

Financial Strategies and Practices of Start-Up Companies at Different Stages of Development

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Abstract: This article studies the impact of financing constraints on investment and expenditure of enterprises in different life cycles that are negatively impacted. Previous studies have mostly focused on static analysis of corporate financing, while this article focuses on the dynamic financial performance differences between start-up and growing enterprises in different life cycles. Using panel data from Chinese ChiNext listed companies to measure financing constraints, the stage of the company's lifecycle, and negative impacts. The empirical results also confirm this conclusion, that is, higher information asymmetry and higher financing constraints lead to earlier companies being more sensitive to negative shocks and experiencing greater investment contraction effects. This article intends to use the double difference method to identify causality using exogenous negative shocks at the macro or industry level, examine the heterogeneity of the response of enterprise investment (such as capital expenditure) and operating expenditure (such as research and development investment) to such shocks at different stages among enterprises, and explore the moderating effect of external financing availability. The research found that it is expected to deepen the understanding of the interaction mechanism between the lifecycle of enterprises and financing constraints, and make theoretical contributions to understanding the financial behavior of innovative enterprises in emerging markets.

Keywords: Financing constraints, Enterprise lifecycle, Investment decision-making, Negative information impact, GEM (Growth Enterprise Market).

1. Introduction

The behavior of companies under the impact of negative information is also one of the classic problems in the field of corporate finance. Faced with deteriorating macro environment, declining industry demand, or negative internal information, a company's investment and expenditure response will directly affect its survival and development prospects. This issue is particularly relevant for start-up companies, as they often lack sufficient cash reserves and face greater financing constraints in the early stages of operation. Previous literature has examined the impact of financing constraints on corporate investment (Fazzari et al. (1988)) and the relationship between corporate life cycle and financing structure (Berger and Udell (1998)). However, a blank is how the cross interaction between financing constraints and corporate life cycle dynamically affects corporate financial behavior under negative shocks? In addition, considering that companies at different stages of their lifecycle (such as start-up/growth) may be subject to varying degrees of financing constraints, resulting in significant differences in their response functions to negative shocks. Therefore, the main question of this study is: How do financing constraints affect companies' decisions on investment and operating expenses in response to negative information shocks? Secondly, is there a difference in this role at the stage of development of the enterprise (such as start-up/growth phase vs maturity phase)? This article also examines two supplementary questions: firstly, can the contraction of corporate investment after negative shocks be improved by the relaxation of external financing constraints? Secondly, will companies in the early stages with higher levels of information asymmetry and more severe financing constraints have greater excess reactions to negative shocks due to more severe financing constraints? This article will use China's ChiNext market as a unique experimental field to verify this proposition. Most companies

listed and traded on the ChiNext board have characteristics such as high technology and high growth. These companies have different lifecycles, and there are varying degrees of financing constraints before and after listing (Lei Hui and Li Hui, 2013). This provides us with an ideal experimental field to test the relationship between financing constraints, lifecycle, and impact response in a relatively unified institutional environment. This article is expected to make contributions in the following aspects: firstly, we will combine the theory of enterprise life cycle with the theory of financing constraints. Secondly, we will establish a dynamic model to characterize the different manifestations of risk response of enterprises in their life cycle; The second is to break through the traditional research approach of "financing constraints investment mean", focus on the role of financing constraints in the "impact response" of enterprises, and highlight the cyclical and phased characteristics of financial repression; The third is to verify based on emerging market countries in China. These findings also provide new evidence for understanding how institutional environments influence corporate financial decisions.

2. Relevant Literature

This study is based on three important literature sources.

The first literature focuses on financing constraints and corporate investment decisions. After Modigliani and Miller's (1958) perfect market hypothesis was relaxed [1], subsequent studies consistently found that due to information asymmetry (Myers and Majluf, 1984) and agency costs [2], external financing costs are higher than internal financing, leading to financing constraints. The pioneering work of Fazzari et al. (1988) suggests that investments in companies constrained by financing are more sensitive to internal cash flows [3]. Subsequent research continues to deepen, from measurement methods such as Kaplan and Zingales, 1997; Whited and Wu, In 2006, described in detail how financing constraints affect

the capital allocation efficiency of enterprises in terms of channels of action [4].

The second school examines the impact of uncertainty shocks on enterprises. Bloom's (2009) theoretical analysis suggests that uncertainty shocks lead companies to postpone irreversible investments [5]. Empirical studies have shown that there are differences in this effect. As Gulen and Ion (2016) found, the inhibitory effect of economic policy uncertainty on investment is greater in industries that rely more on external funding [6]. The above research suggests that the financing status of enterprises may help explain the different characteristics of their shock response.

The third type of literature studies the life cycle of companies and their financial policies. Berger and Udell's (1998) "Corporate Financial Growth Cycle" hypothesis suggests that a company needs to utilize different sources of funding (such as angel investors, venture capital, bank credit, and open market financing) at different stages of its lifecycle (such as early entrepreneurship, growth, and maturity) because as the company grows, its information becomes more transparent, its asset base becomes more solid, and financing constraints are improved [7]. Domestic scholars have also paid attention to the performance of the relationship between growth and strategic choice in the ChiNext board (such as Lei Hui and Li Hui, 2013), but have conducted more qualitative analysis from the perspective of strategic management [8].

Unfortunately, there are few studies in existing literature that simultaneously consider the relationship between financing constraints, the company's lifecycle, and the company's response to negative information shocks, and explore their underlying causal mechanisms. Therefore, this article attempts to address the above issues and further verify the differential characteristics of the impact of financing constraints on corporate risk tolerance from a theoretical perspective.

3. Theoretical Mechanisms and Research Hypotheses

This section constructs a theoretical framework to elucidate the intrinsic mechanisms between financing constraints, corporate lifecycle, and negative impact responses.

3.1. Transmission and Amplification Mechanism of Financing Constraints

The impact of negative information will affect the ability of enterprises to invest in two ways: on the one hand, it will directly reduce future profitability and current cash flow levels, and shrink the scale of endogenous financing; On the other hand, it increases the information friction between external investors and enterprises, improves the risk compensation rate of external financing, and even leads to the occurrence of credit rationing. For enterprises that are already in a state of financing constraints, these two factors will work together: under the pressure of no internal funds and no external financing, enterprises have to reduce various investments, including fixed investment and research and development investment, in order to maintain operations.

In contrast, companies with secure financing have more abundant financial buffers and more stable external financing channels, which can better mitigate the impact of shocks.

3.2. The Regulatory Role of Enterprise Lifecycle: Information Asymmetry and Collateral Channels

The stage of the enterprise's lifecycle systematically determines the degree to which it is affected by the aforementioned mechanisms.

Entrepreneurial/growth oriented enterprises: The characteristics of entrepreneurial/growth oriented enterprises are often "three highs and one low", namely high uncertainty and high information asymmetry, high growth, low collateral, low profitability, and low credit history. Therefore, they face extremely serious external financing constraints (Hadlock and Pierce, 2010)[9]. After encountering negative shocks, the repricing of external debt risks may become more intense, and financing channels may be blocked faster and more thoroughly. Therefore, we believe that the impact response of such enterprises will be more sensitive and intense.

Mature enterprises: Mature companies have stable cash flow, abundant tangible assets, good credit records, and a high degree of information transparency, and may establish stable cooperative relationships with financial institutions such as banks. The above characteristics contribute to the formation of strong financial strength, with a thicker endogenous buffer layer and better ability to maintain external financing sources after negative impacts. Therefore, the adjustment of its investment and expenditure is expected to be more gradual.

3.3. The Buffering Effect of Financial Intermediaries

Financial intermediaries (such as venture capitalists and banks) can mitigate the impact of shocks in two ways: "They can play a 'guarantee' role and reduce uncertainty, providing funding or extending loan terms for companies during crises (that is, playing a 'related credit' role)," which is crucial for businesses that do not have many other financing channels in the early stages.

Based on the above theoretical mechanism, we propose the following research hypotheses:

H1: Faced with negative information shocks, companies with higher levels of financing constraints will exhibit greater reductions in investment and operating expenses.

H2: The above-mentioned contraction effect is more significant in start-up/growth stage enterprises than in mature stage enterprises.

H3: The availability of external financing (such as obtaining venture capital support and maintaining close relationships with banks) can mitigate the negative impact of negative shocks on corporate investment, and this mitigating effect is more important for start-up/growth stage enterprises.

4. Data and Empirical Strategies

4.1. Data Sources and Samples

The data used in this article is the annual unbalanced panel data of companies listed on the ChiNext board of the Shenzhen Stock Exchange in China from 2010 to 2022, sourced from the CSMAR database and Wind database. (1) Excluding financial companies; (2) Excluded missing observations of key financial variables; (3) All continuous variables were subjected to a 1% truncation process.

4.2. Variable Definition

Dependent variable:

Investment expenditure (Inv): defined as the cash paid for the purchase and construction of fixed assets, intangible assets, and other long-term assets divided by the total assets at the end of the period.

R&D expenditure (RD): defined as R&D investment divided by operating revenue, reflecting a company's investment in long-term growth potential.

Core explanatory variables:

Negative information shock:

Industry demand shock: Calculate the median annual revenue growth rate of all companies in each industry (classified by the China Securities Regulatory Commission). The time point when the median is lower than the median of the industry during the sample period is defined as the negative impact of the industry (dummy variable taken as 1).

Macro policy uncertainty shock: Using the China Economic Policy Uncertainty Index (EPU) constructed by Baker et al. (2016), the year with an index value higher than one standard deviation of its time series trend line is defined as a macro negative shock year.

Financing Constraint (FC): Using the WW index from Whited and Wu (2006) as its proxy variable [10]. This index is composed of cash flow, dividend payments, leverage, scale, industry sales growth rate, and proportion of operating income, with larger values indicating tighter constraints. In the robustness test, we use the SA index (Hadlock and Pierce) instead of the market risk-taking level (using the CRRA and KZ indices: CRRA was proposed by Kaplan & Zingales (1997), and KZ was proposed by Kaplan & Zingales (1997)).

Stage of Enterprise Life Cycle: Adopting Dickinson's (2011) cash flow model method, the enterprise is divided into import period, growth period, maturity period, oscillation period, and decline period based on the positive and negative combinations of cash flows from operating activities, investment activities, and financing activities. This article combines the import period and growth period as the "early stage" (Early=1), and the mature period is defined as the "mature stage" (Early=0) as the main analysis object.

External financing availability (ExtFin): Use "(cash received from borrowing+cash received from absorbing equity investments)/total assets at the beginning of the period" to measure the annual increase in external financing scale.

The dependent variable is the intensity of enterprise innovation investment. Explanatory variable: Government subsidies. Control variables: enterprise size (taking the logarithm of total assets), profitability (ROA), debt level, Tobin's Q (market value/assets), cash flow ratio, and industry and annual dummy variables. All control variables use lagged values of one period.

4.3. Identification Strategy and Econometric Model

To identify the causal effects of negative shocks and test their heterogeneity, we establish a difference in differences model. The basic forms include individual fixed effects and year fixed effects to control for the effects of firm heterogeneity and time trends that do not change over time. The core explanatory variable is the cross term between the negative impact dummy variable and the lagged financing constraint indicator.

The coefficient of this interaction term is the focus of our attention. If the coefficient is significantly negative, it supports hypothesis H1, indicating that during the shock

period, companies with tighter financing constraints experienced a greater decrease in their investment or R&D expenditures.

To test hypothesis H2, we grouped the samples by enterprise lifecycle (early/mature) for regression analysis and compared the magnitude and significance of the interaction coefficients between the two groups. Alternatively, a triple interaction term (impact x financing constraint x lifecycle stage) can be added to the overall sample for testing.

To test hypothesis H3, we further introduce a triple interaction term (shock x financing constraint x external financing availability) into the model. We expect the coefficient of this interaction term to be significantly positive, indicating that the inflow of external financing can buffer the investment contraction of financing constrained enterprises under shocks.

Regarding endogeneity and identification, the industry level or macro level shocks we use have relatively exogeneity for individual companies, which helps alleviate the problem of reverse causality. The parallel trend hypothesis will be tested by plotting the average outcome variable trends of the treatment group and control group before and after the impact (event study method).

5. Expected Results and Discussion

Based on theoretical analysis, we expect to obtain the following main empirical results:

Firstly, in the benchmark regression, we expect the coefficient of the interaction term to be significantly negative, confirming that financing constraints amplify the inhibitory effect of negative shocks on corporate investment (H1). Meanwhile, the expected main coefficient of the shock variable is also negative, indicating the average negative impact of the shock.

Secondly, the grouped regression results are expected to show that in the "early stage" enterprise sub sample, the absolute value of the interaction coefficient is larger and the statistical significance is stronger; In the sub sample of "mature stage" enterprises, the coefficient is relatively small or not significant. This provides support for H2, which regulates the impact sensitivity of enterprises by shaping the severity of financing constraints during the lifecycle stage.

Thirdly, the coefficient of the triple interaction term (impact x financing constraint x external financing) is expected to be significantly positive. This means that even for companies with high financing constraints, if they can have a certain degree of external financing inflow under shocks, their investment contraction will be significantly reduced (H3), and this buffering effect will be more pronounced in early stage companies.

Finally, we expect the above results to remain robust for alternative financing constraint indicators (such as SA index), different shock definitions (such as using macro EPU shocks), and considering the dynamic effects of shocks.

Theoretical significance: These predictions can fully demonstrate that financing constraints are not a fixed and unchanging state, but change with the age of the company, and together determine the role of the company's financial buffering and adjustment capabilities during macroeconomic contraction. This article finds that the impact of incomplete financial markets on the real economy exhibits significant nonlinear characteristics.

6. Conclusion

The main financial issue that this article focuses on is: what impact will financing constraints have on the financial response of enterprises at different stages of development in the face of negative information shocks? Therefore, this article incorporates financing constraints, information asymmetry, and the life cycle of enterprises into the same analytical framework, and proposes a testing approach and method for Chinese ChiNext listed companies based on this. The following conclusion is drawn: financing constraints are an important intermediary factor that hinders enterprise investment in negative shocks, and this amplification effect is stronger for start-up/growth stage enterprises with greater information problems and scarce collateral. On the other hand, the smoothness of external financing, especially the close relationship with financial intermediaries, can play a good "buffer zone" role. The contribution of this article is to organically and dynamically integrate three basic propositions in the field of corporate finance: financing constraints, lifecycle and uncertainty hedging. This article provides new theoretical perspectives and new evidence from emerging market countries, which is of great significance for understanding the sources of economic cycle fragility of innovative enterprises and their possible policy focus. Further research can explore the impact of different corporate governance mechanisms, managerial attributes, and finer grained shocks (such as technological shocks vs. demand shocks) on the above relationship.

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