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Corporate General Counsels and Investment Efficiency: Novel Evidence

Nader Atawnah[1] | Michael Michael[2] | Arman Eshraghi[3] | Rashid Zaman[4] | Muhammad J. Ali[5]

[1]College of Business and Economics, United Arab Emirates University, Al Ain, UAE | [2]Higher Education College, Chisholm Institute, Dandenong, Australia | [3]Cardiff Business School, Cardiff University, Cardiff, UK | [4]School of Accounting, Economics and Finance, Curtin University, Perth, Australia | [5]La Trobe Business School, La Trobe University, Melbourne, Australia

Correspondence: Arman Eshraghi (EshraghiA@cardiff.ac.uk)

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ABSTRACT

We examine whether the presence of corporate general counsels (GCs) is associated with investment efficiency using both conditional and unconditional regressions. Utilizing a large sample of publicly listed US firms, we find that GCs are associated with higher investment in environments prone to underinvestment and lower investment in environments where overinvestment is likely. Firms with GCs also display less deviation from predicted investment levels, supporting the GC gatekeeper role. We further demonstrate that GCs reduce information asymmetry, which in turn improves access to capital and ultimately enhances investment efficiency. Additional tests reveal that certain GC characteristics, including age, tenure, and executive rank, enhance investment efficiency. Moreover, we find that CEO expertise complements the influence of GCs, as skilled CEOs and GCs work synergistically to improve decision-making and address investment inefficiencies. Finally, the impact of GCs is particularly significant in the post-SOX period, underscoring the importance of regulatory oversight.

JEL Classification: G31, G34, G38, D82, M48

1 | Introduction

In today's complex investment landscape, corporate governance faces growing challenges in navigating regulatory frameworks, societal expectations, and strategic uncertainties (Bagley and Roellig 2013; Driss 2023; DeMott 2005; Lovett 2016; Rice 2024). Traditionally, investment decisions were made by CEOs and boards of directors (Carline et al. 2023; Driss 2023). However, their limitations in addressing these complexities have often resulted in costly mistakes (Keynes 2024), eroding financial stability and stakeholder trust (Zaman, Atawnah, et al. 2021). Amidst these challenges, corporate general counsels (GCs) have undergone a remarkable transformation, particularly following the enactment of the Sarbanes–Oxley Act (SOX) of 2002, from traditional legal advisors to influential strategic leaders (Bagley and Roellig 2013; DeMott 2005; Lovett 2016). This evolution positions GCs at the forefront of efforts to (1) address governance failures; and (2) ensure ethical corporate conduct, with research highlighting their role in curbing insider trading (Jagolinzer et al. 2011), increasing forecast disclosures (Kwak et al. 2012), and reducing regulatory violations (Hopkins et al. 2015).

In this article, we examine, inter alia, whether corporate GCs improve firms' investment efficiency, and if so, under which circumstances. In the contemporary corporate landscape and beyond their traditional governance roles (compliance and monitoring), GCs are increasingly shaping investment strategies, optimizing resource allocation, and mitigating risks in complex

strategic decisions. Real-world examples explicitly illustrate this evolution. For example, Alan N. Braverman at Disney aligned compliance with strategic investments, supporting key acquisitions such as Marvel, Lucasfilm, and 21st Century Fox.[1] Similarly, Katherine Adams at Apple has shaped long-term investments in intellectual property, governance, and ESG initiatives. Such examples underscore the GC's ability to bridge legal oversight with strategic decision-making. Despite these compelling examples of GCs shaping investment strategies and mitigating risks, many firms have yet to fully embrace this expanded role. Instead, they often operate without a dedicated GC, relying on junior staff or external lawyers, limiting their ability to navigate complex strategic decisions effectively and exposing them to less than ideal investment outcomes and heightened risks (Mandel 2021). Although prior research has explored the GC's role in compliance and monitoring, their broader contribution to investment efficiency remains underexplored. This article seeks to address this gap in the knowledge, examining whether and how the GC's influence on corporate investment efficiency.

We argue that GCs enhance investment efficiency through a unified gatekeeping mechanism. By overseeing the preparation of accurate and unbiased financial disclosures, GCs help reduce information asymmetry—a persistent barrier to efficient investment decisions (Chang and Yu 2010; Driss 2023; Georgarakos and Pasini 2011; Wu et al. 2022; see also Li et al. 2023). This reduction in asymmetry lowers stakeholders' perceived risk and fosters greater trust in the firm (Biddle and Hilary 2006; Lambert et al. 2007). Consequently, financing frictions diminish, as creditors and investors demand lower risk premia and are more willing to extend capital on favorable terms in a transparent environment (Chen et al. 2024). Moreover, GCs further improve access to finance by structuring debt agreements—negotiating covenants, maturities, and collateral requirements in line with robust governance standards—which balances creditor protections with the firm's liquidity needs (Bushman and Smith 2001). In addition, by ensuring strict compliance with regulatory and contractual obligations, GCs improve the firm's creditworthiness, translating into lower borrowing costs and greater debt capacity (Levine 1997; Biddle et al. 2009). Ultimately, these combined effects enable firms to secure affordable financing, ease liquidity constraints, and pursue capital-allocation strategies that mitigate both underinvestment and overinvestment.

An alternative perspective suggests that GCs, in their facilitator role, may compromise their gatekeeping responsibilities by prioritizing the needs of senior management and maintaining the status quo (DeMott 2005; Nelson and Nielsen 2000). This is particularly evident in "grey" area activities, such as earnings management and tax avoidance (Bird et al. 2015). These tendencies are often exacerbated when GCs receive substantial compensation packages (Dzienkowski and Peroni 2002) or seek to smooth relationships with key executives like the CEO and CFO (Nelson and Nielsen 2000). Empirical evidence supports this view, with studies linking the presence of GCs in top management to greater earnings management (Hopkins et al. 2015), aggressive tax policies (Abernathy et al. 2016), and increased credit risk (Ham and Koharki 2016), driven by their willingness to tolerate aggressive accounting practices.

We argue that when GCs push legal boundaries, they risk exacerbating information asymmetry between shareholders and top management, thereby undermining transparency and accountability. By facilitating such practices, GCs impede investment efficiency, as heightened information asymmetry often results in resource misallocation (Kim et al. 2023), overinvestment in nonstrategic initiatives, or underinvestment in high-value opportunities (Benlemlih and Bitar 2018). Although this facilitator role may align with executive preferences by reducing role conflict within the executive team, it ultimately compromises the GC's capacity to act as an independent steward of governance. Such actions undermine the strategic balance required for efficient investment decisions and sustainable long-term value creation, ultimately weakening the effectiveness of governance principles.

We test these competing empirical predictions using a large sample of US firms for the period 1992–2023, and we find that firms with GC in the top management are associated with significantly lower overinvestment and underinvestment. We also show that firms with GC deviate less from the predicted investment level. These results hold under extensive robustness tests, including alternative measures, proxies, change-on-change analysis, and propensity score matching (PSM). Moreover, we empirically test the underlying gatekeeping function that the presence of a GC enhances firms' disclosures, which facilitates access to necessary capital (Kwak et al. 2012; Biddle and Hilary 2006), ultimately improving a firm's investment efficiency. Our findings support a sequential, two-stage mechanism through which GCs contribute to more efficient investment. First, GCs significantly reduce information asymmetry—most markedly in firms with high bid–ask spreads, probability informed trading (PIN), or BOG indices—demonstrating their role in strengthening transparency where informational opacity is most severe. Second, this improved transparency drives calibrated debt-market behavior: Firms with GCs increase borrowing when underinvestment pressures arise and restrain it when overinvestment risks prevail. Taken together, these results suggest that GCs reduce information gaps, enabling debt financing to align more closely with genuine investment needs, thereby promoting more efficient and judicious capital allocation decisions.

In further analysis, we tested how the GC characteristic affects firms' investment efficiency. We find evidence that GCs' tenure, executive rank, and age statistically improve investment efficiency. Additionally, we explored how CEO expertise influences the relationship between GCs and investment efficiency. Our findings indicate that skilled CEOs and GCs work together synergistically, combining strategic insights with governance expertise to enhance decision-making and effectively mitigate investment inefficiencies. In the final set of analyses, we find that the effect of GCs in mitigating investment inefficiency problems (both over and underinvestment) is more pronounced following the enactment of the SOX 2002 in the United States. This finding highlights the critical evolution of GCs over the past several decades, transitioning from traditional role of compliance to shaping corporate information environment. The SOX marked a transformative milestone that elevated information transparency through strengthened legal oversight, compliance, and accountability—thereby cementing the GC's role at the core of senior management decision-making. By promoting transparency, GCs contribute to

improving stakeholder confidence, ease access to finance, and ultimately support more efficient investment.

Our research article contributes significantly to existing literature in two key ways. First, it adds to the growing body of knowledge on the economic implications of GCs. Prior studies have generated mixed findings regarding the consequences of the GC's role, which encompasses acting as both a gatekeeper and facilitator. Some research highlights the deterrent effect of GCs on insider trading, the positive impact on firms' corporate disclosure practices and enhanced forecast disclosure (Jagolinzer et al. 2011; Bamber et al. 2010; Kwak et al. 2012). Conversely, other studies suggest that GCs may exhibit bias in their monitoring function and could be influenced by their allegiance to the CEO (Abernathy et al. 2016; DeMott 2005; Hopkins et al. 2015). By delving into this literature, our study expands the understanding of what GCs do by examining their influence on firms' investment efficiency.

Second, our study adds to the literature on the determinants of firm-level investment efficiency. Prior literature demonstrates that financial reporting quality (Biddle et al. 2009), government intervention (Chen, Sun, et al. 2011), state and foreign ownership (Chen et al. 2017), corporate social responsibility (CSR) (Benlemlih and Bitar 2018), institutional investors (Liu et al. 2020), and media coverage (Gao et al. 2021) play an important role in shaping investment efficiency. We advance the existing literature by identifying a crucial factor that enhances firms' investment efficiency: the presence of GCs. To the best of our knowledge, this is first study that examines the link between the presence of GC in senior management and investment efficiency.

Finally, our study extends the literature by positioning the role of GCs within the broader context of international corporate governance reforms. Recent regulatory developments, such as the UK Corporate Governance Code (Financial Reporting Council, 2024) and EU initiatives including the Corporate Sustainability Due Diligence Directive (European Parliament & Council of the European Union 2024) and the Foreign Direct Investment Screening Regulation (European Parliament & Council of the European Union 2019) and InvestEU framework (European Parliament & Council of the European Union 2021), place increasing emphasis on transparency, compliance, and the efficient allocation of capital. Although these frameworks do not explicitly reference in-house legal functions, they underscore the importance of robust governance infrastructures to support sustainable investment practices. Our evidence that GCs enhance investment efficiency aligns with international regulatory priorities and underscores the role of legal gatekeepers as an internal mechanism that complements external governance reforms. In doing so, we not only contribute to academic debates on the determinants of investment efficiency but also offer insights of direct relevance for regulators and policymakers seeking to strengthen governance frameworks globally.

The remainder of the article is structured as follows. Section 2 presents the literature review and hypothesis development. Section 3 describes the research design, whereas Section 4 reports the baseline results including robustness test. Section 5 explores key channels, Section 6 presents additional analysis, and Section 7 concludes the article.

2 | Prior Research and Hypothesis Development

2.1 | General Counsel's Evolving Role: Strategic Impact on Investment Efficiency

For much of the 20th century, GCs functioned primarily as in-house legal advisors, responsible for drafting and negotiating contracts, managing litigation risk, and ensuring compliance with a patchwork of state and federal regulations (DeMott 2005). Although they handled most day-to-day legal advice internally—including some complex transactions and litigation—GCs also actively managed and reviewed the work of external law firms, referring only the highest stakes or most specialized matters for outside expertise (Daly 1997; Liggio 2002). Their scope of responsibility—and, by extension, their accountability for corporate disclosures—was formally anchored by the Securities Act of 1933 and the creation of the SEC in 1934. Yet throughout this period, GCs remained focused on legal risk mitigation and routinely reported to the CEO or the board (Report of the American Bar Association Task Force on Corporate Responsibility 2003; DeMott 2005). However, the rapid globalization of business, the spread of regulatory regimes, and the increasing costs of outsourcing legal services have driven a profound transformation of the GC role (DeMott 2005; Heineman 2012). Indeed, one of the earliest demonstrations of this expanded remit came in 1995, when General Electric appointed Ben Heineman Jr. to integrate compliance management with enterprise-wide risk oversight, setting a new benchmark for the modern GC (Gordon 2017).

By the late 1990s, globalization and advances in technology reshaped the role of GCs, positioning them as strategic advisors closely aligned with executive teams and CEOs (DeMott 2005; Morse et al. 2016). Their remit expanded to include advising on mergers, acquisitions, global markets, and digital transformations, embedding them as key figures in executive management. GCs also began overseeing ethics and compliance programs, implementing codes of conduct to reinforce ethical governance—a cornerstone of corporate reputation (Friedman and Stewart 2000). Such expansion of the GC roles continued in the early 2000s amidst corporate scandals such as Enron and WorldCom, which underscored the critical need for GCs to prioritize integrity and compliance—leading to the SOX 2002.

The SOX 2002 formalized this shift, tasking GCs with broader responsibilities, including leading whistleblower programs, conducting internal investigations, and reporting directly to boards to safeguard transparency (Michael et al. 2022). Although SOX does not mandate the role of the GC, its emphasis on legal oversight has significantly increased its strategic importance. Consequently, many organizations have adopted the GC position as a governance and risk management best practice, integrating it into their top management teams with additional responsibilities. Such structural transformation has shifted organizational focus from merely relying on external legal counsel to prioritizing in-house candidates with broader capabilities, including strategic insight, risk management expertise, and experience in regulatory

compliance. Today, GCs frequently report directly to CEOs or boards, aligning governance practices with organizational goals and embedding themselves within executive decision-making processes.[2] A notable example is John W. O'Tuel, Assistant GC at GlaxoSmithKline (GSK), whose management of litigation and IT processes highlights the GC's growing influence at the intersection of legal strategy and operational oversight. This evolution underscores the GC's dual role as both a steward of governance and a strategic driver in complex corporate environments.

Despite growing recognition of GCs as a vital corporate governance mechanism, many organizations still operate without a dedicated GC (Duggin 2007), exposing themselves to heightened risks such as inefficiencies in governance oversight, weaker accountability, and increased information asymmetry between executives and shareholders. Without the strategic insights and governance capabilities GCs provide, these vulnerabilities undermine transparency and trust—critical foundations for effective decision-making. We argue that organizational reluctance to institutionalize GC may stem from an underestimation of their strategic potential. Traditionally, GCs have been narrowly viewed as advisors to CEOs and boards on compliance and risk management (Friedman and Stewart 2000; Hamdani 2003; DeMott 2005) and as monitors of executive actions to ensure shareholder alignment (Hsu and Liu 2024).

However, their capacity to enhance investment efficiency remains largely unexplored. By collaborating with CFOs, GCs bring unique regulatory insights that can inform strategic decisions, including capital allocation and project financing. Anecdotal evidence highlights the pivotal role of GCs in shaping investment strategies. Alan Braverman exemplifies this through his leadership in Disney's transformative acquisitions, including the $4.2 billion purchase of Marvel Entertainment (2009), the $4 billion acquisition of Lucasfilm (2012), and the $71.3 billion acquisition of 21st Century Fox (2019), which significantly enhanced Disney's intellectual property and market presence.[3] Similarly, Kate Adams, as Senior Vice President and GC at Honeywell, played a crucial role in driving mergers and acquisitions, overseeing five deals in 2012 that contributed an additional $1.35 billion in revenue, underscoring the strategic impact of GCs on corporate growth.[4]

Empirical studies further highlight the multifaceted impact of GCs, particularly in financing decisions. For instance, Chen et al. (2024) associate the presence of GCs in top management with higher ex ante costs of equity, potentially reflecting heightened operational complexity or perceived risks among investors. Additionally, Ham and Koharki (2016) and Abernathy, Kubick, and Masli (2019) demonstrate that GCs contribute to credit risks and financial reporting integrity. Although these findings underscore GCs' importance in financing and governance, they stop short of exploring how GCs influence investment efficiency—an equally critical aspect of corporate decision-making. This oversight presents an important research gap for a more granular look at governance (Alzayed et al. 2024), as the role of GCs in aligning regulatory compliance with strategic investment decisions, such as capital allocation and project financing, remains underexplored. Against this backdrop, examining the GC's role in investment efficiency presents a compelling opportunity to uncover how their expertise in legal and regulatory matters drives value creation.

2.2 | Hypothesis Development

2.2.1 | GC's Gatekeeper Role on Investment Efficiency

As discussed in the previous section, the role of the GC has significantly expanded since the SOX 2002 came into being. Once confined to legal advisement, GCs have transitioned into strategic leaders in corporate governance. This evolution has positioned GCs as key actors in addressing one of the most persistent barriers to efficient investment decisions, that is, information asymmetry. Information asymmetry in investment decisions arises when corporate managers possess critical information that is not equally accessible to external stakeholders, particularly capital providers. This imbalance can distort investment outcomes, often resulting in overinvestment—where resources are directed toward unproductive projects—or underinvestment—where profitable opportunities are overlooked due to heightened perceptions of risk (Bushman and Smith 2001; Biddle and Hilary 2006; Biddle et al. 2009).

This expanded role has been supported by growing evidence of GCs' importance within top management teams, where they act as critical gatekeepers of information transparency. Hambrick and Mason (1984) argue that senior management teams play a significant role in shaping corporate outcomes, including strategic decisions and performance. Veasey (2004) adds that other senior executives frequently rely on GCs to ensure that decisions are not only legally compliant but also strategically sound. With their deep understanding of regulatory frameworks and operational intricacies, GCs are uniquely positioned to navigate the complexities of modern business environments, making their involvement in strategic planning indispensable (DeMott 2005; Ham and Koharki 2016).

Such reliance is not merely theoretical but has also received support from empirical studies, with findings highlighting the tangible benefits GCs bring to corporate governance and information environments. For instance, Bamber et al. (2010) demonstrate that GCs enhance disclosure practices, fostering greater transparency. Jagolinzer et al. (2011) underscore their role in curbing insider trading, whereas Kwak et al. (2012) reveal how GCs improve forecast disclosures. Hopkins et al. (2015) further document that GCs reduce the likelihood of regulatory violations and financial restatements. Most notably, Al Mamun et al. (2021) provide evidence that GCs mitigate information asymmetry, reducing stock price crash risks and bolstering investor confidence. Collectively, these studies demonstrate the critical role GCs play in fostering information transparency and trust both within organizations and between firms and external stakeholders.

We argue that such governance improvements, consequential to GCs, are particularly significant for investment decisions, where the quality of disclosed information significantly influences efficiency (Roychowdhury et al. 2019). When firms ensure transparency in financial reporting, they reduce the persistent challenge of information asymmetry, which can otherwise

distort investment outcomes by increasing financial friction with external stakeholders (Zaman 2024). By providing external stakeholders, such as capital providers, with accurate and unbiased insights into a firm's financial health and governance practices, GCs help foster trust and confidence. This transparency alleviates risk perceptions, enabling investors and creditors to make informed decisions (Biddle and Hilary 2006; Lambert et al. 2007). Without such oversight, firms risk inefficiencies in resource allocation, including underinvestment due to cautious stakeholders or overinvestment caused by unchecked managerial discretion.

Prior research underscores the pivotal role of financial reporting in reducing financing frictions and enhancing investment efficiency. Roychowdhury et al. (2019), in their seminal review paper, highlight how high-quality disclosures enable firms to capitalize on new investment opportunities (Biddle and Hilary 2006; Chen et al. 2011; Roychowdhury et al. 2019). Biddle and Hilary (2006) demonstrate a positive association between accounting information and investment efficiency, attributing this to the mitigation of adverse selection and moral hazard. Similarly, Chen et al. (2011) provide evidence that improved reporting quality enhances investment efficiency among private firms.

We further argue that improved financial transparency, consequential to CGs, enhances corporate access to finance (see, Chen et al. 2024)—a critical enabler of effective investment activities. By reinforcing transparency through robust governance practices and compliance with regulatory and contractual obligations, GCs bolster a firm's creditworthiness (Ham and Koharki 2016), lowering borrowing costs and securing more favorable financing terms. Likewise, greater transparency facilitates the structuring of debt agreements and the mitigation of legal risks, strengthening relationships with financial partners and expanding access to capital. This perspective aligns with studies demonstrating that CG's ability to improve information transparency (Murfin and Njoroge 2015; Liu et al. 2020)—which has implications for access to finance (see Armstrong et al. 2010). As higher quality disclosures reduce information asymmetry between firms and external capital providers (Biddle and Hilary 2006; Lambert et al. 2007), which in turn lowers financing costs (Levine 1997) and supports efficient investment decisions (Biddle et al. 2009). We contend that by addressing informational barriers and contributing to improved financial access, GCs enhance firms' investment efficiency by mitigating overinvestment and underinvestment. Based on this rationale, we propose the following hypotheses:

H1A. The presence of GCs in top management is negatively associated with overinvestment.

H1B. The presence of GCs in top management is negatively associated with underinvestment.

2.2.2 | GC's Facilitator Role in Top Management on Investment Efficiency

An alternative view is that GCs may compromise their gatekeeping role by ensuring the needs of other members of top management in strategic decision-making are met, and some "grey" area activities. For instance, Hopkins et al. (2015) document evidence that highly paid GCs generate poorer quality financial reporting and more aggressive accounting practices. These actions occur when the GC is paid as highly as the CFO or CEO, so there is a propensity for the GC to deviate from the role of "watchdog." Supporting this view, Eisdorfer et al. (2013) argue that executive compensation affects investment efficiency, suggesting that top management prioritizes their incentives over sound investment decisions.

Further evidence indicates that GCs' involvement in senior management may facilitate tax avoidance and other borderline practices that could distort investment outcomes. For instance, Goh et al. (2015) and Abernathy et al. (2016) associate the involvement of GCs in top management with increased tax avoidance, particularly in firms where CEOs exert significant authority—highlighting instances of managerial opportunism at the expense of stakeholders. Consequently, despite the presence of GC, the powerful self-enriching managers may potentially divert resources away from value-enhancing investments, undermining the firm's overall investment efficiency. Moreover, Nelson and Nielsen (2000) and DeMott (2005) suggest that a company with GCs in its senior management can afford to be involved in "grey area" activities, due to GCs' legal expertise.

Finally, Chen et al. (2024) investigate investor perceptions of GCs' appointments to senior management, highlighting their dual roles in monitoring and advising with findings reveal that GCs' inclusion in top management is associated with an increase in the firm's ex ante cost of equity. They argue that investors interpret these appointments as a response to governance concerns and demand premiums, particularly in firms with greater monitoring needs. This perception suggests that such appointments can increase financing costs, potentially constraining access to capital necessary for efficient investment. Collectively, these findings indicate that although GCs have the potential to enhance investment efficiency through improved information transparency and access to capital, as discussed in the previous section, their presence may be negatively perceived by stakeholders. Furthermore, their involvement in misaligned incentives and grey area activities could undermine this potential, resulting in inefficiencies in capital allocation and poor investment decisions. Based on this argument, we propose the following hypotheses:

H2A. The presence of GCs in top management is positively associated with overinvestment.

H2B. The presence of GCs in top management is positively associated with underinvestment.

3 | Research Design

3.1 | Data and Sample

We collect data from several sources. Data for investment and financial data are obtained from Compustat database. Data for executive information are from Execucomp. Institutional ownership data are from Thomson Reuters, whereas analyst coverage data come from the IBES database. Following Atawnah et al. (2024), we exclude both financial firms (SIC 6000–6999) and utilities firms (SIC 4900–4999). Further, we follow prior studies and

TABLE 1 | Summary statistics.

Panel A: Sample selection	
	Observations
Original sample available at Compustat	408,410
Less: Companies not available at CRSP	210,157
	198,253
Less: Companies not available at Execucomp	136,766
	61,487
Less: Observation with share code other than 10 and 11	3149
	58,338
Less: Company headquarters located outside the United States	159
	58,179
Less: Financial sector (SIC 6000–6999)	9052
	49,127
Less: Utility sector (SIC 4900–4999)	5257
	43,870
Less: Missing data of Compustat	3457
Final test sample	**40,413**

Panel B: The frequency distribution on non-GC and GC top 5 (industry-wise)		
Fama–French industry code (12 industries)	**Non-GC top 5 firms**	**GC top 5 firms**
	Percent	**Percent**
Consumer nondurables	73	27
Consumer durables	70	30
Manufacturing	64	36
Oil, gas, and coal extraction	55	45
Chemicals and allied products	53	47
Business equipment	74	26
Tele. and Telev. transmission	54	46
Wholesale, retail, and services	72	28
Healthcare-medical equipment	64	36
Other	62	38
Total	**64**	**36**

Note: Panel A provides the breakdown of final sample used in the study. Panel B reports the frequency distribution of firms with and without GC in top management, which is sorted based on the Fama–French 12 industries classification.

exclude firms with share codes other than 10 or 11, all foreign firms (headquarters located outside the United States), and incorrect or missing observations such as firms with negative total assets (ATs) or accounts receivable. After merging those databases, we have a sample size consisting of 40,413 firm-years for the period 1992–2023.[5] Panel A of Table 1 reports the details of sample size and data screening. We winsorize all variables at the 1st and 99th percentiles to remove the effects of outliers (Ferdous et al. 2025).

Panel B of Table 1 displays the distribution of sample firms with GCs in the top management (GC-TOP5 firms) and firms with no GC in top management based on Fama–French 12 Industries.[6] As we exclude both utilities and financial industries, the table shows that there are only 10 industries. The results reveal that the highest proportion of GC in the top management is in: chemicals and allied products (47%); oil, gas, and coal extraction (46%); and telephone and television transmission (45%). On the other hand, consumer nondurables industry (27%) and wholesale, retail and some services (28%) have the lowest number of GC in top management.

3.2 | Corporate General Counsel Measure

The presence of GCs in the firm is identified from the Execucomp database. A search is conducted by examining the officer's title. An officer is classified as a corporate GC if the title includes the terms "legal," "law," or "counsel." The presence of GCs in the top management is noted as GC_TOP5. A value of 1 indicates that a GC is part of the firm's top five management team, whereas a

value of 0 applies to firms without a GC or with a GC who is not a member of senior management (Kwak et al. 2012; Hopkins et al. 2015; Abernathy et al. 2019). Panel B of Table 1 reports the average distribution between these two categories is 36% and 64%, which is consistent with prior studies (Bird et al. 2015; Hopkins et al. 2015; Ham and Koharki 2016; Abernathy et al. 2019; Hsu and Liu 2024).

3.3 | Measures of Investment

The main dependent variable in this study is INVEST, which is defined as investment expenditure, measured by total of research and development expenditure (XRD), capital expenditure (CAPX), and acquisition expenditure (AQC) less cash from sale of property, plant, and equipment (SPPE), multiplied by 100 and then divided by lagged ATs (Biddle et al. 2009; Tsai et al. 2021). Consistent with Biddle et al. (2009) and Tsai et al. (2021), we employ two alternative different proxies for investment. First, CAPEX is defined as CAPX multiplied by 100 and scaled by lagged PPE (PPENT). Second, the alternative proxy for investment is NON_CAPEX, which is defined as total of research and development expenditure (XRD) and AQC multiplied by 100 and divided by lagged ATs.

3.4 | Measures of Overinvestment (Investment Efficiency)

The main variable for overinvestment problem is OVERFIRM, which is defined as a ranked variable of the mean of a decile measure of cash and leverage. Consistent with Biddle et al. (2009), we multiply leverage by minus one before ranking it so that both variables tend to show an increase in overinvestment. The rationale is that firms with more cash and less leverage encounter more severe agency problems and are more likely to overinvest (Jensen 1986), whereas businesses with limited cash and high leverage tend to be financially constrained and more likely to underinvest (Myers and Majluf 1984). In our robustness tests, we followed Biddle et al. (2009) and Tsai et al. (2021) and employed two alternative different proxies for overinvestment problem. OVERAGGREGATE is a first alternative proxy, which is defined as a ranked variable of residual or unexplained total investment for all firms. Total investment is measured by adding INVEST, CAPEX, and NON_CAPEX and regressing total investment on total sales growth. Then, the residuals are ranked into deciles and rescaled into zero to one. We also utilize OVERINDUSTRY as a second alternative proxy of the overinvestment problem, which is defined as a ranked variable of residual or unexplained investment based on industry-year data (industry classification based on 48 Fama–French industry). Consistent with previous literature, each industry-year total investment is measured by adding INVEST, CAPEX, and NON_CAPEX and regressing industry-year total investment on industry-year total sales growth. The residuals are ranked into deciles and rescaled into zero to one. The overinvestment variables (OVERFIRM, OVERAGGRERATE, and OVERINDUSTRY) indicate that firms are more likely to be associated with the overinvestment problem.

3.5 | Control Variables

We follow prior literature and control for several firm-specific and external factors that may affect investment efficiency. First, we control for corporate governance by including the percentage of institutional ownership (IO) and the number of analysts (LOG_ANFOL), as corporate governance quality can significantly influence both investment and financing decisions (Bushee 1998; Lang et al. 2004; Biddle et al. 2009; Lara et al. 2016). Second, we included firm size (LNTA), market valuation (MB), and asset tangibility (TANG) because larger firms with higher valuations and tangible assets enjoy easier access to financing and collateral, which reduce frictions in investment decisions (Biddle and Hilary 2006; Almeida and Campello 2007; Lara et al. 2016; Tsai et al. 2021). Similarly, mature firms with higher cash reserves and greater resource slack possess enhanced internal flexibility to finance projects without relying on external capital markets, which directly supports timely and efficient investment decisions (Chen et al. 2011; Ferrando et al. 2017). However, excess liquidity and slack often weaken managerial discipline, increasing the risk of overinvestment in projects with limited value creation (Richardson 2006). Accordingly, we include controls for cash holdings (CASH), slack resources (SLACK), and firm age (FIRMAGE) to capture these opposing effects of financial flexibility and organizational maturity on investment efficiency.

Third, prior literature has highlighted both financial condition and risk as important antecedents to investment outcomes. To capture financial condition, we include *Z*-SCORE, LOSS, CFOSALE, and DIV, which measure profitability, stability, and payout discipline that directly shape a firm's capacity and incentives for efficient capital allocation (Chen et al. 2012; Gomariz and Ballesta 2014; Lara et al. 2016; Tsai et al. 2021). To capture risk, we incorporate volatility measures (VOL_CFO, VOL_SALE, and VOL_INVEST), representing fluctuations in cash flows, sales, and investments. This is important as high volatility introduces uncertainty into decision-making, often constraining value-enhancing projects or pushing managers toward excessive risk-taking, both of which impair investment efficiency.

Fourth, industry and operating environments exert a strong influence on firms' investment efficiency through financing norms and liquidity dynamics (Frank and Goyal 2009; Atawnah et al. 2023). For instance, firms in industries with higher leverage norms are subject to stricter creditor monitoring and reduced borrowing capacity, which constrains their investment flexibility. In contrast, firms in equity-oriented industries benefit from greater financial freedom, which encourages more aggressive capital allocation (Myers 1977; Jensen 1986). In addition, firms with longer operating cycles experience slower liquidity turnover and greater cash-flow constraints, whereas shorter cycles ensure quicker cash conversion and support more efficient investment decisions (Biddle et al. 2009; Gomariz and Ballesta 2014). Accordingly, we include controls for industry capital structure (IND_K_STRUCTURE) and operating cycle (CYCLE) to capture these sectoral financing practices and operational dynamics that determine firms' ability to invest efficiently.

3.6 | Model Specification

In order to test the relationship between GC and investment efficiency, we followed Biddle et al. (2009) and examined how the presence of GC in the top management affects corporate investment decision in the environment when over or underinvestment

is more likely to occur. In our robustness test, we examine how the GC can affect investment decisions when firms deviate from the expected level of investment (alternative proxy of under and over-investment). The following subsections explain the two methods.

3.6.1 | Conditional Relationship Between GC and Investment Efficiency

We use the following OLS regression model to examine the conditional relationship between GC and investment in the situation when over or underinvest is more likely. The model is used in prior studies (Biddle and Hilary 2006; Biddle et al. 2009; Chen et al. 2012; Cheng et al. 2013; Lara et al. 2016; Tsai et al. 2021).

$$\begin{aligned}\text{INVEST}_{i,t} &= \alpha_0 + \alpha_1 \text{GC\_TOP5}_{i,t} + \alpha_2 \text{GC\_TOP5}_{i,t} \times \text{OVERL}_{i,t} \\ &+ \alpha_3 \text{OVERL}_{i,t} + \alpha_4 \text{Gov}_{i,t-1} + \alpha_5 \text{Gov}_{i,t-1} \times \text{OVERL}_{i,t} \\ &+ \gamma_j \text{Control}_{j,t-1} + \text{Ind} + \text{Yr} + \varepsilon_{i,t} \qquad (1)\end{aligned}$$

where i represents firms and t denotes fiscal year. As the previous section has discussed, the main dependent variable is total investment (INVEST_t), whereas the main independent variable is the presence of GC in the top management at firm i and period t ($\text{GC\_TOP5}_{i,t}$).[7] The overinvestment problem (OVERL_t) is proxied by $\text{OVERFIRM}_{i,t}$. To enhance the robustness of the finding, we control for corporate governance ($\text{Gov}_{i,t-1}$) and other firm control variables ($\text{Control}_{i,t-1}$).[8] Following previous literature, the study also implements both industry (using the 48 industry classification based on the work by Fama and French (1997)) and year fixed effect to control industry-year-specific shocks to the main dependent variable of corporate investment (INVEST_t).[9]

The coefficient on α_1 captures the effect of GCs in the top management on investment when firms are exposed to the underinvestment problem is more likely (OVERFIRM = 0). The addition of α_1 and α_2 quantifies how the presence of GC in the top management affects the investment decision in the environment where overinvestment problem is more probable (OVERFIRM = 1). As our hypothesis $\text{H}_{1\text{A}}$ (H1B) predicts that higher levels of GC_TOP5 improve (lower) under investment (over investment), we expect a positive coefficient on α_1 (i.e., GC increases investment level for firms with an underinvestment problem) and a negative coefficient on $(\alpha_1 + \alpha_2)$ (i.e., GC decreases investment level for firms with an overinvestment problem). The coefficient α_4 serves to measure how other corporate governance mechanisms (i.e., institutional holding and analyst coverage) can affect investment decisions where the underinvestment problem is more likely (OVERFIRM = 0). To be consistent with previous research, we also interact the governance variable with the over-investment problem, which is captured on α_5. Thus, the addition of coefficients α_4 and α_5 shows how the governance mechanism affects corporate investment in an environment inclined to suffer from an overinvestment problem. The involvement of this governance variable exists because we need to ensure that the relationship between GC and investment decisions is not driven by other governance mechanisms.

3.6.2 | Deviation From the Expected Level of Investment

Following Biddle et al. (2009), Chen et al. (2011), and Gomariz and Ballesta (2014), we employ an unconditional multinomial logit regression to examine how GC influences investment efficiency, specifically under and overinvestment, based on deviations from the expected level of investment. Investment inefficiency arises when firms deviate from their optimal investment level. Overinvestment occurs when firms allocate resources to unprofitable projects (positive deviation from the expected investment level), whereas underinvestment happens when firms forgo profitable opportunities (negative deviation from the expected investment level). As shown in Equation (2), Biddle et al. (2009) and Gomariz and Ballesta (2014) identify investment inefficiency by analyzing the residuals from a regression of investment levels on sales growth.

$$\text{INVEST}_{i,t} = \beta_0 + \beta_1 \text{SALES\_GROWTH}_{i,t-1} + \varepsilon_{i,t} \qquad (2)$$

where $\text{INVEST}_{i,t}$ is the total capital and non-CAPX (t period) of the current fiscal year divided by ATs of the previous fiscal year ($t-1$ period), whereas $\text{SALES\_GROWTH}_{i,t}$ is defined as a change in firm sales (SALE) from the period $t-2$ to $t-1$. Positive residuals of Equation (2) indicate firms with the overinvestment problem as firms invest higher than the ideal level. Negative residuals, on the other hand, signify an underinvestment problem as firms invest less than the expected level, meaning that firms experience more serious underinvestment problems. To test our hypotheses on how GCs affect the overinvestment problem, we follow Biddle et al. (2009) and Chen et al. (2011), using the positive and negative residuals from Equation (2) to measure the magnitude of overinvestment (OVERINV) and underinvestment (UNDERINV), respectively. We then estimate the following regression equations:

$$\text{OVERINV}_{i,t} = c_0 + c_1 \text{GC\_TOP5}_{i,t} + c_4 \text{Gov}_{i,t-1} + \gamma_j \text{Control}_{j,i,t-1} + \varepsilon_{i,t} \qquad (3)$$

$$\text{UNDERINV}_{i,t} = c_0 + c_1 \text{GC\_TOP5}_{i,t} + c_4 \text{Gov}_{i,t-1} + \gamma_j \text{Control}_{j,i,t-1} + \varepsilon_{i,t} \qquad (4)$$

4 | Results

4.1 | Descriptive Statistics

Panel A of Table 2 shows the descriptive statistics of independent and dependent variables. The mean of total investment (INVEST), CAPEX, and non-CAPX is 14.67, 29.27, and 8.0, respectively. These values are consistent with Biddle et al. (2009) and Tsai et al. (2021). The mean of the presence of GC_TOP5_t is 35.9%, which is consistent with prior studies (Bird et al. 2015; Hopkins et al. 2015; Ham and Koharki 2016; Abernathy et al. 2019; Hsu and Liu 2024). The values of overinvestment variables and control variables are consistent with other research (Biddle et al. 2009; Gomariz and Ballesta 2014; Chen et al. 2013; Lara et al. 2016; Tsai et al. 2021).

Panel B of Table 2 reports the descriptive statistics for different measures of investment, underinvestment, and overinvestment variables for firms with and without GCs in top management.

TABLE 2 | Descriptive statistics.

Panel A: Descriptive statistics

Variables	*N*	Mean	Q1	Median	Q3	SD
Dependent variables						
$INVEST_t$	40,413	14.666	5.079	9.777	18.221	15.818
$CAPEX_t$	40,413	29.267	12.895	20.845	34.871	28.421
NON_CAPEX_t	40,413	8.002	0.000	2.604	10.255	13.523
Independent variables						
GC_TOP5_t	40,413	0.359	0.000	0.000	1.000	0.471
Over investment variables						
$OVERFIRM_t$	40,413	0.567	0.471	0.529	0.647	0.178
$OVERAGGREGATE_t$	40,371	0.603	0.400	0.600	0.800	0.234
$OVERINDUSTRY_t$	40,413	0.482	0.200	0.400	0.700	0.295
Control variables						
LOG_ANFOL_{t-1}	40,413	1.199	0.710	1.231	1.845	0.669
IO_{t-1}	40,413	0.210	0.000	0.031	0.423	0.246
$LNTA_{t-1}$	40,413	7.186	6.002	7.083	8.277	1.672
MB_{t-1}	40,413	2.166	1.224	1.654	2.482	1.557
VOL_CFO_{t-1}	40,413	0.130	0.054	0.084	0.139	0.154
VOL_SALE_{t-1}	40,413	0.595	0.267	0.428	0.738	0.557
VOL_INVEST_{t-1}	40,413	1.190	0.007	0.032	0.184	6.591
$Z\text{-}SCORE_{t-1}$	40,413	1.758	0.859	1.406	2.001	1.053
$TANG_{t-1}$	40,413	0.274	0.101	0.207	0.390	0.222
$IND\_K\_STRUCTURE_{t-1}$	40,413	0.179	0.088	0.164	0.242	0.095
$CFOSALE_{t-1}$	40,413	0.105	0.049	0.100	0.171	0.191
DIV_{t-1}	40,413	0.504	0.000	1.000	1.000	0.500
$CYCLE_{t-1}$	40,413	4.610	4.239	4.689	5.076	0.726
$LOSS_{t-1}$	40,413	0.194	0.000	0.000	0.000	0.396
$FIRMAGE_{t-1}$	40,413	2.397	1.946	2.485	2.996	0.703
$CASH_{t-1}$	40,413	0.160	0.029	0.093	0.231	0.177
$SLACK_{t-1}$	40,413	2.190	0.101	0.440	1.696	5.376

Panel B: Difference between firms with and without GC in top management

	Firms without GC	Firms with GC	Mean *t*-test
	Mean	Mean	
Dependent variables			
$INVEST_t$	15.266	13.462	9.930***
$CAPEX_t$	31.348	25.089	22.962***
NON_CAPEX_t	8.285	7.434	4.582***
Overinvestment variables			
$OVERFIRM_t$	0.578	0.544	19.008***
$OVERAGGREGATE_t$	0.615	0.580	14.508***
$OVERINDUSTRY_t$	0.490	0.465	7.868***

Note: This table presents descriptive statistics for the main variables used in this study. Panel A presents the summary statistics of each of our key variables in this study. Panel B documents the mean and median values of the key variables for the firms with GC and non-GC in the top management. All variables are winsorized at 1st and 99th percentiles to avoid outliers. All other definitions of variables are reported in the Appendix.

*, **, and *** represent significance levels of 0.10, 0.05, and 0.01 (two-tailed), respectively.

The table reveals that the mean of INVEST, CAPEX, and NON_CAPEX for non-GC firms is higher than that for GC firms, and the difference is statistically significant (at 1%). More importantly, the overinvestment variables (OVERFIRM, OVERAGGREGATE, and OVERINDUSTRY) are statistically lower for GC firms compared to non-GC firms. These initial observations support hypothesis H_{1A} which asserts that the presence of GC curtails the overinvestment problem. These findings are in line with Hypotheses H_{1A} and H_{1B} that GCs in top management demonstrate higher investment efficiency compared to non-GC firms, in the form of lower over and underinvestment problems.

4.2 | Conditional Regression Results

In this subsection, we document the results from the conditional test of investment efficiency devised by Biddle et al. (2009). This test (see Equation 1) enables us to examine the effects of GCs on both underinvestment and overinvestment. Inferences can be made based on the coefficients on GC_TOP5_t and the interaction term, $GC\_TOP5_t \times OVERFIRM_t$. Specifically, the coefficient on GC_TOP5_t captures the effect of GCs in the top management on investment for firms where the underinvestment problem is more likely, whereas the sum of coefficients on the GC_TOP5_t and $GC\_TOP5_t \times OVERFIRM_t$ captures the effect of GCs on the investment efficiency in the environment where overinvestment is more likely. In Columns (1) and (2) of Table 3, we present the results for our main dependent variable (INVEST). In Columns (3) and (4), we report the results for the first alternative poxy for investment (CAPEX), whereas Columns (5) and (6) report the results for the second alternative proxy (NON_CAPEX). We regress our three investment measures ($INVEST_t$, $CAPX_t$, and $NON\text{-}CAPEX_t$) on our GCs measure with control variables and fixed effects and present the results in Table 3.

The results across all model specifications and measures of investment in Table 3 indicate that the coefficients on GC_TOP5_t are positive and significant at the 1% level. The positive coefficient of GC_TOP5_t in this analysis suggests that when firms exhibit a greater tendency to underinvest (OVERFIRM = 0), the presence of more GCs is linked to an increase in future investment levels. To ensure the results are not influenced by governance variables, we include corporate governance controls in all models. Additionally, to account for the potential impact of prior investment levels, we include lagged investment variables in Columns (2), (4), and (6). As for the effect of GCs on investment efficiency in an environment where overinvestment is more likely, the link is captured by $\alpha_1 + \alpha_2$ (row 3). The coefficients on (1) + (2) are negative and significant at the 1% level of significance, indicating that highly paid GCs are linked with lower investment when firms are exposed to the overinvestment problem (OVERFIRM = 1). Furthermore, the signs for the control variables are consistent with prior literature (Biddle et al. 2009; Cheng et al. 2013; Gomariz and Ballesta 2014; Lara et al. 2016).

Taken together, our empirical results provide compelling evidence supporting H_{1A} and H_{1B}, affirming the role of GCs as gatekeepers of investment efficiency in mitigating overinvestment and underinvestment issues. However, they also prompt deeper reflection on the competing perspectives surrounding their influence. In underinvesting firms, the significant increase in investment levels underscores the transformative potential of GCs in reducing information asymmetry, improving financial transparency, and alleviating stakeholder risk perceptions. By facilitating access to external capital, GCs address critical financing frictions that hinder efficient resource allocation. These findings align strongly with prior research linking high-quality disclosures to enhanced investment outcomes (e.g., Biddle and Hilary 2006; Roychowdhury et al. 2019).

Conversely, in cases of overinvestment, the results reveal that GCs play a complementary role, as evidenced by a reduction in investment levels. This finding highlights that higher financial transparency also led to disciplined resource allocation. Such high-quality disclosure curbs unchecked managerial discretion, driven in part by information asymmetry, and protects minority shareholders and creditors from the inefficiencies and risks of overinvestment, aligning corporate actions with broader stakeholder interests. However, these results simultaneously challenge the alternative hypothesis that GCs may act as facilitators of misaligned incentives or engage in "grey area" practices that undermine investment efficiency. Previous studies (e.g., Hopkins et al. 2015; Goh et al. 2015) have documented instances where highly compensated GCs, particularly those closely aligned with CEOs or CFOs, deviate from their oversight role, enabling aggressive accounting, tax avoidance, or other self-serving behaviors.

Why does the facilitator's role fail to manifest in our findings? One plausible explanation is that the governance environments reflected in our sample may encourage a degree of independence for GCs, mitigating conflicts of interest. This is particularly relevant considering the SOX 2002, which promotes such independence by empowering GCs within governance frameworks. Stronger governance controls, such as the enhanced authority granted to GCs under SOX 2002, may reduce the influence of dominant CEOs or self-enriching managerial teams, thereby limiting opportunities for GCs to prioritize the interests of top management over those of external stakeholders. This interpretation aligns with the view that governance structures are critical moderators of GCs' effectiveness (Ham and Koharki 2016).

Alternatively, the firms in our sample may exhibit governance mechanisms that effectively constrain opportunistic behaviors, thereby reducing the propensity for "grey area" practices to be facilitated by GC. The overarching significance of investment efficiency on both shareholders and the firm appears to supersede the influence of such practices, potentially explaining the absence of a facilitative role in this context. Investment efficiency is foundational to a firm's ability to allocate resources judiciously, maximize shareholder wealth, and sustain long-term corporate viability. Thus, by promoting transparency, GCs alleviate financing frictions, minimize capital misallocation, and enhance investment efficiency—reinforcing key drivers of long-term shareholder value (Biddle and Hilary 2006; Roychowdhury et al. 2019). In contrast, "grey area" practices, despite their associated reputational, regulatory, and financial risks, may occasionally yield short-term benefits for shareholders by reducing immediate costs or bolstering financial metrics. This perspective aligns with the "small cost, large gains" argument, wherein the

TABLE 3 | Conditional relationship between general counsel and investment efficiency.

	$INVEST_t$		$CAPEX_t$		NON_CAPEX_t	
	(1)	(2)	(3)	(4)	(5)	(6)
GC_TOP5_t (1)	5.1607***	5.0321***	3.5334***	2.6267***	4.4309***	4.3246***
	(9.99)	(10.02)	(4.91)	(4.00)	(10.17)	(10.08)
$GC\_TOP5_t \times OVERFIRM_t$ (2)	−9.2546***	−8.7803***	−7.9239***	−5.3720***	−7.3620***	−7.1130***
	(−10.93)	(−10.77)	(−5.86)	(−4.30)	(−10.33)	(−10.26)
(1) + (2)	−4.0939***	−3.7482***	−4.3905***	−2.7453***	−2.9311***	−2.7884***
	(−10.64)	(−10.25)	(−6.27)	(−4.21)	(−9.00)	(−8.94)
$OVERFIRM_t$	1.7791***	2.5742***	6.9726***	4.8234***	0.8502*	1.4829***
	(3.21)	(4.86)	(7.39)	(5.56)	(1.82)	(3.30)
LOG_ANFOL_{t-1}	1.3811***	1.4740***	2.1439**	1.3622*	−0.3213	−0.1364
	(2.59)	(2.76)	(2.31)	(1.68)	(−0.64)	(−0.28)
IO_{t-1}	3.2405*	2.456**	6.2224**	3.9774*	4.6687***	3.8683***
	(1.87)	(2.46)	(2.51)	(1.80)	(3.33)	(2.80)
$LOG\_ANFOL_{t-1} \times OVERFIRM_t$	−1.3504**	−1.0570**	−1.5633**	−0.7566*	1.3109	0.9207
	(2.13)	(2.05)	(−2.37)	(−1.77)	(1.46)	(1.06)
$IO_{t-1} \times OVERFIRM_t$	−6.7229**	−5.5405**	−12.6987***	−8.2916**	−8.7498***	−7.5561***
	(−2.30)	(−1.98)	(−2.73)	(−2.00)	(−3.76)	(−3.34)
$INVEST_{t-1}$		0.2256***				
		(31.09)				
$CAPEX_{t-1}$				0.3412***		
				(39.63)		
NON_CAPEX_{t-1}						0.1934***
						(25.88)
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	40,413	40,413	40,413	40,413	40,413	40,413
Adjusted R^2	0.2264	0.2715	0.3773	0.4742	0.2258	0.2571

Note: This table shows the main results of the relationship between general counsel and investment in the situation where overinvestment and underinvestment problems are more likely. We adopt the empirical model proposed by Biddle et al. (2009) to examine how the presence of top manager counsel (GC_TOP5) influences investment efficiency. We expect β_1 to be positive, indicating that GC_TOP5 increases investment in settings where underinvestment is more likely. Conversely, we expect $(\beta_1 + \beta_2)$ to be negative, suggesting that GC_TOP5 reduces investment in environments where overinvestment is more likely. The table shows the coefficient and the t significance (in brackets) for each variable. All variables are winsorized at 1st and 99th percentiles to avoid outliers. All other definitions of variables are reported in the Appendix.

*, **, and *** represent significance levels of 0.10, 0.05, and 0.01 (two-tailed), respectively.

financial burden of such practices is frequently overshadowed by their perceived or actual gains (Zaman, Bahadar, et al. 2021). However, the absence of the GC's facilitative role may reflect the prioritization of investment efficiency as a sustainable and transformative driver of corporate and shareholder value, in contrast to the transient benefits associated with "grey area" activities.

4.3 | Robustness Tests

We conduct a battery of robustness tests that confirm our main findings, including adopting alternative measures of overinvestment, change analysis, and PSM.[10]

4.3.1 | Alternative Proxy of Overinvestment

Following Biddle et al. (2009), we employ two alternative proxies of overinvestment, these being OVERAGGREGATE and OVERINDUSTRY (detailed description in Section 3.4). In Panel A, we replace our standard measure of overinvestment ($OVERFIRM_t$) with the (OVERAGGREGATE) as a proxy of overinvestment. The results of Panel A of Table 4 show that the ascension of GC to senior management mitigates both investment inefficiency problems (over and underinvestment) using OVERAGGREGATE as an alternative proxy,[11] supporting our baseline results in Table 3.

TABLE 4 | Robustness test.

Panel A: Alternative proxy of overinvestment—OVERAGGREGATE$_t$						
	INVEST$_t$		**CAPEX$_t$**		**NON_CAPEX$_t$**	
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
GC_TOP5$_t$ (1)	2.2327***	2.5819***	7.7756***	6.8080***	−0.3744	−0.5176
	(3.02)	(3.54)	(14.26)	(13.19)	(−1.02)	(−1.43)
GC_TOP5$_t$ × OVERAGGREGATE$_t$ (2)	−3.8222**	−3.0069***	−14.3550***	−12.1539***	1.0065	1.3642
	(−2.36)	(−2.92)	(−12.77)	(−11.35)	(1.32)	(1.61)
(1) + (2)	−1.5895**	−0.4250**	−6.5794***	−5.3459***	0.632	0.8466
	(−1.97)	(−2.08)	(−10.8)	(−9.19)	(1.49)	(1.16)
OVERAGGREGATE$_t$	46.6968***	44.8698***	68.3122***	59.8639***	29.4847***	28.5631***
	(95.30)	(92.08)	(89.82)	(78.16)	(61.62)	(60.72)
All controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	40,371	40,371	40,371	40,371	40,371	40,371
Adjusted R^2	0.5518	0.5654	0.5631	0.6100	0.4096	0.4315
Panel B: Alternative proxy of overinvestment—OVERINDUSTRY$_t$						
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
GC_TOP5$_t$ (1)	0.5559**	0.5792**	1.0165***	0.7555**	0.6636***	0.6696***
	(2.06)	(2.19)	(2.73)	(2.25)	(2.83)	(2.88)
GC_TOP5$_t$ × OVERINDUSTRY$_t$ (2)	−0.9523*	−0.7271*	−3.8290***	−2.2475***	−0.5232	−0.4766
	(−1.80)	(−1.71)	(−4.81)	(−3.06)	(−1.16)	(−1.08)
(1) + (2)	−0.3964*	−0.1479*	−2.8125***	−1.4920***	0.1404	0.1930
	(−1.83)	(−1.78)	(−5.28)	(−3.00)	(0.24)	(0.69)
OVERINDUSTRY$_t$	1.6117***	0.9787**	4.8091***	2.9930***	0.6203*	0.3946
	(3.89)	(2.46)	(7.12)	(4.75)	(1.78)	(1.17)
All controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	40,413	40,413	40,413	40,413	40,413	40,413
Adjusted R^2	0.2241	0.2692	0.3769	0.4739	0.2233	0.2549
Panel C: Change analysis						
	ΔINVEST		**ΔCAPEX**		**ΔNON_CAPEX**	
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
ΔGC_TOP5 (1)	6.6439***	6.6774***	2.4970***	2.7020***	5.6798***	5.7046***
	(10.62)	(10.69)	(2.84)	(3.14)	(10.71)	(10.76)
ΔGC_TOP5 × OVERFIRM (2)	−11.1897***	−11.2475***	−4.4960***	−4.9774***	−9.5079***	−9.5533***
	(−10.88)	(−10.95)	(−2.69)	(−3.05)	(−10.94)	(−11.00)
(1) + (2)	−4.5458***	−4.5701***	−1.9990**	−2.2754***	−3.8281***	−3.8487***
	(−9.47)	(−9.53)	(−2.26)	(−2.64)	(−9.42)	(−9.47)
All controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	31,677	31,677	31,677	31,677	31,677	31,677
Adjusted R^2	0.0526	0.0567	0.0916	0.1614	0.0291	0.0299

(Continues)

TABLE 4 | (Continued)

Panel D: Control for CSR and option trading						
	$INVEST_t$		$CAPEX_t$		NON_CAPEX_t	
	(1)	(2)	(3)	(4)	(5)	(6)
GC_TOP5_{t-1} (1)	7.2300***	6.9743***	2.3438***	1.7797**	6.0674***	5.9000***
	(11.27)	(11.06)	(2.79)	(2.26)	(10.97)	(10.77)
$GC\_TOP5_{t-1} \times OVERFIRM_t$ (2)	−12.3389***	−11.7933***	−4.8982***	−3.2944**	−10.0250***	−9.7342***
	(−11.99)	(−11.76)	(−3.15)	(−2.25)	(−11.31)	(−11.20)
(1) + (2)	−5.1089***	−4.8190***	−2.5544***	−1.5147**	−3.9576***	−3.8342***
	(−11.46)	(−11.24)	(−3.24)	(−2.03)	(−10.27)	(−10.28)
$OVERFIRM_{t-1}$	1.7780***	2.4699***	5.7565***	3.8511***	1.3958**	1.9299***
	(2.59)	(3.71)	(5.10)	(3.67)	(2.32)	(3.29)
$CSR\_REP\_SCORE_{t-1}$	0.0086***	0.0087***	0.0118***	0.0104***	0.0044*	0.0047*
	(2.88)	(2.94)	(3.10)	(3.01)	(1.68)	(1.80)
$LOG\_OPT\_TRADING_{t-1}$	0.7432***	0.6060***	1.5077***	0.9941***	0.4321***	0.3624***
	(12.87)	(10.82)	(16.43)	(11.53)	(8.93)	(7.72)
All controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	26,039	26,039	26,039	26,039	26,039	26,039
Adjusted R^2	0.2138	0.2429	0.3657	0.4515	0.2372	0.2582

Note: This table presents the results of additional robustness tests for the baseline results reported in Table 3. For brevity, only the coefficient estimates of the variables of interest are tabulated. In Panel A, we replace our standard measure of overinvestment ($OVERFIRM_t$) with (OVERAGGREGATE). In Panel B, we use OVERINDUSTRY as another alternative for overinvestment. In Panel C, we utilize the change analysis regression. The table shows the coefficient and the *t* significance (in brackets) for each variable. All variables are winsorized at 1st and 99th percentiles to avoid outliers. All other definitions of variables are reported in the Appendix.

Abbreviation: CSR, corporate social responsibility.

*, **, and *** represent significance levels of 0.10, 0.05, and 0.01 (two-tailed), respectively.

In Panel B, we use OVERINDUSTRY as a second proxy of overinvestment. The results of Panel B display that the presence of GC as part of senior management mitigates both over and under-investment problems using OVERAGGREGATE as an alternative proxy, supporting our baseline results in Table 3. Overall, results above lend support to the contention that: First, GCs in their role of gatekeepers enhance investment efficiency Hypotheses (H_{1A} and H_{1B}); and second, our baseline results are not driven by the specific choice of how we measure overinvestment.

4.3.2 | Change Analysis

Although this study has closely followed prior studies in developing an investment model, in this section, we follow Ham and Koharki (2016) and use the change model. Given the relative stability of the presence of GC, year-on-year change variables may be less effective in addressing time-varying omitted variables and may not efficiently remove fixed effects. To better account for time-invariant unobserved firm-level variables, we use 3-year change analysis. This extended window provides a more robust examination of changes in both the dependent and independent variables, offering a stronger alternative for mitigating potential omitted variable bias, as suggested by Griffin et al. (2021).[12] Therefore, we reestimate Equation (1) by transforming the dependent, independent, and control variables into change variables. Specifically, we use the 3-year change in the dependent variables (from year *t* to year $t+3$) and the 3-year change in all independent variables, including our main variable, GC_TOP5 (from year $t-3$ to year *t*). We present the results in Panel C of Table 4. The change analysis results reveal consistent findings across all the models, providing further support for Hypotheses H_{1A} and H_{1B} that GCs insist on performing their gatekeeper role when it comes to corporate investment. These results imply that the baseline results between GCs and investment efficiency are not sensitive to model specification.[13]

4.3.3 | Additional Control Variables

Despite including an extensive set of firm and external monitoring controls, capturing key determinants of investment efficiency (see Section 3.5 for control variables), we further strengthen our research design by explicitly accounting for CSR reporting and option trading activity. Both of these have recently been highlighted as important determinants of investment efficiency. For instance, Hsu et al. (2024) show that option trading affects firm investment efficiency by influencing information environments and managerial incentives, whereas Cook et al. (2019) document that CSR engagement improves efficiency by reducing agency problems and fostering innovation. To address the possibility that our findings merely reflect these established

effects, we added CSR reporting and option trading as additional controls in Equation (1) and reestimate our baseline results. Our results in Panel D of Table 4 show that GC_TOP5$_{t-1}$ remains positive and highly significant, whereas its interaction with OVERFIRM$_t$ remains negative and significant. Consistent with prior literature (Cook et al. 2019; Hsu et al. 2024), we find CSR_REP_SCORE$_{t-1}$ and LOG_OPT_TRADING$_{t-1}$ are both positively associated with investment efficiency. These results confirm that the impact of top management teams on investment efficiency is robust to the inclusion of CSR and option trading and represents an incremental contribution beyond established determinants.

4.3.4 | Propensity Scores Matching Regression

The results so far show that firms with GCs in top management exhibit higher investment efficiency. However, it is possible that GC firms deliver better investment efficiency compared to non-GC firms because of the fundamental differences the characteristics between the two groups. In order to mitigate this concern, we follow Kwak et al. (2012) and utilize the PSM approach (Rosenbaum and Rubin 1983).

Following the matching procedure of Kwak et al. (2012) and Michael et al. (2022), for each firm with GCs in top management (a treatment group) the procedure eliminates the pair if the difference in their propensity score matched pairs (a control group) is higher than 0.001. Panel A of Table 5 reports the univariate mean between treatment and control firms' characteristics after the PSM procedure, which indicate that the characteristics of GC and non-GC firms are not markedly different. Overall, the univariate comparisons suggest that the matching process has successfully removed observable differences between these two groups. The elimination process yields 6289 propensity score-matched pairs or a total of 12,578 firm-years observations.

In Panel B of Table 5, we conduct a post-match PSM regression analysis to ensure that our findings remain robust even after controlling for all observable disparities between the treatment and control groups (Alharbi et al. 2025). We employ the same regression model as that reported in Table 3, and our results are consistent for all models. Specifically, the estimated coefficients for GC_TOP5$_t$ are consistently positive and statistically significant, whereas those for the interaction terms are negative and significant at the 1% level. Consequently, our results align with the baseline findings presented in Table 3 that GCs mitigate (increase) the firms' investment in the scenario where overinvestment (underinvestment) is more likely. Overall, the relationship between GC and investment efficiency is robust because it not driven by significant differences between GC and non-GC firms, which is commonly known as selection bias.

Prior literature has highlighted that although PSM is a widely used approach to address covariate imbalance, it relies on strict inclusion–exclusion rules that can substantially reduce the sample size and does not guarantee exact balance across covariates (Dehejia 2005; Rosenbaum and Rubin 1983; Shipman et al. 2017). By contrast, entropy balancing offers a more flexible reweighting procedure that achieves exact moment balance (mean, variance, and skewness) for covariates while retaining the entire sample, thus mitigating the information loss and functional form misspecification concerns inherent in PSM (Hainmueller 2012; Wilde 2017).

To ensure that our findings are not sensitive to the choice of balancing method, we supplement the PSM analysis with entropy balancing and present the results in Panel C of Table 5. The qualitatively similar findings to our baseline results indicate that the effect of GCs on investment efficiency is not the result of methodological bias. Taken together, the consistency of results across both PSM and entropy balancing provides strong support for Hypotheses H_{1A} and H_{1B}, underscoring that GCs perform a gatekeeping role in corporate investment. These findings further demonstrate that our inferences are robust to alternative approaches to covariate balancing and are not explained by estimation issues.

4.4 | Deviation From the Expected Level of Investment

The results so far were based on the conditional regression when over and underinvestment are more likely to occur. In this subsection, we present a direct analysis on how the presence of GC in senior management can affect the likelihood of over and underinvestment using two alternative dependent variables based on Equations (3) and (4) (based on deviations from the expected level of investment). This strategy aligns with the methodologies employed in some prior studies on investment efficiency (Biddle et al. 2009; Chen et al. 2011; Gomariz and Ballesta 2014). We present the results in Table 6.

In Panel A, we use *UNDERINV* as the dependent variable, measured by the magnitude of the negative residuals from Equation (2).[14] The coefficient on GC_TOP5$_t$ is negative and significant at the 1% level, indicating that the presence of GCs mitigates the likelihood of underinvestment. In Panel B, we use *OVERINV*, which is based on the magnitude of the positive residuals from the same equation. The results in Panel B of Table 6 display that GC ameliorates the likelihood of firms overinvesting. Overall, the results above further support hypotheses H_{1A} and H_{1B}, namely, that GCs are associated with lower over and underinvestment problems due to the gatekeeping role of GCs.

We acknowledge the concerns raised in the literature regarding the reliability of two-stage regression designs, particularly the critique of Chen et al. (2018). They show that although coefficient estimates of generated regressors are consistent under broad conditions, standard errors can be understated and test statistics overstated when generated regressors, especially predicted values and their transformations, are employed without proper adjustments. By contrast, transformed residual-based measures, as in our research design, are generally less problematic (Pagan 1984; Murphy and Topel 2002), although inferences can still be biased if the first-stage regressors are excluded from the second-stage specification.

To mitigate these concerns, our research design follows two safeguards consistent with Chen et al. (2018). First, our over and underinvestment variables are derived from residuals of the

TABLE 5 | Propensity score matching.

Panel A: Comparison of Treatment and Control Firms

	Firms without GC ($n = 6289$)	Firms with GC ($n = 6289$)	Mean t-test non-GC vs. GC firms
IO_{t-1}	0.0862	0.0874	−0.243
LOG_ANFOL_{t-1}	1.1097	1.1239	−1.139
$LNTA_{t-1}$	7.3432	7.3896	−1.622
MB_{t-1}	2.0574	2.0842	−1.018
VOL_CFO_{t-1}	0.1264	0.1263	0.055
VOL_SALE_{t-1}	0.5833	0.5809	0.246
VOL_INVEST_{t-1}	1.1162	1.1170	−0.007
$Z\text{-}SCORE_{t-1}$	1.4182	1.4189	−0.037
$TANG_{t-1}$	0.2733	0.2718	0.378
$IND\_K\_STRUCTURE_{t-1}$	0.1802	0.1816	−0.832
$CFOSALE_{t-1}$	0.1087	0.1117	−0.894
DIV_{t-1}	0.5143	0.5147	−0.054
$CYCLE_{t-1}$	4.6133	4.5951	1.384
$LOSS_{t-1}$	0.2002	0.1976	0.360
$FIRMAGE_{t-1}$	2.5020	2.4923	0.843
$CASH_{t-1}$	0.1486	0.1509	−0.764
$SLACK_{t-1}$	2.1086	2.0979	0.113

Panel B: PSM regression

	$INVEST_t$		$CAPEX_t$		NON_CAPEX_t	
	(1)	(2)	(3)	(4)	(5)	(6)
GC_TOP5_t (1)	6.5600***	6.7300***	0.0907**	0.7017*	5.9509***	5.9830***
	(7.50)	(7.84)	(2.08)	(1.69)	(7.96)	(8.09)
$GC\_TOP5_t \times OVERFIRM_t$ (2)	−12.3224***	−12.3284***	−2.6184**	−2.8591**	−10.4757***	−10.4420***
	(−8.62)	(−8.85)	(−2.24)	(−2.44)	(−8.62)	(−8.77)
(1) + (2)	−5.7624***	−5.5984**	−2.5277**	−2.1574**	−4.5248***	−4.4590***
	(−3.45)	(−2.35)	(−2.05)	(−1.98)	(−3.25)	(−2.98)
$OVERFIRM_t$	4.7855***	5.6909***	6.9419***	5.2172***	3.7914***	4.4226***
	(4.21)	(5.21)	(4.02)	(3.26)	(3.96)	(4.75)
All controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,578	12,578	12,578	12,578	12,578	12,578
Adjusted R^2	0.2037	0.2404	0.354	0.4383	0.2071	0.2316

Panel C: Entropy balancing regression

	$INVEST_t$		$CAPEX_t$		NON_CAPEX_t	
	(1)	(2)	(3)	(4)	(5)	(6)
GC_TOP5_{t-1} (1)	5.8648***	5.8081***	1.8265**	1.6565**	5.0448***	4.9916***
	(10.81)	(10.98)	(2.56)	(2.54)	(11.07)	(11.09)
$GC\_TOP5_{t-1} \times OVERFIRM_t$ (2)	−10.8257***	−10.5095***	−5.0497***	−3.8875***	−8.6676***	−8.5271***
	(−12.07)	(−12.12)	(−3.74)	(−3.10)	(−11.51)	(−11.57)

(Continues)

TABLE 5 | (Continued)

Panel C: Entropy balancing regression						
	$INVEST_t$		$CAPEX_t$		NON_CAPEX_t	
	(1)	(2)	(3)	(4)	(5)	(6)
(1) + (2)	−4.9609***	−4.7014***	−3.2232***	−2.231***	−3.6228***	−3.5355***
	(−12.24)	(−12.12)	(−4.59)	(−3.40)	(−10.60)	(−10.68)
$OVERFIRM_{t-1}$	2.7957***	3.5278***	6.8251***	5.0058***	2.1176***	2.5819***
	(4.26)	(5.55)	(7.05)	(5.62)	(3.85)	(4.82)
All controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	40,413	40,413	40,413	40,413	40,413	40,413
Adjusted R^2	0.2148	0.2497	0.3513	0.4553	0.2200	0.2405

Note: This table presents the main results of the effect of general counsel on Investment in the situation where overinvestment and underinvestment problems are more likely to occur, using PSM. Panel A displays the firm characteristics and the (mean) difference of variables between firms with and without GC in top management after the PSM procedure. Panel B presents the PSM results (after matching the firms' characteristics for GC and non-GC with top management). Panel C presents entropy balancing regression results as an additional robustness test. Entropy balancing achieves exact covariate balance while retaining the full sample, addressing information-loss and specification concerns associated with PSM (Hainmueller, 2012; Wilde, 2017). The table shows the coefficient and the t significance (in brackets) for each variable. All variables are winsorized at 1st and 99th percentiles to avoid outliers. All other definitions of variables are reported in the Appendix.

Abbreviation: PSM, propensity score matching.

*, **, and *** represent significance levels of 0.10, 0.05, and 0.01 (two-tailed), respectively.

investment–sales growth regression, which belong to the class of transformed residual-based measures that, under standard conditions, do not induce systematic standard error bias (Pagan 1984; Murphy and Topel 2002). Second, and more importantly, we explicitly include the first-stage regressor, sales growth, in the second-stage regression (see Panel C of Table 6). This specification directly addresses the inference concerns raised by Chen et al. (2018)—namely, that regressions on residuals yield biased coefficients and overstated *t*-statistics if first-stage regressors are omitted. Our results as shown in Panel C remain qualitatively consistent under this specification, highlighting that the observed mitigating effect of GCs on both over and underinvestment is attributable to their gatekeeping role in corporate governance rather than to econometric concerns.

5 | Channel Analysis

5.1 | GC and the Information Asymmetry Environment

So far, our baseline analysis indicates that GCs help curb investment inefficiencies. In this section, we test the channel that underlies this result: GCs foster transparency, which reduces financing frictions and ultimately improves investment efficiency. We proceed in two steps. First, we evaluate whether GCs enhance the quality and breadth of firms' information environments. Second, we examine whether this greater transparency, consequent to GCs, translates into better access to external capital.

Prior research suggests that the presence of a GC constrains managers from misreporting and encourages more voluntary disclosure (Bamber et al. 2010; Jagolinzer et al. 2011; Kwak et al. 2012). Consistent with this view, Hopkins et al. (2015) find a positive association between GCs and financial reporting quality, attributable to the GC's personal certification of financial statements. If transparency is indeed the operative mechanism, we expect the relationship between GCs and investment efficiency to be strongest in firms characterized by higher information asymmetry—those with the most to gain from the presence of a GC.

To test this idea, we use three proxies for firm information asymmetry. First, we use the bid-ask spread (SPREAD), defined as a ratio of quoted bid–ask spread to the mean of the bid and the ask price times (Amihud and Mendelson 1986). Second, we use PIN as an alternative proxy for information asymmetry.[15] This variable is adopted from the study by Venter and De Jongh (2006), wherein higher PIN indicates that firms experience higher information asymmetry. The third proxy of information asymmetry is based on BOG readability index (BOG), which is composed of three components as follow: Bog Index = Sentence Bog + Word Bog—Pep and adopted from Bonsall et al. (2017).[16] Higher FOG and BOG indices suggest that the document is harder to read or suffers from a poorer level of readability (higher information asymmetry). We present the results in Table 7.

Consistent with our expectations, Panel A of Table 7 shows that the positive association between GCs and investment efficiency is more pronounced in firms with higher information asymmetry for all measures of investment (INVEST, CAPEX, and NON_CAPEX). For example, the coefficient on GC_TOP5_t is positive and significant in Columns (1), (3), and (5), whereas its either not significant or less significant in Columns (2), (4), and (6). Similarly, the coefficient on (1) + (2) is negative and significant in Columns (1), (3), and (5), whereas its either not significant or less significant in Columns (2), (4), and (6). These

TABLE 6 | Unconditional relationship between general counsel and investment efficiency.

Panel A: Residual of underinvestment ($UNDERINV_t$)		
	$UNDERINV_t$	
	(1)	(2)
GC_TOP5_t	−0.1063***	−0.0996***
	(−7.34)	(−6.90)
LOG_ANFOL_{t-1}	−0.1763***	−0.1751***
	(−10.42)	(−10.45)
IO_{t-1}	−0.4286***	−0.4161***
	(−10.09)	(−9.88)
$INVEST_{t-1}$		0.0082***
		(15.65)
Controls included	Yes	Yes
Industry effect	Yes	Yes
Year effect	Yes	Yes
Observations	40,413	40,413
Adjusted R^2	0.819	0.8205
Panel B: Residual of overinvestment ($OVERINV_t$)		
	$OVERINV_t$	
	(1)	(2)
GC_TOP5_t	−0.2976***	−0.2747***
	(−5.62)	(−5.20)
LOG_ANFOL_{t-1}	−0.5624***	−0.5585***
	(−8.48)	(−8.48)
IO_{t-1}	−1.5095***	−1.4668***
	(−9.03)	(−8.83)
$INVEST_{t-1}$		0.0280***
		(14.95)
Controls included	Yes	Yes
Industry effect	Yes	Yes
Year effect	Yes	Yes
Observations	40,413	40,413
Adjusted R^2	0.8099	0.8113
Panel C: Controlling for first-stage variables		
	$UNDERINV_t$	$OVERINV_t$
GC_TOP5_t	−0.0893***	−0.2285***
	(−6.26)	(−4.39)
$SALESGROWTH_{t-1}$	0.1134***	0.5074***
	(35.02)	(41.90)
LOG_ANFOL_{t-1}	−0.1732***	−0.5499***
	(−10.27)	(−8.20)
IO_{t-1}	−0.3802***	−1.3060***
	(−8.93)	(−7.68)

(Continues)

TABLE 6 | (Continued)

Panel C: Controlling for first-stage variables		
	$UNDERINV_t$	$OVERINV_t$
$INVEST_{t-1}$	0.0076***	0.0254***
	(14.79)	(13.92)
Controls included	Yes	Yes
Industry effect	Yes	Yes
Year effect	Yes	Yes
Observations	40,413	40,413
Adjusted R^2	0.8235	0.8248

Note: This table presents the results of the effect of general counsel on underinvestment (overinvestment) using unconditional-multinomial logit regression. In Panel A, the dependent variable is underinvestment, measured as the negative residuals from the investment efficiency model in Equation (2). In Panel B, the dependent variable is Overinvestment, measured as the positive residuals from the same model. The table shows the coefficient and the t significance (in brackets) for each variable. All variables are winsorized at 1st and 99th percentiles to avoid outliers. All other definitions of variables are reported in the Appendix.

*, **, and *** represent significance levels of 0.10, 0.05, and 0.01 (two-tailed), respectively.

results imply that firms with greater information asymmetry benefited more from the presence of GC, in the form of superior investment efficiency. Panels B and C report similar results for PIN and BOG INDEX. Specifically, GCs' gatekeeping role in mitigating investment inefficiency is more pronounced when firms exhibit higher information asymmetry (High_PIN and High_BOG).

To determine whether the differences across high and low information asymmetry groups remain statistically significant, we conducted a Wald test. The Wald test assesses the null hypothesis that the coefficients capturing GCs' impact on investment in the environment where firms are more likely to underinvest (i.e., the coefficient on Column (1) is identical between high and low information asymmetry groups (e.g., High_Spread vs. Low_Spread)). For instance, the difference between Column (1) and (2) of Panel A is 0.5661 (calculated as 1.6490–1.0829). Firms with higher information asymmetry (high spread) benefit more from the presence of a GC, as reflected in increased underinvestment, compared to firms with lower information asymmetry (low spread). We obtained consistent results for the Wald test across all columns and panels.[17]

The significant results from the Wald test validate the role of GCs as substitutes for high-quality financial reporting, particularly in firms with higher information asymmetry. GCs mitigate overinvestment and underinvestment problems by enforcing robust legal, ethical, and governance standards (Jagolinzer et al. 2011; Bamber et al. 2010; Kwak et al. 2012). Their gatekeeper role fosters credibility and trust among investors and creditors, bridging gaps created by opaque financial disclosures. This highlights their strategic importance in reducing agency conflicts (Armstrong et al. 2010; Dhaliwal et al. 2011) and enhancing investment efficiency in contexts where traditional reporting mechanisms fall short.

TABLE 7 | General counsel and investment—information asymmetry.

Panel A: Using spread (bid–ask spread) as a measure of information asymmetry						
	$INVEST_t$		**$CAPEX_t$**		**NON_CAPEX_t**	
	High spread	**Low spread**	**High spread**	**Low spread**	**High spread**	**Low spread**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
GC_TOP5_t (1)	1.6490**	1.0829	1.7076**	0.5996	1.9779***	1.4452**
	(2.57)	(1.50)	(1.97)	(0.75)	(3.62)	(2.25)
$GC\_TOP5_t \times OVERFIRM_t$ (2)	−3.9030***	−2.0644*	−2.3364	−1.3748	−3.1566***	−2.3305**
	(−2.85)	(−1.73)	(−1.33)	(−0.82)	(−3.64)	(−2.19)
(1) + (2)	−2.2540***	−0.9815	−0.6288**	−0.7752	−1.1787***	−0.8853
	(−6.05)	(−1.62)	(−2.02)	(−1.39)	(−5.95)	(−1.35)
Diff (H–L)	0.5661**		1.108*		0.5327**	
F-test on the difference	[7.76]		[4.13]		[4.55]	
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16,147	16,148	16,147	16,148	16,147	16,148
Adjusted R^2	0.3383	0.3527	0.4562	0.5598	0.3280	0.3132
Panel B: Using PIN as a measure of information asymmetry						
	High PIN	**Low PIN**	**High PIN**	**Low PIN**	**High PIN**	**Low PIN**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
GC_TOP5_t (1)	2.4266***	−0.4861	1.1246	1.3821	2.6827***	0.1290
	(2.77)	(−0.59)	(1.13)	(1.23)	(3.45)	(0.19)
$GC\_TOP5_t \times OVERFIRM_t$ (2)	−3.2850**	0.0175	−1.3809	−2.7186	−3.6761***	−0.9257
	(−2.31)	(0.01)	(−0.67)	(−1.22)	(−2.90)	(−0.85)
(1) + (2)	−0.8584***	−0.4686	−0.2563	−1.3365	−0.9934***	−0.7967
	(−2.87)	(−1.48)	(−1.15)	(−1.34)	(−2.87)	(−1.61)
Diff (H–L)	2.9127***		−0.2575		2.5537***	
F-test on the difference	[24.11]		[1.48]		[11.27]	
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	11,268	12,692	11,268	12,692	11,268	12,692
Adjusted R^2	0.337	0.3649	0.4534	0.5680	0.3034	0.3230
Panel C: Using BOG_INDEX as a measure of information asymmetry						
	High BOG	**Low BOG**	**High BOG**	**Low BOG**	**High BOG**	**Low BOG**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
GC_TOP5_t (1)	6.6808***	3.5360***	1.9675**	0.7804*	6.1746***	2.8703
	(8.11)	(2.26)	(2.00)	(1.91)	(8.65)	(1.07)
$GC\_TOP5_t \times OVERFIRM_t$ (2)	−12.2571***	−5.9019	−3.7314**	−0.0147	−10.9354***	−4.3294
	(−9.21)	(−1.42)	(−2.05)	(−1.28)	(−9.49)	(−1.63)
(1) + (2)	−5.5763***	−2.3659	−1.7639**	0.7657	−4.7608***	−1.4591
	(−7.58)	(−1.61)	(−2.13)	(1.58)	(−7.88)	(−0.59)
Diff (H–L)	3.1448***		1.1871**		3.3043***	
F-test on the difference	[9.19]		[7.39]		[12.82]	

(Continues)

TABLE 7 | (Continued)

Panel C: Using BOG_INDEX as a measure of information asymmetry						
	High BOG	Low BOG	High BOG	Low BOG	High BOG	Low BOG
	(1)	(2)	(3)	(4)	(5)	(6)
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	20,092	20,092	20,092	20,092	20,092	20,092
Adjusted R^2	0.2856	0.2590	0.4637	0.4848	0.2904	0.228

Note: This table presents the results of measuring the effect of general counsel on investment, guided by the information asymmetry environment, using different measures with different periods. We adopt the empirical model proposed by Biddle et al. (2009) to examine how the presence of top manager counsel (GC_TOP5) influences investment efficiency. We expect β_1 to be positive, indicating that GC_TOP5 increases investment in settings where underinvestment is more likely. Conversely, we expect $(\beta_1 + \beta_2)$ to be negative, suggesting that GC_TOP5 reduces investment in environments where overinvestment is more likely. The table shows the coefficient and the t significance (in brackets) for each variable. All variables are winsorized at 1st and 99th percentiles to avoid outliers. All other definitions of variables are reported in the Appendix.

Abbreviation: PIN, probability informed trading.

*, **, and *** represent significance levels of 0.10, 0.05, and 0.01 (two-tailed), respectively.

5.2 | Access to Capital

Next, we examine whether the transparency attributable to the GCs translates into better access to external finance. Prior research links higher reporting quality to lower information risk and, in turn, to greater capital availability (Biddle and Hilary 2006; Chen et al. 2024). We argue that when firm disclosure is of greater quality, lenders face less uncertainty and are less inclined to ration credit, reducing the likelihood that firms forgo positive-NPV projects (the underinvestment problem).[18] At the same time, the greater transparency due to GCs disciplines senior managers, curbing agency-driven ventures and limiting negative-NPV projects (the overinvestment problem). Accordingly, we expect two conditional effects. In settings prone to overinvestment, heightened transparency should be associated with tighter external funding. Conversely, in settings prone to underinvestment, the same transparency should encourage banks and investors to extend additional financing. Our empirical tests in the following subsections, therefore, assess whether capital providers interpret the GC's elevation to top management as a credible signal of information transparency and lending accordingly. Specifically, we test the role of GCs in access to debt and equity financing.

5.2.1 | GC and Access to Debt Financing

In this subsection, we examine the connection between GC and debt issuance in the environment when overinvestment and underinvestment are more likely to occur, using the following equation:

$$\Delta\text{DEBT\_ISSUANCE}_{i,t} = \alpha_0 + \alpha_1 \text{GC\_TOP5}_{i,t} + \alpha_2 \text{GC\_TOP5}_{i,t} \times \text{OVERL}_{i,t} + \alpha_3 \text{OVERL}_{i,t} + \alpha_4 \text{Gov}_{i,t-1} + \alpha_5 \text{Gov}_{i,t-1} \times \text{OVERL}_{i,t} \quad (5)$$

The dependent variable is $\Delta\text{DEBT\_ISSUANCE}_{i,t}$, which is adopted from Lara et al. (2016) and defined as change in debt issuance divided by total sales times 100 (Debt issuance$_t$ − Debt issuance$_{t-1}$/SALE$_t$). Debt issuance is defined by long-term debt issuance (DLTIS)—long-term debt reduction (DLTR)/current debt change (DLCCH). Further, the main independent variables are the presence of GC in the top management (GC_TOP5) and an environment where firms are more likely to overinvest (OVERFIRM). The model also employs both industry effect (Fama–French 48 industry classification) and year effect. Detailed definitions of variables are documented in the Appendix. We report the results in Table 8.

The coefficient in α_1 indicates how GCs can affect changes in debt issuance in the environment where firms are more likely to underinvest. Panel A of Table 8 shows that there is a positive and significant association between GC and debt issuance for underinvesting firms. This outcome signifies that GCs reflecting higher information transparency mitigate the underinvestment problem by increasing firms' access to debt financing, so companies have the required capital and do not have to pass up profitable projects (or projects with positive NPV). Further, we focus on α_1 and α_2 as they indicate how GCs can affect the change in debt issuance in an environment where firms are more likely to overinvest. The coefficient on $\alpha_1 + \alpha_2$ is negative and significant, suggesting that the presence of GCs restricts debt financing for overinvesting firms.

Our findings underscore the influence of GCs in shaping firms' information environment, thereby contributing to access to debt financing, which remains a critical mechanism for addressing investment inefficiencies. Through higher information transparency, GCs boost the credibility of firms' financial practices, thereby alleviating external financing frictions that could otherwise impede efficient capital allocation (Guariglia and Yang 2016; Hovakimian 2011). In underinvestment scenarios, GCs appear instrumental in fostering creditor confidence, enabling firms to secure essential capital. Notably, although our data do not allow us to ascertain whether this funding is exclusively directed toward positive-NPV projects, the evidence indicates that GCs play an important role in mitigating financial constraints that might otherwise lead to the rejection of valuable investment opportunities, contributing to investment inefficiencies (Guariglia and Yang 2016).

TABLE 8 | General counsel and access to capital.

Panel A: General counsel and debt issuance			
	DEBT_ISSUANCE$_t$		
	(1)	**(2)**	**(3)**
GC_TOP5$_t$ (1)	1.4903**	1.6429**	2.0240***
	(2.09)	(2.25)	(3.16)
GC_TOP5$_t$ × OVERFIRM$_t$ (2)	−2.6903**	−2.9918***	−3.8382***
	(−2.46)	(−2.65)	(−3.85)
(1) + (2)	−1.2000**	−1.3489**	−1.8142***
	(−2.55)	(−2.21)	(−3.48)
OVERFIRM$_{t-1}$	−7.8240***	−8.0481***	−10.3752***
	(−9.68)	(−6.43)	(−9.45)
LOG_ANFOL$_t$		0.3378	0.3577
		(0.82)	(1.00)
IO$_t$		−1.8778*	−2.1210**
		(−1.87)	(−2.41)
LOG_ANFOL$_t$ × OVERFIRM$_t$		−0.2288	−0.4075
		(−0.39)	(−0.79)
IO$_t$ × OVERFIRM$_t$		1.9467	2.5468**
		(1.42)	(2.12)
DEBT_ISSUANCE$_{t-1}$			−0.5214***
			(−47.21)
Controls included	Yes	Yes	Yes
Industry and year effect	Yes	Yes	Yes
Observations	35,090	35,090	35,090
Adjusted R^2	0.0200	0.0201	0.2409
Panel B: General counsel and equity issuance			
		EQUITY_ISSUANCE$_t$	
GC_TOP5$_t$ (1)	0.5115	0.2971	0.5947
	(1.15)	(0.66)	(1.49)
GC_TOP5$_t$ × OVERFIRM$_t$ (2)	−1.1150	−0.7080	−1.2055
	(−1.30)	(−0.81)	(−1.55)
(1) + (2)	−0.6035	−0.4109	−0.6108
	(−1.43)	(−0.91)	(−1.62)
OVERFIRM$_{t-1}$	6.1871***	7.9575***	8.3126***
	(10.41)	(8.09)	(9.12)
LOG_ANFOL$_t$		0.8671***	0.9223***
		(3.31)	(3.87)
IO$_t$		0.0597	0.0402
		(0.09)	(0.07)
LOG_ANFOL$_t$ × OVERFIRM$_t$		−1.3673***	−1.9442***
		(−2.97)	(−4.57)
IO$_t$ × OVERFIRM$_t$		0.8527	1.2458
		(0.67)	(1.10)

(Continues)

TABLE 8 | (Continued)

Panel B: General counsel and equity issuance			
		EQUITY_ISSUANCE$_t$	
EQUITY_ISSUANCE$_{t-1}$			−0.4456***
			(−33.31)
Controls included	Yes	Yes	Yes
Industry and year effect	Yes	Yes	Yes
Observations	35,090	35,090	35,090
Adjusted R^2	0.0333	0.0337	0.2252

Note: This table shows the effect of general counsel on access to capital in a situation where overinvestment and underinvestment problems are more likely. We adopt the empirical model proposed by Biddle et al. (2009) to examine how the presence of top manager counsel (GC_TOP5) influences investment efficiency. We expect β_1 to be positive, indicating that GC_TOP5 increases investment in settings where underinvestment is more likely. Conversely, we expect $(\beta_1 + \beta_2)$ to be negative, suggesting that GC_TOP5 reduces investment in environments where overinvestment is more likely. Panel A displays the results of the relationship between general counsel and debt issuance, whereas Panel B displays the results with equity issuance. The table shows the coefficient and the *t* significance (in brackets) for each variable. All variables are winsorized at 1st and 99th percentiles to avoid outliers. All other definitions of variables are reported in the Appendix. *, **, and *** represent significance levels of 0.10, 0.05, and 0.01 (two-tailed), respectively.

Conversely, in overinvestment contexts, our results indicate that GCs exert fiscal discipline by restricting debt issuance, potentially curbing the misallocation of resources to low-value or speculative projects. Such duality toward debt issuance highlights the strategic oversight of GCs, balancing enhanced access to capital with prudent financial stewardship and is in line with the literature, which echoes debt as a discipline mechanism (see Hitt and Smart 1994; Akins et al. 2020). We argue that such a GC role is essential in fostering conditions that align with improved investment efficiency and sustainable corporate growth. These findings resonate with existing evidence emphasizing that effective governance frameworks, particularly those championed by GCs, are integral to reducing financing frictions and safeguarding long-term organizational resilience toward improved investment efficiency (Rice 2024; Driss 2023; Chortareas et al. 2011).[19]

5.2.2 | GC and Access to Equity Financing

In this subsection, we use Equation (6) to examine the association between GC and equity financing among overinvesting and underinvesting firms:

$$\Delta\text{EQUITY\_ISSUANCE}_{i,t} = \alpha_0 + \alpha_1 \text{GC\_TOP5}_{i,t} + \alpha_2 \text{GC\_TOP5}_{i,t} \times \text{OVERL}_{i,t} + \alpha_3 \text{OVERL}_{i,t} + \alpha_4 \text{Gov}_{i,t-1} + \alpha_5 \text{Gov}_{i,t-1} \times \text{OVERL}_{i,t} \quad (6)$$

The dependent variable is $\Delta\text{EQUITY\_ISSUANCE}_{i,t}$, which is adopted from Lara et al. (2016) and defined as change in equity issuance divided by current sales and then multiplied by 100 (Equity issuance$_t$ − Equity issuance$_{t-1}$/SALE$_t$). Equity issuance is defined by Sale of Common and Preferred Stock (SSTK)—purchase of common and preferred stock (PRSTKC)). We present the results in Panel B of Table 8.

The coefficient on α_1 indicates how GCs can affect the change in equity issuance in an environment where firms are more likely to underinvest. In addition, we concentrate on α_1 and α_2 as they indicate how GCs can affect the change in equity issuance in an environment where firms are more likely to overinvest. Interestingly, the results in Panel B of Table 8 confirm that GCs have no significant effect on equity financing where firms are exposed to either overinvestment or underinvestment problems. This means that GCs do not employ equity financing as a mechanism to mitigate overinvestment and underinvestment; instead, they focus on debt financing, which is consistent with the prior literature on the disciplinary role of using debt (see Hitt and Smart 1994; Akins et al. 2020). These findings align with the recent study by Chen et al. (2024), which demonstrates that firms with a GC in top management (GC firms) face a significantly higher ex ante cost of equity.

6 | Further Analysis

6.1 | GC Characteristics and Investment Efficiency

This section examines how GCs' tenure, GC executive rank, and GC age affect the firm's investment efficiency. Lai and Liu (2017) find that executive tenure has a detrimental effect on investment decision, and it is supported by Ali and Zhang (2015), who find that CEOs tend to commit earnings management in their later years. Thus, we expect that GCs' tenure may influence their ability to shape the parameters of investment efficiency. The results in Table 9 show that GC tenure statistically improves investment efficiency for the three proxies of investment (INVEST, CAPEX, and NON_CAPEX).[20] It signifies that GCs with longer tenure do not deviate from their role as gatekeepers as they are consistently associated with better investment efficiency.

Panel B of Table 9 reports the results on how GCs' executive rank can affect investment.[21] The notion of this test is based on the study by Eisdorfer et al. (2013), who argue that executive compensation affects investment efficiency, suggesting that top management has a tendency to deviate from their supposed role to responsibly invest for the company's behalf given how much they are paid. Columns (1)–(3) of Panel B in Table 9 demonstrate that GC_RANK improves investment decisions using INVEST, CAPEX, and NON_CAPEX, respectively. Indicated here

TABLE 9 | General counsel characteristics and investment.

	$INVEST_t$	$CAPEX_t$	NON_CAPEX_t
Panel A: The effect of GC's tenure on investment			
	(1)	**(2)**	**(3)**
GC_TENURE_t (1)	0.6201***	0.4234***	0.5449***
	(7.65)	(4.09)	(7.97)
$GC\_TENURE_t \times OVERFIRM_t$ (2)	−1.1246***	−0.8118***	−0.9204***
	(−8.43)	(−3.94)	(−8.17)
(1) + (2)	−0.5045***	−0.3884***	−0.3755***
	(−8.38)	(−3.51)	(−7.28)
Controls included	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes
Year effect	Yes	Yes	Yes
Observations	40,413	40,413	40,413
Adjusted R^2	0.2705	0.4741	0.2562
Panel B: The effect of GC's executive rank on investment			
	(1)	**(2)**	**(3)**
GC_RANK_t (1)	1.5422***	1.0399***	1.2404***
	(9.18)	(4.78)	(8.74)
$GC\_RANK_t \times OVERFIRM_t$ (2)	−2.6786***	−2.0037***	−2.0735***
	(−9.72)	(−4.77)	(−8.94)
(1) + (2)	−1.1364***	−0.9638***	−0.8331***
	(−9.15)	(−4.37)	(−7.96)
Controls included	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes
Year effect	Yes	Yes	Yes
Observations	40,413	40,413	40,413
Adjusted R^2	0.2711	0.4742	0.2565
Panel C: The effect of GC's age on investment			
	(1)	**(2)**	**(3)**
GC_AGE_t (1)	0.2332***	0.0124**	0.2067***
	(7.74)	(2.35)	(7.82)
$GC\_AGE_t \times OVERFIRM_t$ (2)	−0.4662***	−0.0842**	−0.4040***
	(−12.09)	(−2.00)	(−12.01)
(1) + (2)	−0.2330***	−0.0718**	−0.1973***
	(−8.79)	(−2.08)	(−8.57)
Controls included	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes
Year effect	Yes	Yes	Yes
Observations	12,715	12,715	12,715
Adjusted R^2	0.2246	0.4463	0.2323

(Continues)

TABLE 9 | (Continued)

Note: This table shows the effect of different general counsel characteristics on investment where overinvestment and underinvestment problems are more likely. We adopt the empirical model proposed by Biddle et al. (2009) to examine how the presence of top manager counsel (GC_TOP5) influences investment efficiency. We expect β_1 to be positive, indicating that GC_TOP5 increases investment in settings where underinvestment is more likely. Conversely, we expect $(\beta_1 + \beta_2)$ to be negative, suggesting that GC_TOP5 reduces investment in environments where overinvestment is more likely. Panel A (Panel B) displays the results of the relationship between general counsel tenure (Executive Rank) and investment. Panel C displays the results of the relationship between general counsel age and investment. The table shows the coefficient and the t significance (in brackets) for each variable. All variables are winsorized at 1st and 99th percentiles to avoid outliers. All other definitions of variables are reported in the Appendix.

*, **, and *** represent significance levels of 0.10, 0.05, and 0.01 (two-tailed), respectively.

TABLE 10 | CEO expertise and the relationship between general counsel and investment inefficiency.

Panel A: Using MA SCORE

	$INVEST_t$		$CAPEX_t$		NON_CAPEX_t	
	High MA SCORE	**Low MA SCORE**	**High MA SCORE**	**Low MA SCORE**	**High MA SCORE**	**Low MA SCORE**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
GC_TOP5_{t-1} (1)	6.2669***	4.8143***	4.8824***	1.2483	5.0920***	4.1790***
	(7.91)	(7.37)	(4.56)	(1.56)	(7.55)	(4.39)
$GC\_TOP5_{t-1} \times OVERFIRM_t$ (2)	−10.3046***	−8.6098***	−9.0974***	−2.7161*	−7.8576***	−6.1857***
	(−8.26)	(−7.99)	(−4.62)	(−1.76)	(−7.42)	(−4.76)
(1) + (2)	−4.0377***	−3.7955***	−4.215***	−1.4678*	−2.7656***	−2.0067***
	(−7.48)	(−7.71)	(−4.22)	(−1.81)	(−7.14)	(−6.01)
Diff (H–L)	1.4526*		3.6341**		0.9130*	
F-test on the difference	[2.28]		[4.06]		[3.79]	
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	20,205	20,205	20,205	20,205	20,205	20,205
Adjusted R^2	0.2984	0.2342	0.4867	0.4463	0.2821	0.2147

Panel B: Using MA RANK

	MA RANK	**MA RANK**	**MA RANK**	**MA RANK**	**MA RANK**	**MA RANK**
GC_TOP5_{t-1} (1)	6.3845***	4.8100***	4.9505***	1.5397**	5.1746***	5.1533***
	(7.43)	(7.70)	(4.22)	(2.03)	(7.01)	(3.79)
$GC\_TOP5_{t-1} \times OVERFIRM_t$ (2)	−10.3835***	−8.6261***	−8.8767***	−3.4944**	−7.9076***	−7.1229***
	(−7.72)	(−8.33)	(−4.11)	(−2.41)	(−6.85)	(−8.13)
(1) + (2)	−3.9990***	−3.8161***	−3.9262***	−1.9547**	−2.7330***	−1.9696***
	(−6.97)	(−8.00)	(−3.60)	(−2.57)	(−7.73)	(−5.54)
Diff (H–L)	1.5745*		3.4108*		0.0213*	
F-test on the difference	[2.72]		[3.05]		[3.35]	
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	20,205	20,205	20,205	20,205	20,205	20,205
Adjusted R^2	0.2993	0.2389	0.4861	0.4538	0.2876	0.216

Note: This table examines whether CEO expertise influences the relationship between corporate governance (CG) and investment efficiency. Panel A presents results using the managerial ability score as a measure of CEO expertise, whereas Panel B uses the managerial ability rank. The table shows the coefficient and the t significance (in brackets) for each variable. All variables are winsorized at 1st and 99th percentiles to avoid outliers. All other definitions of variables are reported in the Appendix.

*, **, and *** represent significance levels of 0.10, 0.05, and 0.01 (two-tailed), respectively.

TABLE 11 | Sarbanes–Oxley act and the link between general counsel and investment.

	$INVEST_t$		$CAPEX_t$		NON_CAPEX_t	
	Before 2002	**After 2002**	**Before 2002**	**After 2002**	**Before 2002**	**After 2002**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
GC_TOP5_{t-1} (1)	2.9235	6.7301***	1.2444	4.0202*	1.6168	5.9014***
	(1.42)	(10.25)	(1.48)	(1.91)	(0.89)	(10.44)
$GC\_TOP5_{t-1} \times OVERFIRM_t$ (2)	−3.8962	−11.3707***	−2.9523	−6.1594**	−2.0399	−9.6139***
	(−1.08)	(−10.87)	(−1.26)	(−2.47)	(−0.63)	(−10.70)
(1) + (2)	−0.9727	−4.6406***	−1.7079	−2.1392**	−0.4231	−3.7125***
	(−0.57)	(−10.36)	(−0.94)	(−2.50)	(−0.26)	(−9.62)
$BOARD\_IND_{t-1}$	0.1969***	0.3039**	0.1657***	0.3527*	0.1977*	0.2035***
	(2.41)	(4.33)	(1.82)	(2.82)	(1.86)	(5.15)
Diff (after–before)	3.8066***		2.7758****		4.2846***	
F-test on the difference	[14.77]		[11.09]		[14.25]	
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14,755	25,658	14,755	25,658	14,755	25,658
Adjusted R^2	0.279	0.2397	0.5228	0.4445	0.2351	0.2536

Note: This table presents how the enactment of Sarbanes–Oxley 2002 influences the relationship between general counsel on investment. We adopt the empirical model proposed by Biddle et al. (2009) to examine how the presence of top manager counsel (GC_TOP5) influences investment efficiency. We expect β_1 to be positive, indicating that GC_TOP5 increases investment in settings where underinvestment is more likely. Conversely, we expect $(\beta_1 + \beta_2)$ to be negative, suggesting that GC_TOP5 reduces investment in environments where overinvestment is more likely. Odd columns show the effect of GC and Investment prior to the enactment of this legislation (1992–2002), whereas even columns display the effect of GC and investment after its enactment (2003–2023). The table shows the coefficient and the t significance (in brackets) for each variable. All variables are winsorized at 1st and 99th percentiles to avoid outliers. All other definitions of variables are reported in the Appendix.

*, **, and *** represent significance levels of 0.10, 0.05, and 0.01 (two-tailed), respectively.

is that highly paid GCs still maintain their fiduciary duty as they have to resolve firm overinvestment and underinvestment problems.

Panel C of Table 9 exhibits the results on how GC age can affect corporate investment decisions based on the studies done by Serfling (2014), who argue that older and newly appointed CEOs tend to underinvest due to their career concerns. Further, Yim (2013) finds that younger CEOs tend to pursue more investment opportunities as they have stronger financial motives. Similarly, there is a concern that older GCs may influence their effectiveness in enhancing investment efficiency due to career concerns. Columns (1)–(3) of Panel C in Table 9 display that older GCs do not deviate from their supposed role to mitigate investment inefficiency problems. It signifies that age does not influence the effectiveness of GCs in affecting corporate investment.

Overall, our findings in this section highlight the nuanced role of GCs characteristics in shaping investment efficiency, offering critical insights into corporate governance dynamics. The results in Panel A of Table 9 show a positive association between GC tenure and investment efficiency suggests that longer-serving GCs leverage institutional familiarity and accumulated authority to mitigate investment inefficiencies. This stands in contrast to the broader literature, such as Lai and Liu (2017), which highlights the potential pitfalls of extended CEO tenure, including entrenchment and diminished adaptability. However, the consistency of the results with GC tenure underscores the distinctive gatekeeping responsibilities of GCs, differentiating them from CEOs. The legal and ethical oversight inherent to the GC role, bolstered by their prolonged tenure, appears to mitigate the complacency risks typically associated with long-serving executives. This unique function likely enables GCs to leverage their institutional knowledge to uphold investment efficiency.[22]

The findings on GC executive rank in Panel B reveal compelling yet multifaceted implications. Although this study demonstrates that highly ranked GCs significantly enhance investment efficiency, this outcome contrasts with prior research, such as Eisdorfer et al. (2013), which highlights the risk of top executives' financial incentives fostering self-serving behaviors. Similarly, Hopkins et al. (2015) and Goh et al. (2015) document instances where highly compensated GCs, particularly those closely aligned with CEOs or CFOs, abandon their oversight responsibilities to enable opportunistic practices like aggressive accounting and tax avoidance. The ability of highly ranked GCs in this study to maintain a fiduciary focus may stem from the stringent legal and regulatory accountability inherent in their roles, serving as a robust deterrent to potential conflicts of interest.

The evidence on GC age in Panel C challenges prevailing stereotypes that older executives are inherently risk-averse and prone to underinvestment due to career concerns (Serfling 2014). Our findings reveal that GCs, regardless of age, consistently address investment inefficiencies effectively. This is likely due to their professional obligation to uphold corporate governance and ethical standards, a responsibility that transcends age-related biases. This contrasts sharply with Yim (2013), who observes that younger CEOs tend to be more aggressive in pursuing investment opportunities. These results highlight that GCs demonstrate a degree of professional insulation from personal career concerns, prioritizing their gatekeeping role over self-serving behaviors.

Moreover, these findings underscore a key distinction between GCs and CEOs. Although CEOs may act under career-related pressures that influence their investment strategies, GCs operate within a legal and ethical framework that inherently curtails such tendencies. Unlike CEOs, who might push legal boundaries or adopt risky strategies to bolster their career trajectories, GCs, by virtue of their training and fiduciary duties, are legally and ethically compelled to act as corporate gatekeepers. They are less inclined to preserve the status quo for short-term gains and instead focus on ensuring long-term compliance and governance integrity, reinforcing their distinct and critical role within the corporate hierarchy.

6.2 | Does CEO Expertise Matter Between CG and Investment Efficiency Nexus?

CEO expertise, particularly in areas such as finance, strategy, or industry-specific knowledge, can significantly shape the extent to which the GC can exercise their gatekeeping role (Buyl et al. 2010; Gan 2019; Mishra 2014). An experienced CEO with strong strategic acumen might complement the GC's oversight by fostering an environment where investment decisions are critically evaluated, enhancing the alignment between governance and operational efficiency (Gan 2019). Conversely, a CEO lacking relevant expertise may rely more heavily on the GC's guidance, potentially amplifying the GC's influence on investment efficiency.

Although CEO expertise is often presumed to enhance the effectiveness of a GC's gatekeeping role, this relationship may not always function in a straightforwardly complementary manner. An experienced CEO with strong strategic acumen might, paradoxically, limit the GC's influence by asserting greater autonomy over decision-making, potentially sidelining the GC's governance input. In such scenarios, strategic priorities might overshadow rigorous governance practices, heightening risks of overinvestment or resource misallocation (Mishra 2014)—reducing the GC to a facilitator of the status quo rather than an active governance agent. To test this idea, we use two managerial ability measures—MA Score and MA Rank—proposed by Demerjian et al. (2012) as proxies for CEO skills. These measures capture the CEO's ability to efficiently convert resource inputs into outputs (Demerjian et al. 2013; Cornaggia et al. 2017). The results are presented in Table 10.

The findings presented in Table 10 offer important insights into the interplay between GCs and investment efficiency, particularly in the context of CEO expertise. The results in Panels A and B of Table 10 reveal that the impact of GCs in mitigating overinvestment and underinvestment issues is influenced by the expertise of the CEO. Specifically, the relationship between GCs and investment efficiency is substantially stronger in firms led by highly skilled CEOs. This underscores the complementary role GCs play in enhancing investment efficiency when aligned with strategically capable and adept CEOs. In high-skill CEO firms, the coefficients for GC_TOP5 are consistently more significant and positive, underscoring the value GCs add by amplifying the CEO's ability to optimize investment decisions through governance expertise. The interaction term (GC_TOP5 × OVERFIRMt) further reveals a more pronounced negative effect on overinvestment in firms with high-skill CEOs, meaning that GCs in these contexts are more effective at curbing excessive resource allocation. The *F*-tests support these findings, revealing statistically significant differences between firms led by high- and low-skill CEOs. This reinforces the argument that the impact of GCs, particularly in reducing underinvestment, is more pronounced in environments where strong executive expertise is present.

Our findings highlight a complementary relationship between GCs and skilled CEOs. Although high-ability CEOs excel in identifying and executing high-value investment opportunities, GCs enhance these efforts by ensuring legal compliance, ethical governance, and effective risk management. These results challenge the traditional view of GCs as mere regulatory agents, instead positioning them as strategic partners who contribute to governance and operational excellence when working alongside strong executive leadership.

6.3 | Sarbanes–Oxley Act and the Link Between GC and Investment

Bainbridge and Johnson (2004) suggest that Section 307 of the SOX 2002 enhances the responsibility of GCs as they are expected to be more involved in personally certifying financial reports, thereby being directly responsible for producing higher quality information. Abernathy et al. (2019) analyze the post-SOX period (2003–2013) and show that GC-induced information transparency increases auditors' trust in client reports, leading to lower audit fees. Based on the discussion above, we conduct a test by dividing the study period into: (1) Pre-SOX 2002 (1992–2002) and (2) Post-SOX 2002 (2003–2023) and report the results in Table 11.

As expected, Columns (2), (4), and (6) show that GCs' impact in overcoming investment inefficiency problems (both over and underinvestment) is more pronounced after the enactment of the SOX 2002 (2003–2023), even after controlling for board independence.[23] We perform an *F*-test to assess the null hypothesis that the coefficients capturing GCs' impact on investment in environments prone to underinvestment (i.e., the coefficient of (1) is identical between the two periods—before and after 2002). The results indicate that, across all models, the presence of a GC significantly increased underinvestment more in the post-SOX period compared to the pre-SOX period, and the difference is statistically significant at the 1% level. Overall, the results indicate that the US federal government's decision to enact SOX 2002—aimed at improving firms' credibility by enhancing the GC's responsibilities—can be considered an

effective and meaningful step toward strengthening corporate governance procedures and policies.

7 | Conclusions

In this article, we examine whether GCs in top management teams are associated with investment efficiency and find their presence significantly reduces over and underinvestment problems. We also show these firms exhibit less deviation from their predicted investment levels, thus supporting the gatekeeper role of GCs. These results withstand rigorous testing through various robustness measures, including alternative investment level measures, alternative proxies for overinvestment tendencies, change-on-change analysis, and PSM.

Our study further investigates the mechanisms through which GCs influence investment efficiency by examining their dual roles as gatekeepers and facilitators. Our findings provide explicit evidence that GCs' impact on investment efficiency stems from their ability to improve corporate disclosure, which then secures access to necessary capital, as supported by prior studies (Kwak et al. 2012; Biddle and Hilary 2006). These findings highlight the significant value of GCs in fostering transparency, contributing to alignment between capital allocation and long-term corporate objectives, and demonstrating their importance beyond compliance as active contributors to organizational efficiency.

In our additional analysis, we show that longer-tenured GCs utilize their institutional knowledge to mitigate inefficiencies, whereas high-ranking GCs effectively uphold their fiduciary responsibilities despite potential financial incentives supported by the legal and regulatory accountability inherent to their roles. Regardless of age, GCs consistently demonstrate their ability to address investment inefficiencies effectively. We also show that skilled CEOs and GCs exhibit a complementary dynamic, integrating CGs strategic acumen with governance expertise to optimize decision-making and address investment inefficiencies. Our findings indicate that the effectiveness of GCs in addressing investment inefficiencies became increasingly pronounced following the passing into law of the SOX 2002, highlighting the growing importance of information transparency in corporate governance.

Our research article makes substantial contributions to the existing literature in at least two important aspects. First, it enriches our knowledge about the economic implications of GC, addressing the divergent findings observed in prior studies regarding the dual roles of GCs as gatekeepers and facilitators. Our study enhances the understanding of GCs by providing evidence of their favorable influence on firms' investment efficiency. Second, our study expands the literature on the determinants of firm-level investment efficiency. Previous research has identified several factors such as financial reporting quality, government intervention, state and foreign ownership, financial analysts, and media coverage (Biddle et al. 2009; Chen et al. 2011, 2017; Gao et al. 2021) as influential in shaping investment efficiency. In this context, our study contributes to the topic by identifying a crucial factor that enhances firms' investment efficiency: the presence of GCs in senior management. Despite this study's contributions, we acknowledge a key limitation that opens paths for future inquiry. Our analysis centers solely on the GC's gatekeeping role, leaving the GC's expanding advisory function in strategic decision-making untested. Future scholars could draw on qualitative evidence—such as board minutes, executive interviews, or other internal disclosures—to examine how this advisory dimension shapes corporate policies and influences firm performance.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available in various open commercial databases listed below: Compustat Execucomp Thomson Reuters IBES.

Endnotes

[1] For additional background information, please see web links to pages of Alan N. Braverman and Katherine Adams.

[2] According to the Execucomp database, 95% of US General Counsels are senior executives and among the five highest paid, highlighting the critical role they play in companies.

[3] https://chambers.com/lawyer/alan-n-braverman-gc-influencers-77:178392.

[4] https://ccbjournal.com/articles/congratulations-kate-adams-general-counsel-year.

[5] Although Compustat database provides accounting variables from 1950 onwards, our study period starts in 1992 due to Execucomp database availability.

[6] Details of classification on Fama–French 12 industry classification can be find in; http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/det_12_ind_port.html.

[7] Following prior studies, we used GC_TOP5 at time t instead of $t-1$ as GCs need to be in the top management in the current fiscal year, if they are to wield any influence on corporate decisions (Jagolinzer et al. 2011; Hopkins et al. 2015; Abernathy et al. 2019). Nevertheless, our results hold consistently throughout the article when using GC_TOP5 at time $t-1$ instead of t.

[8] Details of company control variables and governance variables can be found in the Appendix where variables are described.

[9] Unlike the study by Biddle et al. (2009), which only utilizes industry fixed effect, we control both industry and year fixed effect to enhance the robustness of the findings (Tsai et al. 2021).

[10] We also implement the deviation from the expected level of investment (negative and positive residuals) as an alternative model specification in Section 4.4.

[11] Specifically, the coefficient on GC_TOP5t is positive and significant at the 1% level, whereas it is negative and significant for the coefficient on (1) + (2), except for NON_CAPEX proxy.

[12] We sincerely thank the anonymous reviewer for this valuable suggestion.

[13] Our results remain consistent when applying a year-over-year change analysis.

[14] More details on the variable construction are provided in Section 3.6.2.

[15] Data are obtained from https://terpconnect.umd.edu/~stephenb/pinsdatanew.html.

[16] We thank Professor Brian Miller for providing the data: https://sites.google.com/iu.edu/professorbrianpmiller/bog-data.

[17] Except for the CAPEX measure, which shows outcomes that are negative and insignificant in Panel B.

[18] Firms tend to underinvest when their access to the debt financing is harder to achieve (Stulz 1990).

[19] Although our study focuses on the gatekeeping and strategic roles, future research could empirically investigate the underexplored advisory role of general counsels (GCs), particularly given the expanded responsibilities observed post-SOX.

[20] GC tenure is defined as tenure for GCs who work in top management. The variable is coded as 0 for firms who have no GC in their executive management positions.

[21] GC executive rank varies from zero to five. Five means firms have a GC as the highest ranking executive officer, four means GC is the second-highest-ranking executive officer, three means GC is the third-highest-ranking executive officer, and so on. Zero means firms have no GC in the top management or no GC at all.

[22] Nonetheless, further research is warranted to determine whether the benefits of extended GC tenure persist or diminish beyond certain thresholds, aligning with concerns raised by Ali and Zhang (2015) about the potential for earnings management in the later stages of executive careers.

[23] We thank the anonymous reviewer for highlighting that SOX strengthens other dimensions of corporate governance, particularly board independence. In response, we have included board independence as a control variable to ensure that our findings are not driven by this factor.

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Appendix

Descriptions of Variables

Investment	Definition
INVEST	Investment expenditure, measured as the total of research and development expenditure (XRD), capital expenditure (CAPX), and acquisition expenditure (AQC) less cash from sale of property, plant, and equipment (SPPE) multiplied by 100 and then divided by lagged total assets (AT) (Biddle et al. 2009). Compustat database
CAPEX	Capital expenditure (CAPX) multiplied by 100 and scaled by lagged PPE (PPENT). Compustat database
NON_CAPEX	Total of research and development expenditure (XRD) and acquisition expenditure (AQC) times by 100 divided by lagged total asset (AT). Compustat database
Overinvestment variables	
OVERFIRM	A ranked variable of the mean of a decile measure of cash and leverage. We multiply leverage by minus one before ranking so that both variables are increasing in the tendency of overinvestment (Biddle et al. 2009)
OVERAGGREGATE	A ranked variable of residual or unexplained total investment for all firms. Total investment is measured by adding INVEST, CAPEX, and NON_CAPEX and regressing total investment on total sales growth. The residuals are ranked into deciles and rescaled into 0–1
OVERINDUSTRY	A ranked variable of residual or unexplained investment based on industry-year data (using 48 Fama–French industry classifications). For each industry-year, total investment is measured by adding INVEST, CAPEX, and NON_CAPEX and regressing industry-year total investment on industry-year total sales growth. The residuals are ranked into deciles and rescaled into zero to one
OVERINV	Overinvestment measured as the magnitude of the positive residuals from Equation (2)
UNDERINV	Underinvestment measured as the magnitude of the negative residuals from Equation (2)
Corporate general counsel variables	
GC_TOP5	The presence of GC in the top management is defined as a dummy variable taking the value of one if GC is one of the top five management positions (GC_TOP5), zero otherwise. Execucomp database
GC_RANK	GC executive ranking varies from zero to five. Five meaning that the GC is the highest executive, and zero indicating that the GC is not in the top five or there is no GC at all. Execucomp database
GC_TENURE	Natural log of one plus GC tenure. Execucomp database
GC_AGE	Age of the GC in charge of the company. Execucomp database
Governance control variable	
LOG_ANFOL	Natural logarithm of a monthly average number of analysts following of the firms during the fiscal year. Data are obtained from IBES database
IO	Percentage of institutional ownership of the firms obtained from Thomson Reuters database
Company control variables	
LNTA	Firm's size calculated as the natural log of total assets (AT)
MB	Market-to-book ratio is defined as the ratio of market value of asset (AT + (CSHO × PRCC_F) − CEQ − TXDB) to book value of asset
VOL_CFO	Operating cash flow volatility is calculated by standard deviation from years $t-5$ to $t-1$ of cash flow from operation (OANCF) divided by total assets (AT)
VOL_SALE	Firms' annual earnings volatility is defined as a standard deviation from years $t-5$ to $t-1$ of sales (SALE) divided by total assets (AT)
VOL_INVEST	Firms' investment volatility is defined as a standard deviation from years $t-5$ to $t-1$ of investment (INVEST)

(Continues)

Company control variables	
ZSSCORE	Altman Bankruptcy *Z* score, which is calculated using the following formula: $1.2 \times (\text{WCAP/AT}) + 1.4 \times (\text{RE/AT}) + 3.3 \times (\text{EBIT/AT}) + 0.6 \times (\text{CSHO} \times \text{PRCC\_F}/1000)/(\text{DLC} + \text{DLTT}) + (0.99 \times \text{SALE/AT})$
TANG	Asset tangibility is defined as ratio of property, plant, and equipment (PPENT) to total assets (AT)
IND_K_STRUCTURE	The average of K_STRUC for firms is in the same SIC-3-digit industry. K STRUCTURE is defined as the ratio of long-term debt (DLTT) to the sum of long-term debt to the market value of equity (DLTT + CSHO × PRCC_F)
CFOSALE	Firm's profitability interpreted as the ratio of operating net cash flow (OANCF) divided by total sales (SALE)
CASH	This variable is interpreted as the ratio of cash (CHE) to total assets (AT)
DIV	An indicator variable that indicates whether firms pay dividends or not during the fiscal year and is coded by one if firms paid a dividend (DVC), zero otherwise
CYCLE	Cycle is the natural logarithm of receivables to sales (RECT/SALE) plus inventory to COGS (INVT/COGS) multiplied by 360
LOSS	A dummy variable indicates whether the firms experience loss or no loss during the fiscal year, which is coded by one if net income before extraordinary items is negative, zero otherwise
FIRMAGE	Natural log of how long the firms have been registered at Compustat since 1950
SLACK	This variable interpreted as the ratio of cash (CHE) to property, plant, and equipment (PPENT)