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Major Shareholder Tunneling and Corporate Earnings Management: A Narrative Review of China's Non-Financial Listed Firms

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Abstract

Major shareholder tunneling and corporate earnings management are two pervasive issues in modern capital markets, particularly in emerging economies like China. Tunneling refers to the expropriation of firm resources by controlling shareholders for their private benefits, while earnings management involves the manipulation of financial reports to mislead stakeholders or influence contractual outcomes. Although both phenomena have been extensively studied separately, their interrelationship has received less systematic attention. This review synthesizes existing literature on how tunneling affects earnings management, how this relationship varies across governance structures, and what economic consequences arise from their joint occurrence. The findings reveal three main conclusions. First, tunneling and earnings management are positively correlated; tunneling creates incentives for concealment via earnings management, and earnings management-induced information opacity further facilitates tunneling. Second, governance mechanisms significantly moderate this relationship—the positive association is weaker in firms with stronger internal governance and better external monitoring. Third, the joint occurrence of tunneling and earnings management produces severe negative consequences, including reduced firm value, lower information quality, higher stock price crash risk, and dual damage to minority shareholders. This review contributes to theory by integrating tunneling and earnings management literature into a coherent framework and to practice by offering references for regulatory policy design, corporate governance improvement, and investor risk identification.

Keywords

major shareholder tunneling, earnings management, corporate governance, China's non-financial listed firms, information asymmetry

1. Introduction

In recent years, with corporate governance structures evolving, the problem of major shareholders tunneling company assets has become increasingly serious in China's capital market. According to statistics from the China Securities Regulatory Commission in 2024, 739 securities violation cases were investigated, including 249 information disclosure cases and 128 financial fraud cases such as such as fictitious transactions [1]. These cases are closely linked to earnings management. Furthermore, regulators penalized 989 key minority shareholders with 2.81 billion yuan in fines, including 35 fund occupation cases and 35 fraud cases where controlling shareholders faced accountability for organizing such activities [1]. These statistics indicate that tunneling and earnings management are often connected because tunneling requires earnings management for concealment, while earnings management creates conditions for tunneling. These problems damage corporate financial condition, harm minority investors, and raise concerns about governance effectiveness. Therefore, examining this relationship holds significant practical importance.

Currently, a large number of studies have explored tunneling and earnings management separately [2,3]. Regarding tunneling, scholars have examined its motivations, forms such as related party transactions and fund occupation, and its impact on firm value [4]. Regarding earnings management, research has focused on measurement methods, influencing factors, and economic consequences [3,5]. However, existing studies have paid insufficient attention to the relationship between these two behaviors. Although some scholars recognize that tunneling often accompanies earnings management, studies that combine these two perspectives remain scarce. The way these behaviors interact under different governance environments remains underexplored. Moreover, the economic consequences of their combined effects have yet to form a complete research framework.

This study aims to fill these gaps by systematically reviewing literature on the relationship between major shareholder tunneling and corporate earnings management. Specifically, this paper addresses three questions: (1) How does tunneling affect earnings management? (2) How does this relationship differ across governance structures? (3) What are the economic consequences when both occur? The objectives are fourfold: to summarize tunneling forms and their influence on earnings management; to compare relationship differences across governance structures; to analyze joint economic consequences; and to propose governance recommendations. This review deepens theoretical understanding and provides references for regulators and investors. The remainder of this paper is organized as follows. Section 2 provides theoretical background. Section 3 reviews empirical literature. Section 4 discusses findings. Section 5 concludes with future research suggestions.

2. Theoretical Background

2.1 Concept and Forms of Major Shareholder Tunneling

Tunneling refers to the transfer of resources and assets from a company by its controlling shareholders for their own private benefits [2]. This behavior arises from the agency conflict between large shareholders and minority investors [6]. Tunneling can take various forms. Common forms include unfair related-party transactions, fund occupation, asset transfers at below-market prices, and intercorporate loans that are rarely repaid [4].

2.2 Concept and Methods of Earnings Management

Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports, either to mislead stakeholders or to influence contractual outcomes [7]. Earnings management can be divided into two main types. The first is accrual-based earnings management, which manipulates accounting estimates and choices without direct cash flow consequences [8]. The second type is real activities manipulation, which deviates from normal business practices [3].

2.3 Theoretical Links Between Tunneling and Earnings Management

There is a strong theoretical connection between major shareholder tunneling and corporate earnings management. This link operates through two channels.

First, tunneling behavior needs to be concealed. When controlling shareholders transfer resources out of the company, such actions damage firm value and would trigger regulatory scrutiny and opposition from minority shareholders if directly reported in financial statements [9]. Therefore, firms have strong incentives to use earnings management to adjust financial data and make tunneling activities less detectable. By smoothing reported earnings or inflating profits through accruals, managers can hide the negative impact of resource extraction.

Second, earnings management itself creates favorable conditions for tunneling. When financial information is artificially modified, the true operating condition of the firm becomes blurred. This information opacity reduces the ability of outside investors and regulators to monitor managerial behavior, making it easier for major shareholders to transfer resources without being detected [10]. In poorly governed firms where investor protection is weak, earnings management can serve as a tool to facilitate tunneling.

Thus, tunneling and earnings management often occur together. Tunneling requires earnings management as a cover, while earnings management provides convenience for tunneling. This mutual reinforcement suggests that the two phenomena should be studied as interconnected rather than separate issues.

3. Literature Review

3.1 The Impact of Tunneling Behavior on Earnings Management

3.1.1 Tunneling Creates Incentives for Earnings Management

Controlling shareholders who extract resources need to conceal these actions from outsiders. Earnings management serves as an effective concealment mechanism because tunneling directly reduces reported earnings, triggering negative market reactions and regulatory scrutiny. Studies have consistently documented a positive association between tunneling and earnings management. Jiang, Lee, and Yue (2010) provided important evidence showing that controlling shareholders in China used intercorporate loans recorded as other receivables to shift funds from listed firms [4]. These loans typically did not accrue interest and were rarely repaid, yet represented substantial firm assets. The authors argued that such tunneling required earnings management to mask the impact on reported performance. Wang (2021) further tested this relationship by using a modified Jones model that excludes the effects of related-party transactions and fund occupation. The results show that tunneling by major shareholders significantly increases discretionary accruals, confirming that firms engage in earnings management to conceal resource extraction [11].

More recent research has deepened this understanding. Zhou and Wei (2025) used a large sample of Chinese non-financial listed firms from 2008 to 2021 [12]. They found that controlling shareholders' over-appointing of directors is associated with higher earnings management. Their mechanism analyses revealed that as over-appointing and earnings management increase, tunneling activities proxied by fund occupation and related-party transactions also increase, directly supporting the concealment hypothesis. When controlling shareholders transfer resources through related-party transactions or fund occupation, these activities appear as suspicious items. Earnings management smooths reported earnings, inflates profits, or hides losses, masking the true impact of resource extraction.

3.1.2 Different Tunneling Methods Relate to Different Earnings Management Types

The choice between accrual-based and real earnings management depends partly on tunneling nature. Jindal and Seth (2024) compared rights offerings with follow-on public offerings, documenting downward accrual-based earnings management prior to rights offerings [13]. They found that accrual-based earnings management was limited to periods of weak corporate governance enforcement. Wang, Han, and Peng (2023) used text analysis to extract stable supplier information from annual reports [14]. They found that firms with stable suppliers conducted more downward real earnings management prior to private placements, with suppliers assisting majority shareholders in tunneling via share price discounts and cash dividends. Accrual-based manipulation involves accounting estimates without direct cash flow consequences, making it easier to reverse. Real activities manipulation involves operational decisions like overproduction or discretionary expense reduction, with lasting cash flow consequences but harder for regulators to detect as earnings management.

3.1.3 Debates on Causal Direction

Three main perspectives have been proposed in existing studies. First, tunneling causes earnings management: controlling shareholders who extract resources must manage earnings to conceal actions. Zhou and Wei (2025) showed that when controlling shareholders increase board influence, both tunneling proxies and earnings management increase simultaneously [12]. Second, earnings management creates conditions for tunneling: when firms have engaged in extensive earnings management, information becomes opaque, reducing monitoring effectiveness. Leuz, Nanda, and Wysocki (2003) found that countries with weaker investor protection have higher earnings management and more severe tunneling [10]. Third, bidirectional causality: tunneling and earnings management reinforce each other. Liu and Lu (2007) argued that earnings management in China's listed companies is mainly induced by tunneling incentives, but the relationship operates in both directions [9]. Jiang, Lee, and Yue (2010) demonstrated that firms with large other-receivable balances experienced worse future performance and higher delisting risk, suggesting market participants only partially anticipated the adverse consequences [4].

3.2 Differences in the Tunneling-Earnings Management Relationship under Different Governance Structures

3.2.1 Impact of Ownership Structure

High ownership concentration strengthens the tunneling-earnings management association. When a single controlling shareholder holds a large percentage, they have both power to extract resources and incentive to conceal through earnings management. Jiang, Lee, and Yue (2010) found that tunneling severity was highest when the controlling shareholder held less than 30% of shares, where the gap between control rights and cash flow rights was largest. Conversely, ownership checks and balances weaken the association [4]. This is because a larger divergence between control rights and cash flow rights lowers the controlling shareholder's cost of expropriation while increasing private benefits of control, thereby intensifying tunneling incentives.

Li et al. (2024) examined multiple large shareholders and found they restrict excessive earnings management and reduce tunneling actions. Noncontrolling shareholders also play governance roles [15]. Liu et al. (2024) indicated that noncontrolling shareholders' network centrality can impede positive accrual-based earnings management and enhance accounting information quality [16].

3.2.2 Impact of Ownership Nature

The distinction between state-owned enterprises (SOEs) and non-state-owned firms affects the relationship, though findings are mixed, mainly due to differences in research samples, measurement methods of tunneling and earnings management, and the institutional environment of different periods. One line suggests tunneling and earnings management are more severe in non-state-owned firms. Jiang, Lee, and Yue (2010) found tunneling was worse when the controlling shareholder was not an SOE [4]. Another line suggests SOEs also face significant pressures but for different reasons—government-controlled firms may have political objectives conflicting with shareholder value. Local-government-controlled enterprises may face greater problems than central-government-controlled ones, as local bureaucrats are less likely to be prosecuted for misappropriation.

3.2.3 Impact of External Monitoring

External mechanisms like institutional investors and auditors can mitigate the relationship. Bai and Wu (2024) found that common institutional ownership restrains tunneling, with the effect more pronounced in firms with poor information environments [17]. However, Li and Cai (2025) revealed that institutional investors' distraction significantly exacerbates tunneling, as distraction reduces corporate governance and increases information asymmetry [18]. Joint institutional ownership within supply chains significantly curbs both accrual-based and real earnings management [19]. Customer concentration, contrary to serving as a monitoring force, actually facilitates tunneling practices .

3.3 Economic Consequences of the Joint Effect of Tunneling and Earnings Management

3.3.1 Impact on Firm Value

The joint occurrence damages firm value through multiple channels. Zhou and Wei (2025) demonstrated that increased earnings management caused by controlling shareholders' over-appointing of directors has a significantly negative effect on firm value [12]. A 2014 study on earnings quality in emerging markets found that tunneling-based earnings management has a negative impact on firm value, and in weak institutional environments, investors cannot see through accrual-based earnings management, leading to systematic mispricing [20]. Jiang, Lee, and Yue (2010) documented that firms with high other-receivable balances exhibited worse future operating performance and higher delisting risk [4]. Fourteen percent of firms in the highest other-receivable decile attained special treatment status within two years, compared to less than 2% in the bottom two deciles.

3.3.2 Impact on Information Disclosure Quality

The combined effect degrades information disclosure quality and increases information asymmetry. When controlling shareholders use earnings management to conceal tunneling, financial reports become less reliable. Li and Cai (2025) found that institutional investor distraction increases information asymmetry, leading to more tunneling. The concealment effect is powerful because tunneling activities, if directly reported, would trigger immediate negative consequences [18]. By adjusting financial data, controlling shareholders delay revelation of true firm conditions.

3.3.3 Impact on Capital Markets

The joint occurrence creates significant risks, including increased stock price crash risk and higher financing costs. Zhou and Wei (2025) provided direct evidence that earnings management increase caused by over-appointing of directors has a significantly positive effect on crash risk [12]. The mechanism involves information hoarding: large shareholders interfere with disclosure to support tunneling, causing negative information to accumulate. When released, this generates large negative returns. Financing costs also increase as investors demand compensation for additional risks.

3.3.4 Impact on Minority Shareholders

Minority shareholders suffer dual damage. First, their ownership claims are diluted as controlling shareholders extract resources. Second, the information environment becomes distorted, preventing accurate investment decisions. Li and Cai (2025) found that institutional investor distraction intensifies damage caused by tunneling to company value, with this moderating effect appearing with a time lag [18]. By the time minority shareholders recognize damage, significant value may already be destroyed.

3.4 Gaps in Existing Research

Several gaps remain. First, specific pathways through which tunneling affects earnings management require deeper analysis. Most studies treat tunneling as one single behavior, mixing fund occupation with related-party sales. This obscures whether different tunneling methods lead to different earnings management tools, such as accrual-based versus real earnings management [11]. Future research should separate tunneling types to uncover distinct hiding strategies. Second, comparative studies across different governance contexts are limited. Almost all evidence comes from China, where ownership is highly concentrated and investor protection is weak. It remains unclear whether the same relationship holds in other emerging markets like India or Brazil, where business groups or family control is common [21] More cross-country work is needed to test whether findings are universal or China-specific. Third, measurement of tunneling remains overly simplistic. Many papers use only one proxy, such as other receivables or total related-party transaction value. These measures miss more hidden forms of tunneling, such as circular fund flows through multiple subsidiaries or unfair asset pricing [4]. Better measures that capture the full range of tunneling activities are needed. Fourth, integration of case study and empirical methods is underutilized. Many studies reveal average effects but cannot show the step-by-step process by which managers hide tunneling. Detailed case studies of real frauds (e.g., Kangmei Pharmaceutical) would reveal how specific earnings management techniques are used to cover specific tunneling acts [22]. Combining both methods would provide a fuller picture. Fifth, attention to emerging markets beyond China could be strengthened. Most research focuses on China, leaving a lack of evidence from other emerging economies with different ownership rules and legal enforcement. For example, in India, tunneling often occurs inside business groups, which may involve different concealment methods [23]. Studying more countries would help determine which results are general and which are unique to China.

4. Discussion & Synthesis

4.1 Comparison of Research Findings

The literature generally supports a positive correlation between major shareholder tunneling and corporate earnings management. However, there is notable disagreement regarding the causal direction, with three main perspectives. These differing views reflect variation in institutional environments and research methodology. One explanation lies in differences in institutional settings across countries and time periods. In environments with stronger legal protection for minority shareholders, earnings management primarily conceals existing tunneling. When legal protection is weak, earnings management creates the information opacity that enables tunneling. Institutional quality may determine which direction dominates. Another explanation concerns the tunneling method. Some forms, such as related-party transactions, require modifications to reported earnings because they directly reduce profitability. Other forms, such as complex asset transfers, may involve revenue recognition timing or accrual estimates. The causal direction may thus be method-dependent rather than universal.

4.2 Moderating Role of the Governance Environment

The strength of the tunneling-earnings management association depends heavily on firms' governance environments. A consistent finding is that the positive association is weaker in settings with better legal systems, stronger external monitoring, and more developed capital markets. Wu and Li (2025) examine the mediating role of related-party transactions using Chinese A-share listed companies from 2004 to 2022 [24]. Their findings confirm that controlling shareholders increase earnings management through related-party transactions. This mediating effect exhibits heterogeneity under different governance conditions. When internal governance is strong, related-party transactions no longer serve as a significant transmission channel, supporting that better governance weakens the association. Further evidence reinforces this conclusion. Yang, Zhang, and Tang (2025) investigate the effect of quarterly operating information disclosure on tunneling by private listed firms [25]. Using a quasi-natural experiment based on the Shanghai Stock Exchange's mandatory disclosure policy, they find that disclosure significantly curbs tunneling. Mechanism analysis shows that disclosure improves accounting information quality, functioning as an external governance mechanism. The governance environment interacts with earnings management choices through regulatory channels. Diao (2025) examined the impact of China's new delisting regulations on earnings management tools [26]. Results indicate that the new regulations reduce accrual-based earnings management but induce real earnings management. This substitution effect is more pronounced among firms with low independent director ratios, high financing constraints, and low management shareholding. Moreover, in firms with excessive management confidence, the new regulations more strongly drive real earnings management. This evidence contributes to understanding how legal environments shape both tunneling and earnings management. These findings have implications for regulatory design. Effective regulation must consider how firms substitute between concealment methods. External monitoring mechanisms such as mandatory disclosure, independent board oversight, and enhanced legal liability reduce the marginal benefit of both tunneling and earnings management. This reinforces a key insight: improving the information environment and strengthening legal enforcement may be the most effective strategies for addressing both problems simultaneously.

4.3 Methodological Limitations

This review has several limitations. First, measurement of tunneling remains relatively simplistic. Most empirical studies rely on aggregate proxies such as other receivables balances or related-party transaction volumes. These measures capture only specific forms of tunneling and may omit more subtle but economically significant forms of resource extraction. Second, most existing research focuses on China's unique institutional environment, raising questions about generalizability to other emerging markets with different ownership structures and regulatory enforcement. Future research should extend analysis to other economies. Third, the literature remains heavily biased toward large-sample empirical methods. Individual case studies could reveal detailed mechanisms through which specific tunneling schemes operate alongside earnings management techniques. Limited integration of qualitative and quantitative methods may obscure complex causal processes. Fourth, the literature is dominated by static rather than dynamic analysis. Most studies examine the relationship at a single point or over short windows. Few track how this relationship evolves as firms mature or regulatory environments change. Despite these limitations, this review contributes by systematically organizing existing evidence, identifying consistent patterns, and highlighting unresolved questions for future investigation.

5. Conclusion

This review systematically synthesizes existing research on the relationship between major shareholder tunneling and corporate earnings management, with a primary focus on China's capital market and non-financial listed firms. Three main conclusions emerge from the literature. First, tunneling and earnings management are positively correlated. Controlling shareholders who extract resources from firms tend to use earnings management as a concealment tool, while earnings management creates information opacity that further facilitates tunneling. Second, this relationship is significantly moderated by governance mechanisms. The positive association is weaker in firms with stronger internal governance (e.g., multiple large shareholders, independent boards) and better external monitoring (e.g., institutional investors, mandatory disclosure). Third, the joint occurrence of tunneling and earnings management produces severe negative consequences, including reduced firm value, lower information quality, higher stock price crash risk, and dual damage to minority shareholders. This review makes several contributions. It connects tunneling and earnings management theories into an integrated framework, identifies consistent patterns across studies, and highlights the moderating role of governance environments. Practically, it offers references for regulators designing disclosure policies and for investors assessing tunneling risks. Several limitations suggest directions for future research. First, most evidence comes from China's listed non-financial firms; future studies could examine other emerging markets with different institutional backgrounds. Second, the manufacturing sector dominates current samples; service and high-tech industries deserve more attention. Third, large firms are over-represented; small and medium-sized enterprises may exhibit different patterns due to weaker governance. Future research should deepen pathway analysis, conduct cross-country comparisons, integrate case studies with empirical methods, and expand to other emerging economies.

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