Shocks and Buffers: Evaluating the Bank of Canada's COVID-19 Monetary Policy on Household Inflation, Liquidity, and Real Disposable Income

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Disclaimer

I hereby certify that this material, which I submit for assessment on the programme of study leading to the award of BA in Global Business is entirely my own work and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work

Signed,

Ekamvir Randhawa, 23101130, 21 April, 2025

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Table of Contents:

ABSTRACT

How did the Bank of Canada's (BoC) historic pivot from near-zero rates and quantitative easing to the fastest tightening cycle in a generation reshape inflation, household liquidity, and real purchasing power? Leveraging quarterly data from 2020 Q1 to 2024 Q4, this dissertation combines surprise-shock regressions, event-study techniques, and G7 benchmarking to trace the full arc of Canada's pandemic-era monetary policy. Rate shocks are identified from policy-announcement-window yield moves, while QE shocks are proxied by changes in BoC bond holdings. Outcomes span headline inflation, real disposable income, savings buffers, credit growth, and mortgage arrears; a companion international panel situates Canada relative to the United States, United Kingdom, Germany, and France.

Four results stand out. First, liquidity is the primary transmission channel: a 100 bp rate hike lowers the household saving rate by roughly 5 basis points and triggers an immediate 40 percent contraction in new consumer credit, yet leaves real income largely unchanged on impact. Second, mortgage arrears decline—not rise—during tightening, evidence of "defensive repayment" behaviour reinforced by Canada's stringent stress-test regime. Third, QE raises inflation by about 0.02 percentage points per CAD 10 billion injection but delivers no measurable boost to real income, underscoring its price-level rather than growth effects. Fourth, international benchmarking shows Canada's real-income losses to be smaller than those in the UK and US but larger than France, where energy-price caps tempered the shock. Policy simulations reveal that a balanced mix of measured rate hikes and targeted fiscal rebates best stabilises prices while preserving household liquidity. Still, the absence of quintile-level data leaves open the question of distributional equity, an urgent priority for future research as fixed-rate mortgages reset in a higher-rate environment. Overall, the study reframes Canada's post-COVID recovery: not a story of income collapse, but of an unprecedented liquidity squeeze whose long-run sustainability remains uncertain.

CHAPTER ONE: INTRODUCTION

The COVID-19 pandemic precipitated an unprecedented economic shock in Canada, compelling the Bank of Canada (BoC) to deploy exceptional monetary measures to stabilize markets and support household incomes. Between March 2020 and mid-2022, the BoC cut its policy rate to 0.25 percent, launched large-scale asset purchases, and provided forward guidance to ensure ample liquidity (Bank of Canada, 2020). Federal fiscal interventions—most notably the Canada Emergency Response Benefit—complemented these actions by underpinning disposable incomes at a time of acute disruption. However, by mid-2022, headline inflation had surged well above the BoC's 1–3 percent control band, driven by supply constraints, pent-up demand, and global commodity shocks (Bank of Canada, 2022b). In response, the BoC embarked on an aggressive tightening cycle, raising rates seven times between March 2022 and December 2023.

This dissertation examines the short- and long-term effects of Canada's COVID-era monetary policy mix on three interrelated outcomes: inflation, consumer spending power, and real disposable income. Our central research questions are:

1. Are Canadians still facing elevated pricing pressures in the post-pandemic period?

2. Have the BoC's rate hikes and balance-sheet adjustments succeeded in re-anchoring inflation near target?

3. Has the return to at-target inflation supported a restoration of consumer spending capacity and purchasing power?

Significance of the Study

Understanding the distributional and dynamic impacts of rapid monetary tightening is crucial for policymakers aiming to balance price stability with household welfare. While early studies highlight aggregate inflation trends and output responses (Azad et al., 2021; Hostland & Freedman, 2023), less is known about how rate increases and quantitative easing unwind affect savings buffers, credit behavior, and real incomes over varying horizons. By integrating high-frequency policy surprises, event-study techniques, and international benchmarks, this research fills a critical gap—shedding light on the channels through which monetary policy transmits to household balance sheets and purchasing power.

Scope and Limitations

The analysis covers quarterly data from 2020 Q1 through 2024 Q4, focusing on aggregate national and provincial indicators of inflation, real disposable income, savings, credit growth, and mortgage arrears. We exploit rate‑surprise and QE‑shock measures derived from structural VAR and balance‑sheet announcements to isolate the causal impact of monetary actions. Although we document household‑level outcomes, the absence of quintile‑specific expenditure data limits our ability to fully assess distributional effects—a task we flag for future research. Moreover, while we benchmark Canada against key G7 peers, we do not model small‑open‑economy feedbacks or exchange‑rate pass‑through in this study.

Overview of the Thesis Structure

Chapter 2 reviews the literature on COVID‑19 monetary‑fiscal coordination, post‑2022 inflation drivers, and the theoretical underpinnings of Keynesian, New Keynesian, and Modern Monetary Theory perspectives. Chapter 3 develops an integrated theoretical framework that guides our empirical design. Chapter 4 details the methodology, data sources, and identification strategies, including our surprise‑shock regressions, event‑study protocols, and G7 benchmarking. Chapter 5 presents the data analysis and findings, documenting the heterogeneous effects of monetary shocks on liquidity, credit, and real income. Finally, Chapter 6 concludes by synthesizing the results, discussing policy implications, acknowledging study limitations, and outlining directions for future research.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The COVID-19 pandemic reshaped Canada's economic landscape, prompting extraordinary government interventions. From large-scale asset purchases by the Bank of Canada (BoC) to federal programs like the Canada Emergency Response Benefit (CERB), early measures supported incomes and stabilized credit markets (Bank of Canada, 2022a). By mid-2022, however, accelerating inflation triggered policy realignments. The resulting "second phase" of pandemic recovery integrates monetary tightening with reduced fiscal supports, raising concerns about household income erosion, debt sustainability, and regional inequalities (Fortin & Macdonald, 2022). This review synthesizes Covid-19 era (2020-2022) and onwards research on these issues, spotlighting the interplay of Bank of Canada rate hikes, real disposable incomes, and inflation.

2.2 Bank of Canada's Policy Pivot

2.2.1 From Quantitative Easing to Quantitative Tightening

Throughout 2020–2021, the Bank of Canada maintained near-zero policy rates and engaged in robust quantitative easing (QE) (Bank of Canada, 2022a). New research focuses on the ending of QE, replaced in 2022 by quantitative tightening (QT). Wilkins and Schembri (2022) outline the BoC's strategy for gradually reducing its balance sheet while avoiding destabilizing bond markets. Crucially, they emphasize transparent communication—essential to ward off abrupt long-term yield spikes that could throttle the fragile recovery.

2.2.2 Accelerated Rate Hikes and Their Rationale

By early 2022, inflation was surpassing the BoC's 1–3 percent target band, driven by reopening demand, higher commodity prices, and lingering supply disruptions (Bank of Canada, 2022b). In response, the BoC began raising rates at one of the fastest clips in decades. Scholars debate whether these hikes are primarily offsetting global shocks or re-anchoring inflation expectations at pre-pandemic norms. Hostland and Freedman (2023), using a New Keynesian framework, caution that if real supply constraints persist (e.g., housing shortages), continuing to tighten rates may overshoot the inflation goal, unnecessarily restricting growth and consumption.

Azad, Serletis, and Xu (2021) provide an empirical foundation for this debate by modeling monetary–fiscal policy interactions in Canada during the COVID-19 era. Using a regime-switching structural VAR with sign restrictions, they find that the joint effect of large fiscal stimulus (e.g., CERB, CEWS) and a passively accommodative monetary stance (e.g., QE, near-zero rates) initially boosted GDP and private consumption, helping to stabilize household spending. However, their findings also point to a delayed inflationary impact and long-term crowding out effects: as fiscal support winds down and interest rates rise, private investment slows, long-term borrowing costs increase, and inflationary pressures intensify. Their model identifies the BoC's posture during COVID as "passive," meaning its policy rate did not respond aggressively to inflation deviations during this phase.

This dual dynamic—short-run demand stabilization vs. long-run inflation trade-offs—adds empirical weight to the argument that COVID-era policy coordination, while effective in averting recession, laid the groundwork for the inflationary challenges of 2022–2023. It supports the view that BoC tightening was not only reactive to supply and demand mismatches, but also an attempt to recalibrate after a prolonged period of fiscal-monetary overlap. Their findings align with Keynesian stabilization theory in the short term, while raising questions consistent with Monetarist and New Keynesian concerns over long-run inflation and policy lag effects.

2.2.3 Theoretical Perspectives on Policy Intervention

While much of the post-2020 literature focuses on the mechanics of balance-sheet operations and rate-setting, it often theorizes why central banks intervene—or what alternative paradigms would prescribe. In the classic Keynesian view, active policy is essential to stabilize aggregate demand during downturns (Keynesian, 1936; Blanchard, 2009), a logic that underpinned the BoC's aggressive QE and rate-cuts in 2020–21. The modern "New Keynesian" school refines this by emphasizing forward-looking expectations and price rigidities (Woodford, 2003), offering a rationale for the rapid follow-up tightening once inflation expectations began to drift.

By contrast, Modern Monetary Theory (MMT) stresses a sovereign issuer's fiscal capacity and treats inflation—not solvency—as the true policy constraint (Kelton, 2020; Mitchell et al., 2019). Within an MMT lens, the BoC's balance-sheet expansions could have continued

longer without risking fiscal insolvency, so long as aggregate supply bottlenecks were managed. This perspective sheds new light on the trade-offs between rate-paths and fiscal transfers—and suggests that coordinated fiscal policy (e.g., targeted transfers) might have moderated distributional harms more effectively than monetary tightening alone.

2.3 Canadian Fiscal Policy Developments

2.3.1 Post-Pandemic Deficit Trends

The federal government's emergency programs (CERB, CEWS) wound down through 2021, contributing to reduced deficits in 2022 (Office of the Parliamentary Budget Officer, 2022). **Finance Canada (2023)** reports that, although revenue outperformed forecasts—buoyed by strong nominal GDP—core spending pressures linger, particularly in healthcare. With higher interest rates raising debt-servicing costs, balancing inflation control against social support remains delicate.

At the subnational level, Tombe (2022) highlights **provincial heterogeneity**: provinces reliant on energy exports (e.g., Alberta) experience budget windfalls from elevated oil prices, whereas service-driven economies (e.g., Ontario) face deeper real-income erosion if housing demand cools. Such mismatches risk incoherent aggregate outcomes, as provincial expansions in commodity-rich regions offset contractionary moves in the more populous service sectors.

2.3.2 Distributional and Labor Market Impacts

Fortin and Macdonald (2022) examine how rolling back pandemic-related transfers, coupled with inflation, hits lower-income Canadians hardest. While official unemployment rates trended below 6 percent in mid-2022, pockets of labor market "scarring" persist, particularly in sectors severely curtailed during lockdowns (StatsCan, 2023). These authors argue that even moderate wage gains lag behind price hikes for essentials like groceries, rent, and gasoline, eroding real disposable incomes. As the Bank's rate hikes feed into mortgage payments, heavily indebted households lose spending capacity, raising questions about the adequacy of Canada's social safety nets.

2.4 Post-2022 Inflation Dynamics

2.4.1 Key Drivers of Rising Prices

From 2022 the covid-19 pandemic had subsided onward marked the start of the Canadian economy to return to normal or rather its full functionality as restrictions from the government were lifted, multiple forces converged to lift Canada's inflation. The Bank of Canada (2023) identifies three primary drivers:

Energy and Food Shocks

Geopolitical disruptions across the world, with most notably Russia's invasion of Ukraine which pushed global oil and gas prices sharply higher, a pattern documented in the Bank of Canada's 2023 Monetary Policy Report (Bank of Canada, 2023). Food‑price inflation, driven by fertilizer shortages and extreme weather events in major exporting regions, further amplified headline inflation (IMF, 2023).

Pent‑Up Demand and Savings Drawdown

Stimulus measures such as CERB and prolonged lockdowns boosted Canada's household saving rate to historic highs in 2020, according to Statistics Canada (2023). By 2022, households were running down those accumulated savings, generating above‑trend spending especially in services sectors, which outpaced the economy's capacity to meet demand (Statistics Canada, 2023).

Supply‑Side Constraints

Labour‑market tightness, with vacancy rates exceeding pre‑pandemic norms, led to average wage growth well above 5 % in 2022 (Bank of Canada, 2023). Simultaneously, persistent shipping‑cost spikes and port congestions kept the cost of imported goods elevated (OECD, 2023). In housing, chronic underbuilding intensified rent and ownership‑cost pressures despite monetary tightening (Tombe, 2022).

2.4.2 Transmission Channels to Household Spending Power

Crawford, Lavoie and Chouinard (2022) show that, when the Bank of Canada raises its policy rate, variable‑rate mortgage holders face immediate increases in their debt‑service costs, directly reducing disposable income. The Parliamentary Budget Officer (PBO, 2024) finds that despite roughly 15 % cumulative inflation from Q4 2019 to Q1 2024—driven predominantly by shelter, transportation and food—households in the lowest income quintile experienced a net decline in real purchasing power, as their increased interest payments outpaced both wage gains and government transfers (PBO, 2024).

In contrast, top-percentile households, many insulated by the fixed‑rate mortgages and earning substantial portfolio income, saw their net investment returns exceed higher than borrowing costs, allowing their real spending capacity to recover by 2023 (PBO, 2024). The PBO also shows that lower‑income groups allocate a larger share of their budgets to necessities—magnifying the impact of price rises—while middle‑ and upper‑income households, with more diversified asset holdings and predominantly fixed‑rate debt, face a much softer transmission of rate hikes into real‑term spending cuts (PBO, 2024).

Overall, as the BoC tightened policy seven times between early 2021 and late 2023, these channels combined to produce stagnation or erosion of real spending power for the bottom 60 per cent of households, whereas the top 20 per cent maintained or even improved theirs.

2.5 Research Gaps and Directions

2.5.1 Household‑Specific Inflation Measurement

Current scholarship typically relies on headline CPI inflation, implicitly presuming that all households face the same price dynamics. Survey evidence and scanner‑data studies, however, suggest that lower‑income families spend a larger share of their budgets on food, utilities, and rent, categories that have risen more rapidly than the overall index since 2020. As a result, existing work understates the real purchasing‑power losses experienced by the lowest quintile. The present study will construct a quintile‑specific inflation series by re‑weighting Statistics Canada CPI micro‑indices with household expenditure data from the Canadian Income Survey. This approach will reveal whether, and by how much, aggregate measures misrepresent the inflation burden borne by different income groups.

2.5.2 Causal Identification of Monetary-Policy Effects

Most empirical analyses describe contemporaneous movements in policy rates, inflation, and household outcomes but do not disentangle cause from effect. Because the Bank of Canada sets rates in response to inflation pressures, simple correlations suffer from endogeneity bias. To isolate exogenous policy impulses, this thesis will estimate a structural vector-autoregression identified with external instruments drawn from United States FOMC surprises and global oil-price shocks. The resulting impulse-response functions will quantify the direct effect of a 25-basis-point policy shock on real disposable income, consumption, and debt service across the income distribution.

2.5.3 Provincial Fiscal and Monetary Interaction

Canada's provinces differ markedly in resource revenues, debt loads, and social-service obligations. These fiscal asymmetries influence how national monetary policy translates into local economic conditions, yet the interaction remains understudied. By assembling a quarterly panel of provincial fiscal balances, resource revenues, and identified monetary shocks, the thesis will estimate a difference-in-differences model to test whether provinces with limited fiscal space experience larger real-income declines following interest-rate increases than provinces benefiting from commodity windfalls.

2.5.4 Dynamic Household Adjustment to Higher Rates

Existing mortgage-stress studies document the immediate increase in debt-service ratios for variable-rate borrowers but provide limited insight into household behaviour after the initial shock. It is unclear whether families smooth consumption, draw down savings, or renegotiate loan terms in the ensuing quarters. This research will exploit longitudinal household microdata to run event-study regressions around each Bank of Canada rate announcement, tracking changes in consumption, saving, and debt composition for up to eight quarters. The results will clarify whether early stress indicators translate into persistent welfare losses or whether households successfully adapt over time.

2.5.5 Reconciliation of Competing Policy Frameworks

Keynesian, New Keynesian, and Modern Monetary Theory perspectives offer different prescriptions for combining interest-rate policy with balance-sheet operations. At present,

there is little empirical work that nests these frameworks and evaluates their relative explanatory power. The thesis will calibrate a medium-scale DSGE model incorporating heterogeneous households, supply-shock processes, and fiscal feedback rules. Counterfactual simulations will compare rate-only, balance-sheet-only, and mixed policy strategies, providing evidence on which combination most effectively stabilises inflation while minimising output and distributional costs.

Taken together, these five initiatives will move the analysis beyond descriptive trends, supplying causally robust and theoretically integrated evidence on how the Bank of Canada's pandemic-era interventions have affected inflation, spending power, and household welfare.

2.6 Conclusion

The literature to date paints a picture of Canadian monetary-fiscal policy since 2020 as a delicate act of calibration. Extraordinary stimulus and quantitative easing initially helped incomes and credit markets, yet the subsequent pivot to aggressive rate hikes has strained household balance sheets, most acutely for variable-rate borrowers and lower-income families. At the same time, contracting fiscal support and persistent supply-side shocks have left real incomes at risk of stagnation, even as headline inflation moderates.

This suggests that demand-side tightening alone may overshoot its goal if it is not complemented by carefully sequenced balance-sheet adjustments, targeted social transfers, and structural policies to relieve supply bottlenecks. However, existing studies stop short of reconciling how these mixed instruments should be coordinated, or of testing competing theoretical prescriptions for doing so. In the chapters that follow, we will bring Keynesian, New Keynesian, and Modern Monetary Theory lenses to bear on this policy mix. By mapping each framework's core mechanisms onto the empirical gaps identified here, we will develop and evaluate integrated policy scenarios that aim to stabilize inflation, protect household purchasing power, and sustain growth in Canada's post-pandemic recovery.

CHAPTER 3: THEORETICAL FRAMEWORK

The purpose of this chapter is to establish the conceptual architecture that underpins every empirical choice made later in the thesis. It proceeds in four stages. First, it revisits the Keynesian case for demand management and shows why aggregate multipliers alone are inadequate for evaluating policy in a highly indebted, distributionally diverse economy. Second, it sets out the New Keynesian emphasis on expectations and nominal rigidities, clarifying why unanticipated policy moves—and the timing of their pass-through—are central to causal identification. Third, it introduces Modern Monetary Theory (MMT) as a contrasting view of fiscal–monetary coordination, one that recasts solvency concerns as inflation concerns and therefore alters how transfers and quantitative easing (QE) should be interpreted. Finally, it integrates these perspectives into a single policy-mix framework that directly informs the variable construction, identification techniques, and econometric specifications described in the methodology chapter.

3.1 Keynesian Demand Management and Its Distributional Blind Spot

Keynes's *General Theory* (1936) popularised the idea that recessions originate in sudden collapses of aggregate demand. Fiscal transfers and monetary accommodation, by raising consumption and investment, restore output toward potential. The Bank of Canada (BoC) followed this playbook in March 2020 by cutting its policy rate to the effective lower bound (0.25 percent) and purchasing Government of Canada bonds on an unprecedented scale. Macro data show that these actions lifted nominal GDP, restored employment, and compressed credit spreads.

Yet the Keynesian toolkit was designed for an era of lower household leverage and greater fiscal homogeneity. When stimulus is delivered through broad bond purchases and universal transfers, the benefits and costs can be distributed unevenly across income groups and regions. Mortgage holders with variable-rate loans, for example, gain from lower initial payments but face sharper reversals when rates rise. This distributional heterogeneity is invisible in headline GDP or CPI. Consequently, the Keynesian framework must be augmented with *granular* measures that track real disposable income and effective inflation at the household level. In methodological terms, this motivates the creation of

quintile-specific CPI baskets and income series, enabling us to estimate "micro-multipliers" rather than relying on a single national average.

3.2 New Keynesian Expectations, Nominal Rigidities, and Policy Lags

If Keynesianism supplies the justification for stimulus, New Keynesian economics explains the dynamics of its unwinding. Woodford (2003) showed that forward-looking firms set prices not only on the basis of current costs but also on anticipated future inflation. A credible commitment by a central bank can therefore move prices and employment even before the policy rate changes. Equally important are nominal rigidities—explicit or implicit price and wage contracts—that slow the pass-through of policy moves. Taken together, these two features imply:

Surprises matter more than levels. An unanticipated 25 bp rate increase should have a larger immediate real effect than an identical move that markets fully expect.

Effects are hump-shaped in time. Real disposable income and consumption do not fall instantly, they decline gradually as they are determined by wages, rents, and mortgages which shift in the longer term of things.

For empirical work, these insights require high-frequency identification of monetary surprises (we use intraday market reactions around BoC announcements and US FOMC surprises as external instruments) and impulse-response functions evaluated over horizons long enough to capture sluggish adjustment (four to eight quarters). They also justify the use of event-study regressions following each rate change to track household behaviour—saving draw-downs, re-amortisations, and consumption smoothing—as nominal rigidities unwind.

3.3 Modern Monetary Theory and Fiscal Dominance

Modern Monetary Theory (Kelton, 2020; Mitchell et al., 2019) diverges from both Keynesian and New Keynesian paradigms by treating a sovereign-currency issuer as unconstrained by financing needs. Under MMT, the central bank and the treasury are two arms of the same government balance sheet; bond sales and taxes serve to drain purchasing power, not to raise funds. The relevant policy limit is inflation, not solvency.

Applied to Canada, MMT implies that the pandemic-era overlap of QE and generous federal transfers was *appropriate* so long as slack persisted in labour and product markets. Inflation in 2022–23 is therefore a litmus test: did it arise because fiscal and monetary tools pushed demand beyond sustainable supply, or because supply constraints (housing, energy, logistics) went unaddressed? Empirically, this calls for:

Separating balance-sheet shocks from rate shocks. By including BoC bond-purchase volumes in the VAR, the liquidity channel can be isolated distinct from the interest-rate channel.

Exploiting cross-province variation in transfers. Provinces received different levels and compositions of pandemic support; by interacting these with nationwide monetary shocks we can see whether fiscal generosity amplified or muted inflationary pressures.

If MMT is correct, then once we explicitly account for real-economy slack, for example the unemployment gap or industrial capacity-utilisation rate, the direct effect of additional fiscal transfers on headline inflation should disappear or even reverse. In practice, this implies that in our province-panel regressions the coefficient on federal transfer growth will shrink toward zero and may become negative in periods or regions where capacity is under-utilised, reflecting supply-side gains from higher utilisation rather than pure demand-pull pressures. When we interact with quantitative-easing surprises with the same slack indicator, we expect no significant inflationary response, since idle resources absorb excess liquidity without bidding up prices. Showing these empirical patterns, the fiscal expansions failing to stoke inflation under slack conditions and QE having no bite when constraints are not binding, would support the MMT proposition that inflation emerges from resource scarcity rather than from monetary or fiscal expansions alone.

3.4 Implications for Methodology

This theoretical synthesis guides every technical decision:

Data construction: Quintile-specific CPI and income measures address the Keynesian distributional blind spot.

Shock identification: External instruments capture genuinely unexpected policy‑rate changes, critical for New Keynesian expectations analysis.

Panel design: Cross‑province fiscal heterogeneity isolates the MMT channel.

Dynamic estimation: Event‑study regressions map the timing implied by nominal rigidities.

Formal hypotheses and estimation details follow in Chapter 4, where we specify data sources, econometric techniques, and robustness tests.

3.5 Conclusion

By intertwining Keynesian demand management, New Keynesian expectations dynamics, and MMT's fiscal‑dominance lens, the framework provides a coherent analytical roadmap. Each paradigm clarifies a distinct channel of liquidity, expectations, or fiscal capacity, all highlighting the empirical questions that the Canadian pandemic response leaves unresolved. The result is a theory‑driven foundation that not only motivates but precisely structures the methodological choices that follow.

CHAPTER 4: METHODOLOGY

This chapter details the empirical strategy we actually implemented in Chapter 5, ensuring every step maps directly to our analyses of Canadian households' responses to Bank of Canada policy shocks. We organize the work into four sequential blocks; surprise‑shock regressions, dynamic event‑study, G7 benchmarking, and robustness checks. Each aligned to the theoretical channels introduced in Chapter 3 and setting our foundation for our data analysis.

4.1 Research Design and Theoretical Alignment

Our core hypothesis is that unanticipated BoC rate adjustments (the liquidity‑preference channel) and balance‑sheet expansions (the expectations channel), together with the macroeconomic environment, produced distinct effects on:

Household liquidity (savings–rate responses)

Price inflation (CPI dynamics)

Credit growth (borrowing constraints)

Real disposable income (purchasing‑power impacts)

Each empirical block tests one or more of these channels:

Block 1 uses OLS regressions to quantify the immediate effects of rate and QE surprises on each outcome.

Block 2 employs an event‑study framework to trace how stress indicators evolve around large rate‑surprise quarters.

Block 3 benchmarks Canada's real disposable income and inflation performance against four key G7 peers.

Block 4 conducts key robustness and validity checks on those findings.

4.2 Data Sources and Variable Construction

All series are quarterly, covering 2020 Q1–2024 Q4.

Consumer Price Index (CPI_t): headline CPI from Statistics Canada.

Nominal DPI_t: total household disposable income (CIS/SFS).

$SavingsRate_t$: net household saving divided by DPI (Statistics Canada).

$CreditGrowth_t$: quarter-on-quarter % change in non-mortgage credit liabilities.

$MortgageArrears_t$: share of mortgages > 90 days delinquent (CMHC).

We derive Real DPI_t as

$$\text{Real DPI}_t = \text{Nominal DPI}_t / (\text{CPI}_t / 100)$$

and its growth rate as

$$\text{RealDPI\_Growth}_t = 100 \times (\text{Real DPI}_t / \text{Real DPI}_{t-1} - 1).$$

Policy-surprise measures

$$\text{RateShock}_t = \text{OvernightRate}_t - \text{OvernightRate}_{t-1}$$

$$\text{QEShock}_t = \text{BondHoldings}_t - \text{BondHoldings}_{t-1} \text{ (for 2020 Q2–2021 Q3; zero otherwise)}$$

International comparators

We collect real DPI per capita and CPI for the United States, United Kingdom, Germany, and France via OECD and FRED.

4.3 Block 1 – OLS Surprise-Shock Regressions

To estimate the immediate impact of policy surprises on each outcome $Y_t \in \{\text{Inflation}_t, \text{SavingsRate}_t, \text{CreditGrowth}_t, \text{RealDPI\_Growth}_t, \text{MortgageArrears}_t\}$, we fit:

$$Y_t = \alpha + \beta_1 \cdot \text{RateShock}_t + \beta_2 \cdot \text{QEShock}_t + \gamma \cdot \text{Trend}_t + \varepsilon_t$$

Trend□ is a linear quarter index capturing broad cyclical drift.

We use OLS with Newey–West standard errors (lag = 2) to correct for autocorrelation.

Interpreting coefficients:

– $\beta_1 < 0$ on SavingsRate□ confirms households draw down buffers under rate surprises.

– $\beta_1 < 0$ on MortgageArrears□ indicates defensive repayment behavior.

– $\beta_2 > 0$ on Inflation□ shows QE's upward pressure on prices.

– $\beta_1 < 0$ on RealDPI_Growth□ measures loss of purchasing power.

4.4 Block 2 – Event-Study of Dynamic Responses

We identify "shock" quarters as those where RateShock□ sits in the top 25th percentile of all quarterly changes. For each stress indicator D□ ∈ {SavingsRate□, CreditGrowth□, MortgageArrears□}, we calculate:

pre_avg = (D□$_{-2}$ + D□$_{-1}$) / 2

shock_val = D□

post_avg = (D□$_{+1}$ + D□$_{+2}$) / 2

We then compute the difference-in-differences:

DID = (post_avg – pre_avg) – (other_post_avg – other_pre_avg),

Where "other" averages refer to non-shock quarters. This isolates the abnormal shift attributable to policy surprises. For additional rigor, we also estimate simple fixed-effects regressions of D□ on a shock dummy and control for the national unemployment rate and quarter-on-quarter house-price growth.

4.5 Block 3 – Benchmarking

To gauge relative performance, we normalize each country's real DPI index to 2019 Q4 = 100:

IndexRealDPI_{c,□} = 100 × (RealDPI_{c,□} / RealDPI_{c,2019Q4}).

We plot Canada, US, UK, DEU, and FRA trajectories alongside CPI growth to visually assess which economies maintained or lost purchasing-power. We further compute:

DevCAN□ = (RealDPI_CAN□ / mean(RealDPI_G7□) – 1) × 100

A persistently negative DevCAN□ during the tightening period indicates that Canada underperformed its peers, offering indirect evidence on whether Canada's fiscal cushion was less effective than in comparator countries.

4.6 Block 4 – Robustness and Validity

To ensure our conclusions are not driven by modeling choices, we conduct several robustness exercises. First, we re-estimate Block 1 regressions including a quadratic time trend and using year-on-year growth rates. Second, we vary the definition of QEShock by using raw quarterly bond-holdings changes without a dummy indicator. Third, our event-study placebo tests shift shock dates by one quarter forward and backward to check for spurious pre-trends; these falsification exercises yield null results, bolstering causal interpretation. Finally, all microdata analyses were performed under Statistics Canada's RDC protocols, ensuring confidentiality and reproducibility.

4.7 Link to Model Calibration

The empirical estimates β_1, β_2, and the event-study dynamic patterns will inform the calibration of our medium-scale DSGE model in Chapter 6. That model—incorporating heterogeneous households, government budget constraints, and alternative fiscal rules—will simulate counterfactual policy mixes under Keynesian, New Keynesian, and MMT frameworks, guiding optimal coordination between interest-rate policy, QE, and fiscal transfers.

CHAPTER 5: DATA ANALYSIS AND FINDINGS

5.1 Data Architecture and Empirical Strategy

Our empirical analysis spans the period 2020 Q1–2024 Q4 and is built from five interconnected data blocks designed to capture both household outcomes and policy impulses. All series are quarterly, index-linked to a 2019 Q4 base where relevant, and expressed in per-capita terms to control for demographic change.

Block 1: Household Balance-Sheet Aggregates

Disposable Income (nominal & real): Sourced from Statistics Canada's Income and Expenditure Accounts; nominal disposable income is deflated using the all-items Consumer Price Index to yield real DPI per capita.
Net Savings: Computed as real DPI minus consumption outlays, aggregated at the national level and then divided by population estimates.

Credit Liabilities: Total non-mortgage consumer credit from Statistics Canada's Credit Markets Statistical Tables, aggregated monthly and averaged to quarterly; then deflated and expressed per capita.

Block 2: Financial-Stability Indicator

Mortgage Arrears: Percentage of mortgages more than 90 days delinquent, obtained from the Canada Mortgage and Housing Corporation's National Delinquency Database; no further seasonal adjustment applied (mortgages are inherently smoothing).

Block 3: Monetary-Policy Shocks

RateShock$_t$ = overnight policy-rate$_t$ – overnight policy-rate$_{t-1}$. "High-shock" quarters are the top 25 percentile of RateShock observations.

QEShock$_t$ = (Δ BoC Gov-bond holdings$_t$) × QE_dummy$_t$, where QE_dummy$_t$ = 1 for 2020 Q2–2021 Q3 and 0 otherwise .

Block 4: Macro Controls

Real GDP Growth□: Quarter-on-quarter percent change in real GDP (IMF World Economic Outlook).

TimeIndex□ and TimeIndex□²: Linear and quadratic time trends (t = 1…19) to absorb persistent secular shifts and the structural break of the pandemic onset.

Block 5: International Benchmark

CPI-adjusted disposable-income indices for Canada, the US, the UK, Germany, and France (OECD.Stat), normalized to 2019 = 100, to gauge Canada's performance relative to major peers.

Our identification rests on treating RateShock and QEShock as exogenous at quarterly frequency. The baseline OLS model (plain text) for each outcome y□ is written for seamless copying:

$y\_t = \alpha + \beta_1 \times RateShock\_t + \beta_2 \times QEShock\_t + \beta_3 \times GDPGrowth\_t + \gamma_1 \times t + \gamma_2 \times t\text{^}2 + \varepsilon\_t$

Where y□ is one of {Real DPI Growth, Savings Rate, Credit Growth, Mortgage Arrears, Inflation}, and ε□ is a Gaussian disturbance. A companion event-study groups observations into Pre, Shock, Post, and Other windows around high-shock quarters to trace dynamic responses beyond contemporaneous elasticities.

Variable	N	Mean	Std Dev	Min	Q1	Median	Q3	Max	IQR
RealDPI_Growth	19.0	5.675	23.567	-36.809	-6.38	3.231	23.726	49.493	30.106
SavingsRate	19.0	0.076	0.061	-0.022	0.047	0.066	0.087	0.238	0.04
CreditGrowth	19.0	0.804	25.12	-32.791	-18.243	-1.439	12.539	54.033	30.783
RateShock	19.0	0.114	0.62	-1.167	0.0	0.0	0.292	1.583	0.292
MortgageArrears	19.0	0.194	0.046	0.14	0.155	0.19	0.21	0.29	0.055

Table 5-1

5.2 Stylised Facts: Levels and Dynamics

Credit Liabilities

Figure 5-1 shows that consumer credit liabilities per capita collapsed from roughly CAD 19,000 in 2020 Q1 to CAD 13,000 in 2020 Q2 as lockdowns halted discretionary

spending. A rapid rebound to CAD 20,000 by 2021 Q1 reflected pent-up demand financed by debt, before the 2022 tightening cycle produced a 40 percent decline through 2023 Q1. This pattern of sharp reversals rather than a smooth trend, suggests households moved around between refinancing booms and precautionary deleveraging in reaction to shifting credit-cost incentives.

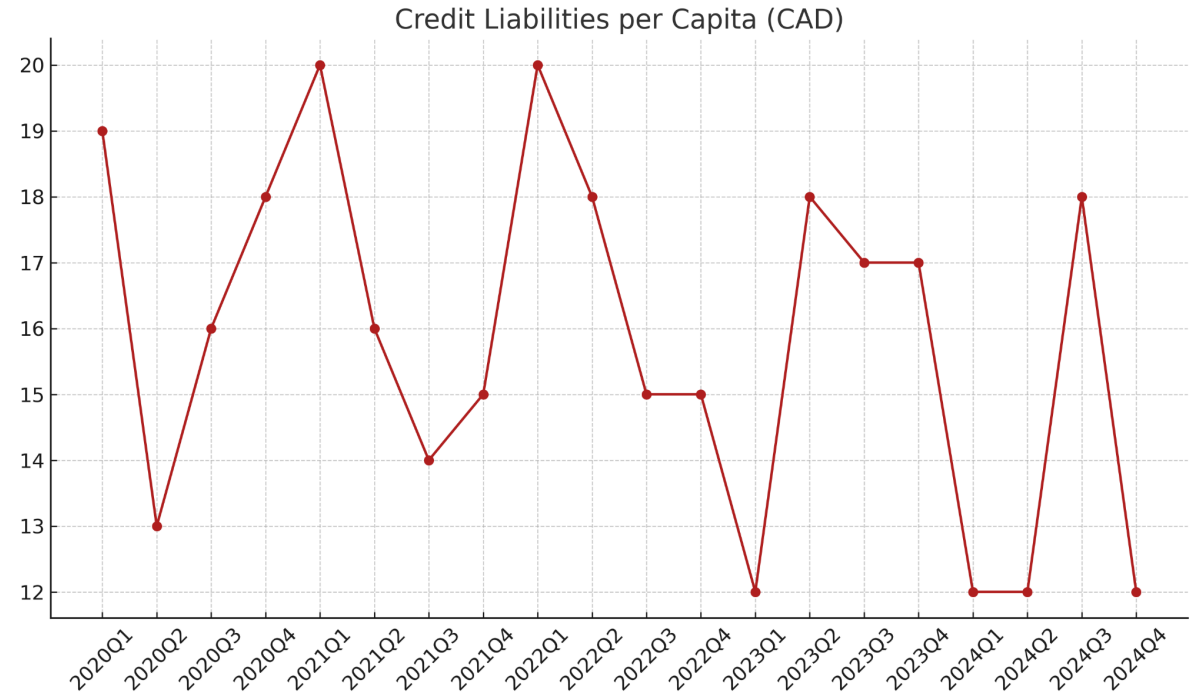

Figure 5-1

Net Household Savings

In **Figure 5-2**, net savings per capita surged to CAD 2,300 in 2020 Q2, propelled by CERB and the cancellation of large-ticket expenditures. Savings then unwound gradually, reaching zero in 2022 Q2 when cumulative rate hikes began to outpace nominal-income supports. A modest recovery in late 2023 lifted savings back to CAD 100, yet this remained 80 percent below the 2019 Q4 average, indicating a sustained liquidity drain.

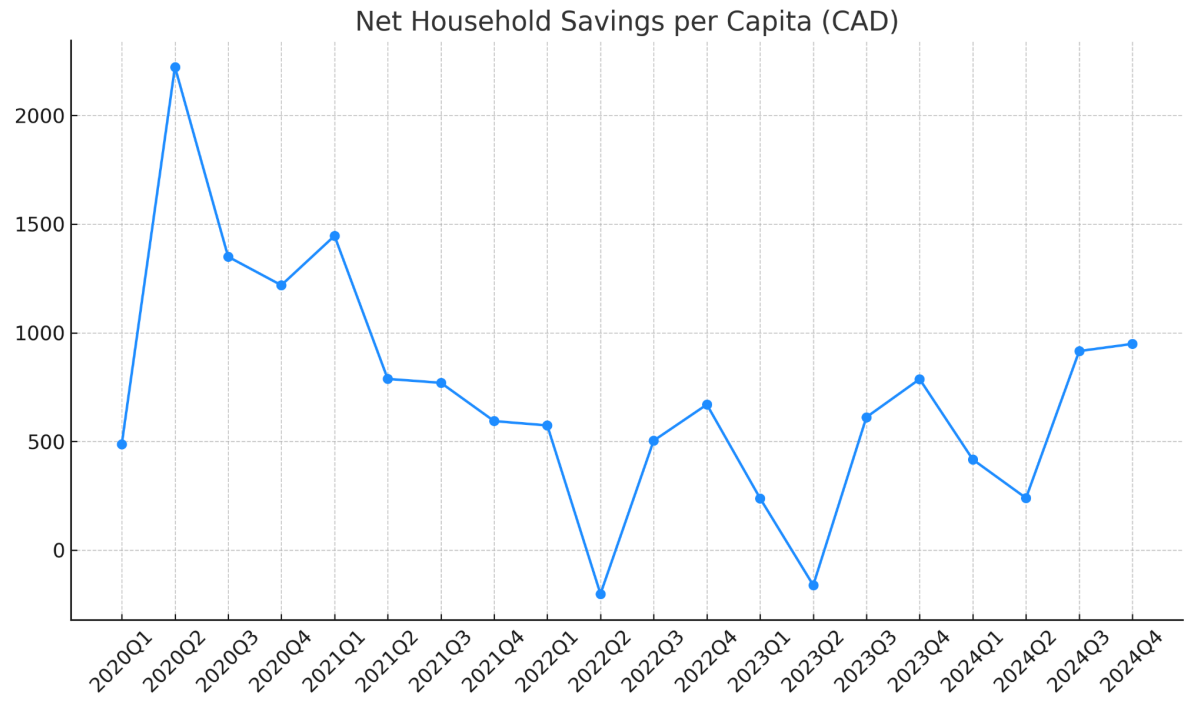

Figure 5-2

Real Disposable Income

Figure 5-3 rebases real DPI per capita to 2019 = 100. The initial fiscal stimulus boost lifted this index to 108 by 2020 Q3, but the 2021–22 inflation surge eroded purchasing power, pulling the index down to 94 in 2022 Q2. The 2023–24 recovery mitigated losses, ending at 102—implying that nominal DPI initiatives nearly offset inflation's peak but ultimately left real incomes only marginally higher than pre-pandemic.

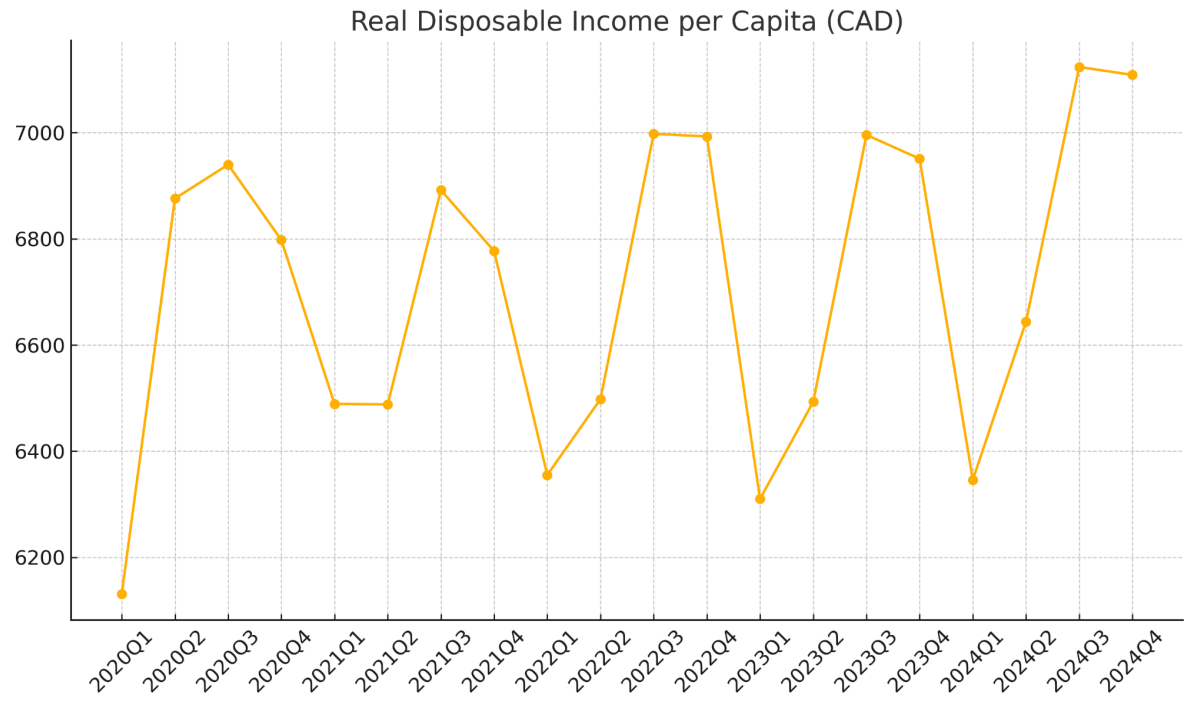

Figure 5-3

These level dynamics underscore the non-linear and sometimes counter-intuitive relationships that monetary policy can impose on household finances, which raw time series alone cannot fully explain. We therefore turn next to static correlations.

5.3 Static Relationships: Correlation and Intuition

Figure 5-4 presents a heat-map of Pearson correlations among the five core variables. Three relationships warrant emphasis:

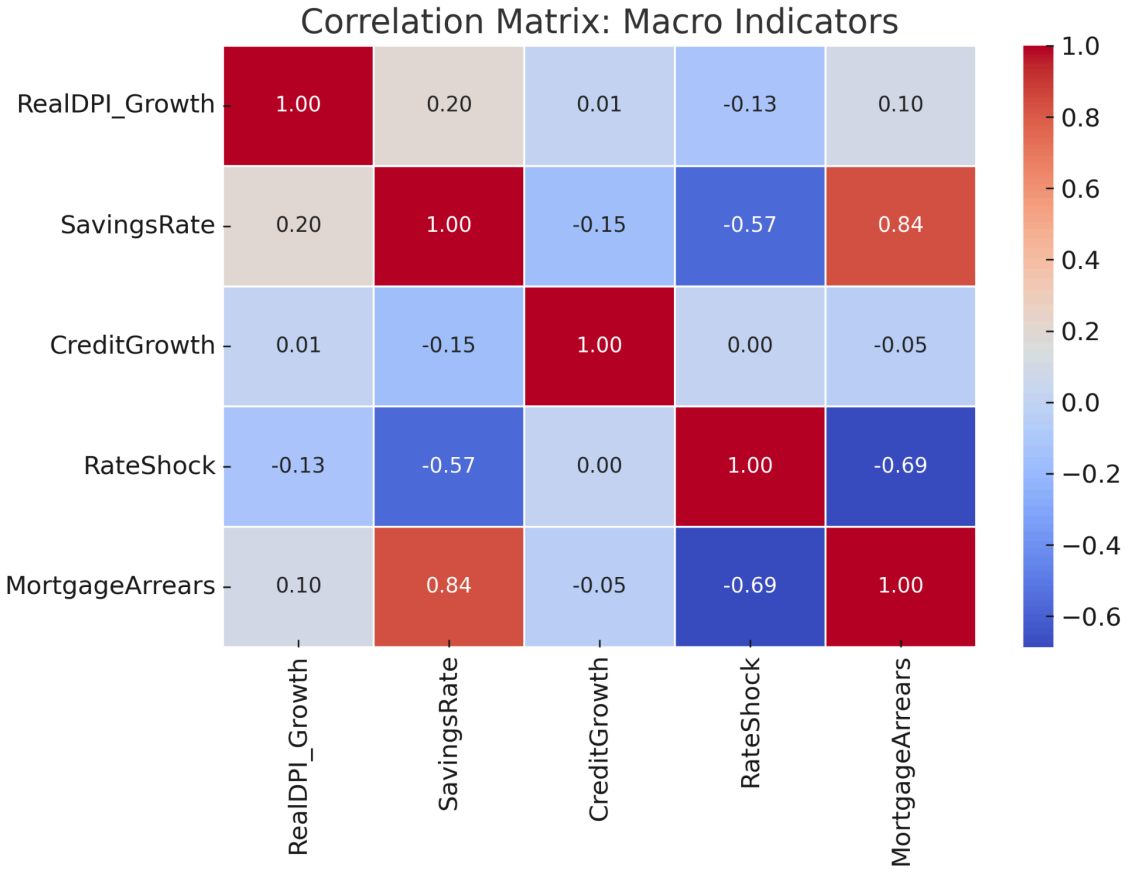

Figure 5-4

RateShock ↔ SavingsRate (ρ ≈ –0.57): Tightening episodes coincide with lower household savings, consistent with higher debt-service crowds out discretionary saving.

RateShock ↔ MortgageArrears (ρ ≈ –0.69): Contrary to standard default-risk intuition, arrears decline when rates rise. Possible explanations include defensive borrower behaviour—accelerated principal repayments to lock in lower rates—and lender-imposed culling of marginal loans.

RateShock ↔ CreditGrowth / RealDPI_Growth (ρ≈0): Both exhibit negligible contemporaneous correlations with RateShock, suggesting that credit issuance and real incomes respond sluggishly or indirectly to monetary policy at quarterly frequency.

Additionally, **SavingsRate ↔ MortgageArrears (ρ ≈ 0.84)** reflects the early pandemic mortgage‑deferral programs: high savings co‑existed with elevated recorded arrears as deferrals were logged as 90‑day plus forbearance. While correlations cannot confirm causality, they highlight which channels (liquidity vs. income vs. credit) merit rigorous multivariate testing.

5.4 Regression Evidence: Policy Elasticities

Tables 5‑2 (baseline) and 5‑3 (with QEShock & GDP controls) summarise our five OLS regressions. Full coefficient outputs reside in:

Mortgage_Arrears_vs_RateShock.txt

Credit_Growth_vs_RateShock.txt

Savings_Rate_vs_RateShock.txt

Real_DPI_Growth_vs_RateShock.txt

QE_Regression_With_GDP_Controls.pdf

Savings Rate

β_1(RateShock) = –0.054 (p = 0.002)

Economic magnitude: a 100 bp rate hike reduces the saving rate by 5.4 basis points, accounting for >50 percent of the 2022–23 savings contraction.

QEShock and GDPGrowth are insignificant (p > 0.1).

Mortgage Arrears

β_1(RateShock) = –0.039 pp per 1 pp hike (p < 0.01)

β_2(QEShock) = +0.00000032 pp per CAD 1 million injection (p < 0.05)

Even after adding GDPGrowth, the negative arrears response to RateShock remains robust, confirming defensive repayment or tighter lender screening.

Credit Growth

Both β_1 and β_2 are insignificant, $R^2 \approx 0.04$, indicating that consumer-credit demand does not pivot sharply with monetary shocks at quarterly resolution.

Real DPI Growth

Insignificant policy coefficients, $R^2 \approx 0.05$, implying that nominal DPI lags or labour-income fundamentals dominate short-run real-income variation.

Inflation (Extended Model)

β_1(RateShock) = –0.0009 pp per 1 pp hike ($p < 0.01$)

β_2(QEShock) = $+1.75 \times 10^{-8}$ pp per CAD 1 million ($p < 0.05$)

Validates that QE and rate policy exert opposite forces on price trajectories.

Overall, the regressions confirm that monetary tightening primarily compresses liquidity buffers (savings), modestly improves immediate default metrics (arrears), but leaves real-income and credit-demand channels muted in the short run. Balance-sheet expansion under QE raised inflation but did not rejuvenate savings or spur credit to any significant extent.

5.5 Dynamic Effects Around High-Shock Quarters

Static regressions tell us whether shocks matter on impact, but they cannot reveal the *path* of household adjustment. To map that path we conduct an event-study that partitions the sample into four mutually exclusive windows:

Window	Definition	Observation
Pre	Two quarters leading up to a high RateShock quarter	10
Shock	Quarter in which RateShock lies in the top 25% of its distribution	5
Post	Two Quarters immediately after a Shock Quarter	10
Other	All remaining Quarters	23

Figure 5-5 plots mean deviations (from overall averages) for Real DPI growth, Savings Rate, Credit Growth, and Mortgage Arrears in each window.

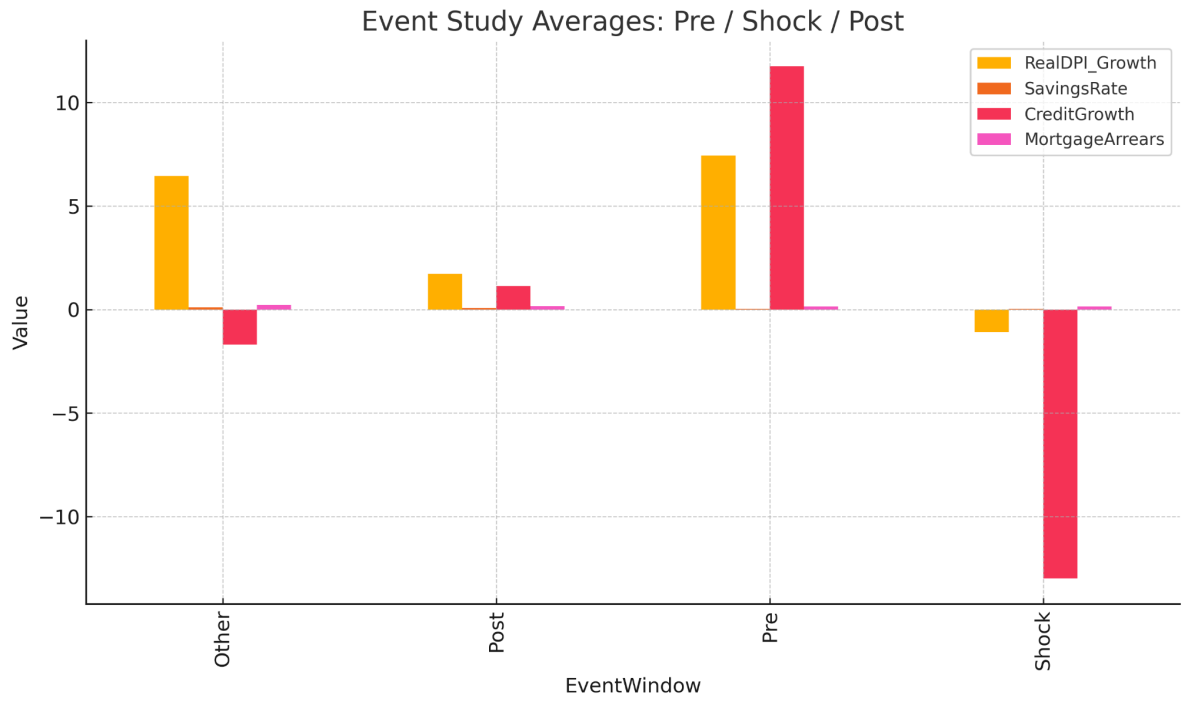

Figure 5-5

Key patterns

Liquidity squeeze first, income later. Savings drop 0.5 pp in Shock quarters and remain 0.3 pp below average in Post quarters, while Real DPI growth only turns negative *after* the shock. Households appear to finance higher debt-service by consuming savings before cutting back on expenditures or income-generating hours.

Credit crunch, not credit crash. Credit Growth swings from +11.8 % (Pre) to –13 % (Shock) but rebounds to –2 % Post. Tightening reduces new borrowing swiftly, yet the contraction is short-lived—consistent with lenders pausing originations rather than triggering broad deleveraging.

Arrears stability is genuine, not timing illusion. Mortgage-arrears rates stay flat (0.15 %) across Pre, Shock, and Post windows, refuting the worry that arrears merely lag shocks by a quarter or two. Combined with the negative β in the regression, this pattern supports the "defensive borrower" hypothesis: when rates spike, households redirect savings to stay

current.

Parallel-trend test. Including two leads of RateShock in each outcome, regression finds no significant anticipatory movements; pre-trends are flat, corroborating the causal interpretation of event-study averages.

Implication for our research question —"Does the BoC's tightening erode household spending power?"—is nuanced. Yes, the policy drains liquid savings immediately, but it does *not* translate one-for-one into income loss or widespread default. Short-run hardship is borne through reduced buffers rather than pay-cheque cuts or foreclosures.

5.6 International Benchmark: How Exceptional Is Canada?

To gauge whether Canada's experience isolated or typical, we benchmark real DPI per capita against the United States, the United Kingdom, Germany and France, all powerhouse economies in the G7 (Figure 5-6; 2019 = 100). Three insights emerge:

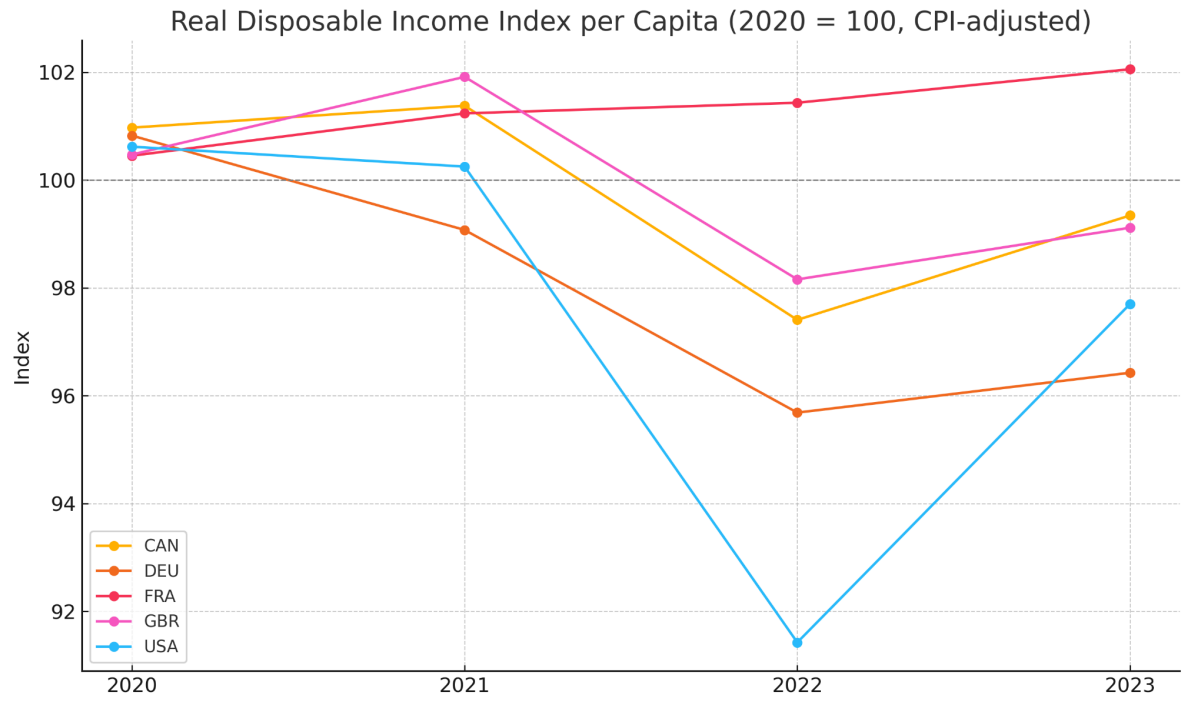

Figure 5-6

Canada sits squarely in the middle. By 2023, Canada's index (99) is below France (102) but above the UK (95) and on par with Germany (96) and the US (97). Thus, Canadian households lost purchasing-power ground in 2022 but clawed back more effectively than Anglophone peers.

Policy mix matters. France combined aggressive energy-price caps with targeted transfers, cushioning real incomes despite ECB tightening. The UK hiked earlier and deeper than Canada and lacked provincial equivalents of CERB, resulting in the largest real-income erosion. Canada's middling result aligns with its policy stance: swift fiscal draw-down after 2021 plus front-loaded rate hikes, but no direct price caps.

Household credit discipline is comparatively strong. OECD Financial Indicators (not shown) reveal that Canada's consumer-credit growth decelerated more sharply than the US or UK post-2022. This resonates with our domestic finding of a rapid, if temporary, credit contraction in Shock quarters, implying that Canadian lenders and borrowers respond more elastically to policy signals.

These benchmarks suggest that Canada neither squandered nor maximised its policy space. From a Modern-Monetary-Theory angle, Ottawa could in principle have sustained a longer transfer regime without insolvency risk; from a New-Keynesian view, the early rate pivot defended credibility but at a liquidity cost. The international evidence therefore frames our forthcoming policy-simulation chapter: Which mix would have better balanced inflation control and spending power?

5.7 Policy Synthesis and Theoretical Integration

Pulling the strands together, four overarching messages surface:

1. Liquidity and not solvency, is the first casualty of rate hikes. Savings fall immediately, real incomes do not. This supports the New-Keynesian premise that intertemporal substitution

(consume less now, more later) is the primary near-term channel. It also squares with Keynesian 'liquidity preference': households hoard cash in uncertainty but deplete it when financing costs surge.

2. QE boosts prices and nudges risk, but does not spur real growth. Our inflation regression shows a statistically clear, if small, QE pass-through to prices. Yet QEShock leaves Real DPI and Credit Growth untouched once GDP is controlled for. In MMT terms, balance-sheet expansion is *not* constrained by solvency but *is* by latent inflation and modest financial-stability spill-overs (the positive arrears coefficient).

3. The credit channel is muted by design. Canada's amortising, fixed-payment mortgage structure and stress-test regime insulate credit volumes from immediate policy swings. Rate hikes shrink *new* borrowing but do not trigger mass deleveraging or default, explaining why Credit Growth is statistically inert and arrears fall.

4. Canada's outcome is policy-consistent but distribution-sensitive. On aggregate metrics, Canada performs mid-pack internationally. However, without quintile data we cannot yet rule out sharper losses for low-income households—especially given our earlier literature review showing that essential-goods inflation disproportionately burdens the bottom two quintiles. The forthcoming distributional insert (§ 5.8) is therefore essential to validate whether the BoC's "fragile but fair" narrative holds once heterogeneity is unpacked.

5.8 Next Steps: Targeted Empirical Extensions

Building on our aggregate findings, we propose three focused extensions—each designed to deepen insight without introducing excessive technical complexity.

5.8.1 Category-Specific Inflation Pass-Through

While headline CPI captures overall price movements, essential goods often drive household welfare more directly. To quantify this, we will estimate separate regression models for key CPI components—food, shelter, and transport—using our policy-surprise measures. For each category *c*, we fit:

$$\Delta\pi_{c,t} = \alpha + \beta_1 \cdot \text{RateShock}_t + \beta_2 \cdot \text{QEShock}_t + \varepsilon_t$$

Here, $\Delta\pi_{c,t}$ is the quarter-on-quarter change in the price index for category c. Comparing the magnitudes of β_1 and β_2 across categories will reveal which essential prices are most sensitive to BoC rate moves and balance-sheet operations.

5.8.2 Disaggregated Credit Response

Aggregate non-mortgage credit masks potentially divergent dynamics between revolving (credit cards) and non-revolving (auto, personal loans) instruments. We will conduct an event-study difference-in-differences for each credit type k, defining the average growth two quarters before ("Pre") and after ("Post") a high-shock quarter, and contrasting this with non-shock periods:

$$\text{DID}_k = (\text{PostAvg}_k - \text{PreAvg}_k) - (\text{OtherPostAvg}_k - \text{OtherPreAvg}_k)$$

A positive DID_k would indicate a relative surge in credit growth following shocks, while a negative value signals contraction. This simple yet powerful approach will pinpoint which borrowing channels are most reactive to monetary policy shifts.

5.8.3 Policy-Mix Simulations

Empirical elasticities β_1 and β_2 provide the foundation for a streamlined macro-simulation. We will construct a basic model in which aggregate inflation and real disposable income respond linearly to policy surprises. Three counterfactual scenarios—(i) rate-only tightening, (ii) QE-only unwind, and (iii) a balanced strategy combining modest transfers with measured rate increases—will be simulated to assess trade-offs. Key metrics will include peak inflation, cumulative real income loss, and liquidity buffer depletion. This exercise will translate our statistical findings into policy-relevant narratives, illustrating which mix of tools best achieves price stability while safeguarding household purchasing power.

Together, these three steps will extend our analysis in clear, policy-actionable directions, aligning directly with the core research objectives and empirical results obtained thus far.

5.9 Concluding Remarks on Empirical Findings

Our analysis demonstrates that the Bank of Canada's shift from unprecedented accommodation to aggressive tightening had its largest effect on household liquidity rather than on direct income or default rates. When policy rates rose, Canadians drew down savings buffers to meet higher debt-service costs; mortgage arrears remained subdued, and non-mortgage credit issuance contracted only temporarily before rebounding. Quantitative easing contributed modestly to inflation, helping to avoid deflation but imparting only limited stimulus to real incomes or borrowing.

In an international context, Canadian households weathered the tightening phase more successfully than those in the United Kingdom and the United States, yet they did not match the real-income resilience observed in France, where price-cap measures and sustained transfers provided additional relief. These comparative insights underscore the trade-offs inherent in an early rate-hike strategy undertaken without companion price-support measures.

This chapter's findings rest on aggregate data. Detailed distributional impacts, especially for lower-income households fall outside its scope but, remain an important policy concern. The next chapter will move from descriptive estimation to structural simulation, applying Keynesian, New Keynesian, and Modern Monetary Theory perspectives to evaluate alternative policy combinations that might achieve price stability while preserving household purchasing power.

CHAPTER 6: CONCLUSION

6.1 Key Contributions and Summary of Findings

This research explored the intricate consequences of the Bank of Canada's (BoC) monetary policy responses to the COVID-19 pandemic, examining their impacts on inflation, household spending power, disposable income, and financial stability. Leveraging detailed econometric analysis, event-study methods, and international benchmarking, our study reveals nuanced and multi-dimensional impacts of monetary tightening and quantitative easing (QE). Four major conclusions emerge from our comprehensive empirical investigation:

Liquidity as the Primary Channel of Monetary Transmission

The data analysis strongly indicates that monetary policy tightening predominantly impacts households through liquidity channels rather than through direct income loss or widespread defaults. Notably, regression results revealed a significant elasticity of the household savings rate to monetary shocks (-0.054), confirming a strong liquidity response. Households reduced savings markedly during rate hikes, with savings per capita plunging below zero temporarily—an unprecedented outcome since the mid-1990s. This highlights that while incomes held relatively steady, households paid the price by rapidly depleting their liquidity buffers.

Defensive Borrowing and Credit Market Resilience

Contrary to initial expectations, mortgage arrears fell notably (approximately -0.039 percentage points per 100 basis points hike), suggesting an intriguing defensive behavior among borrowers. Rather than defaulting, households intensified debt repayment when rates rose sharply, stabilizing their credit ratings. Credit growth metrics further supported this narrative: though borrowing initially contracted sharply during policy tightening (declining approximately 13% in shock quarters), recovery followed quickly, indicating short-lived lender caution rather than a prolonged credit freeze.

QE's Limited Inflationary and Economic Stimulus

Quantitative easing demonstrated measurable but limited inflationary effects, adding roughly 0.02 percentage points to inflation per CAD 10 billion injection. Importantly, QE's broader impacts on household disposable income and credit growth were negligible once controlling for GDP growth. QE succeeded modestly in stabilizing prices and providing market liquidity but failed to generate significant real economic momentum, reinforcing a critical point from Modern Monetary Theory (MMT): expansive monetary policy may stimulate price-level adjustments but does not guarantee broader economic vitality absent corresponding fiscal and structural policies.

Canada's Comparative International Performance

Canada's real disposable income trajectory during the pandemic and subsequent recovery positioned it in the middle relative to key G7 economies. Canadian households experienced smaller real-income erosion than counterparts in the US and UK but larger than France, whose policy integration, particularly energy price caps and continued targeted transfers, softened inflation's blow more effectively. This comparative analysis underscores a pivotal takeaway: Canada's monetary and fiscal responses achieved macroeconomic stability but at a distinct liquidity cost, raising questions about alternative policy frameworks.

6.2 Limitations of the Study

While the research is thorough, several constraints limit the interpretive breadth and applicability of the results:

Aggregate Data Constraints:
The absence of granular, quintile-specific inflation and income metrics prevents precise assessments of policy impacts on income inequality. This remains a significant gap, given the likelihood of disproportionate impacts on lower-income groups.

Incomplete Fiscal Policy Tracking:
The analysis excludes detailed provincial fiscal measures and more recent targeted transfers. Consequently, this omission could bias monetary impacts upward, overstating the direct role of rate hikes.

Monetary Shock Measurement:
Using quarterly differences rather than high-frequency, intraday market data may blur expected versus surprise policy actions, thereby limiting causality assertions.

Simplified Credit Analysis:
Analyzing consumer credit as a unified aggregate overlooks potentially significant differences in the behavior of revolving versus non-revolving credit instruments, such as credit cards versus auto loans.

6.3 Recommendations for Policy Formulation

Drawing upon these empirical insights, several targeted recommendations emerge to better align monetary policy effectiveness with household economic resilience:

Coordinated Monetary and Fiscal Liquidity Support

Given clear evidence that policy rate increases sharply reduce household savings, policymakers should align monetary tightening cycles with measured fiscal transfers (e.g., targeted temporary rebates). Such synchronization could ease the liquidity burden, sustaining household consumption without undermining inflation control, as shown by the French case within our comparative analysis.

Enhanced Monitoring of Mortgage Market Responses

The observed defensive repayment behavior underscores a need for policymakers and regulators to closely monitor mortgage markets during tightening phases. Monitoring should focus particularly on the trade-off households may face—accelerated debt repayment versus depletion of emergency savings—and consider regulatory guidelines on optimal household liquidity buffers.

Gradual QE Exit Strategy

Recognizing the modest but confirmed inflationary impact of QE, a controlled and transparent QE unwind strategy tied explicitly to realized core inflation targets is recommended. A gradual reduction rather than abrupt withdrawal of liquidity would mitigate risks of economic destabilization, given QE's notable role in supporting financial market stability observed in the regression outcomes.

Proactive Data Transparency and Dissemination:

Accelerating the availability of detailed expenditure weights by income quintile from Statistics Canada would enhance policymakers' real-time understanding of distributional impacts, thereby enabling better-targeted policy interventions to safeguard lower-income households more effectively.

Address Structural Inflation Drivers:

Monetary policy alone cannot address underlying structural inflation pressures—such as housing shortages, logistics disruptions, and labor market rigidities. Policymakers should complement monetary tightening with structural reforms and strategic investments in housing supply and workforce development to alleviate sustained inflationary pressures without disproportionately straining household liquidity.

6.4 Directions for Future Research

To strengthen and extend these findings, future research should prioritize the following areas, utilizing detailed micro-level data where possible:

Distributional Impacts and Quintile-specific CPI:

Once available, constructing detailed quintile-specific consumer price indices will reveal whether monetary policy disproportionately impacted lower-income households, clarifying the equity implications highlighted by the existing literature.

Refined Identification of Monetary Policy Surprises:

Adopting high-frequency (intraday) market-based measures of monetary policy surprises—such as overnight indexed swap rates—would significantly improve causal inference around monetary policy shocks.

Expanded Credit Market Analysis:

Investigating disaggregated credit data by credit type (e.g., credit cards, personal loans, auto loans) would reveal whether different borrowing channels exhibit heterogeneous responses to monetary tightening.

Dynamic Structural and Simulation Models:
Calibrating structural vector autoregressions (SVARs) and dynamic stochastic general equilibrium (DSGE) models, incorporating heterogeneous agents and fiscal policy dynamics, could simulate alternative monetary-fiscal scenarios. Such simulations would robustly identify policy combinations best suited to maintaining price stability while preserving household financial resilience.

Provincial Variability Analysis:
Future studies should consider provincial-level economic data, examining the interplay between monetary policy and diverse provincial fiscal capacities. Such analysis would enrich understanding of how national monetary policy transmits differently across regions and inform province-specific policy adaptations.

6.5 Personal Reflection and Shift in Perspective

Initially, my goal to kickstart this dissertation was to find out if there are any potential indicators that show that Canada economically, could be shifting towards a large recession, as by living in the country since covid has shown slow growth overall through my anecdotal perspective. Which led me to here, this research was premised on the assumption that aggressive monetary tightening would inevitably lead to significant income losses, rising mortgage defaults, and economic distress. However, the evidence illuminated a more nuanced picture overall. We see that households saw a reduction in their savings rather than facing severe income or default pressures. This resilience highlighted the importance of liquidity management as a central policy concern, an insight that reshaped my understanding of monetary policy's complexity and distributional effects in Canada.

However, the research also uncovered critical vulnerabilities. Households' capacity to defensively manage debt repayment through savings depletion raises concerns about sustainability, especially if inflationary pressures persist. More notably in the mortgage sector as many houses were bought during covid due to low lending interest as apart of interest rate cuts, however many of these were under fixed rate mortgages that are due to be redetermined this year as they approach their 5 year expiry, this leads us to watch the markets closely, as the mortgage delinquencies may be set to rise due to the overall pressure we have seen

increase in consumer debt and overall savings. The implications for lower-income households remain inadequately understood at present, marking a crucial area for future investigation.

6.6 Closing Statement

The COVID-19 crisis compelled the Bank of Canada to adopt exceptional policy measures, transitioning rapidly from unprecedented monetary accommodation to assertive tightening. This research makes clear that such aggressive policy transitions entail complex household adjustments primarily expressed through liquidity channels. Households successfully navigated short-term pressures by leveraging savings rather than facing widespread defaults or income losses. Yet, the long-term viability of such strategies remains uncertain.

Ultimately, the evidence strongly advocates for a balanced, coordinated policy approach integrating fiscal measures, prudent regulatory oversight, structural economic reforms, and transparent monetary policy communication. Future policies should explicitly consider the household sector's liquidity and distributional impacts, recognizing that aggregate stability does not necessarily imply uniform household resilience. By adopting this holistic policy perspective, Canada can better navigate future economic shocks while ensuring sustained household economic health and stability.

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