0.039 (0.253)	
PEER x SCUV	(+)		0.175 (0.206)	
SIZE	(+)	0.048 (0.000***)	0.049 (0.000***)	0.046 (0.000***)
ROA	(-)	-0.007 (0.354)	-0.007 (0.343)	-0.015 (0.263)
GROWTH	(-)	-0.000 (0.690)	-0.000 (0.726)	-0.000 (0.798)
TANG	(+)	0.039 (0.103)	0.040 (0.094*)	0.011 (0.709)
AGE				0.000 (0.727)
OCF				-0.133 (0.173)
Year FE		Yes	Yes	Yes
Industry FE		Yes	Yes	Yes
R^2		0.490	0.483	0.389
F-value		41.10	41.28	17.09
N		6,058	6,058	4,670

Notes: *, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels (two-tailed), respectively. All variables are described in Appendix A.

Controlling for other firm characters

The study adds the two variables to control for other firm-specific levels in the baseline model. The first factor in determining the firm's age (AGE) is the length of time it has been on the SET. Next, operating cash flow volatility (OCF) is quantified as the ratio of the operating cash flow standard deviation over the previous five years to the

average total assets. In order to evaluate the firm's cash flow distribution, the number of observations was decreased. By incorporating these control variables, the study reexamines the baseline model and reports the findings in column (3) of the same table. Consistent with the results of the primary test, the coefficient for PEER (0.026) is positively and significantly associated with DFIN (p-value = 0.097). The majority of control variable conclusions are comparable to those of the primary test. In this case, however, the coefficients for AGE and OCF are insignificant, indicating that firm age and cash flow divergence exert no influence over debt financing.

Conclusion

This study aims to investigate peer effects on debt financing in Thailand's emerging market. By looking at the OLS fixed-effects model for unbalanced panel data, using the instrumental variable approach, and adding the control variables to deal with endogeneity issues, firms tend to make the same decisions about debt financing as their peers in the same industry. Consequently, this study came to the conclusion that peer effects only operate via the peer action channel and not the peer character channel. The motivation behind imitative behavior is to increase competitiveness, with highly competitive businesses imitating capital structures to a significant degree. According to the evidence of Chinese corporations discussed by Zhao et al. (2022), certain supermarkets (e.g., Gome and Suning retail companies) were also found to replicate the financing model of Wal-Mart to obtain funds for global expansion. Based on social learning theory and the product market competition view, the evidence from this current study summarizes that firms imitate their industry peers' debt finance with the hope of survival in the emerging market with increases in competition degrees. Generally, high market competition causes a low price and gives the sellers a narrow profit margin. So, they need to align their capital financing with the industry average, aiming to mitigate a price war resulting from variations in capital costs. Perhaps this enhances the industry units' competitiveness toward innovation exploitation and efficiency improvement instead of using a price strategy in the Thai markets. Divergence on informational costs and advanced resources between innovation firms and non-innovation firms was not found to have an impact on the imitation of debt financing structures.

This study contributes to the literature in three ways. Firstly, this evidence of peer effects on corporate financing policy from Thailand bridges a gap in the literature that lacks evidence from emerging markets outside the BRICKs and European countries. Mimic behaviors in capital structure were found in the cross-country setting (Francis et al., 2016) and various scaled economies, including the developed and top emerging countries (e.g., Leary & Roberts, 2014; Zhong & Zhang, 2018), as well as the non-largest emerging markets like Thailand, as reported by this study. Second, this study that looks into imitation's motivations through the competition of the product market and

incomplete information for decision-making answers calls from Ali-Rind et al. (2023) that indicate limited evidence on reasoning for peer effects. In this current study, the evidence on market competition degrees that heighten peer effects on financing sources adds to the recent study of Liu et al. (2023), which utilized the Chinese economy and found similar conclusions. In contrast, peer effects are ineffective in a severe rival market where firms can promptly access relevant information, as discussed by Chen and Ma (2017). Lastly, the study showed no evidence of the interaction impact between peer effects and costly information, based on the assumption of organizational isomorphism and institutional theory. This conclusion is then contrary to Zhang and Hu's (2017) study, which discovered that mimetic isomorphism encourages innovation performance.

Implications and Policy Suggestions

The findings of the study have significant implications for several parties. Investors should first be aware of any business financial policies in a certain industry that are being imitated. When analyzing trends in a firm's financial stability, liquidity, and capital costs or comparing them across member businesses of an industry, it is important to use information regarding the capital structure of those firms carefully. A similar capital structure results from peer members' imitation behavior, which is more crucial in highly competitive businesses. Then, unsophisticated investors must rationally assess economic signals to avoid prejudice brought on by common financing techniques used by all companies in a certain industry. Second, peer effects have the potential to encourage unethical financial disclosure practices, including tax evasion and earnings manipulation. If one company in an industry signals a financial collapse or an unusual financial policy, the remaining companies in that sector are more likely to experience unfavorable effects. This sends a clear message to the capital markets' regulatory bodies to investigate spillover effects. Finally, this study's findings recommend policymakers for the targeted s-curve industry by demonstrating that interdependency among funding policies is not found to be increased or weakened by innovation-driven policy. It is obvious that the condition for government assistance to eligible businesses should be their lack of access to financial sources and their ability to attract investment.

Limitation and Future Study

This investigation is subject to certain limitations. Despite the use of econometric techniques to deal with the endogenous variable, similar financial structures of firms within an industry are likely formed by unobserved or time-invariant factors or are dependent on macroeconomic conditions; thus, the results of the study should be interpreted with caution. This unresolved issue left room for future investigation. In addition, the study measures the variables at their current levels, so it is recommended that future research incorporate a change in the variable values or the lead or lagging

variables into the methodology. In addition, this study only investigated peer effects within the industry under the SET classification. Effects of intra-sector peers on financial policy may yield evident results. Even in industrial zones, economic corridors, and geographic neighborhood areas, it is unknown whether peer effects exist and what motivates imitation. Peer effects on corporations' other policies, their rationales, and the industry's consequences are still evidently worthy of investigation.

Appendix A. Variable Measurement

Notation	Variables	Measurement
Variables in the baseline model		
DFIN	Debt finance	The book value ratio of long-term debt to total assets at the end of the fiscal year.
PEER	Peer decision	The average book value ratio of long-term debt to total assets of industry peers at the end of the fiscal year.
PEERCHA	Peer character	The natural logarithm of average net sales for industry peers at the end of the fiscal year.
SIZE	Size	The natural logarithm of total assets at the end of the fiscal year.
ROA	Financial Performance	Earnings before interest and tax divided by the average of the last and current year's total assets at the end of the fiscal year.
GROWTH	Growth opportunities	Market value scaled by the book value of equity at the end of the fiscal year.
TANG	Tangibility	Property, plant, and equipment divided by total assets at the end of the fiscal year.
Year FE	Year fixed effects	Dummy variable coded 1 if a firm operates in the years 2002-2018; 0 otherwise.
Industry FE	Industry fixed effects	Dummy variable coded 1 if a firm is in the industries of agro-food, consumer products, financials, industrials, property and construction, resources, and services; 0 otherwise.
SHOCK	Peer equity shocks	The industry peers' idiosyncratic equity returns from the market model with the backward 24-month rolling regression of the monthly returns.
$\widehat{\text{PEER}}$	Predicted peer decision	The predicted values of peer decision from the first stage of regression.
Variables in the additional models		
HHI	Industry concentration	The sum of the squares of the annual market shares of a firm.
SCUV	Target s-curve industry	Dummy variable coded 1 if a firm's operations align with the 10 targeted s-curve industry definitions; 0 otherwise.
AGE	Firm age	Total years since a firm listed on the Thai stock market.

Notation	Variables	Measurement
OCF	Volatility of operating cash flows	Standard deviation of cash flow from operations scaled by total assets over the five preceding years.

Acknowledgement

This work is part of the research project granted by the Faculty of Economics and Business Administration (ECBA), Thaksin University, during the fiscal year 2022–23. The author is appreciative of the ECBA and the Creative Economy Research and social innovation Center's assistance.

References

Abadi, F., Bany-Ariffin, A., Kokoszczynski, R., & Azman-Saini, W. (2016). The Impact of Banking Concentration on Firm Leverage in Emerging Markets. *International Journal of Emerging Markets, 11*(4), 550-568.

Aghamolla, C., & Thakor, R. T. (2022). IPO Peer Effects. *Journal of Financial Economics, 144*(1), 206–226.

Aldrich, H., (1979). *Organizations and Environments.* Englewood Cliffs, NJ.: Prentice-Hall.

Ali-Rind, A., Boubaker, S., & Jarjir, S. (2023). Peer Effects in Financial Economics: A Literature Survey. *Research in International Business and Finance, 64*, forthcoming.

Bandura, A. (1971). *Social Learning Theory*. General Learning Press.

Bikhchandani, S., Hirshleifer, D., & Welch, I. (1998). Learning from the Behavior of Others: Conformity, Fads, and Informational Cascades. *Journal of Economic Perspectives*, *12*(3), 151-170.

Bolton, P., & Scharfstein, D. (1990). A Theory of Predation based on Agency Problems in Financial Contracting. *The American Economic Review, 80*(1), 93-106.

Brendea, G., & Pop, F. (2019). Herding Behavior and Financing Decisions in Romania. *Managerial Finance, 45*(6), 716–725.

Camara, O. (2017). Industry Herd Behaviour in Financing Decision Making. *Journal of Economics and Business, 94*, 32–42.

Chen, S., & Ma, H. (2017). Peer Effects in Decision-making: Evidence from Corporate Investment. *China Journal of Accounting Research, 10*(2), 167-188.

Chen, Y., Chan, K., & Chang, Y. (2019). Peer Effects on Corporate Cash Holdings. *International Review of Economics and Finance, 61*, 213-227.

Chu, C., Su, X., Lin, Y., Omura, A., Li, B., & Cheung, A. (2022). Love Thy Neighbour: Evidence from Capital Structure Decisions. *Accounting and Finance.*

Conlisk, J. (1980). Costly Optimizers Versus Cheap Imitators. *Journal of Economic Behavior and Organization, 1*(3), 275-293.

Connelly, T. (2016). Investment Policy at Family Firms: Evidence from Thailand. *Journal of Economics and Business, 83*(1), 91-122.

Damodaran, A. (2010). *Applied Corporate Finance* (3rd ed.). John Wiley and Sons.

Devenow, A., & Welch, I. (1996). Rational Herding in Financial Economics. *European Economic Review, 40(*3–5), 603-615.

DiMaggio, P., & Powell, W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review, 48*(2), 147–160.

Dodgson, M. (1993). Organizational Learning: A Review of Some Literatures. *Organization Studies, 14*(3), 375–394.

Duong, H., Ngo, A., & McGowan, C. (2015). Industry Peer Effect and the Maturity Structure of Corporate Debt. *Managerial Finance, 41*(7), 714-733.

Fairhurst, D., & Nam, Y. (2020). Corporate Governance and Financial Peer Effects. *Financial Management, 49*(1), 235-263.

Francis, B., Hasan, I., & Kostova, G. (2016). When do Peers Matter?: A Cross-country Perspective. *Journal of International Money and Finance, 69*(1), 364-389.

Ghani, E., Hye, Q., Rehan, R., & Salahuddin, S. (2023). Examining Capital Structure Determinants for ASEAN Energy Firms. *International Journal of Energy Economics and Policy, 13*(3), 129–140.

Gleason, C., Jenkins, N., & Johnson, W. (2008). The Contagion Effects of Accounting Restatements. *The Accounting Review, 83*(1), 83–110.

Graham, J., & Harvey, C. (2001). The Theory and Practice of Corporate Finance: Evidence from the Field. *Journal of Financial Economics, 60*(2–3), 187-243.

Haron, R. (2018). Firm Level, Ownership Concentration, and Industry Level Determinants of Capital Structure in an Emerging Market: Indonesia Evidence. *Asian Academy of Management Journal of Accounting and Finance, 14*(1), 127-151.

Hawley, A. (1968). *Human Ecology. In D. L. Sills (Ed.), International Encyclopedia of the Social Sciences*. Crowell, Collier, and Macmillan.

He, W., & Wang, Q. (2020). The Peer Effect of Corporate Financial Decisions Around Split Share Structure Reform in China. *Review of Financial Economics, 38*(3), 474-493.

Hung, C., Naeem, S., & Wei, K. (2020). Peer Firms' Credit Rating Changes and Corporate Financing. *The European Journal of Finance, 26*(1), 41-63.

Hyman, H. (1942). The Psychology of Status. *Archives of Psychology, 38*(269).

Im, H. (2019). Asymmetric Peer Effects in Capital Structure Dynamics. *Economics Letters, 176*(1), 17-22.

Inoguchi, M. (2014). The Impact of External Shocks on Stock Prices in the East Asian Domestic Banking Sector, Risk Management Post Financial Crisis: A Period of Monetary Easing. *Contemporary Studies in Economic and Financial Analysis, 96*, 97-151.

John, K., Knyazeva, A., & Knyazeva, D. (2011). Does Geography Matter?: Firm Location and Corporate Payout Policy. *Journal of Financial Economics, 101*(3), 533-551.

Kelchtermans, S., Neicu, D., & Teirlinck, P. (2020). The Role of Peer Effects in Firms' Usage of R&D Tax Exemptions. *Journal of Business Research, 108*, 74-91.

Kothari, S., & Lester, R. (2012). The Role of Accounting in the Financial Crisis: Lessons for the Future. *Accounting Horizons, 26*(2), 335–351.

Krishnankutty, R., Bharti, T., & Mishra, N. (2022). Herding Behaviour and Capital Structure Decision in BSE Listed Indian Firms. *International Journal of Managerial and Financial Accounting, 14*(2), 118-137.

Leary, M., & Roberts, M. (2014). Do Peer Firms Affect Corporate Financial Policy? *The Journal of Finance, 69*(1), 139-178.

Liang, Q., Li, Q., Lu, M., & Shan, Y. (2021). Industry and Geographic Peer Effects on Corporate Tax Avoidance: Evidence from China. *Pacific-Basin Finance Journal, 67*.

Liao, Y., Sang, T., & Tsai, Y. (2022). Do Information Sources Matter in Corporate Tax Avoidance? The Roles of Peer Effects and Director Interlocks. *Review of Quantitative Finance and Accounting, 59*(1), 339–382.

Limpaphayom, P., & Connelly, J. (2004). *Review of Corporate Governance in Asia: Corporate Governance in Thailand*. Available at SSRN: http://dx.doi.org/10.2139/ssrn.965300

Liu, J., Xie, X., Yu , D., & Tang, L. (2023). Peer Effects and the Mechanisms in Corporate Capital Structure: Evidence from Chinese Listed Firms. *Oeconomia Copernicana, 14*(1), 295–326.

M'ng, J., Rahman, M., & Sannacy, S. (2017). The Determinants of Capital Structure: Evidence from Public Listed Companies in Malaysia, Singapore, and Thailand. *Cogent Economics and Finance, 5*(1), 1-34.

Maté-Sánchez-Val, M., López-Hernández, F., & Mur-Lacambra, J. (2017). How do Neighboring Peer Companies Influence SMEs' Financial Behavior? *Economic Modelling, 63*(1), 104-114.

Patnam, M. (2011). Corporate Networks and Peer Effects in Firm Policies: Evidence from India. University of Cambridge Working Paper. http://www.econ.cam.ac.uk/conf/networks-docs/corporate_mpatnam.pdf.

Peng, H., Zhou, C., Sadowski, B., & Sun, T. (2021). Does an Imitation Strategy Promote Long-term Firm Growth in a Dynamic Environment? A Meta-analysis. *Frontiers in Psychology, 12*, 1-17.

Sacerdote, B. (2011). Peer Effects in Education: How Might They Work, How Big are They and How Much do We Know Thus Far? *Handbook of the Economics of Education, 3*, 249-277.

Swanpitak, T., Pan, X., & Suardi, S. (2020). Family Control and Cost of Debt: Evidence from Thailand. *Pacific-basin Finance Journal, 62*.

Thanatawee, Y. (2023). Institutional Ownership and Cost of Debt: Evidence from Thailand. *Cogent Business & Management, 10*(2), 1-13.

Vithessonthi, C. (2014). Financial Markets Development and Bank Risk: Experience from Thailand During 1990–2012. *Journal of Multinational Financial Management, 27*, 67-88.

Wu, J., Harrigan, K., Ang, S., & Wu, Z. (2019). The Impact of Imitation Strategy and R&D Resources on Incremental and Radical Innovation: Evidence from Chinese Manufacturing Firms. *The Journal of Technology Transfer, 44*(1), 210–230.

Xiao, R., Ma, C., Song, G., & Chang, H. (2022). Does Peer Influence Improve Firms' Innovative Investment?: Evidence from China. *Energy Reports, 8*, 1143-1150.

Zhang, H., & Hu, B. (2017). The Effects of Organizational Isomorphism on Innovation Performance Through Knowledge Search in Industrial Cluster. *Chinese Management Studies, 11*(2), 209-229.

Zhao, M., Ming, B., Li, Y., & Shi, J. (2022). Peer Effects of Working Capital Management: Considering the Moderating Effect of Knowledge Flow. *Frontiers in Psychology, 13*, 1-12.

Zhong, T., & Zhang, T. (2018). Peer Effects in Capital Structure Decision of Chinese Firms-empirical Investigation based on Chinese a-share Listed Firms. *Nankai Business Review International, 9*(3), 289-315.