

Selling to the State: Public Procurement and Discretionary Accruals

Evidence on accrual-based earnings management among Swedish firms

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Abstract

This study examines whether Swedish public procurement suppliers exhibit systematically different accrual-based earnings management compared to non-suppliers. Drawing on political cost theory and the Swedish Public Procurement Act (LOU), we estimate discretionary accruals via the performance-adjusted Modified Jones model using approximately 480,000 firm-year observations over 2021–2023. Suppliers exhibit lower absolute discretionary accruals, though this result is sensitive to winsorization. Contrary to political cost theory, suppliers display a significant positive association with signed discretionary accruals, reflecting less extreme negative accruals rather than higher positive ones. Results are mostly robust across alternative specifications, though the cross-sectional design precludes important endogeneity tests and the findings should be interpreted with caution.

Keywords: Earnings management, Discretionary Accruals, Public Procurement, Sweden

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1. Introduction

1.1 Background

Public sector bodies, including governments and state-owned enterprises, are among the largest customers of the private sector worldwide. Swedish public procurement totals more than 800 billion SEK annually, representing around 17.2% of Sweden's GDP in 2023. Suppliers that sell to governments through the public procurement process face scrutiny from the state, both as a regulator and as a customer, thereby increasing their political sensitivity. Watts & Zimmerman (1978)'s political cost theory proposes that political scrutiny influences corporate behaviour to avoid negative government action. Empirical evidence supports this claim as Mills et al. (2013) finds that contractors with high government dependence refrain from aggressive tax behavior, accepting higher cash tax payments to minimize the risk of regulatory scrutiny. Samuels (2021) documents a similar pattern in financial reporting, finding that government contracting improves the quality of external financial statements, as procurement-related requirements incentivise contractors to meet minimum financial standards. The financial audits and qualification requirements embedded in the procurement process may therefore constrain suppliers' discretion over reported figures. This raises the question of whether procurement suppliers alter their reporting behaviour compared to non-supplier firms.

Public sector bodies rely on accounting information to assess suppliers' financial stability, tax compliance, and ability to fulfil contractual obligations. This creates an environment in which reported financial information may have direct economic consequences for firms seeking to secure and maintain government contracts. Financial reporting quality is closely linked to earnings management, which refers to managerial discretion over accounting choices that influence reported financial earnings (Schipper, 1989). Earnings management is one of the most heavily researched accounting topics over the past three decades. Notably, contractual obligations appear to be a key cause of such behaviour. A survey of 401 financial executives found that the majority of managers engage in some form of earnings management in order to reach contractual, regulatory, and market-related goals (Graham et al., 2005).

This thesis examines whether public procurement suppliers demonstrate systematically different reporting patterns from comparable non-suppliers.

1.2 Purpose & Contribution

While theoretical and empirical research suggests that government exposure shapes financial reporting behaviour, direct evidence linking procurement participation to accrual-based earnings management remains limited. Glegg et al. (2022) and Liu, Zhuang and Xu (2025) test this relationship among listed US and Chinese firms respectively, but neither examines private firms. The Swedish institutional setting presents a distinct context for such research, as the regulatory framework imposes explicit financial qualification requirements that may shape reporting behaviour.

This thesis intends to address this gap via examining the association between public procurement participation and earnings management among Swedish firms. Accordingly, we seek to answer the following research question: *Do Swedish public procurement suppliers exhibit systematically different accrual earnings management compared to non-suppliers due to public procurement processes?*

This study contributes to the earnings management literature by extending the political cost theory framework to a Swedish private-firm procurement setting, where existing evidence is largely confined to listed US and Chinese firms (Glegg et al., 2022; Liu, Zhuang & Xu, 2025). It also adds to the growing literature on earnings management in private firms by applying accrual-based estimation to Swedish unlisted companies, where reporting frameworks and data availability differ markedly from the listed-firm settings that dominate existing research.

1.3 Delimitations

The scope of this thesis is limited to audited Swedish limited liability companies (aktiebolag) during 2021–2023, with 2020 financial data used exclusively to construct lagged variables for accrual estimation. Unaudited micro-firms below the statutory audit threshold are excluded, meaning our findings apply to the audited private-firm population only. We focus on accrual-based earnings management, as cash flow statements are unavailable for the majority of private firms in our sample, precluding analysis of real earnings management. The analysis covers firms awarded contracts recorded in the Upphandlingsmyndigheten database, which

aggregates tender-managed procurement; direct purchases below the formal tender threshold are not captured.

1.4 Results

Suppliers exhibit lower absolute discretionary accruals than industry-matched non-suppliers, though this result is sensitive to winsorization and becomes insignificant at more aggressive thresholds. The second hypothesis is not supported, as suppliers display a significant positive rather than negative association with signed discretionary accruals. Decomposing by accrual direction shows that this positive association is driven by suppliers reporting less extreme negative accruals rather than larger positive ones.

2. Theory

2.1 Agency Theory

Modern corporations are characterized by a separation of ownership and management: managers run day-to-day operations, while owners (shareholders) bear financial risk. This common arrangement, in which the owner delegates decision-making authority to managers, creates a principal-agent problem when both parties are utility maximizers with divergent interests. Because managers may prioritise job security, compensation, or personal reputation over maximizing firm value, the delegation of authority introduces a risk that managerial decisions may not align with owner interests. This risk is compounded by information asymmetry: managers have access to private information about the firm's operations, whereas owners and other stakeholders rely on financial statements to evaluate performance (Jensen & Meckling, 1976). Since outsider stakeholders, including owners, cannot verify the accuracy of the financial statements or the decisions behind them, this leaves room for accounting discretion, which creates conditions for earnings management. Given that managers possess accounting discretion, what incentivizes managers to use this discretion to manage earnings?

2.2 Political Cost Theory

Positive Accounting Theory proposes three main hypotheses that explain why management makes certain accounting decisions: the bonus plan hypothesis, the debt covenant hypothesis, and the political cost hypothesis (Watts & Zimmerman, 1986). The main focus of our thesis is

the political cost hypothesis, as it provides a suitable framework for examining the relationship between government attention and accounting decisions.

To understand the political cost hypothesis, it is first necessary to define political costs. Political costs are the expected costs firms incur from government action, such as increased taxes, fines, and regulations. These costs may vary considerably over time and can negatively affect firms that are exposed to them. The political cost hypothesis predicts that firms with higher political visibility have incentives to make accounting choices that reduce expected political costs arising from government scrutiny. Watts and Zimmerman (1978, 1986) primarily associate political visibility with firm size and reported profitability, arguing that large and highly profitable firms are more likely to attract attention from the government which may increase the likelihood of adverse political actions, including higher taxation, stricter regulation, price controls, or other wealth transfers.

Subsequent literature has broadened the concept of political visibility beyond firm size and profitability to include factors such as industry sensitivity, regulatory exposure, and economic dependence on the state (Jones, 1991; Han & Wang, 1998; Mills et al., 2013; Hadley, 2019).

2.3 Connection to Public Procurement

Public procurement suppliers operate in a setting where political costs are particularly salient, since the government acts not only as a regulator but also as a customer (Mills et al., 2013). Contracting authorities have both the incentive and the obligation to verify suppliers' financial strength (Samuels, 2021). Prior research and existing regulation show that contract outcomes depend partly on reported financial position, giving financial statements a direct role in securing and maintaining business (Samuels, 2021; Swedish Public Procurement Act, Ch. 14). Firms found to misrepresent their financials risk losing current and future contracts, further raising the cost of inaccurate reporting. Moreover, procurement contracts are public records, meaning that winning contractors and contract amounts are openly visible, increasing disclosure and the expected costs of manipulating financial statements (Samuels, 2021).

3. Literature Review

3.1 Earnings Management: Concept & Theory

3.1.1 Definition

Earnings management is broadly defined as managers using their own judgment in reporting and structuring transactions to influence reported performance (Healy & Wahlen, 1999). Earnings management broadly takes three forms: fraudulent accounting, accrual management, and real earnings management. Fraudulent accounting is a type of accounting practice that does not follow the generally accepted accounting principles (GAAP) and is not the focus of this paper (Dechow & Skinner, 2000; Cohen et al., 2008; Gunny, 2010).

3.1.2 Accrual Earnings Management vs Real Earnings Management

Accrual earnings management is a within-GAAP manipulation of earnings that exploits the ambiguity and flexibility of certain accounting rules. These discretionary choices are only considered earnings management when managers use them to mask true economic performance (Healy & Wahlen, 1999; Dechow & Skinner, 2000). Discretionary accruals enable the manager to transfer earnings between periods to meet goals and maximize bonus awards (Healy, 1985). Accrual earnings management can be achieved by changing the depreciation method, under-provisioning for bad-debt expenses, and delaying asset write-offs, thereby avoiding direct cash flow consequences (Roychowdhury 2006).

Real activities manipulation is an earnings management method in which managers make real economic decisions that differ from normal business practices to meet certain earnings thresholds. It is achieved by changing the timing or structure of operations, investments, or financial transactions, and is considered a sub-optimal decision for the business (Roychowdhury, 2006; Zang, 2012; Gunny, 2010). Since real activities manipulation changes actual business transactions, it has direct cash flow consequences, whereas accruals are manipulated after the fiscal year-end (Zang, 2012). Graham et al. (2005) found that the majority of managers are willing to sacrifice economic value through real earnings management in order to meet earnings goals. The authors also noted that they were reluctant to admit to accrual-based manipulation, likely due to image-related concerns and outside oversight. Under the Swedish K3 accounting framework, only firms that are considered 'Large companies' are mandated to prepare a cash

flow statement. Since a majority of our sample falls below the defined size thresholds and does not report cash flow data, it is not possible to construct real earnings management proxies (Roychowdhury, 2006).

3.1.3 Matching Principle & Discretion

The primary role of accruals is to overcome the problem of measuring firm performance over a given period, as cash flows alone are subject to timing and matching issues that make them noisy indicators of performance (Dechow, 1994). The accounting practice of matching handles this by aligning expenses with the revenues they contribute to (Paton & Littleton, 1940; Zimmerman & Bloom, 2016), capturing a firm's true operating performance over time and predicting its long-run earning power (Zimmerman & Bloom, 2016). This matching process requires managerial judgment: estimates must be made about when revenue is earned, how costs are allocated across periods, and the collectability of receivables. While such discretion is inherent to accrual accounting and allows managers to convey information about firm performance, it also creates the opportunity to influence reported earnings.

3.1.4 Discretionary vs Non-Discretionary Accruals

Total accruals can be decomposed into two components: non-discretionary accruals, which reflect normal adjustments arising from a firm's economic activity, and discretionary accruals, which represent the unexplained residual (Jones, 1991). A firm experiencing sales growth will naturally see its receivables and inventory rise, just as holding depreciable assets generates predictable depreciation expense (Bernard & Skinner, 1996). It is the portion beyond such expected accruals that serves as the primary proxy for earnings management in the empirical literature, as the residual is assumed to reflect managerial discretion (Jones, 1991).

3.1.5 Incentives (Capital Markets, Contracts, Regulation)

Prior literature has identified various motives for companies to engage in earnings management. We can broadly divide them into three categories:

Capital markets pressures have been argued to play a major role in earnings management, as managers face pressure to meet or exceed analyst forecasts (Degeorge et al., 1999; Kasznik, 1999). The three most important earnings benchmarks are reporting a profit, earnings from last

year, and beating analysts' consensus estimates (Degeorge et al., 1999; Burgstahler & Dichev, 1997). Beyond earning benchmarks, Cohen & Zarowin (2010) find that managers have incentives to manage earnings upwards before equity issuance to drive up the offer price, with similar findings for initial public offerings and mergers (Teoh et al., 1998; Erickson & Wang, 1999).

Contractual motivations can arise when a contract between a firm and a counterparty is based on financial reports. Management typically has a compensation system that intends to align firm performance with stockholder interests, thereby creating a direct incentive to inflate earnings (Healy, 1985). Firms close to breaching debt covenants have incentives to manage earnings upward, as violations can trigger costly consequences such as renegotiation or higher interest rates (Watts & Zimmerman, 1986; Sweeney, 1994; Defond & Jiambalvo, 1994).

Regulatory forces represent a third category, as many regulations rely on reported financial data. Jones (1991) finds that firms seeking import relief benefits report income decreasing accruals to appear financially harmed. Han and Wang (1998) find that firms manage earnings downwards during periods of possible political scrutiny. Taxation is another regulatory incentive, in which managers manipulate earnings to minimize tax payments (Sundvik, 2016).

3.2 Measuring Accrual-Based Earnings Management

Measuring earnings management requires separating discretionary from non-discretionary accruals. Since neither component is directly observable, researchers have developed a series of models to estimate them. This division originated with Healy (1985), who proposed estimating the non-discretionary component and treating the residuals as discretionary accruals.

The Jones model (Jones, 1991) is the most widely accepted model in the earnings management literature (Dechow et al., 2010). It was introduced as a development over Healy (1985) and DeAngelo (1986), which assumed non-discretionary accruals were constant over time. Since accruals naturally vary with business activity, Jones addressed this by modelling non-discretionary accruals as a function of changes in revenue and the level of property, plant, and equipment (PPE). Despite the improvement, the model's explanatory power is low because it assumes all revenue accruals are non-discretionary, even though revenue manipulation is one of the most common forms of earnings management (Dechow et al., 2010; Graham et al., 2005).

Dechow et al. (1995) proposed a modified Jones model that replaces changes in revenue with changes in cash revenue, thereby assuming that all changes in credit sales are discretionary. The Modified Jones model has since become the most widely used specification in the literature (Dechow et al., 2012).

Kothari et al. (2005) show that extreme financial performance is correlated with discretionary accruals, meaning that the Jones and Modified Jones models are misspecified for firms with unusually high or low earnings. To address this, Kothari et al. (2005) suggest either a performance-matching procedure that subtracts discretionary accruals from a control firm matched on industry and ROA, or a regression-based approach that adds ROA as an additional regressor in the Modified Jones model. The two-staged regression approach with ROA in the first step is regarded as the more common method, as it is simple to implement and avoids the power loss associated with matched-pair designs (Dechow et al., 2012).

3.3 Public Procurement & Swedish Institutional Setting

Public procurement is the process by which government and public organizations buy goods and services from the private sector. Public procurement expenditure across OECD countries stood at 14.8% of GDP in 2023 (OECD, 2025). Given the scale of taxpayer funds involved, public organizations follow formal tender processes to ensure competition, transparency, and efficient allocation. In the EU, contracts above certain value thresholds must be awarded through competitive procurement procedures (Directive 2014/24/EU).

Firms that supply the public sector face a distinctive commercial relationship. Unlike private-sector customers, governments are unlikely to default or declare bankruptcy, and procurement contracts tend to be longer-term, reducing suppliers' risk of losing business (Goldman et al., 2013; D. Dhaliwal et al., 2016). These characteristics translate into a lower cost of equity, better contractual terms, and lower perceived risk for government suppliers (Cohen et al., 2022; D. Dhaliwal et al., 2016). With increasing concentration of government contracts, contractors tend to hold less cash, demonstrate lower earnings volatility, and show higher profitability (Cohen and Li, 2016; Cohen and Li, 2019).

Government contracts subject firms to more extensive monitoring than auditors, leading these firms to demonstrate higher-quality financial reporting (Samuels, 2021). Mills et al. (2013) show that contractors with high government dependence avoid aggressive tax strategies to reduce the risk of regulatory scrutiny, consistent with political cost theory (Watts & Zimmerman, 1986). More broadly, Ramanna & Roychowdhury (2010) show that politically sensitive firms use discretionary accruals to reduce reported earnings during periods of elevated political attention. Glegg et al. (2022) directly examine earnings management among procurement suppliers, they find that US listed government suppliers engage in greater real earnings management than non-suppliers while showing no statistically significant difference in accrual-based earnings management. Liu, Zhuang and Xu (2025) find that procurement participation reduces upward accrual-based earnings management among Chinese listed firms, attributing the effect to strengthened internal governance. Both studies, however, are restricted to US and Chinese institutional environments, and whether similar patterns hold in other contexts, such as Sweden, remains untested.

3.3.1 Swedish Procurement Framework (LOU)

Tender managed procurement contracts amount to more than 800 billion SEK annually, corresponding to 17.2% of Sweden's GDP in 2023, above the EU average of 14.8% (OECD, 2025). The process is administered by the Public Procurement Act (Lagen om offentlig upphandling, LOU), which transposes EU Directive 2014/24/EU into national law. Contracts of significant value are awarded through open tender, with bids typically evaluated on price or the most economically advantageous tender (Directive 2014/24/EU).

Before screening companies based on price or quality, contracting authorities may also screen bidders on financial capacity. Under LOU Chapter 14, permitted criteria include minimum annual turnover, an asset-to-liability ratio, or adequate liability insurance. Inden and Lundberg (2018) find that seven out of eight tenders they reviewed relied on credit ratings from private agencies to assess bidders' financial positions, ratings largely derived from financial reports. In effect, supplier financial statements play a key role in qualification decisions, and a firm whose reported numbers suggest weak profitability or solvency risks exclusion from the bidding process. This suggests that the procurement framework contains mechanisms that incentivise prospective bidders to present a strong financial position, generating a directional pressure that

opposes the conservative reporting predicted by political cost theory. Under LOU Chapter 13, authorities must also exclude suppliers that have failed to pay taxes or social security contributions.

4. Hypotheses Development

The literature reviewed in preceding sections shows that government exposure is associated with more conservative tax behaviour (Mills et al., 2013) and higher financial reporting quality (Samuels, 2021). However, direct empirical evidence linking procurement participation to accrual-based earnings management still is limited. Glegg et al. (2022) find no significant difference in accrual-based earnings management between US listed government suppliers and non-suppliers, while Liu, Zhuang and Xu (2025) find that procurement participation reduces upward accrual-based earnings management among Chinese listed firms.

Glegg et al. (2022) interpret their null result as consistent with political cost theory, arguing that suppliers substitute toward real activities management because accrual manipulation is more detectable under government oversight (Zang, 2012). However, their listed US sample faces capital market pressures to meet analyst forecasts and sustain share prices that may counteract the disciplining effect of government scrutiny on accrual management (Burgstahler & Dichev, 1997; Teoh et al., 1998). Swedish private firms are substantially less exposed to these capital market incentives, suggesting that the disciplining effect may emerge more clearly in this setting.

The Swedish procurement framework reinforces this expectation. Contracting authorities assess suppliers' financial capacity as part of the tender process (LOU Ch. 14; Inden & Lundberg, 2018), and procurement contracts are public records (Samuels, 2021), giving financial statements a direct role in obtaining government business and making variations from normal reporting more likely to attract scrutiny.

Importantly, the reporting incentives facing procurement suppliers do not all point in the same direction. Qualification requirements may incentivise suppliers to present stronger financial reports to secure contracts, while political cost and tax incentives may favour more conservative reporting (Watts & Zimmerman, 1978, 1986; Sundvik, 2016). However, regardless of direction, accrual manipulation is costlier for suppliers than for non-suppliers. Government oversight, public contract visibility, and the risk of losing future business raise the expected cost of both

upward and downward manipulation. The prediction for H1 is therefore not about which direction suppliers manage earnings, but whether they manage them less overall. This leads us to the first hypothesis.

H1: Relative to industry-matched peers, firms supplying public-sector entities display lower levels of discretionary accruals than firms that exclusively serve the private sector.

While H1 addresses magnitude, political cost theory also gives a directional prediction where firms under government scrutiny have incentives to reduce reported profitability to avoid adverse action (Watts & Zimmerman, 1978, 1986). Prior evidence supports this, as politically sensitive firms report income-decreasing accruals during times with heightened attention (Jones, 1991; Ramanna & Roychowdhury, 2010). In Sweden, book-tax conformity reinforces this pressure. Since financial accounting income is closely linked to taxable income, income-decreasing accrual choices simultaneously reduce tax payments (Sundvik, 2016), meaning the political cost and tax incentives work in the same direction. This is consistent with Mills et al. (2013), who show that government-dependent contractors avoid aggressive tax behaviour, and with Liu, Zhuang and Xu (2025), who find that procurement participation reduces upward accrual-based earnings management among Chinese listed firms. While qualification requirements may create an opposing incentive for firms near eligibility thresholds, the political cost and tax channels apply broadly across all procurement suppliers. We therefore expect the downward effect to dominate.

H2: Relative to industry-matched peers, firms supplying public-sector entities display lower signed discretionary accruals, consistent with more income-decreasing accrual choices, than firms that exclusively serve the private sector.

5. Methodology

5.1 Research Design

5.1.1 Absolute and Non-Absolute Discretionary Accruals

Discretionary accruals can be expressed in absolute or signed form. Absolute discretionary accruals capture the magnitude of earnings management irrespective of direction and serve as the dependent variable for H1, since opposing directional incentives may cancel out in a signed

measure. Signed discretionary accruals indicate whether earnings are managed upward or downward and serve as the dependent variable for H2, allowing us to examine which directional incentive dominates.

5.1.2 Cross-sectional

The Modified Jones model parameters can be estimated either firm-by-firm in a time-series design or across firms within industry-year cells in a cross-sectional design. The time-series approach requires a baseline period during which the firm is assumed not to be engaged in earnings management, against which the event period can be compared. Some prior literature sets this requirement at a minimum of six consecutive years of pre-event data (DeFond & Jambalvo, 1994), with more conservative specifications requiring eight years (Bartov, Gul & Tsui, 2001).

This approach faces two problems in our setting. The procurement records from Upphandlingsmyndigheten cover 2021–2023, which is less than the required data span for time-series estimation. More fundamentally, we cannot observe whether firms were suppliers before 2021 and therefore cannot construct a clean pre-event window, rendering the time-series approach infeasible regardless of the length of the financial data panel.

Given these data constraints, this study uses the cross-sectional design, which estimates normal accruals using the within-industry-year average of all firms as the benchmark rather than relying on a firm's own historical baseline. By pooling observations across firms within a single year, the approach circumvents the need for a long time-series while the large number of firm-year cells provides the necessary degrees of freedom to estimate the first-stage regression reliably. The design requires only that supplier status is observable during the year being tested, which our 2021–2023 data satisfy. Beyond addressing the historical data constraints, the cross-sectional design offers two additional advantages. Re-estimating parameters each year accommodates shifting macroeconomic conditions within industries (Teoh et al., 1998), and Bartov, Gul and Tsui (2001) find that cross-sectional specifications yield more stable parameter estimates and fewer outlier coefficients than their time-series counterparts.

However, the cross-sectional design does not resolve the fundamental lack of pre-treatment data. Because supplier status is time-invariant during the observation period, the design identifies

differences between suppliers and non-suppliers as distinct classes of firms rather than capturing within-firm changes, meaning any observed differences must be interpreted as associations rather than causal effects. The consequences of this limitation are discussed in Section 7.

Finally, cross-sectional estimation assumes that firms within the same industry-year share accrual-generating processes. This homogeneity assumption can lead to misclassification when firms within the same industry have genuinely different business models (Peasnell, Pope & Young, 2000). Dopuch et al. (2012) show that this assumption fails in several two-digit SIC code industries, and Di Narzo et al. (2018) confirm empirically across four European countries that wider industry classifications reduce the ability to detect earnings management. This risk is relevant in this study because two-digit SNI codes are broad enough to group together distinct sub-industries with different working capital needs and accrual structures. If supplier firms are concentrated in specific sub-niches while non-suppliers populate others within the same SNI2 code, the model could misclassify normal sub-industry differences as discretionary accruals. To address this concern, we re-estimated the full specification using three-digit SNI codes.

5.1.3 Audited firms and different reporting frameworks

We restrict the estimation sample to audited Swedish limited companies (aktiebolag). Unaudited firms fall below the statutory audit threshold and differ systematically from audited firms in size, reporting discretion, and regulatory oversight. This restriction is consistent with prior European private-firm earnings management research (Coppens and Peek, 2005; Van Tendeloo and Vanstraelen, 2008) and ensures that the non-discretionary accrual benchmark is drawn from firms subject to independent attestation. Within the audited population, firms report under either the simplified K2 or the IFRS-aligned K3 framework. K3 is mandatory for firms exceeding at least two of three size thresholds under ÅRL (1995:1554) 1 kap. 3 § for two consecutive years: more than 50 employees, total assets exceeding 40 million SEK, or net revenue exceeding 80 million SEK. We observe that a larger share of suppliers (26%) surpass these thresholds compared to non-suppliers (5%), meaning that different reporting regimes are unevenly represented across the treatment and control groups. Because the data do not identify which framework a firm actually applies, we cannot directly control for this imbalance, and it remains a limitation of the thesis.

5.2 Model

5.2.1 Performance-Adjusted Modified Jones

We measure accrual-based earnings management using the performance-adjusted Modified Jones model of Kothari et al. (2005), reviewed in Section 3.2. Total accruals are first computed from the balance sheet.

$$TA_{i,t} = (\Delta CA_{i,t} - \Delta Cash_{i,t}) - (\Delta CL_{i,t} - \Delta STD_{i,t}) - Dep_{i,t} \quad (1)$$

Where $TA_{i,t}$ is the total accruals for the firm i in year t ; $\Delta CA_{i,t}$, $\Delta Cash_{i,t}$, $\Delta CL_{i,t}$ and $\Delta STD_{i,t}$ are the year-over-year changes in current assets, cash and equivalents, current liabilities and the current portion of long term debt, respectively. $Dep_{i,t}$ is depreciation and amortization expense.

Full variable definitions are reported in section 5.3.

Hribar and Collins (2002) show that the balance-sheet approach causes measurement error in the presence of non-operating events such as mergers and acquisitions, since changes in working-capital accounts then reflect structural events rather than accrual choices. The cash-flow approach, which computes total accruals as the difference between earnings and operating cash flow, is therefore preferred in modern earnings management research. However, under the Swedish K3 framework, only firms classified as large companies are required to prepare a cash flow statement. The vast majority of firms in the estimation sample fall below this threshold, making the cash-flow approach infeasible without restricting the sample to a small, non-representative subset. The balance-sheet computation is therefore retained as a necessary trade-off. To mitigate the Hribar and Collins (2002) concern, the merger-activity flag is included in the second-stage controls. Residual measurement error remains a limitation discussed in Section 7. The non-discretionary component is estimated by fitting the following cross-sectional regression separately within each two-digit SNI industry-year cell:

$$\frac{TA_{i,t}}{A_{i,t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{A_{i,t-1}} \right) + a_2 \left(\frac{\Delta Rev_{i,t} - \Delta Rec_{i,t}}{A_{i,t-1}} \right) + a_3 \left(\frac{PPE_{i,t}}{A_{i,t-1}} \right) + \alpha_4 ROA_{i,t} + \varepsilon_{i,t} \quad (2)$$

Equation (2) is the performance-adjusted Modified Jones model of Kothari et al. (2005). Where $A_{i,t-1}$ is lagged assets, $\Delta Rev_{i,t}$ is the change in revenue, $\Delta Rec_{i,t}$ is the change in accounts receivable, $PPE_{i,t}$ is net property, plant and equipment, and $ROA_{i,t}$ is the return on assets, measured as current-year earnings scaled by lagged total assets. The term α_0 is an unscaled constant included following Kothari et al. (2005). All financial variables except ROA are scaled by lagged total assets which mitigates heteroscedasticity in the residuals.

The regression is estimated by ordinary least squares within each two-digit SNI industry-year cell, producing cell-specific coefficients α_0 through α_4 . The fitted residual $\hat{\varepsilon}_{i,t}$ captures the portion of firm i's scaled total accruals that cannot be explained by the cell-wide fit on the economic determinants in equation (2). Discretionary accruals for firm i in year t are defined as this residual:

$$DA_{i,t} \equiv \hat{\varepsilon}_{i,t} = \frac{TA_{i,t}}{A_{i,t-1}} - \widehat{NDA}_{i,t} \quad (3)$$

$\widehat{NDA}_{i,t}$ is the fitted non-discretionary accruals obtained by substituting the cell-specific OLS estimates into equation (2).

5.2.2 Second-stage Regression

The second stage tests whether discretionary accruals differ systematically between public procurement suppliers and non-supplier firms. H1 concerns the magnitude of earnings management and is tested using absolute discretionary accruals as the dependent variable:

$$\begin{aligned} |DA|_{i,t} = & \beta_0 + \beta_1 Publicsupplier_i + \beta_2 Size_{i,t} + \beta_3 Leverage_{i,t} + \beta_4 Loss_{i,t} \\ & + \beta_5 Growth_{i,t} + \beta_6 Ingroup + \beta_7 Mergerflag + \delta_{j,t} + \varepsilon_{i,t} \end{aligned} \quad (4)$$

H2 concerns the direction of earnings management and is tested using the signed first-stage residual:

$$\begin{aligned} DA_{i,t} = & \beta_0 + \beta_1 Publicsupplier_i + \beta_2 Size_{i,t} + \beta_3 Leverage_{i,t} + \beta_4 Loss_{i,t} \\ & + \beta_5 Growth_{i,t} + \beta_6 Ingroup + \beta_7 Mergerflag + \delta_{j,t} + \varepsilon_{i,t} \end{aligned} \quad (5)$$

In equation (4), the coefficient of interest β_1 captures the relative average shift in the magnitude of discretionary accruals between suppliers and non-suppliers within the same industry-year cell, after adjusting for firm-level determinants of accrual behaviour. Under H1, β_1 is expected to be negative, consistent with political cost theory predicting that government scrutiny constrains earnings management (Watts & Zimmerman, 1978). In equation (5), β_1 captures the net directional displacement of supplier accruals relative to non-suppliers. Since signed discretionary accruals range from negative (income-decreasing) to positive (income-increasing), both groups contain firms managing in either direction. A positive β_1 does not mean all suppliers manage earnings upward; it means the supplier distribution is shifted toward income-increasing accruals relative to non-suppliers on average. Similarly, a negative β_1 indicates the supplier distribution is shifted toward income-decreasing accruals. Under H2, β_1 is expected to be negative, as political cost theory predicts that suppliers manage earnings downward to avoid regulatory attention (Ramanna & Roychowdhury, 2010), though LOU qualification criteria create a competing upward incentive (Section 3.3.1). $Supplier_i$ is a time-invariant indicator equal to one for firms classified as public procurement suppliers during the sample period. $\delta_{j,t}$ denotes industry-year fixed effects at the two-digit SNI level. *Size*, *Leverage*, *Loss*, *Growth*, *In Group*, and *Merger Flag* are firm-level controls defined in Section 5.3.

5.2.3 Winsorization

To mitigate the influence of extreme values, all continuous variables in both stages are winsorized at the 1st and 99th percentiles, in line with prior earnings management research (Kothari et al., 2005; Leone et al., 2019). Variables are winsorized in the form they enter the regression. Indicator variables (*Supplier*, *Loss*, *In Group*, *Merger Flag*) are not winsorized.

5.2.4 Fixed effects

To isolate the association between public procurement participation and discretionary accruals, the second-stage regression incorporates industry-year fixed effects at the two-digit SNI level. In the first stage, the Kothari et al. (2005) model is estimated separately within each two-digit SNI industry-year cell, so normal accruals are estimated only among firms in the same industry and year. Because industry and year are fixed within each cell, additional fixed effects are neither feasible nor necessary at this stage. In the second stage, the estimated discretionary accruals are

pooled across all industry-year cells. Industry-year fixed effects are therefore included to preserve the within-cell comparison structure of the first stage and to control for unobserved shocks common to firms in the same industry and year, such as sector-specific demand changes, supply-chain disruptions, or regulatory developments. As a result, the supplier coefficient is identified from differences between suppliers and non-suppliers operating under the same broad industry-year conditions.

Firm fixed effects are not included because supplier status is time-invariant during the 2021–2023 sample period. Including firm fixed effects would absorb the supplier indicator and make its coefficient impossible to estimate. Industry-year fixed effects therefore represent the most granular feasible level of fixed-effect control available in this research design. The model compares suppliers and non-suppliers within the same industry-year cell rather than tracking changes within the same firm over time. This design carries an important limitation. Since firm fixed effects cannot be included, the model cannot fully control for unobservable time-invariant differences between suppliers and non-suppliers, such as governance quality, internal control maturity, management culture, or general reporting conservatism. To the extent that such characteristics are correlated with both supplier status and discretionary accruals, they may influence the estimated association. The supplier coefficient should therefore be interpreted as a conditional association after controlling for observable firm characteristics and industry-year conditions, not as an estimate fully isolated from unobserved firm-level heterogeneity.

5.2.5 OLS Assumptions

Using panel data with firm-year observations introduces potential concerns related to heteroskedasticity and within-firm correlation. Variance inflation factors lie close to one for all regressors and well below conventional thresholds, suggesting that multicollinearity is not a material concern (Wooldridge, 2010). Breusch–Pagan tests reject constant residual variance at the one per cent level for every specification (see Appendix), indicating heteroskedasticity in the residuals. Given the large sample size of 480,635 firm-years, residual non-normality is not expected to be a major concern for inference, as the Central Limit Theorem supports the asymptotic normality of the coefficient estimates under standard regularity conditions. To account for heteroskedasticity and within-firm serial correlation, all reported standard errors are

clustered at the firm level. This choice is particularly relevant because firms may contribute multiple observations and supplier status is time-invariant within firms.

5.2.6 Standard Error Clusters

Standard errors are clustered at the firm level to address serial correlation in discretionary accruals within firms over time, avoiding inflated test statistics that can arise when observations within a firm are not independent (Petersen, 2009). This choice follows the design-based logic of Abadie et al. (2023), under which clustering should reflect how the sample is drawn and how treatment is assigned. Both occur at the firm level in this study, since each firm contributes up to three firm-year observations and the Supplier indicator is time-invariant. Since treatment does not vary within a firm, the effective sample size for inference on the supplier coefficient is the number of distinct firms rather than the number of firm-years. Firm-level clustering assumes independence across firms, so residual correlation through channels such as shared supply chains or common customer bases would not be captured, though the industry-year fixed effects absorb the most plausible source of cross-firm dependence.

5.3 Variables

5.3.1 Dependent Variable

The dependent variable is the firm-year discretionary accrual estimated as the residual from the performance-adjusted Modified Jones model in Section 5.2.1. Two forms of this residual are used. The absolute value, $|DA|_{i,t}$ captures the magnitude of earnings management regardless of direction and serves as the dependent variable for H1. The signed residual, $DA_{i,t}$ retains directional information and serves as the dependent variable for H2. The justification for using both forms is explained in Section 5.1.1

5.3.2 Treatment Variable

$Supplier_i$ is a time-invariant indicator equal to one for firms awarded at least one public procurement contract during 2021–2023, and zero otherwise. Supplier status is identified by matching organisational numbers in the Upphandlingsmyndigheten records to firms in Serrano (see Section 5.4.2). The rationale for holding the variable constant across firm-years is discussed

in Section 5.1.2. Under both hypotheses, β_1 is expected to be negatively associated with respective DV.

5.3.3 Control Variable

Size_i is the natural logarithm of total assets, included because larger firms face greater political scrutiny and are expected to report more conservatively (Watts & Zimmerman, 1990). We therefore expect Size_i to be negatively associated with discretionary accruals.

Leverage_i is total debt divided by total assets, included since higher levered firms have an incentive to engage in upward earnings management to avoid debt covenant violations (DeAngelo et al., 1994; DeFond & Jiambalvo, 1994). We therefore expect Leverage_i to be positively associated with discretionary accruals.

Loss_i is a dummy equal to one if the firm reports a net loss and zero otherwise, capturing incentives to manage earnings upward to avoid reporting losses (Burgstahler & Dichev, 1997). We therefore expect Loss_i to be positively associated with discretionary accruals.

Growth_i is the percentage change in revenue, included because higher growth leads to greater working capital variation and thus larger accruals (McNichols, 2002; Dechow et al., 1995). We expect Growth_i to be positively associated with absolute discretionary accruals, as higher revenue growth increases working capital accrual variation.

Ingroup_i is a dummy variable that is equal to one if the firm belongs to a corporate group and zero otherwise. Intra-group transactions such as transfer pricing and foreign exchange flow through working-capital accounts and mechanically inflate balance-sheet accruals beyond managerial discretion (Beuselinck & Deloof, 2014). We therefore expect In Group to be positively associated with absolute discretionary accruals.

Merger_i is a dummy equal to one if the firm recorded merger activity in a given year. As noted in Section 5.2.1, the balance-sheet computation of total accruals is mechanically inflated by mergers, since working-capital changes then reflect consolidation of the target rather than accrual choices (Hribar & Collins, 2002). We therefore expect Merger to be positively associated with discretionary accruals.

5.3.4 Summary of Variables

Table1: Variable definitions

Variable	Definition	Source	Expected Sign DA (H1)	Expected Sign DA (H2)
$DA_{i,t}$	Signed residual from the Kothari et al. (2005) performance-adjusted Modified Jones model. Positive (negative) values indicate income-increasing (decreasing) accrual management.	Author-constructed (Serrano)		
$ DA _{i,t}$	Absolute residual from the Kothari et al. (2005) performance-adjusted Modified Jones model. Measures the magnitude of discretionary accruals.	Author-constructed (Serrano)		
Supplier _i	Dummy variable taking the value 1 if the firm was awarded a public procurement contract during 2021–2023 and 0 otherwise	Upphandlingen	-	-
Size _i	Natural logarithm of total assets	Serrano	-	-
Loss _i	Dummy variable taking the value 1 if the firm has net income less than 0, and 0 if their net income is above 0.	Serrano	+	+
Leverage _i	Leverage is defined as total debt divided by total assets.	Serrano	+	+
Growth _i	Growth is defined as the firm's revenue growth, which is defined as the year-over-year percentage change in revenue	Serrano	+	+/-
In Group	Dummy variable taking the value 1 if the firm belongs to a corporate group and 0 otherwise	Serrano	+	+/-
Merger	Dummy variable taking the value 1 if the firm recorded merger activity in a given year and 0 otherwise	Serrano	+	+

Note: For the signed specification (DA, Equation 5), SIZE, LOSS, LEVERAGE, and MERGER carry the same directional predictions as in the absolute specification, with SIZE expected to be negative and LOSS, LEVERAGE, and MERGER expected to be positive. GROWTH and IN GROUP are classified as ambiguous because the underlying mechanisms operate on accrual magnitude rather than direction.

5.4 Sample & Data Sources

5.4.1 Data Sources

5.4.1.1 Procurement Data

Contract-level procurement records are obtained from the Swedish National Agency for Public Procurement (Upphandlingsmyndigheten). Each awarded contract identifies suppliers by their organizational number, which serves as the unique identifier linking procurement records to firm-level financial data in Serrano. The data spans 2021–2023, the full extent available at the time of writing.

5.4.1.2 Financial Data

Firm-level financial statements are obtained from the *Serrano* database, maintained by the *Swedish House of Finance* at the *Stockholm School of Economics*. *Serrano* contains standardised annual accounts for the full population of Swedish limited liability companies and provides the balance sheet and income statement items necessary for the Kothari accrual model, as well as audit status, group membership, and merger activity indicators. Financial data cover fiscal years 2020 through 2023, where 2020 serves exclusively as the source of lagged values required for the accrual computation.

5.4.2 Sample Construction

5.4.2.1 Supplier Sample

The supplier sample is constructed from the full population of awarded contracts recorded by *Upphandlingsmyndigheten*. Starting from all awarded contracts, the sample is restricted to private-sector limited liability companies (*aktiebolag*), excluding public-sector entities, foreign suppliers, and non-standard organisational numbers. Extracting all unique organisational numbers yields 13,525 distinct *aktiebolag* spanning 82 two-digit SNI industries. The procurement data are used solely to identify supplier status.

Table 2 : Supplier Sample Attrition

Step	Criteria	Dropped Firms	Remaining Firms	Firm-Years in Estimation
				Sample
1	Unique aktiebolag suppliers in procurement data	—	13,525	—
2	Found in Serrano (AB, procurement SNI, 2020–2023)	-22	13,503	—
3	Audited (REVBER: T, TK, ET)	-1,935	11,568	—
4	Complete Kothari model inputs	-364	11,204	—
5	In estimation sample (2021–2023)	0	11,204	32,034
6	With complete second-stage controls	-33	11,171	31,886

Note: The 22 unmatched suppliers lack corresponding records in the financial database. The 1,935 unaudited suppliers are predominantly firms below the statutory audit threshold. Supplier status is time-invariant: a firm classified as a supplier retains that status across all sample years.

5.4.2.2 Estimation Sample

While Section 5.4.2.1 describes the construction of the supplier sample, the Kothari estimation requires a broader population of industry peers against which normal accruals can be benchmarked. The estimation sample therefore comprises all audited aktiebolag in Serrano operating within the same 82 two-digit SNI industries as the supplier firms, subject to the same data quality filters. Of the 183,842 unique firms in the final estimation sample, 11,171 are classified as public procurement suppliers and the remaining 172,671 serve as the control group. Firms are retained if *REVBER* status is T (standard opinion), TK (qualified opinion), or ET (adverse opinion); firms with status S (unaudited) are excluded (Section 5.1.3). Adverse opinions represent fewer than 0.5 % of audited firm-years, and excluding them does not materially affect the results. *In Group* and *Merger Flag* are identified from Serrano's *koncern* tables and merger date fields respectively, as defined in Section 5.3.3. The Kothari accrual model is estimated on 551,009 firm-years across 232 industry-year cells, and the second-stage regressions restrict to the 480,635 firm-years with complete control variables.

Table 3: Estimation Sample Attrition

Step	Criteria	Dropped Firms	Remaining Firms	Dropped Firm-Years	Remaining Firm-Years
	All aktiebolag firms in procurement				
1	SNI codes (2020-2023)	—	720,944	—	2,493,593
	Filter: Audited (REVER: T, TK,				
2	ET)	-468,963	251,981	-1,677,475	816,118
	Filter: Complete Kothari model				
3	inputs	-43,801	208,180	-264,853	551,265
	Estimation sample (2021-2023,				
4	positive assets)	-51	208,129	-195	551,070
5	SNI2 x year cells >= 15 firms	-13	208,116	-61	551,009
6	Complete second-stage controls	-24,274	183,842	-70,374	480,635

Step 1 includes all aktiebolag within the 82 procurement SNI codes. Step 2 retains audited firms, with the large drop reflecting Sweden's micro-firm population below the audit threshold. Step 3 requires non-missing Kothari inputs, Step 4 excludes the 2020 base year and non-positive assets, and Step 5 drops SNI codes 12 and 65 for insufficient cell size. Step 6 excludes firm-years missing revenue growth (12.8%), which does not affect first-stage estimates.

The attrition from missing controls is asymmetric: 0.5 % of supplier firm-years versus 13.6 % of non-supplier firm-years lack complete revenue growth data, reflecting a higher incidence of zero or missing lagged revenue among smaller firms. Because the retained control group is thereby more comparable to suppliers on observable dimensions, this differential attrition is expected to attenuate rather than inflate the estimated associations.

Table 4: Treatment and Control Distribution by Year

	Year	Total Firm-Years	Treated Firm-Years	Control Firm-Years	Pct Treated
0	2021	160,399	10,422	149,977	6.50%
1	2022	160,782	10,684	150,098	6.60%
2	2023	159,454	10,780	148,674	6.80%
3	Total	480,635	31,886	448,749	6.60%

Notes: The total row for unique treated firms reports the count of distinct supplier firms across all years.

6. Findings and Results

6.1 Descriptive & Correlation Analysis

Table 5 reports descriptive statistics for the 480,635 firm-year observations. Mean signed discretionary accruals are close to zero (0.002), confirming that the Kothari model centres the residuals as expected. Median absolute discretionary accruals are 0.073, indicating that the typical firm's unexplained accruals represent roughly 7% of lagged total assets. The right skew in $|DA|$ (mean 0.132 versus median 0.073) reflects a tail of firms with large accrual adjustments. Approximately 69% of firm-years belong to a corporate group.

Table 6 compares supplier and non-supplier firm-years. Suppliers are significantly larger (difference 0.871, $t = 94.74$), more leveraged, less loss-prone, and show higher revenue growth. Suppliers report lower absolute discretionary accruals (0.127 versus 0.132, $t = -5.82$), consistent with H1, but higher signed discretionary accruals (0.011 versus 0.002, $t = 8.59$), contrary to H2. However, these simple comparisons do not control for observable differences between the two groups, which the regression analysis addresses.

Table 7 reports pairwise Pearson correlations. The Supplier- $|DA|$ correlation is negative (-0.007^{***}), consistent with H1, while the Supplier-DA correlation is positive (0.011^{***}), contrary to H2. No pairwise correlation among the independent variables exceeds 0.35 (Size-In Group), suggesting multicollinearity is not a concern.

Table 5: Full Sample

Variable	N	Mean	SD	Min	P25	Median	P75	Max
DA	480,635	0.002	0.212	-1.344	-0.071	0.001	0.075	1.374
$ DA $	480,635	0.132	0.166	0	0.029	0.073	0.163	1.374
Size	480,635	9.166	1.737	4.489	8.022	8.994	10.14	14.441
Leverage	480,635	0.535	0.296	0	0.297	0.536	0.779	1.265
Loss	480,635	0.214	0.41	0	0	0	0	1.000
Revenue Growth	480,635	0.13	0.699	-1.000	-0.070	0.04	0.183	4.869
In Group	480,635	0.693	0.461	0	0	1.000	1.000	1.000
Merger Flag	480,635	0.002	0.042	0	0	0	0	1.000

Table 6: Treatment (Supplier) vs Control (non-supplier)

Variable	Suppliers Mean	Suppliers Median	Suppliers SD	Non-Suppliers Mean	Non-Suppliers Median	Non-Suppliers SD	Diff	t-stat
DA	0.011	0.006	0.19	0.002	0.001	0.213	0.01	8.59 ***
DA	0.127	0.082	0.141	0.132	0.072	0.168	-0.005	-5.82 ***
Size	9.98	9.791	1.575	9.109	8.934	1.734	0.871	94.74 ***
Leverage	0.564	0.568	0.222	0.533	0.533	0.301	0.031	23.19 ***
Loss	0.144	0	0.351	0.219	0	0.413	-0.075	-36.52 ***
Revenue Growth	0.157	0.081	0.468	0.128	0.038	0.713	0.029	10.38 ***
In Group	0.808	1.000	0.394	0.685	1.000	0.465	0.124	53.54 ***
Merger Flag	0.002	0	0.048	0.002	0	0.042	0.001	1.98 **

Table 7: Pearson correlation

Variable	DA	DA	Supplier	Size	Leverage	Loss	Growth	In Group	Merger
DA	1.000***								
DA	0.004**	1.000***							
Public Supplier	0.011***	-0.007***	1.000***						
Size	0.006***	-0.100***	0.125***	1.000***					
Leverage	-0.018***	0.081***	0.026***	0.087***	1.000***				
Loss	0.003**	0.071***	-0.046***	-0.033***	0.240***	1.000***			
Growth	0.022***	0.130***	0.010***	0.085***	0.087***	-0.037***	1.000***		
In Group	0.014***	0.049***	0.067***	0.352***	0.122***	0.048***	0.024***	1.000***	
Merger	-0.001	0.002	0.003**	0.010***	0.003**	0.010***	-0.018***	0.023***	1.000***

Notes: Pearson pairwise correlations for the 480,635 firm-year analysis sample. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

6.2 Main Results:

Table 8 reports the results for the absolute discretionary accruals specification. The Public Supplier coefficient is negative and significant across all three models, moving from -0.0107 ($t = -10.51$) in the baseline (M1) to -0.0022 ($t = -2.20$) in M2 and -0.0046 ($t = -4.61$) in the full specification (M3). The sharp attenuation from M1 to M2 indicates that observable firm characteristics, particularly size, absorb much of the unconditional difference between suppliers and non-suppliers. The partial recovery in M3 reflects the addition of In Group, which absorbs confounding variation from suppliers' disproportionate group affiliation (Table 6). All control variables carry their expected signs and are significant, with the exception of Merger Flag, which is marginally significant ($p = 0.075$). The adjusted R^2 increases from 0.020 in M1 to 0.062 in M3, confirming that the firm-level controls explain meaningful incremental variation. The negative and significant Public Supplier coefficient in the full specification is consistent with H1, suppliers demonstrate lower magnitude of discretionary accruals than non-suppliers. We find support for H1.

Table 9 reports the results for the signed discretionary accruals specification. The Public Supplier coefficient is positive and significant at the one % level across all three models, with a full-specification estimate of 0.0114 ($t = 10.42$), corresponding to approximately 203,742 SEK at the supplier median of lagged assets. This indicates that the supplier distribution is shifted toward income-increasing accruals relative to non-suppliers. The coefficient is stable across specifications (0.0110 in M4 to 0.0114 in M6), suggesting the association is not driven by the control variables. Two notable departures from the $|DA|$ specification emerge: Size becomes insignificant (-0.0003 , $t = -1.34$), meaning the upward shift cannot be explained by suppliers' larger size, and Leverage is negative and significant (-0.0209 , $t = -16.39$), contrary to the expected positive sign. The adjusted R^2 is 0.001 in M6, indicating that the model explains virtually none of the variation in accrual direction. The positive and significant coefficient is contrary to H2, which predicted a negative association. We do not find support for H2.

Table 8: Absolute Discretionary Accruals (H1)

	M1 (Baseline)			M2 (Controls)			M3 (Full)		
Variable	Coef	SE	p-value	Coef	SE	p-value	Coef	SE	p-value
Public Supplier	−0.0107***	0.001	0.0000	−0.0022**	0.001	0.0278	−0.0046***	0.001	0.0000
Size				−0.0100***	0.0002	0.0000	−0.0122***	0.0002	0.0000
Leverage				0.0523***	0.0011	0.0000	0.0492***	0.0011	0.0000
Loss				0.0191***	0.0007	0.0000	0.0186***	0.0007	0.0000
Revenue Growth				0.0299***	0.0006	0.0000	0.0302***	0.0006	0.0000
In Group							0.0291***	0.0006	0.0000
Merger Flag							0.0109*	0.0061	0.0751
Adj. R ²	0.0201			0.0562			0.0615		

Table 9: Signed Discretionary Accruals (H2)

	M4 (Baseline)			M5 (Controls)			M6 (Full)		
Variable	Coef	SE	p-value	Coef	SE	p-value	Coef	SE	p-value
Public Supplier	0.0110***	0.0011	0.0000	0.0119***	0.0011	0.0000	0.0114***	0.0011	0.0000
Size				0.0002	0.0002	0.2866	−0.0003	0.0002	0.1795
Leverage				−0.0201***	0.0013	0.0000	−0.0209***	0.0013	0.0000
Loss				0.0055***	0.0009	0.0000	0.0054***	0.0009	0.0000
Revenue Growth				0.0076***	0.0008	0.0000	0.0076***	0.0008	0.0000
In Group							0.0070***	0.0007	0.0000
Merger Flag							−0.0030	0.0072	0.6767
Adj. R ²	−0.0002			0.001			0.0011		

Notes: Dependent variable is $|DA|$ for Table 8 and DA for Table 9. $N = 480,635$ for all specifications. All specifications include industry×year fixed effects at the two-digit SNI level. Intercept not reported. Standard errors clustered at the firm level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. $N = 480,635$.

7. Discussion & Analysis

7.1 Interpretation of Main Results

The coefficient on Public Supplier in the absolute discretionary accruals specification is negative and significant across all three models. In the full specification (M3), suppliers exhibit absolute discretionary accruals that are 0.46 percentage points of lagged total assets lower than industry-matched non-suppliers ($\beta_1 = -0.0046$, $t = -4.61$). This negative association is consistent with the monitoring implication of political cost theory, which predicts that firms subject to greater government visibility will display less accrual-based reporting discretion (Watts & Zimmerman, 1978, 1986). The direction of the association also aligns with prior findings that politically sensitive firms display lower discretionary accruals during periods of heightened government attention (Jones, 1991; Ramanna & Roychowdhury, 2010; Mills et al., 2013), such as the qualification and evaluation process that contracting authorities conduct under LOU (Section 3.3.1). The economic magnitude of the association is considered small. The coefficient implies that suppliers' absolute discretionary accruals are 0.46% of lagged total assets lower than non-suppliers. Given the supplier median of lagged total assets (17,872,169 SEK), this translates to approximately 82,211 SEK.

The attenuation from M1 to M2 indicates that the baseline coefficient largely captures observable differences between suppliers and non-suppliers. To isolate the role of firm size, we estimate an untabulated size-only specification including Public Supplier, Size, and SNI2×year fixed effects, with firm-clustered standard errors. In this specification, the supplier coefficient shrinks to near zero ($\beta = -0.0002$, $p = 0.84$), indicating that the unconditional supplier association in M1 substantially reflects suppliers' larger size. This is consistent with the descriptive statistics: supplier firms are systematically larger than non-suppliers (median total assets difference of 2,389,298 SEK), and Size carries a strong negative association with absolute discretionary accruals (-0.0122 , $t = -59.31$). The addition of In Group in M3 restores the coefficient to -0.0046 . Suppliers are disproportionately group-affiliated (80.8% versus 68.5%), and group membership is positively associated with accrual magnitude (0.0291, $t = 46.18$). Without this control in M2, the positive group effect offsets the negative supplier effect, pulling the coefficient toward zero. The direction of this finding aligns with Liu et al. (2025), who report

lower absolute discretionary accruals among Chinese listed firms participating in government procurement ($\beta = -0.0032$).

The Swedish procurement framework contains several features that could explain this association. Procurement awards are public records, meaning that the identity of winning firms and contract values are openly visible to competitors, tax authorities, and the general public (Samuels, 2021). This visibility could raise the expected cost of detection for any form of manipulation, regardless of direction. In addition, suppliers that depend on future government business face a reputational incentive to maintain credible financial reports, since firms found to have misrepresented their financials risk exclusion from future tenders under LOU Chapter 13. Together, these two channels could raise the cost of accrual manipulation in either direction, offering a plausible institutional explanation for the lower absolute discretionary accruals observed among suppliers and contributing to the understanding of how political cost theory operates in a Swedish procurement setting.

The coefficient on Public Supplier in the signed discretionary accruals specification is positive and significant at the 1% level across all three models, with a full-specification estimate of 0.0114 ($t = 10.42$). Given the supplier median of lagged total assets (17,872,169 SEK), this translates to approximately 203,742 SEK. The economic magnitude of the association is considered small. This is contrary to H2, which anticipated a negative coefficient based on the political-cost prediction that government-exposed firms manage earnings downward (Watts & Zimmerman, 1978, 1986; Ramanna & Roychowdhury, 2010), and the book-tax-conformity logic suggesting that income-decreasing accrual choices simultaneously reduce tax payments in the Swedish setting (Sundvik, 2016; Mills et al., 2013). We do not find support for H2. The winsorization sensitivity analysis in table 13 supports the robustness of this finding, as the positive Public Supplier coefficient remains significant across all thresholds tested.

In an attempt to investigate plausible causes of the positive association, we follow Liu, Zhuang and Xu (2025) and split the sample by the sign of the first-stage residual, re-estimating the full specification separately on firms with income-increasing accruals ($DA > 0$) and firms with income-decreasing accruals ($DA < 0$). Among firms with income-increasing accruals, the supplier coefficient is small and only marginally significant (-0.0022 , $p = 0.097$), suggesting that

suppliers exhibit marginally less positive accruals than non-suppliers. Among firms with income-decreasing accruals, the coefficient is larger and highly significant (+0.0089, $p < 0.001$), indicating that suppliers in this subsample display less extreme negative accruals than non-suppliers. Both subsample effects point toward zero, as suppliers are associated with compressed accruals from both tails, which is consistent with the H1 result that supplier status is associated with lower overall earnings management. However, the compression is asymmetric since the association is roughly four times stronger in the negative subsample. This asymmetry accounts for the positive coefficient in the full-sample signed specification. The positive shift is therefore not associated with suppliers displaying higher income-increasing accruals, but rather with suppliers exhibiting less extreme income-decreasing accruals.

The income-increasing subsample result shows a directional pattern similar to that reported by Liu, Zhuang and Xu (2025), who find reduced upward accrual management among Chinese listed firms following procurement entry, though their estimate derives from a within-firm identification strategy and the association in our sample is weaker and only marginally significant. The income-decreasing results differ: our sample shows a significant positive association between supplier status and less extreme negative accruals (+0.0089, $p < 0.001$), whereas Liu, Zhuang and Xu (2025) find no significant association in their corresponding downward subsample. Given the differences in research design and institutional setting, the source of this divergence cannot be determined from the present analysis.

One interpretation consistent with the stronger association in the income-decreasing subsample is that the qualification channel, presenting adequate financial capacity to meet tender requirements (LOU Ch. 14; Inden & Lundberg, 2018), may offset the political-cost and tax channels on average, as suppliers with less negative accruals would appear financially stronger during procurement evaluation.

On the basis of political cost theory, both Glegg et al. (2022) and the present study predict that procurement suppliers will exhibit more income-decreasing discretionary accruals. Neither finds support for this prediction. Glegg et al. (2022) find no significant association between supplier status and signed accruals, while we find a significant and positive association. The divergence between the two studies may reflect differences in institutional setting. Glegg et al. (2022)

examine listed US firms subject to capital-market pressures and SEC oversight, whereas our sample consists of private Swedish firms operating under book-tax conformity and LOU procurement regulation. These mechanisms are suggestive and not directly tested in this thesis.

7.2 Analysis of Control Variables

All control variables in the absolute discretionary accruals specification (M3) carry their expected signs. Size is negatively associated with $|DA|$, consistent with larger firms reporting more conservatively under greater scrutiny (Watts & Zimmerman, 1986), while Leverage, Loss, and Revenue Growth are all positive and significant, reflecting higher accrual variation among financially constrained and fast-growing firms. In Group and Merger Flag are both positive, consistent with intra-group transactions and consolidation events inflating balance-sheet accruals beyond managerial discretion (Beuselinck & Deloof, 2014; Hribar & Collins, 2002).

The signed specification (M6) produces two notable departures from expectations. Size is insignificant, in contrast to the strong negative coefficient for absolute discretionary accruals. This suggests that while larger firms manage earnings less in magnitude, firm size does not predict the direction of accrual management, as size-related scrutiny may constrain how aggressively a firm manages earnings without determining whether the residual management is upward or downward.

Second, Leverage is negative and significant, which is contrary to the expected positive sign based on the debt covenant literature (DeFond & Jiambalvo, 1994; Sweeney, 1994). One possible explanation lies in the Swedish institutional setting where under book-tax conformity, reported income directly determines taxable income, and leveraged firms may have an incentive to reduce reported earnings in order to lower tax payments and preserve cash for debt service (Sundvik, 2016).

The remaining controls in the signed specification generally behave as expected. Loss is positive and significant, indicating that loss-making firms are associated with higher signed DA. This is consistent with the loss-avoidance incentive discussed by Burgstahler and Dichev (1997), who document evidence of earnings management around the zero-earnings threshold. However, because Loss is also mechanically related to financial performance, the coefficient should be interpreted cautiously and may partly reflect residual performance-related variation not fully

captured by the first-stage ROA adjustment. Revenue Growth and In Group are both positive and significant. Merger Flag is insignificant in the signed specification, which is reasonable given that merger-related measurement noise should inflate accrual magnitude without a consistent directional bias.

7.3 Explanatory Power

The second-stage adjusted R^2 is 0.062 for the $|DA|$ specification (M3) and 0.001 for the signed DA specification (M6). The $|DA|$ estimate is low but consistent with comparable private-firm accrual studies: Höglund and Sundvik (2016) report 0.102 and Sundvik (2016) reports 0.093, both with additional controls and smaller samples. The progression from M1 (0.020) to M3 (0.062) confirms that the firm-level controls explain meaningful incremental variation. The signed DA R^2 of 0.001 falls below comparable estimates in the literature: Ramanna and Roychowdhury (2010) report 0.003–0.004 for signed discretionary accruals in a political cost setting, Glegg et al. (2022) report 0.012, and Sundvik (2016) reports 0.007–0.022. The pattern of signed specifications producing substantially lower explanatory power than unsigned is, to the best of our knowledge, consistent with studies that report both specifications (e.g. Sundvik, 2016). The available controls capture variation in how much firms deviate from expected accruals but not in which direction they deviate.

7.4 Robustness and Sensitivity

7.4.1 Single-Stage Regression

Chen, Hribar and Melessa (2018) demonstrate that the two-stage estimation procedure can produce biased inference when second-stage control variables are correlated with the first-stage regressors used to estimate discretionary accruals. To address this concern, we re-estimate the model as a single-stage regression in which scaled total accruals serve as the dependent variable and the Kothari regressors are included directly alongside the second-stage controls and the supplier indicator. This test applies only to H2, since the absolute value transformation underlying H1 is nonlinear and cannot be replicated within a single-stage framework.

The Public Supplier coefficient in the single-stage specification is 0.0125 ($t = 11.28$), compared to 0.0114 in M6. The positive sign, significance, and comparable magnitude indicate that the result is robust to the two-stage bias concern raised by Chen et al. (2018). The Kothari regressors

carry their expected signs, supporting the specification of the model. The Loss coefficient changes sign in the single-stage model, likely because Loss and ROA capture overlapping performance-related variation when included in the same equation.

7.4.2 Performance Matching Kothari Specification

The main analysis adjusts for performance by including ROA as a regressor in the first-stage Kothari model. Kothari et al. (2005) propose an alternative performance-matching procedure in which discretionary accruals are estimated without ROA and each firm's residual is adjusted by subtracting the discretionary accrual of the closest-ROA firm in the same industry-year cell. We re-estimate both specifications using this matched-firm approach to verify that the results are not sensitive to the choice of performance adjustment. The supplier coefficient under performance matching is -0.0053 ($t = -4.06$) for $|DA|$ and $+0.0094$ ($t = 5.65$) for signed DA, both retaining their sign and significance, indicating that the findings are not driven by the choice of performance adjustment method.

7.4.3 Current Accruals Robustness

To verify that the main results are not driven by differences in capital intensity or depreciation treatment between suppliers and non-suppliers, we re-estimate both stages using current accruals as the dependent variable (Höglund & Sundvik, 2016). Current accruals exclude depreciation and amortization from Equation (1), isolating the short-term working capital component. This is particularly relevant given the uneven distribution of K3 firms between the treatment and control groups (Section 5.1.3), as K3 permits greater discretion over component depreciation and useful-life estimates. The first-stage Kothari regression is re-estimated within each SNI2×year cell with current accruals scaled by lagged total assets and with the PPE regressor removed.

The Public Supplier coefficient in the $|DA|$ specification moves from -0.0046 to -0.0035 ($t = -3.52$), and the signed DA coefficient moves from 0.0114 to 0.0105 ($t = 10.25$). Both retain their sign and significance. The smaller $|DA|$ coefficient suggests that roughly one quarter of the main result reflects differences in the depreciation component, but the association remains economically and statistically comparable. For the signed specification, the coefficient is nearly unchanged, indicating that the income-increasing shift among suppliers is driven primarily by

short-term working capital accruals, which Teoh et al. (1998) show are more susceptible to managerial discretion, rather than differences in depreciation treatment or capital intensity.

7.4.4 Finer Industry Classification

To assess whether the main findings are driven by the breadth of the two-digit SNI classification, the full two-stage estimation is re-run using three-digit SNI industry-year cells. This finer classification increases the number of estimation cells to 659 and reduces within-cell heterogeneity in accrual-generating processes. The results are highly consistent with the main specification. In the absolute discretionary accruals specification, the Public Supplier coefficient increases in magnitude from -0.0046 to -0.0060 and remains statistically significant at the one % level. In the signed discretionary accruals specification, the coefficient remains stable at 0.0110 and is likewise significant at the one % level. The control variables retain their expected signs and are generally statistically significant, with the exception of the merger indicator in the signed DA model. These results suggest that the main findings are not sensitive to the granularity of the industry classification and that the sub-industry clustering concern discussed in Section 5.1.2 does not materially affect the estimated supplier associations.

7.4.5 Multicollinearity and Heteroskedasticity

Residual diagnostics reveal departures from normality in both specifications. M3 residuals are strongly right-skewed (skewness 2.46, kurtosis 7.52), as shown by the Q-Q plot in Figure 1, which is expected given that $|DA|$ is bounded below at zero. M6 residuals are nearly symmetric (skewness -0.05) but leptokurtic (kurtosis 5.63), with the Q-Q plot displaying substantial tail deviations. These departures do not threaten inference: normality is required for exact finite-sample tests, whereas with 480,635 observations this study relies on asymptotic inference under which the Central Limit Theorem ensures valid test statistics regardless of the residual distribution.

Heteroskedasticity is the more consequential violation. The residual-versus-fitted plots show non-constant variance in both specifications, and Breusch–Pagan tests reject homoskedasticity at the one per cent level for all models (BP = 9,264 for M3; 17,100 for M6; $p < 0.0001$). Because heteroskedasticity does not bias the coefficient estimates but renders conventional OLS standard errors inconsistent, all regressions report firm-level clustered standard errors, which are

simultaneously robust to heteroskedasticity and within-firm serial correlation arising from each firm contributing up to three annual observations with time-invariant supplier status. Multicollinearity is not a concern since variance inflation factors range from 1.00 to 1.17 in the two-stage specification and reach at most 1.66 in the single-stage robustness check, well below the conservative threshold of 5 commonly applied, and far from the level of 10 at which multicollinearity is considered severe (Wooldridge, 2010).

7.4.6 Winsorization

The winsorization sensitivity analysis provides a nuanced interpretation of the main findings. The signed DA coefficient is highly stable across all winsorization thresholds, ranging from 0.0109 under the 0.5/99.5 threshold to 0.0088 under the 5/95 threshold, and remains statistically significant at the one per cent level throughout. This indicates that the positive supplier association in the signed specification is not driven by a small number of extreme observations. In contrast, the $|DA|$ coefficient is sensitive to the degree of winsorization. The coefficient remains negative and significant under the 0.5/99.5, 1/99, and 2/98 thresholds, but weakens steadily as more extreme observations are trimmed and becomes statistically insignificant under the 5/95 threshold. This suggests that the lower absolute discretionary accruals among suppliers are concentrated in the tails of the accrual distribution rather than representing a uniform reduction in accrual magnitude across all firms.

8. Conclusions

8.1 Summarize the contribution

This study examined whether Swedish private-sector firms supplying public procurement contracts demonstrate systematically different accrual-based earnings management compared to non-suppliers. Using a sample of approximately 480,000 firm-years over 2021–2023, we estimated discretionary accruals via the performance-adjusted Kothari et al. (2005) Modified Jones model and tested whether supplier status predicts both the magnitude and direction of those accruals in a second-stage regression.

The results provide qualified support for H1. Suppliers exhibit lower absolute discretionary accruals than industry-matched non-suppliers under the baseline 1/99 winsorization, which is directionally consistent with the prediction that government visibility constrains reporting

discretion. However, the association is economically small and weakens progressively under more aggressive winsorization, becoming statistically insignificant at the 5/95 threshold. This sensitivity suggests that the result is concentrated among firms in the tails of the accrual distribution rather than reflecting a uniform reduction across all suppliers, and it cannot be ruled out that the association is driven by outliers rather than a general pattern.

The second hypothesis is not supported. Rather than the income-decreasing association predicted by political cost theory, suppliers display a significant and positive association with signed discretionary accruals. This result is robust across all winsorization thresholds, alternative performance adjustments, current accruals specifications, and finer industry classifications. Directional decomposition reveals that the positive association reflects suppliers exhibiting less extreme income-decreasing accruals rather than higher income-increasing accruals.

These findings must be interpreted with caution. The cross-sectional design and the absence of pre-treatment data prevent the endogeneity tests needed to rule out that unobserved factors are driving the estimated associations. Self-selection remains the primary concern, since firms that enter public procurement markets likely differ from non-participants on unobservable dimensions that independently affect discretionary accruals. The balance-sheet approach risks introducing measurement error, the absence of cash flow data prevents analysis of real earnings management necessary for a complete understanding of earnings management behaviour.

Within these constraints, the study contributes to the earnings management literature in two ways. First, it extends research on government exposure and financial reporting to a Swedish private-firm setting, where the capital market pressures that complicate comparable listed-firm studies are absent. Second, it provides evidence that the association between procurement participation and accrual behaviour does not operate uniformly in the direction predicted by political cost theory, as the competing incentives embedded in the LOU qualification framework may partly explain the observed reporting patterns.

8.2 Limitations

The central limitation is that the cross-sectional design cannot establish causality. Procurement records are only available from 2021, so we cannot observe when a firm first began supplying the public sector. Without a pre-supplier baseline, we cannot track how a firm's reporting

behaviour changes after entering procurement. Instead, the design compares firms that hold contracts during 2021–2023 against firms that do not, meaning any observed differences could reflect pre-existing characteristics rather than the effect of procurement participation itself.

Self-selection into procurement markets is the primary concern. Bidding for public contracts requires significant administrative capacity, familiarity with strict tender procedures, and willingness to comply with formal documentation requirements. Firms that choose to participate may just possess higher levels of reporting discipline and administrative infrastructure than non-participants. Because these same traits independently affect discretionary accruals, the observed differences may reflect the high barriers to entry in the public sector rather than the disciplinary effect of increased government oversight (Samuels, 2021; Mills et al., 2013). The descriptive statistics support this concern. Suppliers differ systematically from non-suppliers on every observable dimension (Table 6), and similar differences plausibly exist on unobservable dimensions such as governance quality, management sophistication, or internal control maturity. If such unobserved characteristics are correlated with both supplier status and discretionary accruals, they will bias the estimated association. Industry-year fixed effects absorb common shocks within broad two-digit SNI industries but do not eliminate firm-specific unobservables, and firm fixed effects are infeasible because supplier status is time-invariant.

These data limitations also rule out standard remedies for endogeneity concerns. Difference-in-differences would require a clearly defined pre-supplier period, while propensity score matching would require baseline covariates that are not already shaped by procurement participation. Neither condition is satisfied, as the procurement records begin in 2021 and the available financial variables may already reflect earlier supplier relationships.

Due to data limitations in Serrano we are unable to identify which reporting framework each firm applies, so we cannot control for K2/K3 differences directly. Since a larger share of suppliers exceed the K3 size thresholds (26% versus 5%), the unobserved framework choice is unevenly distributed across treatment and control groups and may act as an omitted variable that partly explains the observed associations

The reliance on the balance-sheet approach to computing total accruals introduces further measurement concerns. Only firms classified as large companies under ÅRL (1995:1554) are

required to prepare a cash flow statement, making the cash-flow-based computation preferred in modern research (Hribar & Collins, 2002) infeasible for the majority of our sample. The balance-sheet method is known to misattribute working-capital changes from non-operating events such as mergers and intra-group transactions to accrual choices. More broadly, Swedish private-firm financial statements lack the granularity available for listed firms, as disclosures on foreign exchange effects, segment-level activity, and detailed trade flows are largely absent. The merger flag and group-affiliation controls absorb the most predictable of these effects, but the limited scope of private-firm reporting means that residual measurement error cannot be fully addressed.

Earnings management is a broad construct, and discretionary accruals are an imperfect proxy for it. The first-stage residual may combine actual managerial discretion with unmodelled non-discretionary variation and estimation noise (Dechow et al., 2010), meaning that part of the supplier–non-supplier difference attributed to earnings management could instead reflect systematic differences in how the model fits the two groups. The limited availability of cash flow data further restricts the analysis to accrual-based measures, preventing the construction of real earnings management proxies (Roychowdhury, 2006). This matters because Zang (2012) shows that firms may substitute toward real activities manipulation when accrual-based management becomes more costly or detectable, and Glegg et al. (2022) find a similar pattern among US government suppliers. Without the ability to measure both channels, this study cannot separate possible substitution effects from the associations documented, and therefore cannot conclude whether procurement participation is associated with lower total earnings management or simply a different composition of earnings management.

The Kothari performance-adjusted Modified Jones model has known low explanatory power, as the residual conflates actual discretionary accruals with model noise and unmodelled normal accruals, and remains sensitive to growth and extreme performance even after the ROA adjustment (Dechow et al., 2012). The second-stage specification also omits controls that prior literature has linked to discretionary accruals, most notably auditor identity (Van Tendeloo & Vanstraelen, 2008). These omissions reflect data constraints, but if these factors differ systematically between suppliers and non-suppliers, their absence may bias the estimated associations.

The binary supplier indicator cannot distinguish between a firm that won a single minor contract and one that derives the majority of its revenue from public procurement. Contract value and duration data are too fragmented to construct a continuous exposure measure, forcing the model to average across heterogeneous levels of government dependence. This averaging likely understates the association for heavily dependent suppliers. Prior research suggests this dimension matters, as Glegg et al. (2022) measure government exposure as a share of revenue and find that the degree of dependence affects reporting behaviour.

The 2021–2023 observation window coincides with the post-pandemic recovery, and the 2020 base year used for lagged variables falls within the pandemic itself. Year-over-year changes entering the Kothari model for 2021 may therefore partly reflect recovery dynamics rather than normal accrual behaviour. Because procurement data are unavailable before 2020, no pre-pandemic baseline can be established, and the estimated associations may capture transitory post-crisis patterns rather than stable structural differences between suppliers and non-suppliers.

8.3 Future Research

Upphandlingsmyndigheten publishes new contract data annually. Over time, this will make it possible to identify the point at which a firm first wins a public contract and to observe how its reporting behaviour changes around that event, enabling difference-in-differences and propensity-score-matching approaches closer to causal identification. Swedish public entities also procure substantial volumes of goods and services through direct purchases below the formal tender threshold under LOU. Comparing firms supplying through direct purchase against those competing through open tender would clarify whether the qualification requirements embedded in the tender process drive the patterns documented here. Future research could also test for real earnings management by restricting the sample to firms that are required to prepare cash flow statements, though this would limit the analysis to the largest segment of the private-firm population. Finally, contract-level variables available in the Upphandlingsmyndigheten data could be used to examine whether the degree of procurement exposure matters. Together, these extensions would strengthen the understanding of how public procurement participation in Sweden shapes financial reporting among firms. More fundamentally, they would allow future work to move beyond the cross-sectional associations documented here and toward causal identification.

9. References

- Abadie, A., Athey, S., Imbens, G. W., & Wooldridge, J. M. (2023). When Should You Adjust Standard Errors for Clustering? *The Quarterly Journal of Economics*, 138(1), 1–35.
- Alissa, W., Bonsall, S. B., Koharki, K., & Penn, M. W. (2013). Firms' Use of Accounting Discretion to Influence Their Credit Ratings. *Journal of Accounting and Economics*, 55(2–3), 129–147.
- Årsredovisningslag (SFS 1995:1554) [Annual Accounts Act]. (1995). Sveriges Riksdag.
- Bartov, E., Gul, F. A., & Tsui, J. S. L. (2001). Discretionary-Accruals Models and Audit Qualifications. *Journal of Accounting and Economics*, 30(3), 421–452.
- Bernard, V. L., & Skinner, D. J. (1996). What Motivates Managers' Choice of Discretionary Accruals? *Journal of Accounting and Economics*, 22(1–3), 313–325.
- Beuselinck, C., & Deloof, M. (2014). Earnings Management in Business Groups: Tax Incentives or Expropriation Concealment? *The International Journal of Accounting*, 49(1), 27–52.
- Burgstahler, D., & Dichev, I. (1997). Earnings Management to Avoid Earnings Decreases and Losses. *Journal of Accounting and Economics*, 24(1), 99–126.
- Chen, W., Hribar, P., & Melessa, S. (2018). Incorrect Inferences When Using Residuals as Dependent Variables. *Journal of Accounting Research*, 56(3), 751–796.
- Cohen, D. A., Dey, A., & Lys, T. Z. (2008). Real and Accrual-Based Earnings Management in the Pre- and Post-Sarbanes-Oxley Periods. *The Accounting Review*, 83(3), 757–787.
- Cohen, D. A., & Li, B. (2016). Customer-Base Concentration, Investment, and Profitability: The U.S. Government as a Major Customer. Working paper.
- Cohen, D. A., & Li, B. (2019). The Effect of Major Government Customers on Earnings Management. Working paper.
- Cohen, D. A., Li, B., Li, N., & Lou, Y. (2022). Major Government Customers and Loan Contract Terms. *Review of Accounting Studies*, 27, 275–313.
- Cohen, D. A., & Zarowin, P. (2010). Accrual-Based and Real Earnings Management Activities around Seasoned Equity Offerings. *Journal of Accounting and Economics*, 50(1), 2–19.
- Coppens, L., & Peek, E. (2005). An Analysis of Earnings Management by European Private Firms. *Journal of International Accounting, Auditing and Taxation*, 14(1), 1–17.

- DeAngelo, H., DeAngelo, L., & Skinner, D. J. (1994). Accounting Choice in Troubled Companies. *Journal of Accounting and Economics*, 17(1–2), 113–143.
- DeAngelo, L. E. (1986). Accounting Numbers as Market Valuation Substitutes: A Study of Management Buyouts of Public Stockholders. *The Accounting Review*, 61(3), 400–420.
- Dechow, P. M. (1994). Accounting Earnings and Cash Flows as Measures of Firm Performance: The Role of Accounting Accruals. *Journal of Accounting and Economics*, 18(1), 3–42.
- Dechow, P. M., Ge, W., & Schrand, C. (2010). Understanding Earnings Quality: A Review of the Proxies, Their Determinants and Their Consequences. *Journal of Accounting and Economics*, 50(2–3), 344–401.
- Dechow, P. M., Hutton, A. P., Kim, J. H., & Sloan, R. G. (2012). Detecting Earnings Management: A New Approach. *Journal of Accounting Research*, 50(2), 275–334.
- Dechow, P. M., & Skinner, D. J. (2000). Earnings Management: Reconciling the Views of Accounting Academics, Practitioners, and Regulators. *Accounting Horizons*, 14(2), 235–250.
- Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting Earnings Management. *The Accounting Review*, 70(2), 193–225.
- DeFond, M. L., & Jiambalvo, J. (1994). Debt Covenant Violation and Manipulation of Accruals. *Journal of Accounting and Economics*, 17(1–2), 145–176.
- DeGeorge, F., Patel, J., & Zeckhauser, R. (1999). Earnings Management to Exceed Thresholds. *The Journal of Business*, 72(1), 1–33.
- Dhaliwal, D., Michas, P. N., Naiker, V., & Sharma, D. (2016). Greater Reliance on Major Customers and Auditor Going-Concern Opinions. *Auditing: A Journal of Practice & Theory*, 35(1), 79–104.
- Di Narzo, A. F., Ferrara, L., & Ferrara, A. (2018). Discretionary Accruals and Firm Characteristics: Evidence from the Italian Private Sector. *Journal of Applied Accounting Research*, 19(4), 498–519.
- Directive 2014/24/EU. (2014). Official Journal of the European Union, L 94, 65–242.
- Dopuch, N., Mashruwala, R., Seethamraju, C., & Zach, T. (2012). The Impact of a Heterogeneous Accrual-Generating Process on Empirical Accrual Models. *Journal of Accounting, Auditing & Finance*, 27(3), 386–411.
- Erickson, M., & Wang, S. (1999). Earnings Management by Acquiring Firms in Stock for Stock Mergers. *Journal of Accounting and Economics*, 27(2), 149–176.

- Glegg, C., Harris, O., Ngo, T., & Susnjara, J. (2022). Having Government as a Customer: Effects on Credit Risk and Earnings Management. *Finance Research Letters*, 47, 102776.
- Goldman, E., Rocholl, J., & So, J. (2013). Politically Connected Boards of Directors and the Allocation of Procurement Contracts. *Review of Finance*, 17(5), 1617–1648.
- Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The Economic Implications of Corporate Financial Reporting. *Journal of Accounting and Economics*, 40(1–3), 3–73.
- Gunny, K. A. (2010). The Relation Between Earnings Management Using Real Activities Manipulation and Future Performance: Evidence from Meeting Earnings Benchmarks. *Contemporary Accounting Research*, 27(3), 855–888.
- Hadley, B. (2019). The Government as a Customer: Government Contracts and Earnings Management. Doctoral dissertation, University of South Florida.
- Han, J. C. Y., & Wang, S. (1998). Political Costs and Earnings Management of Oil Companies during the 1990 Persian Gulf Crisis. *The Accounting Review*, 73(1), 103–117.
- Healy, P. M. (1985). The Effect of Bonus Schemes on Accounting Decisions. *Journal of Accounting and Economics*, 7(1–3), 85–107.
- Healy, P. M., & Wahlen, J. M. (1999). A Review of the Earnings Management Literature and Its Implications for Standard Setting. *Accounting Horizons*, 13(4), 365–383.
- Höglund, H., & Sundvik, D. (2016). Financial Reporting Quality and Outsourcing of Accounting Tasks: Evidence from Small Private Firms. *Advances in Accounting*, 35, 125–134.
- Hribar, P., & Collins, D. W. (2002). Errors in Estimating Accruals: Implications for Empirical Research. *Journal of Accounting Research*, 40(1), 105–134.
- Hribar, P., & Nichols, D. C. (2007). The Use of Unsigned Earnings Quality Measures in Tests of Earnings Management. *Journal of Accounting Research*, 45(5), 1017–1053.
- Indén, T., & Lundberg, J. (2018). Offentlig upphandling, kvalificering och ekonomisk ställning (Uppdragsforskningsrapport 2018:3). Konkurrensverket.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3(4), 305–360.
- Jones, J. J. (1991). Earnings Management During Import Relief Investigations. *Journal of Accounting Research*, 29(2), 193–228.
- Kasznik, R. (1999). On the Association between Voluntary Disclosure and Earnings Management. *Journal of Accounting Research*, 37(1), 57–81.

- Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance Matched Discretionary Accrual Measures. *Journal of Accounting and Economics*, 39(1), 163–197.
- Leone, A. J., Minutti-Meza, M., & Wasley, C. E. (2019). Influential Observations and Inference in Accounting Research. *The Accounting Review*, 94(6), 337–364.
- Liu, Y., Zhuang, Z., & Xu, A. (2025). Government Customers and Corporate Earnings Management. *Journal of Business Finance & Accounting*.
- McNichols, M. F. (2002). Discussion of the Quality of Accruals and Earnings: The Role of Accrual Estimation Errors. *The Accounting Review*, 77(s-1), 61–69.
- Mills, L. F., Nutter, S. E., & Schwab, C. M. (2013). The Effect of Political Sensitivity and Bargaining Power on Taxes: Evidence from Federal Contractors. *The Accounting Review*, 88(3), 977–1005.
- OECD. (2025). *Government at a Glance 2025*. OECD Publishing.
- Paton, W. A., & Littleton, A. C. (1940). *An Introduction to Corporate Accounting Standards*. American Accounting Association.
- Peasnell, K. V., Pope, P. F., & Young, S. (2000). Detecting Earnings Management Using Cross-Sectional Abnormal Accruals Models. *Accounting and Business Research*, 30(4), 313–326.
- Petersen, M. A. (2009). Estimating Standard Errors in Finance Panel Data Sets: Comparing Approaches. *The Review of Financial Studies*, 22(1), 435–480.
- Ramanna, K., & Roychowdhury, S. (2010). Elections and Discretionary Accruals: Evidence from 2004. *Journal of Accounting Research*, 48(2), 445–475.
- Roychowdhury, S. (2006). Earnings Management through Real Activities Manipulation. *Journal of Accounting and Economics*, 42(3), 335–370.
- Samuels, D. (2021). Government Procurement and Changes in Firm Transparency. *The Accounting Review*, 96(1), 401–430.
- Schipper, K. (1989). Commentary on Earnings Management. *Accounting Horizons*, 3(4), 91–102.
- Sundvik, D. (2016). Earnings Management around Swedish Corporate Income Tax Reforms. *International Journal of Accounting, Auditing and Performance Evaluation*, 12(3), 261–286.
- Swedish Public Procurement Act (SFS 2016:1145). (2016). Sveriges Riksdag.

- Sweeney, A. P. (1994). Debt-Covenant Violations and Managers' Accounting Responses. *Journal of Accounting and Economics*, 17(3), 281–308.
- Teoh, S. H., Welch, I., & Wong, T. J. (1998). Earnings Management and the Long-Run Market Performance of Initial Public Offerings. *The Journal of Finance*, 53(6), 1935–1974.
- Upphandlingsmyndigheten. (n.d.). Database of awarded public procurement contracts.
- Van Tendeloo, B., & Vanstraelen, A. (2008). Earnings Management and Audit Quality in Europe: Evidence from the Private Client Segment Market. *European Accounting Review*, 17(3), 447–469.
- Watts, R. L., & Zimmerman, J. L. (1978). Towards a Positive Theory of the Determination of Accounting Standards. *The Accounting Review*, 53(1), 112–134.
- Watts, R. L., & Zimmerman, J. L. (1986). *Positive Accounting Theory*. Prentice-Hall.
- Watts, R. L., & Zimmerman, J. L. (1990). Positive Accounting Theory: A Ten Year Perspective. *The Accounting Review*, 65(1), 131–156.
- Wooldridge, J. M. (2010). *Econometric Analysis of Cross Section and Panel Data*. MIT Press.
- Zang, A. Y. (2012). Evidence on the Trade-Off between Real Activities Manipulation and Accrual-Based Earnings Management. *The Accounting Review*, 87(2), 675–703.
- Zimmerman, J. L., & Bloom, R. (2016). *Accounting for Decision Making and Control* (9th ed.). McGraw-Hill Education.

10. Appendix

Figure 1: M3 Diagnostics (|DA| Specification)

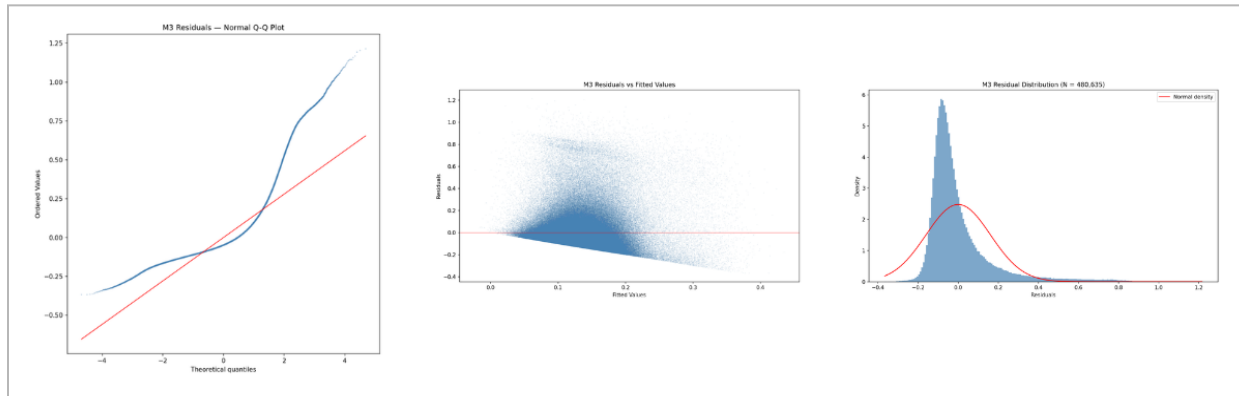


Figure 2: M6 Diagnostics (DA Specification)

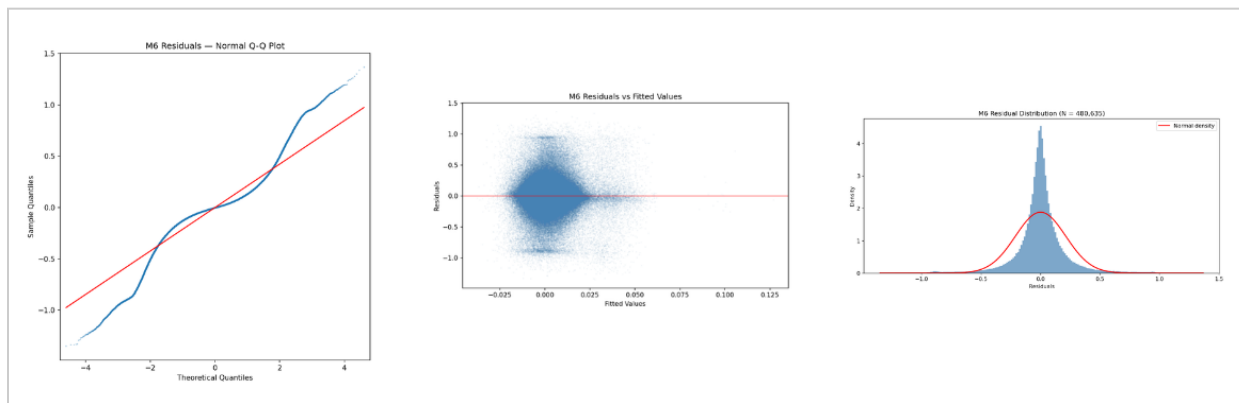


Table 10: Variance Inflation Factors for Two-Stage and Single-Stage Specifications

Variable	VIF (Two-Stage)	Tolerance (Two-Stage)	VIF (Single-Stage)	Tolerance (Single-Stage)
1/A (Inv. Lagged Assets)	—	—	1.40	0.71
($\Delta\text{Rev} - \Delta\text{Rec}$)/A	—	—	1.46	0.68
PPE/A	—	—	1.25	0.80
ROA	—	—	1.48	0.68
Public Supplier	1.02	0.98	1.04	0.96
Size (ln Assets)	1.17	0.85	1.66	0.60
Leverage	1.09	0.92	1.32	0.76
Loss Dummy	1.07	0.93	1.37	0.73
Revenue Growth	1.02	0.98	1.39	0.72
In Group	1.16	0.86	1.16	0.86
Merger Flag	1.00	1.00	1.00	1.00

Notes: VIFs are reported for the two-stage specification (Equations 4 and 5, which share identical regressors) and the single-stage robustness specification. In the two-stage baseline, all VIFs range from 1.00 to 1.17. In the single-stage specification, VIFs increase modestly, with the highest being Size at 1.66.

Table 11: Breusch-Pagan Tests for Heteroskedasticity

Model	Dependent Variable	BP Statistic	p-value
M1 (Baseline)	DA	245.6	<0.0001
M2 (Controls)	DA	7,317.90	<0.0001
M3 (Full)	DA	9,263.80	<0.0001
M4 (Baseline)	DA	172.87	<0.0001
M5 (Controls)	DA	14,941.40	<0.0001
M6 (Full)	DA	17,100.34	<0.0001

Notes: The Breusch-Pagan test evaluates the null hypothesis of constant residual variance. The null is rejected at the one % level for all specifications. $N = 480,635$ for all models.

Table 12 : Directional Decomposition of the Supplier Effect by Accrual Sign

Subsample	N	Coef	SE	t-stat	p-value
DA > 0	242,345	-0.0022*	0.0013	-1.66	0.0969
DA < 0	238,290	0.0089***	0.0013	6.97	< 0.001

Notes: Dependent variable is signed DA. Each row reports the Public Supplier coefficient with all controls and SNI2×year fixed effects. Standard errors clustered at the firm level. The sample is split by the sign of the first-stage Kothari residual, with each subsample estimated separately

Table 13: Winsorization Sensitivity — Signed Discretionary Accruals (H2)

Threshold	Coef	SE	t-stat	p-value
0.5% / 99.5%	0.0109***	0.0012	9.36	< 0.001
1% / 99%	0.0114***	0.0011	10.42	< 0.001
2% / 98%	0.0108***	0.001	10.61	< 0.001
5% / 95%	0.0088***	0.0009	10.21	< 0.001

Notes: Each row reports the Public Supplier coefficient from Equation (5) with signed DA as the dependent variable, all controls, and SNI2×year fixed effects, under alternative winsorization thresholds applied to all continuous variables before both estimation stages. The baseline specification uses 1% winsorization. N = 480,635. Standard errors clustered at the firm level. *** $p < 0.01$.

Table 14: Winsorization Sensitivity, Absolute Discretionary Accruals (H1)

Threshold	Coef	SE	t-stat	p-value
0.5% / 99.5%	-0.0069***	0.0011	-6.33	< 0.001
1% / 99%	-0.0046***	0.001	-4.61	< 0.001
2% / 98%	-0.0025***	0.0009	-2.77	0.006
5% / 95%	0.0008	0.0007	1.14	0.255

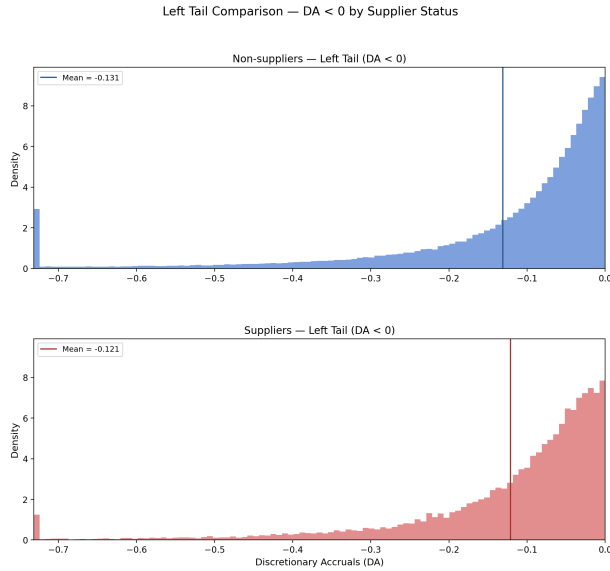
Notes: Each row reports the Public Supplier coefficient from Equation (4) with $|DA|$ as the dependent variable, all controls, and SNI2×year fixed effects, under alternative winsorization thresholds applied to all continuous variables before both estimation stages. The baseline specification uses 1% winsorization. N = 480,635. Standard errors clustered at the firm level. *** $p < 0.01$.

Table 15: SNI3 Industry Classification Robustness

	<i>M3: DA </i>				<i>M6: DA</i>			
<i>Variable</i>	<i>Coef</i>	<i>SE</i>	<i>t-stat</i>	<i>p-value</i>	<i>Coef</i>	<i>SE</i>	<i>t-stat</i>	<i>p-value</i>
<i>Public Supplier</i>	−0.0060***	0.0010	−5.95	0.0000	0.0110***	0.0011	10.04	0.0000
<i>Size</i>	−0.0119***	0.0002	−57.80	0.0000	−0.0007***	0.0002	−3.07	0.0020
<i>Leverage</i>	0.0505***	0.0011	45.91	0.0000	−0.0203***	0.0013	−15.62	0.0000
<i>Loss</i>	0.0169***	0.0007	24.14	0.0000	0.0052***	0.0009	5.78	0.0000
<i>Revenue Growth</i>	0.0290***	0.0006	48.33	0.0000	0.0074***	0.0008	9.25	0.0000
<i>In Group</i>	0.0289***	0.0006	48.17	0.0000	0.0071***	0.0007	10.14	0.0000
<i>Merger Flag</i>	0.0125**	0.0061	2.05	0.0390	−0.0050	0.0072	−0.69	0.4920
<i>Industry(SNI3) ×Year FE</i>	<i>Yes</i>				<i>Yes</i>			
<i>SE clustering</i>	<i>Firm</i>				<i>Firm</i>			
<i>First-stage cells</i>	659				659			
<i>Observations</i>	480,106				480,106			
<i>Adj. R²</i>	0.0664				0.0003			

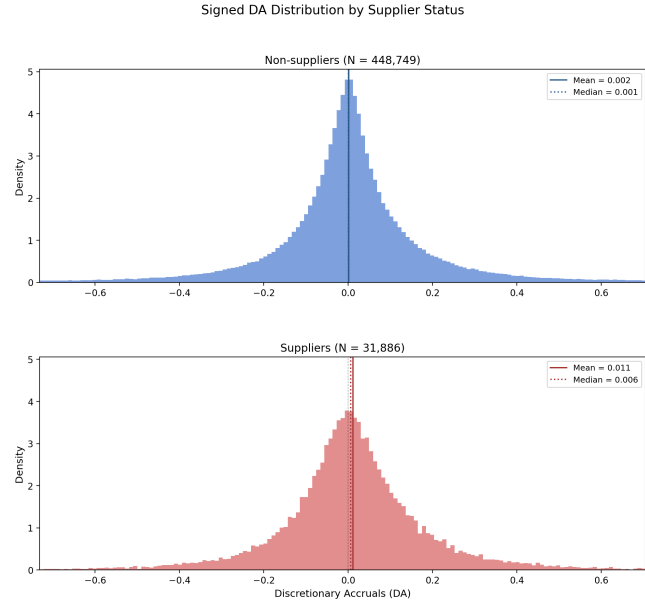
Notes: Dependent variable is $|DA|$ (absolute discretionary accruals) for M3 and DA (signed discretionary accruals) for M6. The first-stage Kothari et al. (2005) performance-adjusted Modified Jones model is estimated within 659 three-digit SNI industry-year cells (minimum 15 firms per cell). $N = 480,106$. All specifications include $SNI3 \times year$ fixed effects. Standard errors clustered at the firm level. Intercept not reported. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Figure 3 : Left Tail Distribution of Signed Discretionary Accruals by Supplier Status (DA < 0)



Notes: Density plots restricted to firm-years with negative first-stage Kothari residuals. Suppliers N = 15,250; non-suppliers N = 223,040. Vertical lines indicate subsample means. Variables winsorized at 1%.

Figure 4: Distribution of Signed Discretionary Accruals by Supplier Status



Notes: Density plots of signed DA for suppliers (N = 31,886) and non-suppliers (N = 448,749). Vertical lines indicate subsample means. Variables winsorized at 1%.

AI Disclosure

This thesis was produced with the assistance of generative AI tools, specifically Anthropic's Claude (Opus 4.6) through the chat interface and Claude Code. These tools were used to guide the development of the statistical code underlying the empirical analysis, format regression output into tables, and refine the language and structure of the written text. All analytical decisions, interpretations, and conclusions remain the authors' own. The AI tools served as productivity aids and did not determine the research design, variable definitions, model specifications, or the substance of any finding reported in this thesis.