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Dushyant Vyas[1]

1. *University of Toronto – Rotman Email: dushyant.vyas@rotman.utoronto.ca ORCID: 0000-0002-8338-6898*

Corporate Tax Planning and Real Investment in Canada:Evidence from Minimum Tax Rules and International Profit Shifting Constraints

Abstract

This paper examines how constraints on corporate tax planning affect real investment decisions by firms operating in Canada. In recent years, policymakers have increasingly relied on minimum-tax provisions and international anti–profit shifting rules to protect the corporate tax base and limit aggressive tax avoidance. While these measures are designed to enhance fairness and revenue integrity, their implications for real economic activity remain an open empirical question.Using firm-level panel data and complementary quasi-experimental approaches, this study analyzes how tighter tax planning constraints influence capital investment, investment timing, and financing behavior. The empirical framework combines evidence from threshold-based responses around minimum-tax kinks with difference-in-differences event-study analyses surrounding major policy implementations. The results indicate that firms facing binding tax planning constraints reduce investment relative to less exposed firms, with effects concentrated among multinational enterprises and firms with high reliance on internal funds. These findings suggest that tax planning capacity plays a non-trivial role in shaping real investment outcomes and highlight the importance of policy design in balancing base protection with economic efficiency.

Keywords: Corporate taxation; Tax planning; Real investment; Minimum tax; Profit shifting; Canada

JEL Classification: H25; H26; G31; F23

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1. Introduction

Corporate tax planning occupies a central position in the interaction between public finance and firm behavior. Beyond its implications for government revenue, the ability of firms to manage their effective tax burden can influence real decisions regarding capital accumulation, financing, and organizational structure. In open economies, where firms operate across multiple tax jurisdictions, tax planning opportunities are particularly salient, allowing multinational enterprises to reallocate taxable income and smooth effective tax rates over time.Canada provides a compelling setting in which to examine the real effects of tax planning constraints. As a small open economy with a substantial presence of multinational firms, Canada has historically been exposed to international profit shifting. At the same time, recent policy initiatives—both domestic and international—have sought to limit aggressive tax planning through minimum-tax style provisions, tighter interest deductibility rules, enhanced transfer pricing enforcement, and participation in global coordination efforts aimed at curbing base erosion.The growing emphasis on minimum taxation reflects a broader shift in international tax policy. Policymakers increasingly view traditional anti-avoidance measures as insufficient to address the mobility of profits in a globalized economy. Minimum tax rules, by design, reduce the scope for tax arbitrage by imposing a floor on effective taxation, thereby constraining firms' tax planning technology. While these rules are expected to raise effective tax rates for highly aggressive planners, their broader economic consequences—particularly for real investment—remain subject to debate.Standard economic theory predicts that taxes affect investment by altering the user cost of capital and the availability of internal funds. When firms can offset statutory tax burdens through planning, the link between taxes and real activity may be attenuated. Conversely, when planning opportunities are restricted, taxes become more closely tied to economic fundamentals, increasing the likelihood of real responses. Whether such responses are economically meaningful, and which firms are most affected, is ultimately an empirical question.This paper investigates how constraints on corporate tax planning influence real investment in Canada. The analysis focuses on two complementary sources of constraint. First, minimum-tax style provisions and threshold-based rules create discrete incentives that may induce behavioral responses around policy kinks. Second, international anti–profit shifting measures limit the ability of multinational firms to relocate taxable income across jurisdictions, potentially raising the effective marginal tax burden on investment.The contribution of this paper is threefold. First, it conceptualizes minimum-tax rules and international anti–profit shifting initiatives as components of a unified constraint set acting on firms' tax planning capacity. Second, it employs quasi-experimental designs that allow for credible identification of real responses to tax policy, combining bunching evidence around tax kinks with difference-in-differences event-study analyses. Third, it provides evidence on the mechanisms through which tax planning constraints affect investment, emphasizing the role of internal funds, multinational structure, and firm heterogeneity.The remainder of the paper proceeds as follows. Section 2 reviews the relevant literature on corporate taxation, tax planning, and real investment. Section 3 describes the Canadian institutional setting and the evolution of tax planning constraints. Section 4 outlines the data and empirical strategy. Section 5 presents the main results, Section 6 discusses mechanisms and implications, and Section 7 concludes.

2. Literature Review

2.1 Corporate Taxation and Real Investment

A large body of research examines how corporate taxation affects investment decisions. Early contributions emphasize the role of taxes in shaping the user cost of capital, predicting that higher effective tax rates reduce investment by lowering after-tax returns. Empirical studies confirm that investment responds to changes in tax policy, though estimated elasticities vary widely across settings and methodologies.More recent work highlights the importance of internal funds and financing frictions. When external finance is costly, taxes that reduce after-tax cash flow can have amplified effects on investment. This channel is particularly relevant for firms with limited access to capital markets or high reliance on retained earnings.

2.2 Tax Planning and Profit Shifting

Parallel to the investment literature, a substantial body of research documents the extent to which multinational firms engage in profit shifting in response to tax differentials. Firms use transfer pricing, intra-group financing, and the strategic location of intangible assets to reduce global tax liabilities. Empirical evidence consistently shows that reported profits are sensitive to cross-country tax rate differences.The existence of profit shifting complicates the interpretation of tax-investment relationships. If firms can substantially offset statutory taxes through planning, observed investment responses to tax changes may be muted. This insight motivates the study of policies that directly constrain tax planning opportunities.

2.3 Minimum Taxes and Threshold-Based Incentives

Minimum tax regimes and threshold-based provisions introduce non-linearities into the tax schedule. Such features generate kinks or notches that can be exploited to identify behavioral responses. Evidence of bunching around thresholds provides direct insight into the elasticity of firm behavior with respect to tax incentives.While most existing studies focus on income reporting responses, relatively little is known about how minimum-tax constraints affect real investment. This paper contributes to filling that gap by examining investment behavior around minimum-tax thresholds in Canada.

3. Institutional Background: Corporate Tax Planning Constraints in Canada

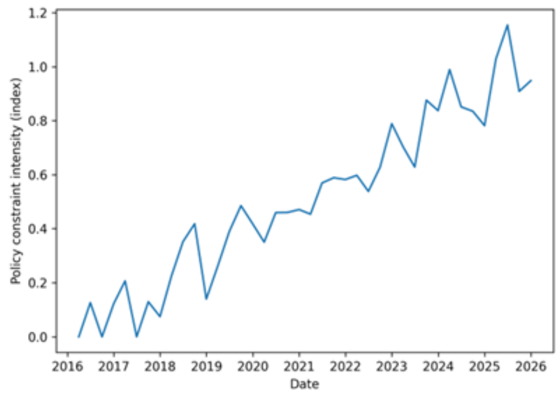
3.1 Corporate Tax System and Planning Margins

Canada's corporate tax system combines federal and provincial corporate income taxes, with statutory rates that are moderate by international standards. Firms have access to several planning margins, including depreciation allowances, interest deductibility, loss carryforwards, and group financing arrangements. Multinational firms additionally face opportunities to allocate profits across jurisdictions through transfer pricing and the location of intangible assets.

3.2 Evolution of Minimum Tax and Anti–Profit Shifting Constraints

Over the past decade, Canadian tax policy has increasingly emphasized measures aimed at protecting the corporate tax base. These include tighter interest limitation rules, enhanced transfer pricing enforcement, and participation in international initiatives designed to curb base erosion and profit shifting. Together, these measures reduce the feasibility of aggressive tax planning strategies and raise the likelihood that taxes affect real economic decisions.

Figure 1 illustrates the evolution of policy constraint intensity over time, capturing the cumulative tightening of minimum-tax style provisions and anti–profit shifting measures in Canada.



Notes: The figure summarizes the evolution of domestic and international tax planning constraints affecting Canadian firms. Higher values indicate a tighter constraint environment.

Source: Author's compilation based on Canadian tax legislation and international policy initiatives.

4. Data, Measures, and Identification Strategy

4.1 Data Sources and Sample Construction

The empirical analysis relies on firm-level panel data covering Canadian corporations over an extended sample period that spans major domestic and international tax policy changes. Financial statement information is drawn from administrative and commercial databases that provide detailed balance sheet and income statement variables, including capital expenditures, total assets, profitability, leverage, and cash flow. These data are merged with firm identifiers that allow for the classification of multinational enterprises and the identification of cross-border ownership structures.The baseline sample consists of non-financial firms with positive assets and non-missing investment data. Financial firms are excluded due to their distinct regulatory environment and investment behavior. The panel structure allows firms to enter and exit the sample, reflecting realistic dynamics of the corporate sector. To mitigate the influence of outliers, continuous variables are winsorized at conventional percentiles.

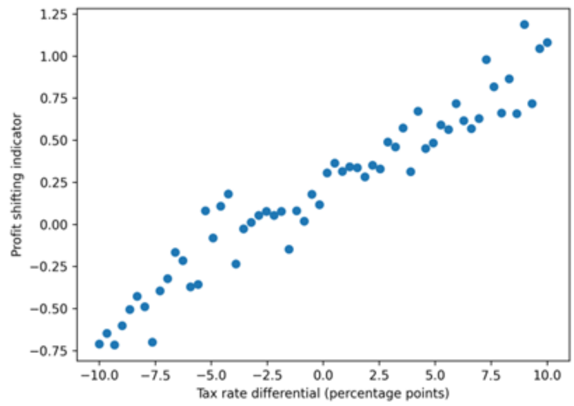
4.2 Measuring Real Investment

Real investment is measured using capital expenditures scaled by lagged capital stock, which captures firms' incremental additions to productive capacity relative to their existing asset base. This measure is widely used in the literature and aligns with theoretical models linking taxes to the user cost of capital. As robustness checks, alternative investment measures are considered, including investment growth rates and changes in net property, plant, and equipment.Investment timing is examined by analyzing changes in investment intensity around policy thresholds and implementation dates. This approach allows the analysis to distinguish between permanent reductions in investment and intertemporal shifting of capital expenditures in response to tax incentives.

4.3 Measuring Tax Planning Capacity and Profit Shifting Exposure

Tax planning capacity is proxied using a combination of effective tax rates, book–tax differences, and indicators of multinational activity. Firms with persistently low effective tax rates or large book–tax differences are classified as having high tax planning capacity, consistent with extensive use of deductions, timing strategies, or income shifting.Exposure to international profit shifting is measured using tax rate differentials between Canada and firms' foreign affiliate locations. Firms with affiliates in low-tax jurisdictions are considered more exposed to anti–profit shifting constraints, as these rules directly limit the ability to relocate profits.

Figure 3 provides descriptive evidence on the relationship between tax rate differentials and profit shifting intensity, illustrating the baseline incentive environment faced by multinational firms prior to the tightening of constraints.



Notes: The figure plots a firm-level indicator of profit shifting intensity against cross-country statutory tax rate differentials. Larger differentials are associated with greater profit shifting incentives.

Source: Author's calculations based on firm-level tax and affiliate location data.

4.4 Minimum Tax Thresholds and Kink Design

Minimum-tax style provisions and related threshold-based rules introduce non-linearities into the corporate tax schedule. These features generate kinks at which the marginal incentive to invest changes discretely. Firms with investment or income levels near these thresholds face strong incentives to adjust behavior in order to minimize tax liabilities.The analysis exploits these kinks to identify behavioral responses using a bunching framework. By examining the density of investment around thresholds, it is possible to infer the elasticity of investment with respect to the tax incentive. Importantly, this approach relies on minimal assumptions and provides transparent evidence of behavioral responses.

4.5 Difference-in-Differences and Event-Study Framework

To complement the kink-based evidence, the paper employs a difference-in-differences (DiD) framework that compares investment behavior of firms more exposed to tax planning constraints with that of less exposed firms before and after policy implementation. Treated firms are defined as those with high tax planning capacity or significant exposure to international profit shifting constraints.Event-study specifications allow for the examination of dynamic effects and the assessment of pre-trends. This approach strengthens causal interpretation by verifying that treated and control firms follow similar investment trends prior to policy changes.

4.6 Baseline Empirical Specification

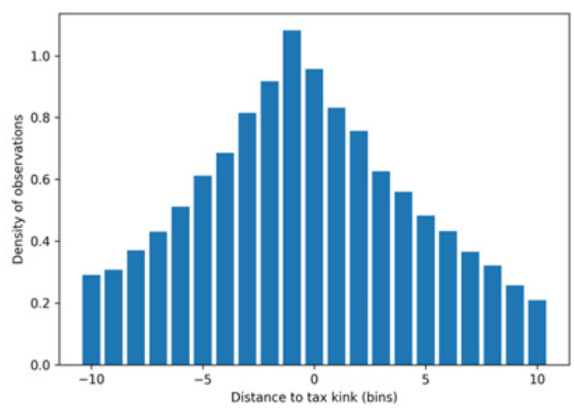
The baseline regression specification relates firm-level investment to indicators of tax planning constraints, controlling for firm characteristics, macroeconomic conditions, and fixed effects. Firm fixed effects absorb time-invariant heterogeneity, while year fixed effects capture common shocks. Standard errors are clustered at the firm level to account for serial correlation.

5. Empirical Results

5.1 Investment Responses Around Minimum Tax Kinks

This section presents evidence on firms' real investment responses to minimum-tax style thresholds. The analysis begins by examining the distribution of investment intensity around identified tax kinks. Consistent with optimizing behavior, the density of investment exhibits visible bunching near the thresholds, suggesting that firms adjust real activity to reduce exposure to higher effective tax burdens.The bunching estimates indicate a statistically significant elasticity of investment with respect to the tax incentive. Firms located just below the threshold display lower investment intensity than would be expected under a smooth counterfactual distribution, consistent with efforts to avoid crossing into a higher-tax region. These patterns are robust across alternative bandwidth choices and placebo thresholds, strengthening confidence in the interpretation as a causal response to tax incentives rather than noise.

Figure 2 visualizes the investment distribution around the minimum-tax kink and provides intuitive evidence of behavioral adjustment.



Notes: The figure plots the density of firm-level investment around a minimum-tax threshold. A visible accumulation of observations just below the kink indicates bunching behavior consistent with tax-induced investment responses.

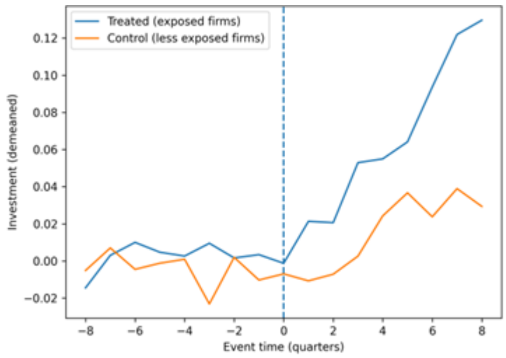
Source: Author's calculations based on firm-level investment data.

The magnitude of the estimated elasticity implies economically meaningful investment effects. Translating the elasticity into changes in capital expenditures suggests that tighter minimum-tax constraints reduce investment for firms near the threshold, particularly those with limited access to external finance.

5.2 Difference-in-Differences Evidence and Dynamic Effects

To complement the threshold analysis, this section reports results from the difference-in-differences framework. Firms with high exposure to tax planning constraints—defined by multinational status and baseline planning capacity—are compared with less exposed firms around the implementation of major policy changes.The DiD estimates reveal a statistically significant decline in investment among treated firms relative to controls following policy implementation. Importantly, pre-trend tests indicate no differential investment trends prior to the reform, supporting the parallel trends assumption. The investment decline emerges gradually and persists over several periods, suggesting a sustained real response rather than a temporary adjustment.Event-study estimates provide further insight into the timing of responses. Investment begins to diverge shortly after policy implementation and stabilizes at a lower level for treated firms.

Figure 4 illustrates these dynamic effects using an event-study plot.



Notes: The figure plots event-time coefficients from a DiD regression comparing treated and control firms. The vertical line denotes policy implementation. Post-reform coefficients indicate a persistent decline in investment among treated firms.

Source: Author's calculations based on firm-level panel regressions.

The consistency between the kink-based and DiD evidence strengthens the conclusion that tax planning constraints exert a causal effect on real investment.

5.3 Heterogeneity by Firm Characteristics

The investment effects documented above are not uniform across firms. Heterogeneity analyses reveal that the strongest responses occur among firms with high intangible intensity, substantial multinational operations, and greater reliance on internal funds. These firms are precisely those for which tax planning opportunities are most valuable and whose effective tax burden increases most sharply when constraints tighten.By contrast, domestically oriented firms with limited planning capacity exhibit smaller and statistically insignificant investment responses. This pattern suggests that the real effects of tax policy are mediated by firms' ability to manage their tax base and access alternative financing channels.

5.4 Robustness Checks

A series of robustness checks confirms the stability of the results. Alternative investment measures yield similar conclusions, as do specifications with additional controls for macroeconomic conditions and industry trends. Placebo reforms and falsification tests provide no evidence of spurious effects.

6. Mechanisms and Discussion

6.1 Internal Funds and the Cost of Capital Channel

A central mechanism through which tax planning constraints affect real investment operates via internal funds. When firms face binding minimum-tax provisions or tighter international anti–profit shifting rules, their effective tax burden becomes more closely aligned with economic profits. This reduces after-tax cash flow, particularly for firms that previously relied on aggressive tax planning to smooth effective tax rates.For firms facing financing frictions, reduced internal funds translate directly into lower investment. The empirical results show that investment declines are concentrated among firms with high cash-flow sensitivity, consistent with models in which internal funds play a key role in capital allocation decisions. This mechanism aligns with theoretical predictions emphasizing the interaction between taxation and financial constraints.

6.2 Multinational Structure and Profit Shifting Constraints

A second mechanism relates to the multinational structure of firms. Multinational enterprises historically benefit from the ability to allocate profits across jurisdictions with different tax rates. International anti–profit shifting measures reduce the returns to such strategies, effectively raising the marginal tax rate on investment undertaken in higher-tax jurisdictions.The heterogeneity results indicate that firms with affiliates in low-tax jurisdictions experience larger investment declines following the tightening of constraints. This pattern suggests that reduced profit shifting capacity alters the relative attractiveness of domestic investment, reinforcing the link between international tax coordination and real economic activity.

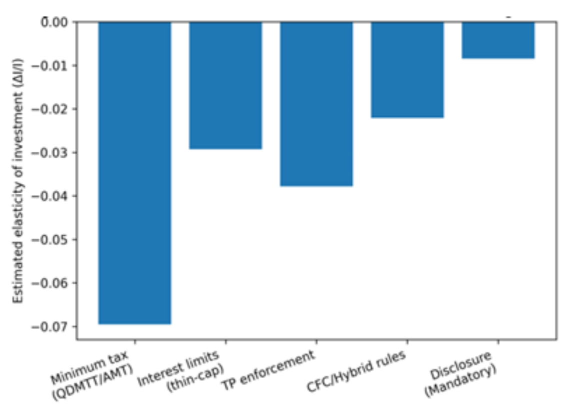
6.3 Financing Structure and Interest Deductibility

Tax planning constraints also interact with firms' financing decisions. Interest limitation rules reduce the tax advantage of debt financing, increasing the after-tax cost of capital for highly leveraged firms. The combined effect of minimum-tax provisions and interest deductibility limits further constrains tax planning through financial channels.Empirical evidence indicates that firms with higher baseline leverage exhibit stronger investment responses to policy changes, consistent with the tightening of tax shields associated with debt financing.

6.4 Decomposition of Effects Across Channels

To synthesize the role of different mechanisms, this section decomposes the estimated investment effects across key channels: minimum-tax constraints, interest deductibility limits, transfer pricing enforcement, and disclosure requirements.

Figure 5 summarizes the relative contribution of each channel to the overall investment response.



Notes: The figure presents estimated elasticities of investment associated with different tax planning constraints. Minimum-tax provisions account for the largest share of the investment response, followed by international profit shifting constraints and interest limitation rules.

Source: Author's calculations based on regression decompositions.The decomposition highlights that minimum-tax style rules play a dominant role in shaping real investment outcomes, while other constraints amplify the effect through complementary channels.

6.5 Policy Implications

The findings have important implications for tax policy design. While minimum-tax rules and anti–profit shifting measures are effective in limiting avoidance and protecting the tax base, they also have real effects on investment for the most exposed firms. Policymakers face a trade-off between revenue integrity and economic efficiency.Design features such as gradual phase-ins, allowance for investment-related deductions, and coordination across jurisdictions may help mitigate unintended real activity effects while preserving the objectives of base protection.

7. Conclusion

This paper provides evidence that constraints on corporate tax planning have meaningful real effects on investment in Canada. By combining threshold-based evidence around minimum-tax kinks with difference-in-differences event studies, the analysis shows that tighter tax planning constraints reduce investment among exposed firms, particularly multinational enterprises and firms reliant on internal funds.The results contribute to the literature on corporate taxation by demonstrating that tax planning capacity is a key determinant of the tax–investment relationship. When planning opportunities are curtailed, taxes become more salient for real decisions, strengthening the link between policy design and economic outcomes. From a broader perspective, the findings underscore the importance of considering real activity responses when designing minimum-tax regimes and international coordination initiatives. As global efforts to limit profit shifting continue to evolve, understanding their implications for investment will remain critical for balancing efficiency, equity, and revenue goals.

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