# Walking the Tightrope: Canada's Financial Regulatory Scorecard, Year Three

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## Appendix A: Table 1 – The Updated Scorecard

| No. | Document | Failure/Risk | Goals | Mention Cost-Benefit Analysis/ Consideration of Costs |
|---|---|---|---|---|
| 1 | FSRA: MB0051INT<br>Mortgage Agent and Mortgage Broker Licensing Suitability | X<br>Market Abuse | X<br>Stability/<br>Consumer Protection | NO |
| 2 | FSRA: GR0012APP<br>Guidance on the use of proceeds from enforcement under Ontario regulation 554/21 | X<br>Asymmetric Information | X<br>Consumer Protection/<br>Integrity and confidence | NO |
| 3 | FSRA: GR0013APP<br>Enforcement: General Administrative Monetary Penalties Guidance | X<br>Market Abuse/<br>Market Integrity | X<br>Confidence/<br>Transparency/<br>Market Conduct | NO |
| 4 | FSRA: GR0011APP<br>Transparent Communication of FSRA Enforcement Action | X<br>Market Abuse/<br>Asymmetric Information | Consumer Protection/<br>Transparency/<br>Confidence/<br>Market Conduct | NO |
| 5 | FSRA: GR0013INF | X<br>Asymmetric information/<br>Reputational risk | X<br>Consumer Protection/<br>Transparency | NO |
| 6 | FSRA: GR0014APP<br>Principles-based Regulation | X<br>Regulatory Burden | X<br>Market Conduct/<br>Innovation/Confidence/<br>Resilience/Efficiency | N/A |
| 7 | FSRA: GR0017APP<br>Public warning notices | X<br>Market Abuse | X<br>Consumer Protection/<br>Confidence/<br>Market Integrity | NO |
| 8 | FSRA: AU0136APP<br>Reporting and resolution of rating and underwriting errors | X<br>Asymmetric Information/Market Abuse | X<br>Transparency/Consumer Protection/Compliance | NO |
| 9 | FSRA:<br>AU0131INT<br>Auto Insurance – Consumer Relief during A Declared Emergency under the Emergency Management and Civil Protection Act | X<br>Asymmetric Information | X<br>Transparency/Consumer Protection | NO |

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| 10 | FSRA:<br>GR0008APP<br>Fair Treatment of Customers in Insurance | X<br>Asymmetric Information | X<br>Transparency/<br>Consumer Protection | NO |
| 11 | FSRA: AU0128APP<br>Approval of Electronic Insurance Card | X<br>Asymmetric Information | X<br>Consumer Protection | NO |
| 12 | FSRA: AU0129DEC | X<br>Market abuse/<br>compensation risk | X<br>Consumer Protection | NO |
| 13 | FSRA: AU0126APP<br>Standard Filing | X<br>Regulatory Burden | X<br>Efficiency/<br>Competition | NO |
| 14 | FSRA: AU0138APP<br>Automobile insurance non-standard forms, endorsements and certificates of insurance approval filing process | X<br>Regulatory Burden | X<br>Market Health/<br>Efficiency/<br>Consumer Protection | NO |
| 15 | FSRA:<br>GR0018DEC<br>Guidance – Auto Insurance | X<br>Market Abuse | X<br>Consumer Protection/<br>Promote Competition/<br>Transparency | NO |
| 16 | FSRA:<br>AU0130APP<br>Innovative Auto Insurance Products - Subscriptions (“IAIP-S”) | X<br>Regulatory Burden | X<br>Consumer Protection/<br>Innovation | NO |
| 17 | FSRA:<br>GR0010APP<br>Test and Learn Environments (TLEs) for Financial Services Innovation | X<br>Stability | X<br>Innovation/<br>Consumer Protection/<br>Transparency | NO |
| 18 | FSRA: AU0132APP<br>Ontario private passenger automobile annual review based on industry data | X<br>Asymmetric Information/<br>Market Abuse | X<br>Confidence/<br>Transparency | NO |
| 19 | FSRA: GR0016INT<br>Information Technology (“IT”) risk management | X<br>Instability/<br>Loss of Reputation | X<br>Consumer Protection/<br>Competition/<br>Transparency/<br>Confidence/<br>Operational Resiliency | NO |
| 20 | FSRA:<br>AU0137INF<br>Operational risk management framework in rating and underwriting of automobile insurance | X<br>Stability | X<br>Consumer Protection/<br>Competition/<br>Transparency | NO |
| 21 | FSRA:<br>AU0133INT<br>Statutory Accident Benefits Claims during the COVID-19 Outbreak | X<br>Market Abuse | X<br>Consumer Protection/<br>Transparency/<br>Confidence | NO |
| 22 | FSRA:<br>AU0135INT<br>Unfair or Deceptive Acts or Practices and Approach to Supervision | X<br>Market Abuse/Power | X<br>Consumer Protection/<br>Competition/Confidence | NO |
| 23 | FSRA:<br>AU0139DEC<br>Acquisitions Warranting Relief from Lowest Available Rate Requirement | X<br>Market Abuse/Power | X<br>Competition/Consumer Protection | NO |

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| 24 | FSRA: AU0129DEC | X<br>Market Abuse | X<br>Consumer Protection/ Transparency | NO |
| 25 | FSRA: AU0142INT | X<br>Information asymmetry and opacity/Unfair discrimination/bias/ Mispricing | X<br>Consumer Protection / Efficiency/Innovation | NO |
| 26 | FSRA:<br>GR0015APP<br>Whistle-blower Guidance | X<br>Market Abuse | X<br>Confidence/Consumer Protection/Integrity/ Transparency | NO |
| 27 | FSRA:<br>PC0047INT<br>Updated Minimum Capital Test Guideline for P&C Insurance Companies and Reciprocals | X<br>Stability | X<br>Consumer Protection | NO |
| 28 | FSRA:<br>PC0045APP<br>Risk-based Supervisory Framework for Ontario-incorporated Insurance Companies and Reciprocals | X<br>Stability/Externalities/ Contagion | X<br>Market Conduct/ Confidence/ Protection | NO |
| 29 | FSRA:<br>PC0043INT<br>Life agent reporting requirements and related insurer obligations | X<br>Burden | X<br>Efficiency/ Confidence/Consumer Protection/Market Conduct | NO |
| 30 | FSRA:<br>CU0085APP<br>Approval or Authorization of Business and Investment Activities under the Credit Unions and Caisses Populaires Act, 2020 | NO | X<br>Stability/Confidence/ Transparency/Consumer Protection/Innovation/ Competition | NO |
| 31 | FSRA:<br>CU0070INT<br>Credit Union Market Conduct Framework | X<br>Asymmetric Information | X<br>Consumer Protection/ Transparency | NO |
| 32 | FSRA:<br>CU0062INT<br>Capital Treatment of Loans under the Federal Government Business Credit Availability Program and Highly Affected Sectors Credit Availability Program Guarantee | X<br>Liquidity | X<br>Stability/Consumer Protection/Market Health | NO |
| 33 | FSRA:<br>CU0063INT<br>Residential Mortgage Lending | X<br>Externalities/ Contagion | X<br>Stability/Consumer Protection | NO |
| 34 | FSRA:<br>CU0064INT<br>Liquidity | X<br>Externalities/ Contagion | X<br>Stability/Consumer Protection | NO |
| 35 | FSRA:<br>CU0069INT<br>Recovery Planning | X<br>Liquidity/ Contagion | X<br>Stability/Consumer Protection/Confidence/ Transparency | NO |
| 36 | FSRA:<br>CU0082INT<br>Resolution Planning | X<br>Externalities/ Contagion | X<br>Stability/Protection/ Confidence/ | NO |

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| 37 | FSRA:<br>CU0088APP<br>Operational Risk and Resilience | X<br>Externalities/<br>Contagion | X<br>Confidence/Stability/<br>Integrity/Consumer<br>Protection | NO |
| 38 | FSRA:<br>CU0065INT<br>Stress Testing | X<br>Externalities/<br>Contagion | X<br>Stability/Confidence/<br>Consumer Protection | NO |
| 39 | FSRA:<br>CU0083APP<br>Risk-based Supervisory Framework | X<br>Externalities/<br>Contagion | X<br>Stability/Confidence/<br>Protection/Efficiency/<br>Innovation | NO |
| 40 | FSRA:<br>CC0001INT<br>High-Risk Offerings issued under the Cooperative Corporations Act | X<br>Asymmetric<br>Information | X<br>Consumer Protection/<br>Confidence | NO |
| 41 | FSRA:<br>PE0205APP<br>Supervisory Approach to Defined Benefit Asset Transfers under the PBA | X<br>Asymmetric<br>Information | X<br>Protection/Transparency/<br>Confidence | NO |
| 42 | FSRA:<br>PE0224INF<br>Defined Benefit Multi-Employer Pension Plans – Leading Practices | X<br>Asymmetric<br>Information | X<br>Consumer Protection/<br>Transparency/<br>Confidence | NO |
| 43 | FSRA: PE0296INT<br>Pension Plan Administrator Roles and Responsibilities | X<br>Market Abuse | X<br>Consumer Protection/<br>Transparency/Fairness | NO |
| 44 | FSRA: PE0301INT<br>Pension Plan Amendments | X<br>Market Abuse | X<br>Consumer Protection/<br>Transparency/<br>Confidence | NO |
| 45 | OSFI: Pillar 3 Disclosure Guideline for Domestic Systemically Important Banks (D-SIBs) - Guideline impact analysis statement (2022) | X<br>Externalities/<br>Contagion | X<br>Resilience/Confidence/<br>Reputation/Protection | NO |
| 46 | OSFI: Liquidity Adequacy Requirements (LAR) Guideline – Guideline impact analysis statement (2022) | X<br>Externalities/<br>Contagion | X<br>Stability/Resilience/<br>Confidence/Protection | NO |
| 47 | OSFI: Small and Medium-Sized Deposit-Taking Institutions (SMSBs) Capital and Liquidity Requirements Guideline – Guideline impact analysis statement (2023) | X<br>Externality/<br>Contagion | X<br>Stability/<br>Resilience/Confidence/<br>Reputation/Protection | NO |
| 48 | OSFI: Pillar 3 Disclosure Guideline for small and medium-sized deposit-taking institutions (SMSBs) – Guideline impact analysis statement (2022) | X<br>Asymmetric<br>Information/<br>Complexity | X<br>Confidence/<br>Transparency/Efficiency | NO |
| 49 | OSFI: MICAT Total Requirements for FTHBI mortgages - Guideline impact analysis statement | X<br>Stability/<br>Contagion | X<br>Consumer Protection/<br>Stability | NO |
| 50 | OSFI: LICAT Public Disclosure Requirements – Guideline impact analysis statement | X<br>Asymmetric<br>Information/<br>Liquidity | X<br>Transparency/<br>Stability/<br>Protection | NO |
| 51 | Operational Risk Management - Guideline impact analysis statement | X<br>Operational Risk | X<br>Stability/<br>Transparency | NO |

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| 52 | Public Disclosure Requirements for Domestic Systemically Important Banks on Liquidity Coverage Ratio | X<br>Asymmetric Information | X<br>Transparency/<br>Confidence | NO |
| 53 | ICAAP – Guideline impact analysis statement | X<br>Liquidity/<br>Contagion | X<br>Stability/<br>Protection | NO |
| 54 | AMF: Governance Guideline | X<br>Asymmetric Information | X<br>Stability/Confidence/<br>Protection/Transparency/<br>Efficiency | NO |
| 55 | AMF: Integrated Risk Management | X<br>Solvency/Contagion | X<br>Stability/Confidence/<br>Protection/<br>Dynamism | NO |
| 56 | AMF: Compliance | X<br>Solvency | X<br>Confidence/Consumer Protection/Reputation | NO |
| 57 | AMF: Capital Management | X<br>Solvency/Contagion | X<br>Confidence/Stability/<br>Dynamism | NO |
| 58 | AMF: Capital adequacy requirements<br><br>Life and Health Insurers<br>P&C Insurers<br>Self-Regulatory Organizations<br>Reciprocal Unions | X<br>Systemic Risk/<br>Solvency/<br>Reputation/<br>Asymmetric Information/<br>Market Abuse | X<br>Stability/<br>Transparency/<br>Consumer Protection | NO |
| 59 | AMF: Management of expected credit losses | X<br>Credit Risk/<br>Contagion/<br>Market Abuse | X<br>Stability/<br>Transparency/<br>Consumer Protection | NO |
| 60 | AMF: Climate Risk Management | X<br>Climate Risk: Physical and Transition Risk | X<br>Stability/<br>Consumer Protection | NO |
| 61 | AMF: AMF Sound Management and Measurement of Earthquake Exposure | X<br>Systemic Risk/<br>Catastrophic Risk Management | X<br>Stability / Resilience | NO |
| 62 | AMF: Liquidity 1 | X<br>Solvency/<br>Liquidity | X<br>Stability/<br>Confidence/<br>Reputation/<br>Growth | NO |
| 63 | AMF: Liquidity 2 | X<br>Solvency/<br>Liquidity/<br>Contagion | X<br>Confidence/ Stability/<br>Protection | NO |
| 64 | AMF: Pillars | X<br>Asymmetric Information | X<br>Confidence/<br>Transparency | NO |
| 65 | AMF: Total Loss Absorbing Capacity | X<br>Solvency/<br>Contagion | X<br>Stability | NO |

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| 66 | AMF: Sound Commercial Practices | X<br>Market Abuse | X<br>Consumer Protection/<br>Transparency | NO |
| 67 | AMF: Fair Consumer Practices | X<br>Market Abuse/<br>Asymmetric<br>Information | X<br>Consumer Protection/<br>Transparency | NO |
| 68 | AMF: Principal Protected Notes | X<br>Asymmetric<br>Information | X<br>Consumer Protection/<br>Transparency | NO |
| 69 | AMF: Incentive Management Guideline | X<br>Market Abuse | X<br>Consumer Protection | NO |
| 70 | AMF: Securitization Risk Management Guideline | X<br>Liquidity/Contagion | X<br>Resilience/Stability/<br>Consumer Protection/<br>Transparency | NO |
| 71 | AMF: Residential hypothecary | X<br>Contagion/Solvency | X<br>Stability/Consumer<br>Protection/Transparency | NO |
| 72 | AMF: Margin for over-the-counter derivatives | X<br>Contagion | X<br>Stability/Consumer<br>Protection/Transparency | NO |
| 73 | AMF: IR Risk | X<br>Solvency | X<br>Stability | NO |
| 74 | AMF: OR Management | X<br>Liquidity | X<br>Stability | NO |
| 75 | AMF: Business Continuity | X<br>Contagion/Solvency | X<br>Stability | NO |
| 76 | AMF: Crime | X<br>Market Abuse | X<br>Reputation/<br>Transparency/<br>Confidence | NO |
| 77 | AMF: Outsourcing | X<br>Stability/<br>Technological Risk | X<br>Confidence/Stability | NO |
| 78 | AMF: Info and Comm. | X<br>Stability/Contagion/<br>Technological Risk | X<br>Consumer Protection/<br>stability/Innovation | NO |
| 79 | AMF: Stress Testing | X<br>Solvency/Contagion | X<br>Stability/Protection/<br>Resilience | NO |
| 80 | AMF: Information Disclosure | X<br>Asymmetric<br>Information/<br>Contagion | X<br>Stability | NO |
| 81 | CSA: Companion Policy 21-101CP | X<br>Market Abuse/<br>Asymmetric<br>Information | X<br>Transparency/Fairness of<br>the Market/Confidence | NO |
| 82 | CSA: Companion Policy 25-102 | X<br>Market Integrity/<br>Contagion | X<br>Stability | NO |

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| 83 | CSA: Companion Policy 23-101 CP | X<br>Market Integrity/<br>Market Abuse | X<br>Protection/Stability/<br>Transparency | NO |
| 84 | CSA: Companion Policy 23-102CP | X<br>Market Abuse/<br>Asymmetric Info | X<br>Protection/Transparency | NO |
| 85 | CSA: Companion Policy 24-101CP | X<br>Market Integrity/Lack of Transparency | X<br>Efficiency/Stability | NO |
| 86 | CSA: Companion Policy 41-101CP | X<br>Asymmetric<br>Information/<br>Market Abuse | X<br>Transparency/<br>Consumer Protection | NO |
| 87 | CSA: Companion Policy 24-102CP | X<br>Liquidity/Contagion | X<br>Transparency/<br>Confidence/Protection | NO |
| 88 | CSA: Companion Policy 25-501 | X<br>Market Integrity | X<br>Protection/Transparency | NO |
| 89 | CSA: Companion Policy 35-101CP | X<br>Regulatory Burden | X<br>Facilitate/Simplify | NO |
| 90 | CSA: Companion Policy 32-102CP | X<br>Market Abuse | X<br>Consumer Protection | NO |
| 91 | CSA: Companion Policy 33-105CP | X<br>Market Abuse/<br>Asymmetric<br>Information | X<br>Protection/Transparency | NO |
| 92 | CSA: Companion Policy 31-103CP | X<br>Market Abuse/<br>Asymmetric<br>Information/Market<br>Integrity | X<br>Protection/Transparency/<br>Efficiency/Stability | NO |
| 93 | CSA: Companion Policy 33-109CP | X<br>Market Abuse/<br>Market Integrity | X<br>Protection/Efficiency | NO |
| 94 | CSA: Companion Policy 33-506CP | X<br>Market Abuse/<br>Market Integrity | X<br>Protection/Efficiency | NO |
| 95 | CSA: Companion Policy 41-101CP | X<br>Market Abuse/<br>Market Integrity | X<br>Protection | NO |
| 96 | CSA: Companion Policy 43-101CP | X<br>Asymmetric<br>Information | X<br>Transparency | NO |
| 97 | CSA: Companion Policy 44-101CP | X<br>Regulatory Burden | X<br>Facilitate/<br>Simplify | N/A |
| 98 | CSA: Companion Policy 44-102CP | X<br>Asymmetric<br>Information | X<br>Transparency/Protection | NO |
| 99 | CSA: Companion Policy 44-103CP | X<br>Asymmetric<br>Information/Market<br>Abuse | X<br>Transparency/ Protection | NO |

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| 100 | CSA: Companion Policy 45-102CP | X<br>Asymmetric Information/Market Abuse | X<br>Transparency/Protection | NO |
| 101 | CSA: Companion Policy 45-106CP | X<br>Regulatory Burden | X<br>Facilitate/<br>Simplify | NO |
| 102 | CSA: Companion Policy 51-101CP | X<br>Asymmetric Information/Market Abuse | X<br>Transparency/Protection | NO |
| 103 | CSA: Companion Policy 52-107CP | X<br>Asymmetric Information/Market Abuse | X<br>Transparency/Protection | NO |
| 104 | CSA: Companion Policy 51-102CP | X<br>Asymmetric Information | X<br>Transparency/Protection | NO |
| 105 | CSA: Companion Policy 52-110CP | X<br>Market Abuse/<br>Asymmetric Information | X<br>Transparency/<br>Confidence | NO |
| 106 | CSA: Companion Policy 52-112CP | X<br>Asymmetric Information/ Market Abuse | X<br>Transparency | NO |
| 107 | CSA: Companion Policy 54-101CP | X<br>Asymmetric Information | X<br>Transparency/<br>Consumer Protection | NO |
| 108 | CSA: Companion Policy 61-101CP | X<br>Market Abuse/<br>Market Integrity/<br>Asymmetric Information | X<br>Transparency/Protection/<br>Fairness | NO |
| 109 | CSA: Companion Policy 71-101CP | X<br>Regulatory Burden | X<br>Facilitate/<br>Simplify | N/A |
| 110 | CSA: Companion Policy 71-102CP | X<br>Regulatory Burden | X<br>Facilitate/<br>Simplify | N/A |
| 111 | CSA: Companion Policy 72-503CP | X<br>Regulatory Burden | X<br>Facilitate/<br>Simplify | N/A |
| 112 | CSA: Companion Policy 81-101CP | X<br>Asymmetric Information/<br>Market Abuse | X<br>Transparency/<br>Consumer Protection | NO |
| 113 | CSA: Companion Policy 81-102CP | X<br>Asymmetric Information/Market Abuse/Liquidity/<br>Market Integrity | X<br>Protection/Transparency | NO |

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| 114 | CSA: Companion Policy 81-105CP | X<br>Market Abuse/<br>Market Integrity | X<br>Protection | NO |
| 115 | CSA: Companion Policy 81-106CP | X<br>Asymmetric<br>Information | X<br>Transparency | NO |
| 116 | CSA: Companion Policy 91-102CP | X<br>Market Abuse | X<br>Protection | NO |
| 117 | CSA: Companion Policy 91-501CP | X<br>Asymmetric<br>Information | X<br>Transparency/Protection | NO |
| 118 | CSA: Companion Policy 91-506CP | X<br>Market Abuse | X<br>Protection/<br>Efficiency | NO |
| 119 | CSA: Companion Policy 91-507CP | X<br>Asymmetric<br>Information /<br>Systemic Risk | X<br>Transparency / Market<br>Stability / Market<br>Integrity | NO |
| 120 | CSA: Companion Policy 93-101CP | X<br>Market Abuse<br>/ Asymmetric<br>Information/<br>Market Integrity | X<br>Transparency/Protection | NO |
| 121 | CSA: Companion Policy 94-101CP | X<br>Market Abuse/<br>Contagion | X<br>Protection/Stability | NO |
| 122 | CSA: Companion Policy 94-102CP | X<br>Market Abuse | X<br>Protection | NO |

## Appendix B: The Model

### B.1 Economic environment

This appendix provides the full formal derivation of the model presented in "A Simple Model of the Stability-Growth Trade-Off" of the main paper. Readers seeking the underlying economic intuition are referred to that section. Aggregate output is given by:

$Y_t = Ak_t$ (1)

where $A > 0$ is total factor productivity, and $k_t$, total capital, is given by:

$k_t = N_t + D_t$, (2)

where:

- $N_t$ is the intermediary's net worth (equity)
- $D_t$ is debt (deposits and other liabilities).

Financial intermediaries, who provide capital, are subject to a borrowing constraint:

$D_t \leq \lambda_t N_t$, (3)

where $\lambda_t$ is the leverage ratio. Combining (2) and (3) gives the upper bound on the capital stock, where intermediaries operate:

$k_t = (1+\lambda_t) N_t$ (4)

Substituting (4) into (1) gives:

$Y_t = A(1+\lambda_t) N_t$ (5)

### B.2 Returns, balance sheets, and net worth dynamics

Intermediaries' net worth law of motion:

$N_{t+1} = R_{t+1} (k_t - R_D D_t)$ (6)

Substituting in (5) and (3) gives:

$N_{t+1} = N_t [R_{t+1} (1+\lambda_t) - R_D \lambda_t] = N_t [R_{t+1} + \lambda_t (R_{t+1} - R_D)]$ (7)

Limited liability implies that net worth cannot be negative, so realized net worth evolves as:

$$N_{t+1} = max\{0, N_{t+1}\} = max\{0, N_t [R_{t+1} + \lambda_t (R_{t+1} - R_D)]\}.$$

## B.3 Financial distress and the role of leverage

"Financial distress" is defined as the event in which net worth is wiped out, i.e., $N_{t+1} = 0$. This occurs whenever the gross return on assets is sufficiently low such that:

$$R_{t+1} (1 + \lambda_t) < R_D \lambda_t$$

Solving for the critical return threshold:

$$R_{t+1} < R^*(\lambda_t) = R_D \lambda_t/(1 + \lambda_t)$$

The threshold $R^*(\lambda_t)$ is strictly increasing in $\lambda_t$. Higher leverage raises the return level below which net worth is wiped out and thus magnifies the impact of negative shocks. In this sense, leverage is a shock-amplification parameter: holding the distribution of $R_{t+1}$ fixed, higher $\lambda_t$ increases the probability of financial distress.

## B.4 Stability-oriented regulation, leverage, and return exposure

A reduced-form "stability effort" variable $s_t \geq 0$ captures the overall stance of stability-oriented regulation, spanning both prudential tools (capital requirements, leverage ratios, liquidity buffers) and market conduct tools (disclosure, suitability, conduct-related requirements). Regulatory intensity affects the economy through two margins that jointly determine how exposed net worth is to a shock.

First, as in the standard framework, tighter regulation constrains leverage:

$$\lambda_t = \lambda(s_t),\ \lambda'(s_t) < 0$$

Higher stability effort corresponds to tighter regulatory constraints and therefore lower leverage. This is the channel emphasized in much of the macroprudential literature: by reducing leverage, higher $s_t$ reduces the amplification of bad shocks and, all else equal, lowers the probability of distress.

Second, stability effort also shapes the distribution of the return intermediaries actually earn, capturing the market conduct margin introduced in the section, "Leverage and Market Conduct Channels." We write:

$$R_{t+1}(s_t) = \bar{R} - \gamma(s_t)\xi_{t+1}, \quad \gamma'(s_t) < 0$$

where $\bar{R}$ is the return realized absent a market-confidence shock, $\xi_{t+1} \geq 0$ is a shock to market conditions (a disruption to liquidity, confidence, or trading conditions), and $\gamma(s_t)$ governs how much of that shock is transmitted into realized returns. Higher stability effort narrows the exposure of realized returns to a market-confidence shock, independently of leverage.

In the absence of other frictions, these two margins generate the textbook trade-off: higher $s_t$ lowers leverage and narrows return exposure, reducing the amplification and likelihood of losses, but also restrains credit and output in normal times through lower leverage alone.

## B.5 Adding compliance costs as a third channel

We model the resource cost of regulatory compliance with a cost function $C(s_t)$ that is:

- measured in the same units as net worth (a dollar amount that must be paid each period),
- strictly increasing in stability effort: $C'(s_t) > 0$.

Combining all three channels, the net-worth law of motion becomes:

$$N_{t+1} = max\{0, N_t[R_{t+1}(s_t) + \lambda(s_t)(R_{t+1}(s_t) - R_D)] - C(s_t)\}.$$

Unlike the leverage and return channels, which affect the size and likelihood of losses, compliance costs are subtracted regardless of the realization of $R_{t+1}(s_t)$: they are paid in good states and bad states alike.

## B.6 Effects of stability effort on net worth

To understand the effect of stability effort $s_t$ on net worth, consider a given realization of the market-confidence shock $\xi_{t+1}$ and linear functional forms for tractability:

$$\lambda(s_t) = \lambda - \alpha s_t,\ \alpha > 0,\ \ \gamma(s_t) = \gamma - \delta s_t,\ \delta > 0,\ \ C(s_t) = C + \beta s_t,\ \beta > 0$$

Ignoring the $max\{0,\}$ operator for the moment, and treating the case where net worth remains positive, the partial derivative of next-period net worth with respect to stability effort is:

$$\frac{\partial N_{t+1}}{\partial s_t} = -\alpha N_t(R_{t+1}(s_t) - R_D) + N_t(1 + \lambda_t)\delta\xi_{t+1} - \beta$$

Two cases are particularly informative:
**1. Good state** ($R_{t+1}(s_t) > R_D$), no market-confidence shock, $\xi_{t+1} = 0$). The second term vanishes, and:

$$\frac{\partial N_{t+1}}{\partial s_t} = -\alpha N_t(R_{t+1}(s_t) - R_D) - \beta < 0$$

Higher stability effort unambiguously reduces net worth in good times: lower leverage reduces the upside from high returns, and compliance costs further subtract from profits.

**2. Bad state, market-confidence shock realized** ($R_{t+1}(s_t) < R_D$, $\xi_{t+1} > 0$). The leverage term flips sign, and the return-protection term is active:

$$\frac{\partial N_{t+1}}{\partial s_t} = \alpha N_t\big(R_D - R_{t+1}(s_t)\big) + N_t(1 + \lambda_t)\delta\xi_{t+1} - \beta$$

The first two terms are positive: reducing leverage dampens losses, and narrowing exposure to the market-confidence shock protects returns (both stabilizing effects). The third term, $-\beta$, is negative and captures the direct drain from compliance costs (destabilizing effect). The net effect is ambiguous. If the first two terms together exceed $\beta$, stability effort increases net worth even in bad states (the classic stabilizing case). If instead $\beta$ dominates, the compliance drain outweighs both stabilizing effects, and higher stability effort actually reduces net worth even in bad states, leaving the system closer to the default boundary. This trade-off is the key mechanism we use to interpret the empirical results.

## B.7 Financial distress and crisis probability

A financial "crisis" in this framework corresponds to the event $N_{t+1} = 0$, i.e., the intermediary's net worth is wiped out, and its balance sheet collapses. Given an initial net worth $N_t > 0$, stability effort $s_t$, and a realization of $R_{t+1}(s_t)$, distress occurs when:

$$N_t \left[R_{t+1}(s_t) + \lambda(s_t)R_{t+1}(s_t) - R_D)\right] - C(s_t) < 0$$

Define the distress threshold $\theta(s_t, N_t)$, and let $F_R\,(\cdot)$ denote the cumulative distribution function of $R_{t+1}(s_t)$. Then, for given $N_t$ and $s_t$, the probability of financial distress is:

$$p(s_t,N_t) = P_r(N_{t+1} = 0 \mid N_t,s_t) = F_R\,(\theta(s_t,N_t))$$

The sign of $\partial p/\partial s_t$ is ambiguous, because $\theta(s_t, N_t)$ is jointly affected by changes in $\lambda(s_t)$, changes in $\gamma(s_t)$, and changes in $C(s_t)$. The leverage and return-protection channels both tend to reduce $\theta$ (and thus reduce $p$), while the compliance channel tends to increase $\theta$ (and thus increase $p$). When compliance is sufficiently sensitive to stability effort, the net effect can be flat or even positive: more regulation can increase the probability of distress.

## Appendix C: Empirical Evidence

We test the model's implications using quarterly datasets for Canada over the 2000Q1-2025Q3 period. Stability effort $S_t$ proxies regulatory intensity via IMF iMaPP tightening actions across macroprudential instruments (capital buffers, LTV/DTI limits, reserve requirements). Higher $S_t$ maps directly to model parameter $s$.

Growth specification: $g_t = \alpha + \beta\, S_{\{t-1\}} + X'_{\{t-1\}}\delta + \varepsilon_t$

Recession probit: $Pr(R_t = 1) = \Lambda(\gamma\, S_{\{t-1\}} + X'_{\{t-1\}}\theta)$

Controls $X_{\{t-1\}}$: VIX (global risk), policy rate, EPU, credit gap, Z-score, lagged growth/recession. HAC standard errors. Lags avoid reverse causality.

Results, reported as Tables 1 and 2 in "Illustrating the Model" within the main paper, show clear growth costs but no stability gains – consistent with medium/high-cost regimes.