



博士文丛

(第三辑)

# 融资约束、不确定性与 公司投资行为研究

魏锋 著

兰州大学出版社





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## 中文摘要

西方有关企业投资理论的文献十分丰富，而我国在这方面的研究比较少，特别是基于融资约束和不确定性的公司投资行为研究就更少。而且，西方学者的研究都是建立在明晰的产权制度、高度的经济自由、充分的信息流动、可靠的契约与法律结构，以及进行资源配置和行为协调的市场机制和成熟、完善、规范的市场制度的基础之上。与之相反，我国由于全部或部分缺乏这些基本的制度性特征，其市场制度呈现出不成熟、不规范、不完善的特点。因此，有必要根据我国经济转轨时期的现状，探讨我国公司的投资行为。作者希望本文的研究结论能为我国上市公司制定科学的投资决策，为政府管理部门制定相关公司政策提供有益的思路。本文以融资约束和不确定性与公司投资行为之间的关系为研究主线，在学习、总结和吸收国外相关研究成果的基础上，结合我国上市公司的实际情况，研究和探讨公司的投资行为。全文共由八个部分组成。

第一部分提出本文研究的问题、研究的角度和研究的方法；界

定这一研究领域的基本概念，从而为后面的研究提供必要的理论铺垫和分析前提。

第二部分是企业投资理论发展评述。在这一部分，作者首先从加速器投资理论入手，沿着时间顺序对传统的企业投资理论进行简要评述；其次，对与本文论题相关的融资约束和不确定条件下的投资理论作了详细的理论和实证回顾，分析它们结论不一致的原因；最后，对目前西方学者研究投资决策理论的最新方向，以及国内学者关于公司投资行为的研究状况和不足作了回顾和分析。

第三部分分析转轨经济时期公司的投融资特征。本章结合我国仍处于转轨经济时期及其该时期不完善性和不稳定性的特征，探讨我国企业投融资体制的演变、上市公司的投融资特征、投资决策的制度安排以及投融资的法律框架，为后面的理论分析和实证研究作背景铺垫。

第四部分是融资约束和不确定性对公司投资行为的影响分析。作者在 Lensink 和 Sterken (2001) 的研究基础上，基于银行与公司的博弈关系，通过建立数学模型，从企业价值最大化的角度探讨在公司所受融资约束程度一定的情况下，不确定性对其投资行为的影响以及在不确定条件下，公司所受融资约束程度对其投资行为的影响。

第五部分构建了基于融资约束和不确定性下的最优投资时机选择模型。作者在 McDonald 和 Siegel (1986) 所建项目价值不确定性的公司投资模型基础上，加入融资约束程度变量，而且假定这种融资约束程度随公司未来收益的不确定性变化，然后依据实物期权定价理论以及伊藤引理，建立了基于不确定性和融资约束的公司最优投资时机选择模型。探讨在融资约束和不确定条件下，公司的最优投资时机选择问题。

第六部分是融资约束和不确定性下的公司投资行为实证研究。

作者以第二章的文献及我国上市公司的实际情况为基础,以股利支付率、Logistic 回归值和公司规模度量公司所受融资约束程度,以公司股票日收益率的波动性度量其不确定性,并借助 2SLS 和临界估计方法,具体考察我国制造业上市公司融资约束与公司投资—现金流敏感性之间的关系;不确定性与公司投资行为之间的关系;融资约束下不确定性对公司投资行为的影响以及不确定性下融资约束对公司投资行为的影响等四个方面的内容。

第七部分为政策建议。本章在以上各部分的基础上,针对我国上市公司投资行为和资本市场中存在的问题,提出自己的一些建议。

最后部分总结结论。在这一部分中,总结以上各章的结论并对论文的局限性和进一步研究的方向提出自己的看法。

本文的创新和主要研究工作体现在以下几个方面:

①较为详细、全面地梳理了企业投资理论的发展史,为后来者进行公司投资行为的研究作了较好的理论铺垫。

②基于银行与公司的博弈关系,通过建立数学模型,从企业价值最大化的角度探讨在融资约束一定的情况下,不确定性对公司投资行为的影响以及在不确定条件下,公司所受融资约束程度对其投资行为的影响。结果发现,在项目未来融资受到约束时,不确定性与公司投资额呈正向关系;而在不确定条件下,公司所受融资约束程度对其投资行为的影响由公司外部融资额与非对称信息程度相比较确定。

③在 McDonald 和 Siegel (1986) 所建项目价值不确定性的投资模型基础上,引入融资约束程度变量,建立了基于不确定性和融资约束的公司投资时机选择模型。通过算例发现,在融资约束和不确定条件下,公司投资存在一个最优时点,而且,这一时点比仅考虑不确定性时的最优投资时点提前。

④实证检验了我国制造业上市公司融资约束与其投资-现金流敏感性之间的关系。结果发现,我国制造业上市公司存在不同程度的融资约束,但以不同标准度量公司所受融资约束程度,其结论存在一定差异:就股利支付率组以及 Logistic 回归值组而言,股利支付率越少或 Logistic 回归值越低,公司投资越依赖于其现金流;而就公司规模组而言,融资约束与公司投资-现金流敏感性之间的关系呈倒 U 型关系。

⑤实证检验了我国制造业上市公司不确定性与其投资之间的关系。结果发现,公司总体不确定性以及市场不确定性与其投资之间呈显著正向关系,而公司特有不确定性与公司投资之间呈不显著正向关系。这与实物期权理论的预测相反,反映了我国制造业上市公司管理层普遍偏好风险,存在过度投资的倾向。

⑥实证检验了融资约束下不确定性与其投资之间的关系。结果发现,就我国制造业上市公司而言,在以不同标准度量融资约束程度时,不确定性与公司投资之间的关系也不一样,但总体表现为 U 型关系。以股利支付率度量公司所受融资约束程度,融资约束程度加剧了不确定性对公司投资的影响;而就 Logistic 回归值组以及公司规模组而言,融资约束减轻了不确定性对其投资的影响。

⑦以 Hansen 所研究的临界回归估计方法研究了不确定性下公司所受融资约束程度对其投资行为的影响。结果发现,无论以总体不确定性,还是以公司特有不确定性、市场不确定性作为临界变量,我国上市公司都不存在临界效应。但就考察的样本公司而言,不确定性特别是市场不确定性加剧了融资约束对公司投资行为的影响。

**关键词:** 融资约束, 不确定性, 公司投资行为

## **Abstract**

The document about the investment theory in enterprise in the west is very abundant, but little research on the problem has been done in our country so far, especially the corporate investment behavior based on financing constraints and uncertainty. And, it is western scholars that are set up, strong economic free, abundant information flow, on reliable contract. Contrary to it, because our country lacks these basic system quality characteristics of all or the part, its market system demonstrates not standard, not perfect characteristic. So, based on the current situation of economic transition of our country, the paper probes into the investment behavior of the company of our country. I hope the paper can provide some insights on the making of the listed companies' investment policy and making of relevant departments' the relevant company policy.



On the basis of studying, summarizing and absorbing the foreign relevant achievement in the research field, combining with the reality of the listed company of our country, this paper focuses on the relation between financing constraints, uncertainty and company investment behavior. It's divided into eight parts altogether.

The first part proposes the issue, the angle and the methods of research, defines the basic conception of this research field, thus offers the theory foreshadowing and the analytical prerequisite for following research.

The second part is the theory development of investment in enterprise that is reviewed and commented. In this a part, the author starts with from the accelerator theory at first, reviews briefly the traditional enterprise theory along the order of time. Secondly, the author comments theoretically and empirically investment theory under financing constraints that correlate with proposition of this text, and the causes about theory is not in accordance with empirical results. Thirdly, the author carries on the retrospect and commentary of the investment theory under the uncertainty from the theoretical and empirical viewpoints, analyze its current situation and insufficient studied. Lastly, the author studies the newest direction of the investment decision theory to the western scholars at present, and the drawbacks of our country's scholars about the corporate investment behavior.

The third part analyzes the investment and financing characteristic of the company of period of economic transition. This chapter combines our country still in economic transition period with characteristic not faultiness and instability of this period, probes into the development of the investment

and financing system of enterprises of our country, the investment and financing characteristic of the listed company, the system arrangement of investment and financing of the investment decision, and the law frames of the investment and financing of the listed company, thus the section does background foreshadowing for the following theory with the positive research.

The fourth part analyses the influence financing constraints and uncertainty on the corporate investment behavior. On the basis of research thinking of Lensink and Sterken (2001), and the game relation between bank and company, the paper, through setting up model, probes that the uncertainty affects the corporate investment behavior, in a situation that the company is financing constraints, and the financing constraints affects the corporate investment behavior under uncertainty.

The fifth part starts with McDonald and Siegel's model (1986), and joins financing constraints degree variables, and assumes that this kind of financing constraints will change with the uncertain of the future profits of the company, then according to real option pricing theory and Ito's formula, the author structures corporate investment timing decision model based on financing constraints and uncertainty.

The sixth part is the positive research about corporate investment behavior under financing constraints and uncertainty. Based on the theory documents of the second part and reality of the listed company of our country as the foundation, with the dividend payout ratio, the Logistic regression value and company scale to measure company's financing constraints degree, fluctuation of yield ratio of day of stock of the company to measure its uncertainty, and with the help of Thresh-

old Estimate Method and 2SLS, the author studies detailed the relationship between financing constraints and investment - cash flow, the relationship between uncertainty and investment, the influence of uncertainty on corporate investment in the financing constraints, the influence of financing constraints on corporate investment in the uncertainty the listed company of manufacturing of our country.

The last two parts summarize the conclusion of the above every part and the enlightenment to the investment behavior of the listed company of our country, put forward myself view on the limitation of the thesis and direction studied further in the future.

Several following jobs of this dissertation has been done mainly:

① Due to the lack of comprehensive review on the corporate investment theory based on financing constraints and uncertainty, this dissertation gives overall summaries of its theory.

② Based on the game relation between bank and company, the dissertation set up model, probed into the influence way uncertainty on corporate investment behavior in the financing constraints situation. The result shows that there is positive relationship between uncertainty and corporate investment, but financing constraints affects the corporate investment behavior through the comparison between asymmetric information and company's outside funds.

③ Build on the foundation of McDonald and Siegel's model (1986), through introducing financing constraints degree variables, and assumes that this kind of financing constraints will change with the uncertain of the future profits of the company, then according to the real option pricing theory and Ito's lemma, the author sets up a investment timing decision model based on the financing constraints and uncertainty. The result shows that there is

more early investment timing in the uncertainty and financing constraints than only in the uncertainty situation.

④ The dissertation tests empirically the relationship between financing constraints and investment. The result indicates that there is financing constraints in certain degree in the listed company of manufacturing of our country, but with different standard tolerance company's financing constraints degree, there is certain difference in its conclusion: As to dividend payout ratio group and Logistic regression value group, the less dividend payout ratio or the Logistic regression value, the stronger the sensitivity between corporate investment and inside cash flow, As to company size group, the relationship between financing constraints and the corporate investment is the inverse U relation.

⑤ The dissertation tests empirically the relationship between uncertainty and investment. The positive result finds that the relationship between overall uncertainty of the company, market uncertainty and corporate investment are positive remarkably, the firm's special uncertainty and investment is positive, but not significant. The conclusion is contrary to prediction of the real option theory, and reflects the loving risk of the listed company's managements of manufacturing of our country, there is trend of over - investment.

⑥ The dissertation tests empirically the relationship between uncertainty and investment in the financing constraints situation. The results show, as for our country manufacturing listed company, with different and standard tolerance financing constraints degree, the relation between the corporate investment and uncertainty is different, but is shown as the relation of U overallly. With dividend payout ratio

to measure company's financing constraints degree, when we compare dividend payout ratio low group and dividend payout ratio high groups, their coefficient is much larger. But as for the Logistic regression value group and company scale group, the lower the Logistic regression value or the smaller company's scale, the smaller their coefficient.

⑦ The dissertation tests the relationship between corporate financing constraints and investment in the uncertainty situation with of help of Hansen's Threshold Estimate Method. The result finds, no matter with overall uncertainty, or with firm special uncertainty, or with market uncertainty, the listed company of our country does not have critical effects, but as regards sample observed, Uncertainty especially market uncertainty aggravate the influence of financing constraints on the corporate investment.

Keywords: Financing Constraints, Uncertainty, Corporate Investment Behavior

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