The Theory and Practice of Capital Allocation

Bohan Wang[1,*]

[1] *School of Business, Shandong University, Weihai, 264209, China*
[*] *Corresponding author. Email: wangbh@mail.sdu.edu.cn*

ABSTRACT
Internal capital allocation is one of the core propositions in the business process of multi-divisional conglomerates and is an essential factor affecting the survival and growth of firms. However, the internal capital allocation decision is intrinsically complex, and the existing research literature has multiple theoretical orientations, there are also large gaps in empirical findings and varying measures of allocation efficiency. This paper firstly summarizes the theoretical basis of internal capital allocation decisions and discusses the commonalities and differences between the theories. Secondly, it sorts out the factors affecting internal capital allocation decisions and discusses the reasons for the lack of consistency in the empirical results. Finally, it discusses the future research directions based on the selection of allocation efficiency measurement methods and moderating variables.

Keywords: *internal capital allocation, internal capital market, capital allocation efficiency*

1. INTRODUCTION

In the operations of multi-divisional conglomerates, the managers' activity of allocating capital to diversified and competing business units creates an internal capital market. The internal capital market, as an asymmetrical and efficient complement to the external capital market, has once again become a major concern with the emergence of global pan-financialization, i.e., the establishment of financial departments in actual firms and the trend of diversification in the real economy. Existing literature establishes the role of internal capital allocation in promoting corporate value or future growth potential of firms, such as capturing investment opportunities, providing management incentives, and preventing systemic risk [1-5]. However, studies from different perspectives on internal capital markets are non-consistent, and internal capital allocation may facilitate private CEO interests, internal political struggles, or even inefficient investments that undermine the value of the firm [6-9].

This article attempts to provide a review of the literature in internal capital allocation research by systematically reviewing the theoretical basis of capital allocation decisions and the factors that influence them in the internal capital market. Meanwhile, answer two essential questions: what is the theoretical basis of capital allocation decisions, and how are these theories related? Why is there a lack of consistency in empirical research on the role of factors influencing capital allocation decisions on the efficiency of capital allocation?

2. THEORETICAL BASIS FOR CAPITAL ALLOCATION DECISIONS

2.1 Winner picking

Winner picking is a forward-looking decision-making process in which managers' capital decisions are made with full consideration of the subsequent impact on each division of the company after the decision is implemented. It requires managers to be able to compute the future performance of business units by thoroughly evaluating their investment opportunities under uncertainty when faced with a range of investment opportunities. With limited capital, they should select the business units with the highest future performance returns, then make capital allocation decisions accordingly.

2.2 Socialistic allocation

Socialistic allocation, as the name implies, is a process by which managers equalize capital allocation across business units, regardless of the life cycle, industry, performance, etc. [10]. The benefit of the socialistic allocation approach is considered to manage the overall risk exposure of the multi-divisional conglomerate and reduce the expected level of risk of the firm. In the

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internal capital market with three agents proposed by Hoang and Ruckes, the headquarters of multi-divisional conglomerates can incentivize the divisional managers through evenly capital allocation to maximize the future capital productivity of the division [3].

2.3 Performance feedback

The capital allocation theory of performance feedback states that companies that perform below expected performance, i.e., at an expected deficit, tend to seek solutions and increase risk tolerance actively. A company's performance is higher than expected performance, i.e., when it is at an expected surplus, the company tends to create redundant resources and thus increase risky activities. Therefore, the capital allocation of performance feedback is a reflection of the company's positive or negative decisions on capital allocation based on expected surplus or expected deficit.

2.4 Theory review

Different theoretical perspectives point to various ways; winner picking reflects managers' filtering of future investment opportunities, socialistic allocation emphasizes the decentralized nature of capital allocation, and performance feedback describes managers' responsive behavior to past performance. Choice of the theoretical basis for any capital allocation decision is determined by the reality of the situation faced by the firm. It can change in the course of the firm's operations depending on various internal or external factors, even if two or more allocation basis are used at the same time. Scholars argued the shift in the basis of an internal capital allocation from winner picking theory to socialistic allocation theory and performance feedback theory when the firm is facing distress or the group has limited available capital [9,11]. Under the socialistic allocation perspective, capital within the group tends to an evenly distributed to reduce risk and provide managerial incentives to respond to crises. Under the performance feedback theory perspective, it manifests itself as a problem-driven search, reflected in the cross-subsidization of underperforming departments by well-performing departments. When organizational resources are abundant, socialistic allocations are suppressed, as evidenced by the adoption of more lenient criteria by business managers, accommodating the risk of failure and promoting investment opportunities [12]. In summary, the linkages between capital allocation theories are expressed as commonalities and differences between the theories when facing different realities. Meanwhile, many factors besides organizational resources influence the formulation of capital allocation decisions, which will be explicitly discussed specifically in the next section.

3. FACTORS THAT INFLUENCE CAPITAL ALLOCATION DECISIONS

Most studies are limited by research methods or sample data, so when examining the factors affecting capital allocation efficiency, one or more factors are generally considered the criteria for whether the internal capital market is efficient and whether the capital allocation decision is reasonable. However, in reality, companies are faced with a series of behavioral choices, which are more reflected in the trade-offs behind the behavior, and cannot be concluded by the positive and negative impact of capital allocation behavior on the allocation efficiency of a specific factor. There is also the possibility of mutual influence between factors, so this paper summarizes the main influencing factors involved in previous literature.

3.1 Managerial characteristic

Managerial characteristics have been shown to influence managers' investment, financing, and strategic decisions [13,14]. For the influence of CEO characteristics on capital allocation decisions, Ang hypothesized and verified in his article the facilitative effect of CEOs' familiarity with the division on capital allocation decisions or the inhibitory effect on disinvestment decisions [13]. Due to CEOs' previous work experience, such as training in professional skills and knowledge of industry developments, they are more familiar with the investment opportunities and various internal information available in the divisions they previously worked in, thus generating a comparative information advantage [15]. It provides CEOs with an assurance of the accuracy of private information assessment when faced with private information passed on by division managers from familiar divisions. Therefore, the difference in familiarity caused by managerial characteristics causes CEOs to favor a capital allocation to divisions with higher familiarity.

Managerial characteristics, which reflect differences in prior work experience, can also be interpreted as differences between specialists and generalists, which extends the findings of the comparative information advantage hypothesis for capital allocation decisions. As CEOs accumulate work experience in different divisions, the number of non-familiar divisions in a multi-divisional conglomerate gradually decreases for generalist CEOs. It also inhibits the tendency of CEOs to ignore investment opportunities in non-familiar divisions and enhances the bargaining power of CEOs in capital allocation, which has a positive effect on investment efficiency [7].

3.2 Connection between CEOs and divisional managers

In multi-divisional conglomerates, the information available to divisional managers about the division's internal operations and future investment opportunities is often superior to that available to the group CEOs. For personal gain, divisional managers may distort information and aggressively lobby the CEOs for more resources, compensation, and power [16-19]. Therefore, the first consideration for CEOs when making capital allocation decisions is the trade-off between valuable but distortable private signals and noisy but precise public signals. Wulf found that the ability to distort private information is more vital when divisional managers are at the core of a multi-divisional conglomerate [20]. And that headquarters tend to ignore private signals and value public signals (Tobin's Q) to weaken the incentives of such powerfully influential divisional managers to distort private information. Therefore, the connection between CEOs and divisional managers is related to the ability of CEOs to obtain correct and valuable information from their divisional managers.

Gaspar and Massa compared the "trust hypothesis" and the "bargaining hypothesis" [11]. The trust hypothesis explains that when it is not possible to confirm what kind of surplus allocation policy the CEO will set, divisional managers will conceal possible future surpluses by distorting information to avoid cross-subsidizing underperforming divisions even if they have better investment opportunities. At this point, the connection helps build the divisional managers' confidence in future allocations, assists both sides to share information, and has a positive impact on firm value. In contrast, the bargaining hypothesis states that CEOs usually over-invest in divisions that do not offer good investment opportunities to prevent divisional managers from wasting too much energy on rent-seeking activities that interfere with the normal functioning of the firm, when the connection between CEOs and divisional managers enhances the bargaining power of the divisional managers, the connection is considered to destroy the value of the firm.

Accordingly, if the connection between CEOs and divisional managers enables the CEOs to obtain more highly accurate information and conduct capital allocation activities, the future growth of firm value can be predicted. Otherwise, if the connection brings only favoritism to divisional managers and causes capital allocation to serve private interests, it will inevitably lead to a loss of investment efficiency and a decrease in firm value [11,19,21].

3.3 Political struggle

In addition to providing CEOs with accurate and high-quality private information about their divisions, divisional managers with stronger internal influence in a multi-divisional conglomerate can bring valuable political support to CEOs. Especially for newly appointed CEOs after a management turnover, it is undoubtedly an excellent option to attract high-influence divisional managers to their side through capital allocation to stabilize their political position within the company. Xuan was the first to identify the phenomenon of "bridge-building" by CEOs using capital allocation and found that "bridge-building" occurs more pronounced for newly appointed CEOs if they have not previously held a corporate-level executive position [7]. Cremers et al., a study of the internal capital market of a sizeable retail-banking group consisting of 181 member banks, similarly demonstrated that members of a banking group with more significant political influence have a less sensitive loan growth to their deposit base [1]. Duchin and Sosyura predicted that the allocation of capital to divisions unrelated to CEOs caused by "bridge-building" results in a reduction in investment efficiency [6].

It previously mentioned that, in reality, firms are faced with a set of behavioral choices that are more a reflection of the trade-offs behind the behavior, and that "bridge-building" does initially hurt investment efficiency and firm value. However, Ang expressed the view in his study that the "bridge-building" behavior of incoming CEOs sets the stage for future decisions on capital allocation based on their personal preferences [13]. It avoids the disharmony with divisional managers that results when they divest assets from non-familiar departments after executive turnover. The impact on investment efficiency or firm value can be seen as the difference between the initial loss in capital misallocation and the future gain in reduced agency costs caused by divisional managers distorting private information.

3.4 Performance dispersion across divisions

Berger and Ofek compared the stand-alone values of various business units in diversified business groups with their actual values, documenting the cross-subsidization of underperforming units by better-performing units [22]. Similarly, Stein also described the loss of firm value due to cross-subsidization in diversified business groups in his study [23]. However, when examining cross-subsidization, a capital allocation process, it is crucial to determine the causes. It can be attributed to the fact that CEOs are linked to divisional managers, and the capital allocation decision of the company may be manifested as cross-subsidization if the division that has the linkage is underperforming [11]. Again, political struggles can also cause cross-subsidization, where divisions with more decisive internal influence can seek more capital allocation even if they are underperforming [19,21].

This article discusses the more fundamental factor that leads to cross-subsidization, i.e., how the degree of dispersion in performance across divisions plays a role in capital allocation decisions. The reason why cross-subsidization occurs, whether it is due to the linkages between CEOs and divisions, political struggles, or other factors, is that when these factors are at work, capital flows from better-performing divisions to poorer-performing divisions. When these factors act on the better-performing divisions, capital flows to the better-performing ones, and cross-subsidization disappears [11,15]. Whereas the degree of performance dispersion across divisions reflects the difference in performance between good and poor performers, cross-subsidization to underperforming divisions would not be possible if there were no performance differences between divisions. When the performance differences between divisions become larger, similar to problem-driven search, CEOs will place more emphasis on divisions that are below the reference performance level of their industry and focus their attention on fixing underperforming units [9]. Thus, they will show a tendency to allocate more capital to poorer performing sectors when making capital allocation decisions. Bardolet et al. found that this bias persisted, controlling for constant relevant characteristics of business units (e.g., profitability, growth, size, future investment opportunities), thereby eliminating the possibility of other factors [24].

However, while it is true that the degree of dispersion of performance among divisions facilitates the phenomenon of cross-subsidization in the capital allocation process, it cannot be ignored that independent companies may have good investment opportunities in the future. Because of the poor performance returns caused by external shocks during the last period of production and operation, management's poor decisions, and other risk factors, they are now facing the dilemma of capital shortage, illiquidity, or even bankruptcy and liquidation to meet the need for good investment opportunities in the future. In contrast, diversified business groups rarely experience a phenomenon similar to the insolvency of single-division firms [25]. The cross-subsidization resulting from significant differences in performance between divisions is no longer a cause of investment efficiency losses at this time but rather serves to promote the efficient allocation of capital. Therefore, it must first clarify what causes the cross-subsidization discussed by scholars and recognize that cross-subsidization is a capital allocation process that presupposes intersectoral performance dispersion. Meanwhile, it is influenced by the degree of performance dispersion and cannot be preconceived as a killer of reduced investment efficiency or loss of firm value.

3.5 Transparency of information across divisions

In addition to using internal capital to meet the need for divisional investment opportunities, achieving managerial incentives for divisional managers can also be seen as an effective allocation. Hoang and Ruckes proposed that the equalization of capital allocation can be facilitated by reducing intersectoral information transparency or by exploiting intersectoral information asymmetry [3]. It likewise satisfies the assumption that divisional managers always prefer a larger allocation of capital [16,18]. When divisional managers are in different industries, it is difficult for them to use their knowledge and skills from their previous work experience to estimate the future investment prospects or capital productivity in other divisions. It makes them turn to the relative productivity of their division through the capital allocation at headquarters. In Hoang and Ruckes' study of an internal capital market with three agents, a wise headquarters would implement a socialistic capital allocation with less interdepartmental information transparency to show equal capital productivity between departments [3]. With equal capital productivity, divisional managers who make productivity improvement decisions will receive the highest expected growth in capital allocation compared to other degrees of capital productivity. Therefore, the transparency of interdepartmental information affects the judgment of divisional managers about the productivity of capital in divisional managers' departments, which in turn affects the way headquarters makes capital decisions. Some headquarters may even oppose the act of disclosing, such as reports that contain internal divisional information. Otherwise, subsidies to weaker divisions with information about other divisions would fail to achieve managerial incentives for department managers [26].

4. CONCLUSION

This article reviews the literature on internal capital allocation. It summarizes the five main factors that influence capital allocation decisions, answering two main points: what is the theoretical basis for capital allocation decisions and how are these theories related? Why is there a lack of consistency in the empirical studies on the role of factors affecting capital allocation decisions on the efficiency of capital allocation?

For the first question, this article identifies three theoretical mechanisms underlying the capital allocation process. Among them, winner picking theory provides the most basic explanation for capital allocation, and other theoretical perspectives complement and expand the purpose or way in which firms make internal capital decisions. The basis for making internal capital allocation decisions in business development is different and even transformed into each other, which is closely related to the internal and external environment faced by the firm.

For the second question, due to the variety of factors chosen and the different theoretical perspectives, researchers tend to adopt an a priori criterion to test whether the capital decisions made by managers are consistent with them. In our discussion of each factor, depending on the realities faced by the company, the efficiency of the various allocation options resulting from the multiple factors varies, and the conclusions naturally lack consistency.

The results of research on internal capital allocation are undoubtedly fruitful. Still, the multiple theoretical orientations, the cross-influence of factors, and the complexity of the actual situation make the current research appear to be stagnant. This paper suggests two perspectives on the measurement of capital allocation efficiency and the selection of moderating variables to investigate the gaps or urgent issues existing in previous studies.

First, this paper suggests a comprehensive measure to evaluate the effectiveness of capital allocation. Scholars in previous studies have mostly adopted a single internal capital allocation theory as an a priori notion to test the effectiveness of capital allocation within multi-divisional conglomerates. In practice, the theoretical basis adopted by firms may contradict the researchers' assumptions. For example, a model constructed based on winner picking theory may identify the socialistic theory of capital allocation as an inefficient allocation. However, firms may be able to efficiently allocate capital through socialistic budgets that gain risk diversification or management incentives.

Second, this paper suggests introducing contingency factors as moderating variables. Previous sections discuss that each of the influencing factors, to a greater or lesser extent, may have opposed effects on capital allocation decisions in the reality of diverse and complex situations. There are many internal organizational factors and external environmental factors that influence the perception, attribution, and interpretation of the relative status of each division by the managers of multi-divisional conglomerates, which in turn produce differential capital allocation decisions and capital allocation efficiency. Therefore, introducing the contingent variables and an in-depth examination of the interaction among organizational capabilities, experience, and external contingent conditions such as institutional environment, cultural environment, and the competitive environment can help further uncover the mystery of capital allocation within the enterprise.

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