



Capital Cost and
Corporate Investment:
a Liquidity Approach

资本成本与 公司投资

基于流动性视角

曹书军◎著



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| 前 言 |

在资本预算实务中,一个最基本的原则就是项目投资收益不得低于资本成本,因此,作为最低收益率的资本成本往往决定了投资项目的可行性,基于资本成本计算而来的公司投资回报也能更准确地反映公司投资效率。但是新古典投资理论认为,完美资本市场假设下的企业资本成本和投资收益都是事先外部给定的,内外部资金可以自由地替换,投资决策取决于投资收益和资本成本的比较,通常资本成本使用市场外部利率代替,随着资本成本的上升,公司边际收益会递减,从而导致投资规模下降。

然而现代经济学告诉笔者,由于信息不对称和代理成本导致公司面临事实上的融资约束,对外融资需要付出额外的融资成本,从而使得不同性质和特征的企业具有不同的资本成本。更重要的是公司对投资项目的选择和分析,很大程度上反映了企业家能力和公司自身的战略判断,投资决策更多地取决于投资项目的边际收益,因此资本成本与投资规模之间就不会是简单的单调负相关关系,特别当投资收益增加超过资本成本增加时。

融资约束另外一个直接影响是公司内部流动性在很大程度上决定了公司投资决策,为满足未来高收益的投资需要,克服内部现金流的波动,公司需要持有一定数量的现金。而在这一过程中,从作为机会成本的资本成本角度来看,会导致价值损耗,但由于能保证满足未来高收益项目投资支出,从而又具有持有价值。因此有必要基于我国转轨经济特征,深入分析我国上市公司资本成本、现金持有与投资行为之间的相互关系,为公司财务理论提供知识积累和中国经验证据。

全书基于公司流动性,围绕资本成本与公司投资行为,从多个角度深入讨论资本成本、现金持有及投资决策之间的相互关系,从逻辑思路上,首先讨论了资本成本对公司现金持有的影响,接着分析融资约束下现金持有与公司投资之间的关系,最后考察了资本成本对公司投资决策的影响机理及

动因,并分析了资本成本约束下,现金持有对公司投资行为的传导效应。全书由八个部分组成。

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。

第二部分是相关理论发展述评和背景分析。在这一部分中,本文首先沿着时间顺序对企业投资理论进行评述,讨论了资本成本与企业投资规模之间的关系;其次对融资约束下现金持有与公司投资予以分析和评述;再次对目前公司现金持有行为进行了详细的理论和实证回顾,分析了不同理论之间的冲突和原因;最后介绍了目前主流资本成本理论中有关权益资本成本的计算方法,并结合资本成本,讨论公司投资效率的定义以及相关研究。

第三部分主要围绕资本成本对公司现金持有政策的影响展开。首先估算了上市公司资本成本,以此讨论不同融资约束条件下资本成本对公司现金持有水平的影响;其次分析了资本成本对公司现金持有行为的影响,以及这一过程中,融资约束对资本成本-现金变化关系的边际效应,还讨论了表征不同约束程度下现金-现金流敏感性系数;最后估算了我国上市公司的现金持有价值,以及资本成本对公司现金持有价值的影响。

第四部分考察了集团内部资本市场运作对成员企业现金持有量和市场价值的综合影响,以及在不同的内部治理环境下两者对现金持有所呈现出的迥异的作用机理。结果表明:内部资本市场运作通过多种路径影响企业现金持有量与市场价值。当代理问题较严重时,内部资本市场运作成为管理层或控股股东获取控制权私有收益累积现金资产的重要途径,代理动机导致的现金增持掩盖了预防动机减弱导致的现金减持,从而表现为现金持有量的增加和市场价值的降低。此外代理问题较严重时公司现金持有量的调整速度较慢,调整半周期较长。

第五部分侧重分析现金持有对公司投资行为的影响。首先构造了一个理论模型探讨现金持有对公司投资决策的作用,然后实证分析公司现金持有对投资-现金流敏感性的影响,并从不同融资约束程度的角度考察其作用稳定性;其次讨论现金持有是否诱致公司过度投资,以及这一过程中融资约束起到的作用;最后笔者分析了现金持有对公司投资的经济后果的影响。

第六部分从公司融资成本着手,构造理论模型来刻画公司融资成本对

公司投资的影响,研究发现公司内外部资本成本差异与公司投资负相关,而对投资现金流有正的效应,但是这一边际效应随着边际融资成本的增大而降低。其后本章透过公司治理水平指数和公司资本成本指标来代替公司边际融资成本对上述关系进行实证检验,结果基本与理论模型一致。

第七部分主要讨论资本成本对公司投资行为和投资效率的影响。首先以四种方法估算了我国上市公司的权益资本成本和加权资本成本,并对之进行了比较;其次深入研究了公司投资规模与资本成本之间的关系,并以多个不同成本进行稳健性检验;再次结合投资回报,寻找投资规模变化与资本成本之间的背后动因;最后从现金持有角度着手,讨论不同融资约束对投资水平-资本成本相互关系的影响,并进一步寻找不同现金流波动性下,现金持有政策的投资回报效应。

最后为研究结论、局限性及未来研究展望。在这一部分中,总结以上各部分的结论,并对论文的局限性和进一步研究的方向提出笔者的看法。

关于投资领域的研究非常丰富,笔者谨认为本书的主要贡献之处在于以下几个方面:

1. 在对公司现金持有理论的比较分析基础上,深入研究资本成本与公司现金持有水平、持有行为和持有价值之间的关系,结果直接拒绝现金权衡理论假说;讨论了资本成本对公司超额现金持有的经济后果,并分析不同融资约束程度下的这一影响路径的作用机制;实证检验了我国上市公司的现金持有价值,比较了不同现金持有水平组的价值效应,以及资本成本的边际作用。

2. 首次从组织内部资本市场运作这一视角,探讨了其不同路径与机制(融资约束的放松与代理冲突的加重)对企业现金持有量与市场价值的综合影响,以及在不同的内部治理环境下的主导机制。此外考虑到公司最优持现水平的时变性,还采用动态调整模型分析了不同内部治理环境下公司现金持有量的调整速度。

3. 基于现金持有下的公司投资决策跨期分析框架,研究并检验了不同融资约束程度下流动性储备与投资-现金流敏感性之间的关系,验证了大量持有现金会诱致过度投资,而融资约束不能有效地遏制这一行为;同时还证实了公司投资的边际价值会随着现金持有规模的增大而降低。

4. 通过构造理论模型来刻画公司内外融资成本差异对公司投资的影响,并透过公司治理水平指数和公司资本成本指标来代表公司边际融资成本对资本成本-投资之间的关系进行实证检验,还针对高边际融资成本组具有更显著的低投资现金流效应,从控制人行为和市场竞争角度着手予以深入研究。

5. 在对多种资本成本计量方法估算比较的基础上,基于 GLS 方法讨论了公司投资规模与资本成本的相关性,深入检验其严重右偏的倒 U 型关系的背后经济动因以及经济后果,证实对未来投资超额收益的期望驱使公司在资本成本增加的情况下选择放大投资规模;同时实证分析了资本成本约束下,现金持有政策对公司投资行为和投资回报的影响机理。

| ABSTRACT |

Investment decision-making as one of the core contents of corporate finance theory and practice of decision-making, relates to enterprise resource allocation, therefore a natural inference is that how is the efficiency of investment and return on investment? In investment decisions or capital budget, a basic principle is to investigate whether investment income more than the capital cost, consequently, the level of capital cost often determines the feasibility of investment projects. Whether the Neo-classical investment theory in the macroeconomic field or the MM theorem in corporate finance field, the corporate cost of capital and investment income in the perfect market are given in advance of external, and usually we use the market interest outside instead of the cost of capital, so the rising of capital cost will naturally lead to decreased investment. However, because of information asymmetries and agency costs, corporate external financing is usually accompanied by additional financing costs, sequentially, corporate under different nature and characteristics have different costs of capital, which is affected by the external environment. Moreover the capital cost does reflect the company's minimum rate of return on internal investment projects. While the selection and analysis the company towards investment projects, largely reflect the entrepreneurship and corporate strategy judgments, so the impact of capital cost on the investment size will not be a simple monotonic negative relation.

In modern investment decisions, the company financial constraint is a very important issue. To meet the investment needs of uncertain future, and overcome the internal cash flow volatility, the company needs to hold enough cash, so comes the question that do cash holdings affect the relationship between corporate investment and its cash flow. Cash holdings will result in value loss as it can be

regarded as the opportunity cost, but on the other hand, as it can ensure the payoff of high income projects in future, it is worthy of holding. Therefore it is necessary to do in-depth analysis of the relationships among the listed company's capital costs, cash holdings and the investment behavior based on the economic characteristics of transition, to prove the accumulation of knowledge for financial theory and the evidence of Chinese experience.

The core of this paper is the investment behavior and the efficiency of investment. More over the paper thoroughly and multiply discussed the relationships among the cost of capital, cash holdings and investment decision-making. In the first phase, the paper discusses the affect of capital on the company cash holdings; second analyzes the affect of cash holdings on corporate investment under financing constraints; finally investigates how the cost of capital affects corporate investment, and analyzes the relationship between company's liquidity and its return on investment. This paper includes six parts.

The first part gives the issue to analyze, research perspective and research methods of this paper; defining the basic concepts of this research field, so as to provide necessary theory bedding and analysis premise for further research.

The second part introduces the development of related theory and does background analysis. In this section, the enterprise investment theory is reviewed along the time sequence firstly and it discussed the relationship between capital cost and the size of corporate investment. Secondly, it analyzes and reviews the cash holdings and corporate investment under financing constraints. Thirdly, the corporate current behavior of cash holdings is reviewed both theoretical and empirical in detail, and the conflict and reasons between the different theories are also analyzed. Finally, it gives the calculation of the cost of equity capital in current mainstream theory of capital cost, and discusses the definition as well as the related theories of investment efficiency combined with the cost of capital.

The third part mainly introduces how the capital cost of the policy impacts the company's cash holdings. First, we estimate the capital cost of listed companies, and discuss the impacts of capital cost on company cash holdings under dif-

ferent financing constraints; Second, it analyzes how the capital cost impacts the company's cash holding behavior, the marginal effects of financing constraints to the capital cost-cash variation, and the sensitivity coefficient of cash flow under different financing constraints in this process; Finally, we also estimated the cash holding value of listed companies and the affect of capital cost to cash holdings value.

The fourth part focuses on impact analysis of cash holdings on investment behavior. First it constructs a theoretical model to discuss the effect of cash holdings on investment decision-making, then empirically analyzes the relation between cash holdings and the investment-cash flow sensitivity, and exams the stability from a different perspective of financial constraints; second it discusses whether cash holdings induced company over-investment, and the role financing constraints played in this process; Finally, we also analyzed if the company cash holdings affect the economic consequences of investment.

The fifth part focuses on the affect of company's capital cost on investment behavior and investment efficiency. First four methods are used to estimate the equity capital cost and the weighted capital cost of listed companies and are compared; in the following we study in-depth the relationship between the capital cost and investment level, and test the stability using different cost methods. Second, combined with investment returns, we look for the dynamic reason behind the capital cost and the change of investment size; finally, from a cash holding policy angle, we discuss to what extend different financing constraints influence the relationship between the investment level and the capital cost, and further we find the effect of the investment return of cash holding policy in different cash flow volatility.

The sixth part comes up with conclusion, limitations and future research prospects. In this section, we summarize the conclusions of the last parts of the paper and put forward the view on limitations and directions for further research.

The main innovation points of this paper are:

1. Proceed directly from the capital cost for the first time, to discuss the company's cost of capital directly on the company's cash holdings, holding behav-

ior and value of cash holdings. Found that: the higher the capital cost is the more cash company will hold, which directly refused cash balance theory hypothesis; the higher the overall capital cost of the company is the more cash it prefer to hold, but the marginal effects of capital cost in companies with different financial constraints are not consistent; but the higher the capital cost is the more cash the company is inclined to hold, and financing constraints would reduce the excess cash holding marginal effect of the capital cost; we estimate the average cash holdings of listed companies valued at about 0.52 Yuan, of which the group who has higher cash holdings has lower value, and the cost of capital has a positive effect on firm value; further in the over-current group, the high capital cost sample has a higher value of cash holdings.

2. We seek for the affection on the cash holding quantity and market value by the different relax of financial constrain and enheaviness of agency conflict under inter-capital market operation, and the main mechanism under different inter governance environment. Considering the time changing of the corporate optimistic cash holding, this paper use dynamic adjusted model to test the adjusted speed of cash holding under different inner governance environment.

3. It provides the empirical evidence for cash holdings on company investment decisions and economic consequences. Found: The cash holdings of company can ease the investment-cash flow sensitivity efficiently; more cash holdings can induce company over-investment while financing constraints can not effectively curb this behavior; the marginal value of corporate investment will decrease with the increase of cash holding size.

4. The paper conceives a theoretic model to detail the affection of financing cost between inside and outside on the firm investment, and tests the relationship between marginal financing cost and the capital cost-investment with the corporate governance index and corporate capital cost. Further, we discuss the relationship between the higher marginal financing cost and the lower investment-cash flow with two points of controller nature and market competition.

5. It analyzes the relationship among the capital cost, cash holding policy,

corporate investment behavior and the return on investment. Found that: the capital cost and corporate investment are inverted-U shaped relationship, and is severe right-side, the fact differs materially from the traditional theory that the capital cost and investment size are negative monotonic related; investment returns and the lag phase of the investment behavior are significantly positively related to capital cost, which means the expectations of excess returns on future investments drives the company to enlarge the scale of investment when the capital cost increases; the cost of capital will reduce the role the cash holdings played in promoting the corporate investment; the more cash it holds, the higher the return on investment is, but the greater the cash flow volatility, the lower the investment return.

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前 言

ABSTRACT

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