**Introduction**

The Basel Accords are a series of international agreements developed by the Basel Committee on Banking Supervision (BCBS) to regulate banks and financial institutions globally. They aim to ensure banks maintain sufficient capital reserves to absorb potential losses and prevent systemic risk within the financial system. In response to the 2007–2008 financial crisis, Basel III was developed upon Basel II, increasing capital requirements, introducing new liquidity standards, and expanding stress testing to better prepare banks for financial shocks. Among all the changes, an increase of the Tier 1 Capital Ratio (T1CR) requirement from 4% to 6% was imposed. T1CR represents a bank's core funding source, comprising the most liquid and readily available capital (Office of the Superintendent of Financial Institutions [OSFI], 2023; Investopedia, n.d.). It is defined as the ratio of Tier 1 Capital to Risk-Weighted Assets. Tier 1 Capital consists of two categories of assets. One is the Common Equity Tier 1 (CET1), which is the highest quality capital in the banking system, including common stock and retained earnings (Bank for International Settlements [BIS], n.d.). The other is Additional Tier 1 Capital (AT1), which includes instruments designed to absorb losses on a going-concern basis, such as perpetual contingent convertible capital instruments (BIS, n.d.). Risk-Weighted Assets (RWA) represent a bank's assets and off-balance sheet exposures, adjusted to reflect their inherent risk level. RWAs are calculated by multiplying the asset's value by a risk weight, which varies depending on the asset type and its risk profile (BIS, n.d.).

In this study, I want to conduct empirical research to check the impact of thei policy change on major Canadian financial institutions’ performance, commonly measured by Return on Equity (ROE), which reflects how effectively a bank utilizes its capital to generate profits. A question to be answered is that What is the effect of the increase in the Tier 1 Capital Ratio (T1CR) requirement from 4% under Basel II to 6% under Basel III on the return on equity (ROE) of Systemically important banks (SIBs) in Canada?

**Motivation**

This study is motivated because the globe is transiting from Basel III to Basel III Reform (IV), an updated version of the accord. But there is inadequate data since many countries fully adopted to the new rule which is expected to be 1 to 3 years later than its originated implantation date of January 2023 so far. Even though Canadian SIBs have started to report the revised data since late 2024, the evidence is too little to support relevant empirical studies on Basel IV as of today ---- Even the study about the effectiveness of Basel IV in Canada in the future will also require some empirical evidence of how Basel III affects Canadian D-SIBs. Thus, this study not only reviews the effect of Basel III in Canada so far, but also prepares for the future investigation into Basel IV on top of Basel III.

The reason that this study focus on the Canadian SIBs is they have performance resilient during the 2007-2008 Financial Crisis and recovered quickly from that globally impactful event. At the same time, as a heavily regulated nation, Canada has been an early adopter of Basel IV ([Regnology](https://www.regnology.net/en/resources/insights/basel-iv-a-jurisdictional-breakdown/), n.d.) with 2 phases done already ----- first completed by Q2 2023 and the second completed by Q1 2024. While many countries delayed the adoption, it’s worthwhile to study the effect of the policy change in Basel Accord on Canadian banking system as a reference to the rest of the world.

Many studies in the past have shown that Stricter capital rules **increase banks equity** and **decrease lending activities** which reduces risk-weighted assets. Both actions reduce ROE among financial institutions. Nevertheless, Nasdaq Insight (n.d.) states many banks face significant capital shortfalls and lower return on equity in reaction to the rise of capital requirement. However, these is lack of study discussing the effects of the increased T1CR on ROE among Canadian SIBs, so this study examines whether the previous prediction holds in Canada in response to the rise of a specific capital requirement.

**Literature Review and Contribution：**

Wagster (2012) compares the capital positions of Canadian banks during the Great Depression to the Basel III capital requirements. He found Canadian banks with higher capital ratios relative to Basel III standards, were more resilient during the depression, highlighting the importance of capital buffers. However, Oyetade, Obalade, and Muzindutsi (2023) examined the performance of commercial banks in Africa after the adoption of Basel IV. They find that Basel IV's stricter capital rules improved bank stability but had mixed effects on profitability by difference-in-differences model, emphasizing the trade-off between resilience and returns in emerging markets. Similar research was also carried among banks in the UK and Australia from 2000 to 2019 by Le, Nasir, and Huynh (2023), where they applied FMOLS and DOLS estimation methods. This study, however, finds that stricter capital ratios do not significantly improve bank profitability or efficiency, highlighting the importance of an optimal capital structure and macroeconomic.

My research uniquely uses 6 Canadian SIBs as treatment group, including Royal Bank of Canada (RBC), Toronto Dominica Bank (TD), Bank of Montreal (BMO), Canadian Imperial Bank of Commerce (CIBC), Novia Bank of Scotiabank (NBS) and National Bank of Canada (NBC), which are most directly affected by the changes in capital ratio requirements from Basel II to Basel III. The control group consists of 34 SIBs in another developed country in the North America (see appendix for the list), which implemented this policy change later than the Canadian banks. I will apply difference in difference model with time and bank fixed effect model, together with some bank specific features and macroeconomic indicators to find the casual relation between the increased T1CR and ROE of Canadian SIBs.