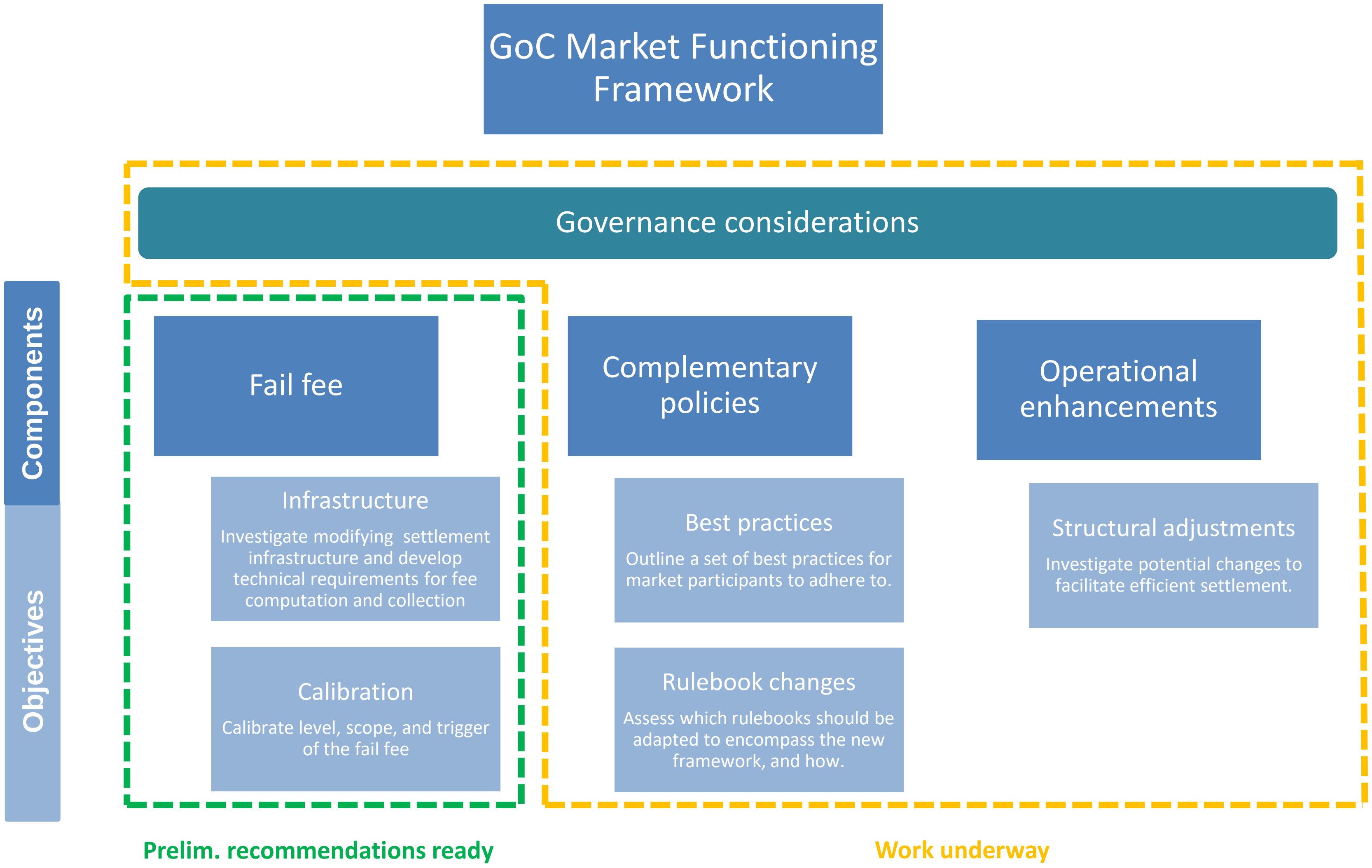
Update from the GoC Market Functioning Steering Group (GMF)

June 15, 2021

Agenda: Substantive updates on GMF's work

- GMF industry survey analysis
- GoC Market Functioning Framework:
  Calibration of the fail fee component and governance considerations
- October deliverable to CFIF

Update on the blueprint of the GoC market functioning framework



Request for CFIF member feedback

Questions to CFIF members:

- Is the **fail fee calibration and structure** appropriate? Do CFIF members:
  - Support the hybrid model approach and its parameterization? (Slide 11)
  - Support the parameterization of the activation trigger? (Slide 13)
  - Consider the warning level useful? (Slide 13)
  - Believe that transactions are adequately captured and maintain level playing field? (Slide 16)
- Are the considerations for **the framework's governance** appropriate?
  - What are CFIF members' views on governance? (Slide 19)
  - What types of institutions should be part of the governance group? (Slide 19)
- Does CFIF agree with the **approach to the deliverables** for the blueprint in October?
  - What are CFIF members' views on the scope and format of deliverables for October? (Slide 21)
- Are there **other issues** that GMF should be considering with regards to the blueprint?

GMF industry survey analysis

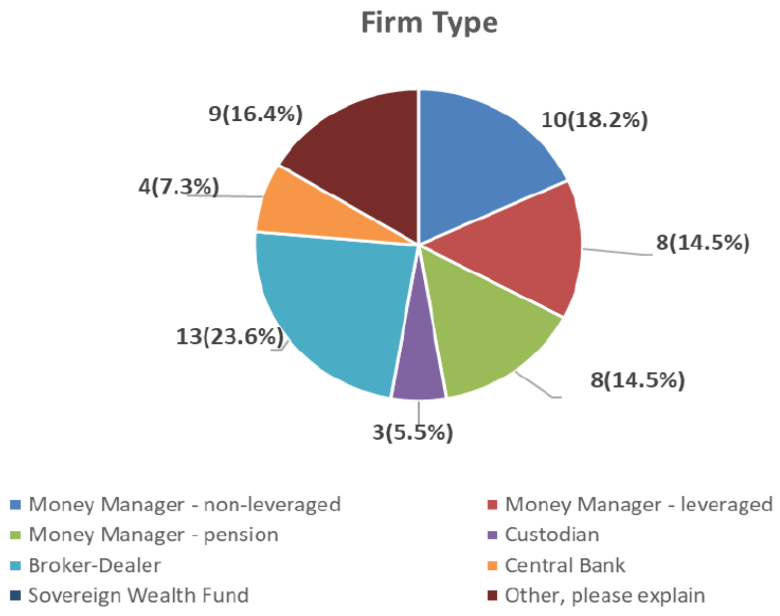
Overview of GMF Survey on Settlement Frictions

- **Purpose**:
  - To uncover the **potential source of any settlement frictions** in Canada for GoC securities across all stakeholders
  - To consider **potential structural adjustments** to settlement processes or recommendations for best practices
  - Overall goal is to **improve the settlement life-cycle** and **reduce any frictions**

- Participation was **broad** and diverse
  - 55 completed survey responses from buy- and sell-side, custodians, foreign central banks, and insurance companies

- The survey highlighted **three key themes**:

1. Market Structure Issues
2. Process Issues
3. Ancillary Issues

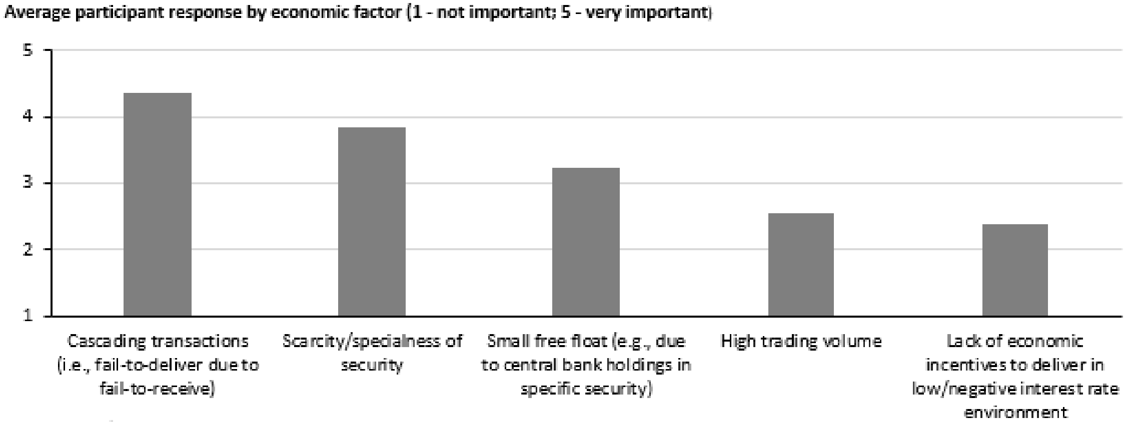


Key themes

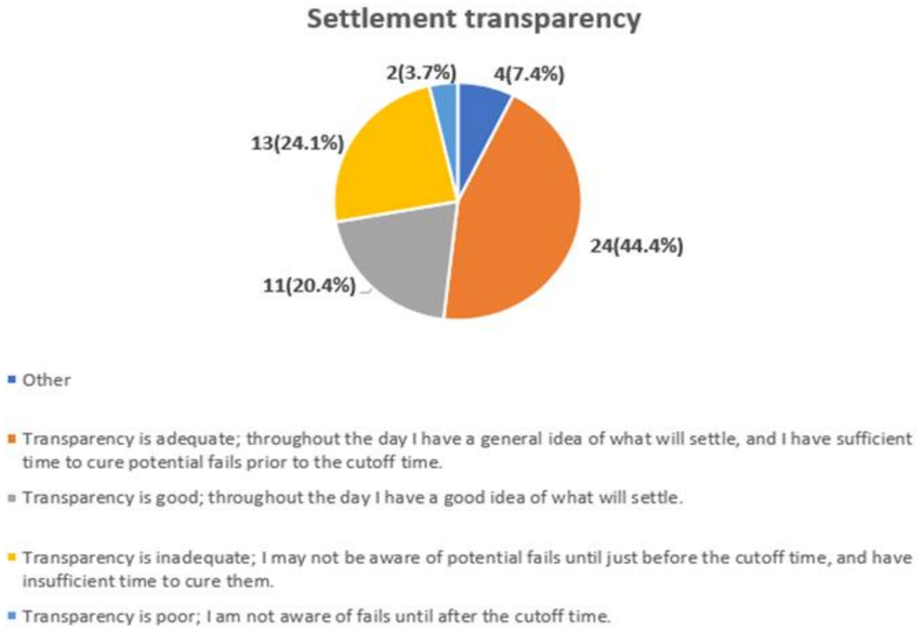
- **Market Structure** Issues:
  - Cascading failure to deliver is viewed as the largest challenge
  - Securities lending and rehypothecation may create frictions
  - There is a view that issues might be associated with certain counterparties

- **Process** Issues:
  - Manual processes and interventions increase the risk of fails through poor communication, lack of transparency and available resources
  - Survey participants support increased process automation
  - The existence of bilateral and cleared transactions creates fragmentation, which reduces netting within the system

- **Ancillary** Issues:
  - Product-specific issues might be present in the market (cash vs. repo, bills vs. bonds)
  - Current CDS split sizes should be evaluated to design the optimal minimum and maximum limits that facilitate settlement
  - Non-standard settlement is challenging as it tends to reduce the settlement cycle and introduces manual interventions potentially leading to issues



Source: Bank of Canada



Next steps for GMF to assess any potential adjustments

- To complete analysis of the GMF survey, we will:
  - Research key factors identified by the GMF survey as drivers of frictions within the GoC settlement process
  - Use industry outreach to clarify areas of interest not fully explained by the GMF survey results
- GMF will further:
  - Develop best practices or structural adjustment recommendations for the GoC settlement process
    - Address current frictions within the GoC trade lifecycle
    - Consider GMF survey results
    - Evaluate foreign jurisdictions' settlement processes
  - Recommend rulebook and other structural adjustments to facilitate fail fee and support any recommendations
  - Draft implementation guidelines for best practices or structural adjustment recommendations, including:
    - Timeline
    - Cost
    - Complexity
    - Ownership of tasks

GoC Market Functioning Framework:
Calibration of the fail fee component and governance considerations

Deliverables for the fail fee (incentive) component

- Calibration of the fail fee has to ensure that financial incentives for timely settlement are restored in a low/negative-rate environment to maintain well-functioning markets, including being applicable to ALL market participants
- Calibration also needs to take into account the structure and features of the Canadian market
- Recommendations for the Blueprint of the GoC Market Functioning Framework address the following topics:

Fail fee parameterization	Fail fee trigger	Success metrics
• Parameters of the fail fee, such as amount and type (e.g., static vs. dynamic) • Reference rate selection • Definition of a fail, incl. transactions in scope • Identification and mitigation of obstacles to broad adoption	• Is the fail fee permanently turned on, or does it toggle? • Which (market) conditions will trigger the fee (in either scenario)? • Who determines whether conditions for activation/deactivation have been met?	• How do we measure if the fail fee is meeting its intended objective?

Parameterization: recommendation of a hybrid fail fee model

- Hybrid fail fee = a 50bp static, de-minimis fee + dormant dynamic component (only activated if trigger criteria are met)
  - Only the 50bp fee is initially activated (no activation trigger since this is a de-minimis floor)
  - Dynamic fee provides 150bps of total incentive to allow collateral markets to clear at low/negative interest rates if fails persistent and elevated

$$Fail\ fee_t = \begin{cases} 0.50\% & \longrightarrow \text{Baseline static fee implementation} \\ max\{1.50\% - BoC\ Target_t, 0.50\%\} & \longrightarrow \text{Contingent dynamic fee activation if 50bps insufficient} \end{cases}$$

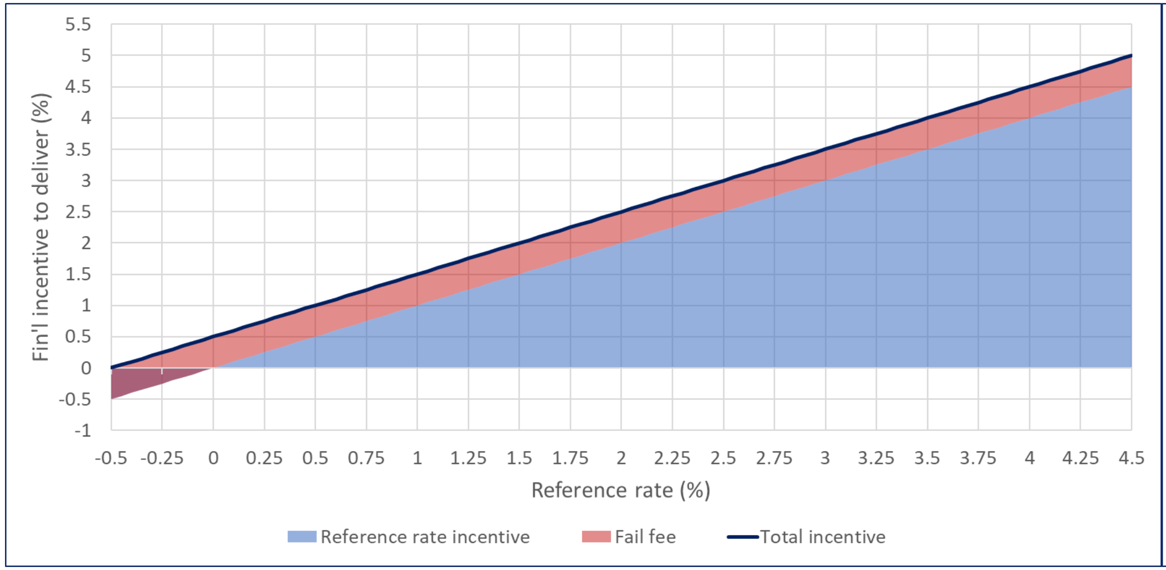
- **Note: fail fee is amount charged to market participants for failing; the total financial incentive to settle is provided by the fail fee + O/N rate**

- Calibration reflects the following:
  - De-minimis fee accounts for the fact that markets have generally functioned well in recent times, while the contingent dynamic component provides insurance with manageable up-front governance
  - Dynamic component acts as deterrent, even without activation
  - Dynamic component has simple built-in “off switch”: when the BoC target is at or above 1%, fee reverts back to 50bps until triggered again
  - Formula and activation criteria will be transparent to market participants

Do CFIF members support the hybrid model approach and its parameterization?

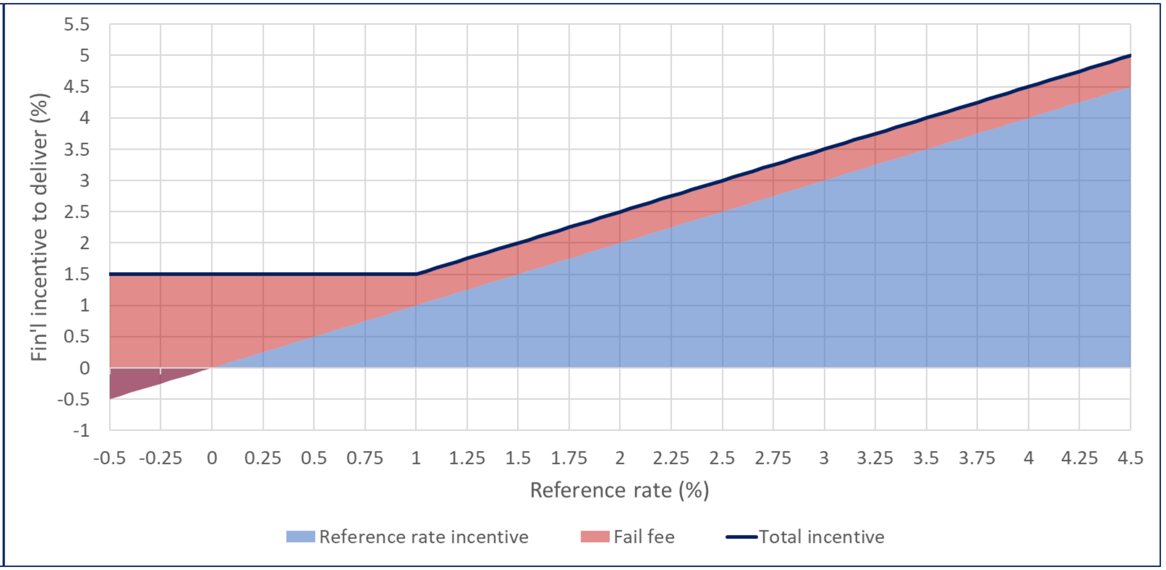
Settlement incentives provided by the hybrid model

A. Baseline 50bp implementation



Constant 50bp fee at all levels of the reference rate

B. Contingent dynamic component

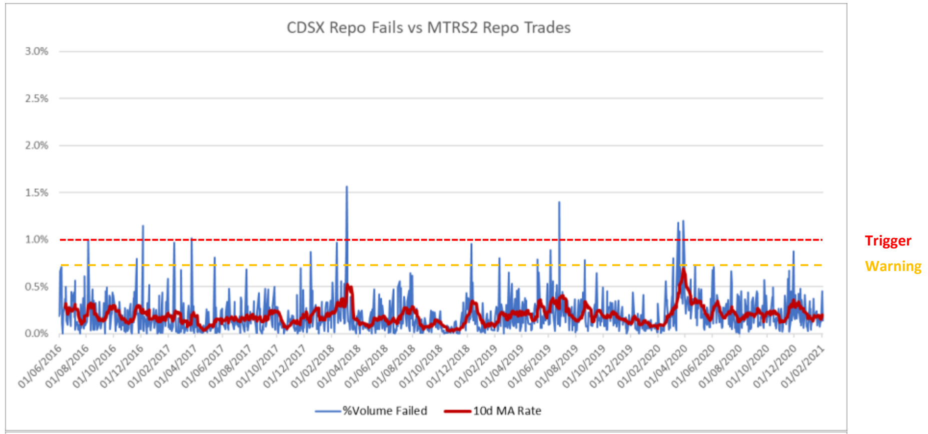


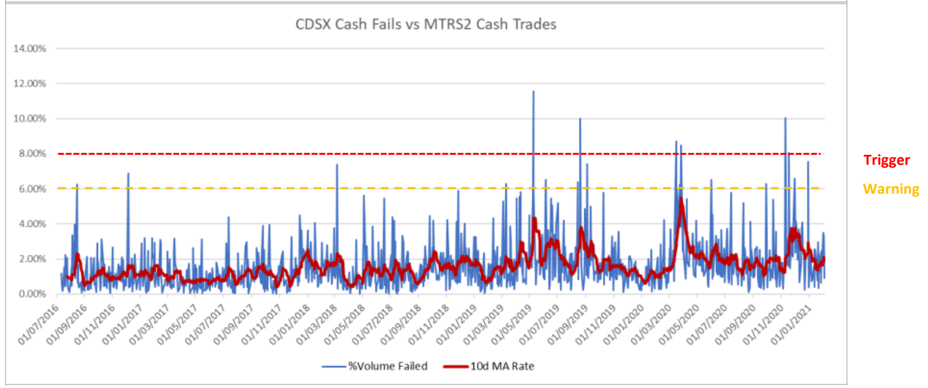
If the dynamic component is activated, fee increases to maintain a total incentive of 150bps when reference rate dips below 1%

Activation criteria for the dynamic component

❖ Trigger based on observed fails rates in GoC cash and repo markets to reflect material, sustained pressures in the collateral market

	Repo	Cash
Activation trigger (if **either** criterion is met)	10d-moving average (MA) repo fail rate ≥ 1%	10d-moving average (MA) cash fail rate ≥ 8%
Warning level	10d-MA repo fail rate ≥ 0.75%	10d-MA cash fail rate ≥ 6%





❖ Warning level allows market to self-correct (may no longer need to trigger the dynamic component)

– To provide transparency, market participants could be informed via market notices or on Bloomberg when the 10d-MA fail rates cross the warning level

Note:
- Fail rate is the fraction of cash or repo new fails divided by the respective settlement volume on a given day (aged fails are excluded).
- The proposed triggers above would **not** have triggered the dynamic fee during the past 5 years. These triggers could be subject to a periodic review

- **Do CFIF members support the parameterization of the activation trigger?**
- **Do CFIF members consider a warning indicator useful and its parameters appropriate?**

Fail definition: transactions in scope

- Largely mirrors the US approach
- A fail fee should not be applied where other rules (such as by exchanges or clearing agencies) may already be stipulating penalties for non-delivery of a GoC security

Instruments and transaction types	Included	Comments
Bills, nominal bonds, RRBs, strips	Y	Centrally tracked through CDS
Others?	N	Should not go beyond GMF mandate at this point, so only GoCs are in scope
GoC cash market	Y	Centrally tracked through CDS
GoC repo market	Y	Centrally tracked through CDS
Securities lending market (failure to deliver GoCs)	Y*	*Central tracking of fails would be challenging, but claims could be made bilaterally
Options, futures and forwards (physical GoC delivery)	Y*	*Applicability only to failure to deliver the underlier when there is physical delivery. Central tracking of fails would be challenging, but claims could be made bilaterally
Delivery-vs-payment (DvP)	Y	Centrally tracked through CDS
Delivery-vs-delivery (DvD), free-of-payment (FoP), pledges	Y*	*Central tracking of fails would be challenging, but claims could be made bilaterally

Fail definition: Delivery-versus-delivery (DvD) transactions pose unique challenges…

- GoC securities lending market is large, with approximately $120B on loan at any given time
  - For comparison: average daily volumes (MTRS2, net) are ~ $10B – $20B (cash market) and ~ $20B – $40B (repo market)
  - In Canada, securities loans are predominantly versus securities collateral, not cash (as in the US), which complicates capture through the standard CDS settlement process
  - Compared to cash and repo markets, it is uncommon to lend a security without having it in inventory, which lowers the incidence of fails

Securities Loan
(~ $120B out on loan of available ~$550B)

Collateral

Securities collateral
(~ 90-95%)

Cash collateral
(~ 5-10%)

Settlement

Securities (loan and collateral) are transferred free of payment

Implications

- DvD fails associated with securities loans are generally upstream of a DvP fail (i.e., they would be "captured" by the DvP fail)
- DvD fails can be difficult to define and track in CDS (e.g., failed recalls are not captured in CDS)
- Tickets contain no proceed amounts to which a fail fee can be easily applied

- An infrastructure build to centrally track DvD fails would be challenging to implement and is out of scope of this recommendation

Recommendation on how to capture different types of transactions/settlements and ensure level playing field

Delivery fail

Cash/repo trades (DvP)

Captured in CDS
- Infrastructure build to provide a monthly billing function to its participants
- Would include "audit trail" of failed transactions

Non-cash sec lending (DvD)

Captured bilaterally
- Out of scope of the CDS infrastructure build, but existing documentation (GMSLAs, MSLAs) allows cash trade fail fee to be apportioned
- E.g., a recalling party can pass on the fee bilaterally (though it may choose not to), which should have the desired effect on the defaulting party
- Agent lenders, custodians and prime brokers may need to provide transparency on DvD fails to clients to facilitate passing on the fee

Other – e.g., margin transfers (FoP)

Captured bilaterally
- Out of scope of the CDS infrastructure build
- Market participants could pass on a fee bilaterally if a margin transfer causes a downstream fail, which incurs a fee

Do CFIF members support the approach recommended by GMF to ensure a level playing field?

Preview of a CDS fail fee infrastructure build

- Daily:
  - Information for cash fails in all designated securities will be captured

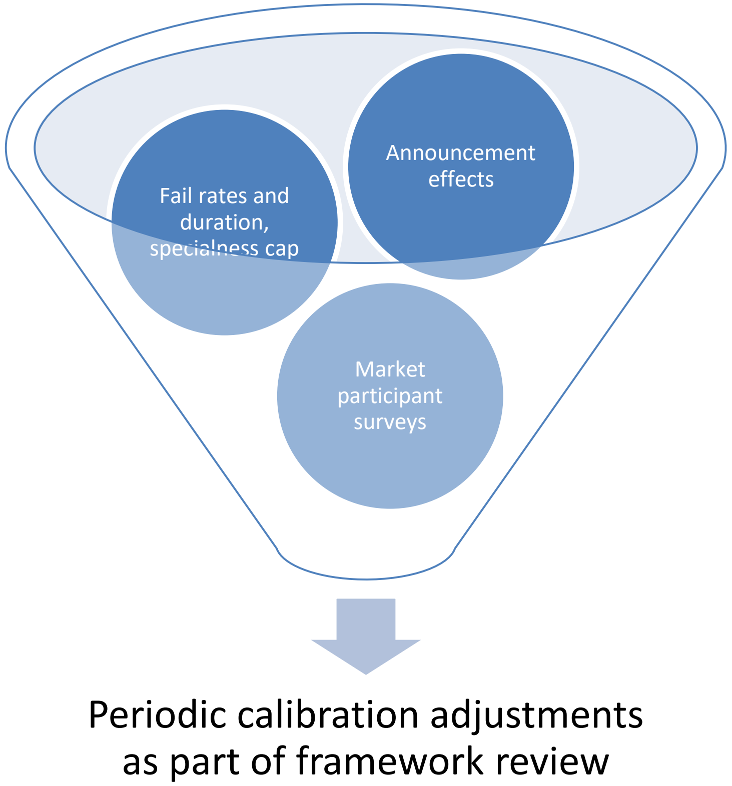
- Monthly:
  - Aggregated information to create an audit trail of all failed transactions
  - Audit trail in machine-readable format by participant, date, role, deliverer or receiver, including participant account details available to CDS and the fee due/owed by trade
  - Audit trail enables custodians, agent lenders and prime brokers to pass through and apportion the fail fee from CDS to their clients
  - CDS will sum the amounts due and owed on this audit trail and process the necessary entries to the cash ledgers of all parties

- Preliminary estimates of CDS build cost and fees suggests that costs would not be prohibitively large

- Agent lenders, custodians, and prime brokers will need to operationalize the pass-through of any fail fees

Success metrics for the fail fee component

- Success metrics should reflect that the fail fee calibration resembles an insurance policy:
  - Main purpose is to provide an incentive mechanism to ensure market functioning at low/negative interest rates, not to drive fail rates towards zero
  - A 50bp floor expands bargaining space for collateral and incentivizes market discipline, while minimizing any concerns about the impact of a fee
- Rather than setting hard targets on specific metrics, periodic reviews of the fail fee calibration should be holistic and in the context of the entire framework



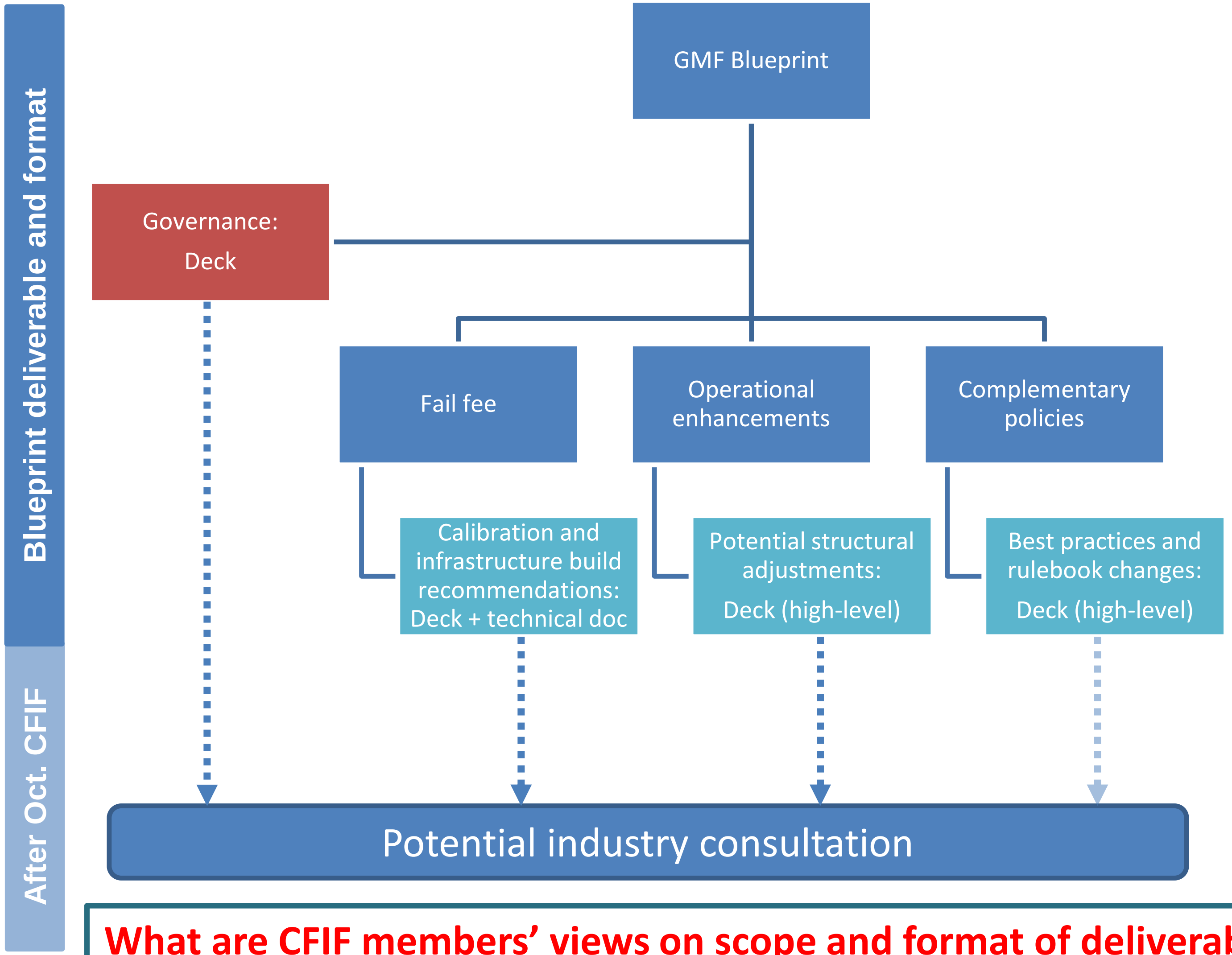
Strawman for the governance of the GoC market functioning framework

- Overall responsibility for governance of the GoC market functioning framework and its components, including the “best practices” guidance, would rest with CFIF
  - E.g., the GMF could continue as a standing sub-CFIF entity responsible for framework governance (akin to the TMPG) with broad stakeholder representation
- The framework would be reviewed at regular intervals to ensure effective market functioning
  - Shortened review intervals whenever material changes take place (e.g., activation of dynamic fail fee component, persistent rise in fails without reaching activation trigger)
  - GMF/sub-CFIF governance group could also conduct ad-hoc reviews and recommend changes, e.g., if necessitated by market developments, including major changes to settlement process/infrastructure
- A GMF/governance group member institution should take responsibility for agreed-upon features of the fail fee component (e.g., monitor fails rates, provide updates to governance group, communicate with market regarding the dynamic component)

> - **What are CFIF members’ views on governance?**
> - **Which types of institutions should be part of the governance group?**

October deliverable to CFIF

The Blueprint deliverable with design and feasibility recommendations



GMF to deliver the blueprint in Oct 2021:

- GMF will seek guidance on the Blueprint and **all** of the framework's components
- The CFIF decision to approve the Blueprint (in whole or in part) is expected to be taken at the November meeting
- Conditional on CFIF's go-ahead, a white paper will be produced for public consultation in Q1-2022

What are CFIF members' views on scope and format of deliverables for the October blueprint discussion?

Next steps for the remainder of the Design Phase

Jan – May 2021

- **Calibration WG**: Develops the calibration of the fail fee
- **Infrastructure WG:** Begins investigating feasibility of modifying settlement infrastructure and capturing DvD transactions
- **Complementary Policies WG**: Conducts industry survey to identify key bottlenecks in settlement system

June 15 2021 CFIF meeting
GMF to deliver substantive update

June - Sept 2021

- **Calibration WG:** incorporates CFIF feedback into calibration and governance, develops technical doc
- **Complementary Policies WG:** Researches key themes from the GMF survey and formulates best practice and structural adjustment recommendations; explores potential required rulebook changes
- **Infrastructure WG:** Further develops blueprint of infrastructure build and costs

Oct 2021 CFIF meeting
GMF delivers the Blueprint and technical documentation (feasibility and design recommendations for a fail fee), recommendations for industry best practices and structural adjustments plus required rulebook changes

Nov 2021 CFIF
Decision on whether to proceed with the Blueprint

Q1 2022
Potential white paper and broad industry consultation subject to CFIF agreement

Q2 2022
Incorporate results of potential public consultation

Blueprint Stage of Design Phase

Consultation Phase (pending CFIF endorsement)

Thank you

Appendix

Recap: GMF mandate and background

- CFIF approved in October in 2019 the formation of a working group to review GoC market functioning in a low-rate environment
- The Government of Canada Market Functioning Steering Group (GMF) was formed in 2020, with the following agreed mandate:
  - Study and design a framework for supporting GoC market functioning in a low-rate environment (**Design Phase**) and present design recommendations to CFIF
    - **Framework** to include a financial incentive mechanism for timely settlement applicable to all market participants, criteria for implementing/activating the framework
    - **Complementary policies or market practice changes** that seek to improve market functioning and mitigate any potential unintended consequences
  - Pending endorsement and further direction from CFIF, take steps to implement the framework (**Implementation Phase**)

Why is the parameterization of the fail fee component appropriate?

- Special spread analysis, combined with absence of persistent, large fails suggests that a **50bp static fee** is appropriate in an environment such as during 2016-2021

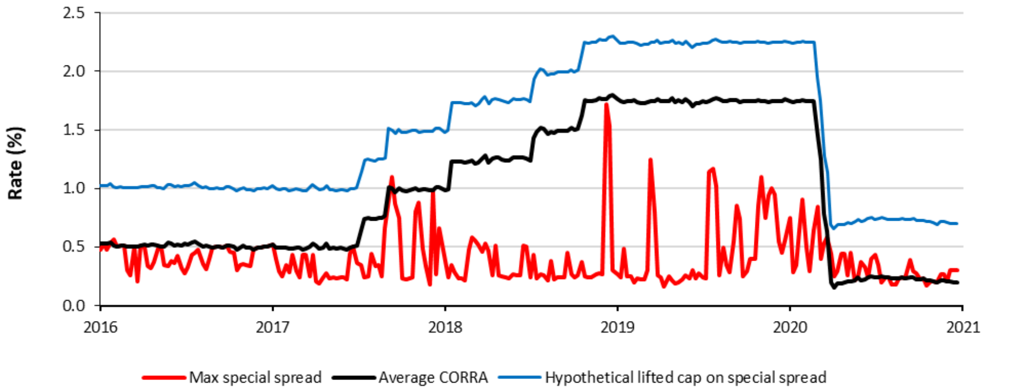
- To allow collateral markets to clear at zero/negative interest rates, or if a shock leads to persistent and elevated fails, the **150bp dynamic fee** would provide additional incentives, if needed
  - 150bps is reflective of where maximum specialness in GoC market has been in recent times

- Hybrid model reflects that markets have generally functioned well in recent times

- Overall, a de-minimis approach that provides insurance (contingent dynamic component) with manageable up-front governance

Weekly maximum special spread vs. CORRA

Universe of transactions includes untrimmed CORRA inputs as well as T/N trades



Source: MTRS, Bank of Canada calculations

Last observation: 31/12/2020