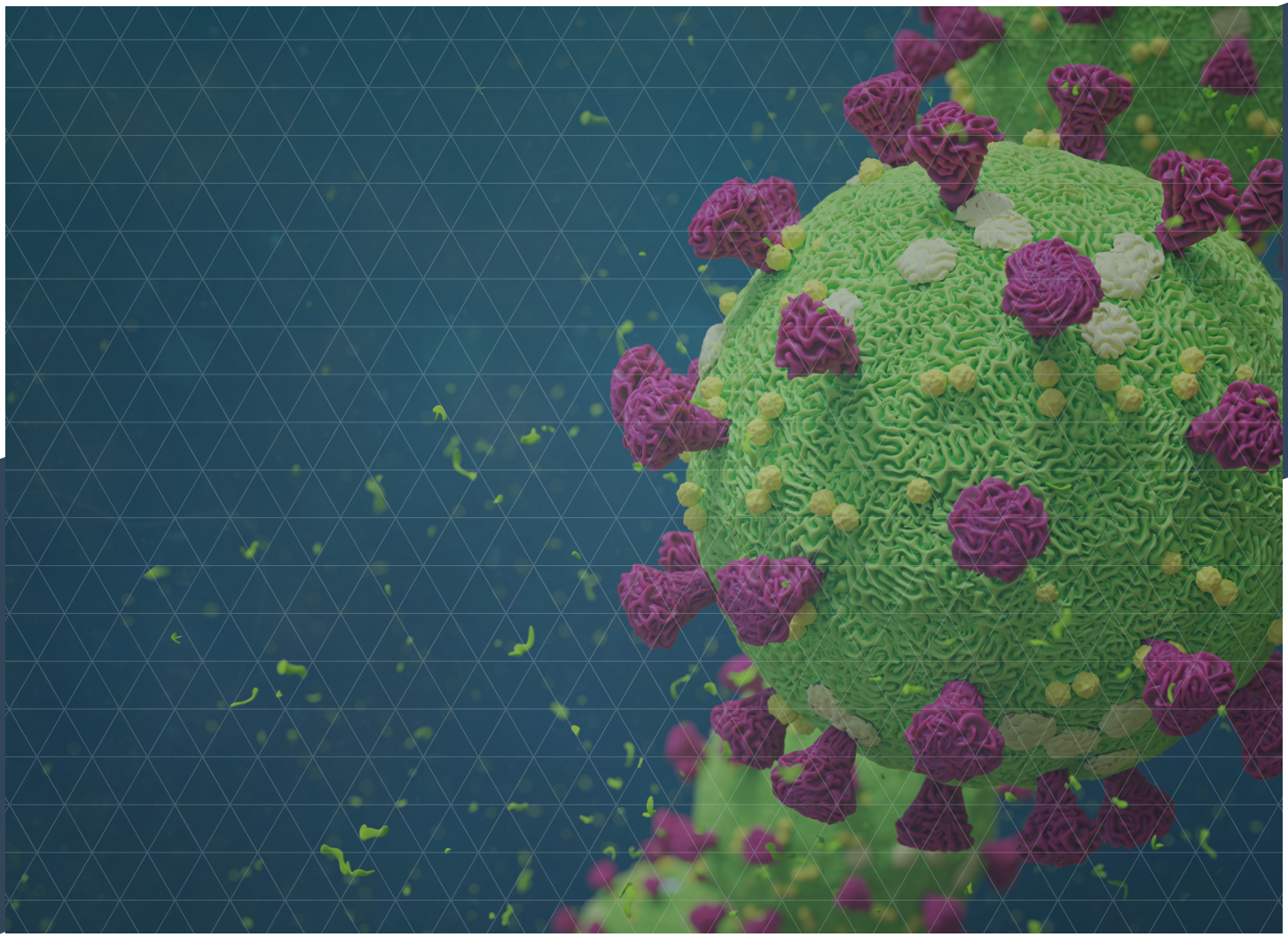
FINAL REPORT

COVID-19 Triggers Great Nonfinancial Risk Crisis:

Nonfinancial risk management best practices in Canada



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ABOUT THIS REPORT:

The spread of viral disease COVID-19 is the most transformative nonfinancial risk (NFR) of this decade. The uniting of strategy and risk management has never been more crucial. The interrelationship between the pandemic and the increases in aging, chronic diseases, interstate conflicts, nationalism, cyber attacks, cyber dependency, asset bubble, and sovereign debt is transforming our reality in previously unimaginable ways.

NFR management best practices. Canadian financial institutions (FIs) prioritized NFR management and adopted a framework that enabled them to identify early the potential threat of the spread of viral disease (COVID-19). These FIs reprioritized COVID-19 risk into their existing enterprise risk management framework to reduce the exposure and impact of the pandemic. Best practice FIs re-evaluated their strategic assumptions and reset their business strategy in light of the reprioritized NFR matrix.

This paper was originally published in the Journal of Risk Management in Financial Institutions (Volume 1, Number 1, Winter 2020-21, pp. 40-58) in December 2020.

Written by **Lois Tullo**, Executive in Residence, Global Risk Institute, the paper reviews best practices in managing NFRs and trends from the practitioner's point of view. Thirteen Canadian FIs are reviewed along with their positioning of NFR pre- and post-COVID-19, and their recent enhancements to their NFR-management process. The author illustrates how the adoption of the Global Risks and Trends Framework by several Canadian FIs has influenced their preparation and resilience in this pandemic. Finally, the author discusses best practice examples, as well as challenges that still exist, how organizations have adjusted their strategy linking risk to their recent experience, and what lessons other FIs can learn about managing these NFRs.

COVID-19 triggers great nonfinancial risk crisis: Nonfinancial risk management best practices in Canada

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Abstract The spread of viral disease COVID-19 is the most transformative nonfinancial risk (NFR) of this decade triggering the Great Nonfinancial Risk Crisis. The uniting of strategy and risk management has never been more crucial for financial institutions. The interrelationship between the pandemic and the increases in ageing, chronic diseases, interstate conflicts, nationalism, cyber attacks, cyber dependency, asset bubble, and sovereign debt is transforming our reality in previously unimaginable ways. NFR management best practices Canadian Financial Institutions (FIs) prioritised NFR and adopted a NFR framework that enabled them to identify the spread of viral disease (COVID-19). Then they reprioritised COVID-19 risk into their existing enterprise risk management framework to reduce the exposure and impact of the pandemic and re-evaluated their strategic assumptions to reset their business strategy in light of the reprioritised risk matrix. In this paper, the author reviews best practices in managing NFRs and trends from the practitioner's point of view. Thirteen Canadian FIs are reviewed along with their positioning of NFR pre- and post-COVID-19, and their recent enhancements to their NFR-management process. The author illustrates how the adoption of the Global Risks and Trends Framework by several Canadian FIs has influenced their preparation and resilience in this pandemic. Finally, the author discusses best practice examples, as well as challenges that still exist, how organisations have adjusted their strategy linking risk to their recent experience, and what lessons other FIs can learn about managing these NFRs.

Keywords: *risk management, strategy, nonfinancial risk, NFR, best practices, ERM, global risks and trends, banks, canada*

COVID-19: NONFINANCIAL RISK BEST PRACTICES

The spread of the viral disease, COVID-19, is the most transformative nonfinancial risk (NFR) of this decade. COVID-19 has caused over 80 million cases and closing on 2 million deaths and is growing.[1] The economic impact of COVID-19 has been witnessing a 10–50 per cent increase in unemployment, increases in government deficits 2–5 times that of pre-COVID-19 levels, and a potential permanent restructuring of global trade.

Canadian financial institutions (FIs) demonstrated that their best practices in enterprise risk management (ERM) helped them steer through the storm of the Great Financial Crisis (GFC).[2] This research highlighted the link between strategy and risk management to address the traditional risks comprising credit, market and operational risks considered as best practices Canadian FIs. The COVID-19 pandemic has been met with the same resilience that Canadian FIs applied to the GFC. Best practices Canadian FIs reported Q3 2020 earnings per share going down only between 1 and 2 per cent, while increasing their loan loss provisions up to 60 per cent.[3] These Canadian FIs have united strategy and risk management for NFR through integrating NFR into their ERM framework, both in a qualitative and quantitative ways. They have facilitated early identification of the risks of COVID-19, immediately activated their crisis preparedness plans, and re-evaluated their strategic assumptions in order to reset their strategic course going forwards through the pandemic (13 Canadian FIs included in the study). The Global Risks and Trends Framework (GRAFT) illustrated in Appendix 1, which has been adopted by seven FIs in Canada, provides one of the lenses through which many of these organisations are trying to focus on managing NFR.

The ERM frameworks that were in place during the credit crisis focused on credit, market and, in a limited way, operational risk. Since 2010, we have witnessed the rising cost/losses from risks, such as cyber attacks, fraud and theft in the form of money laundering and terrorist financing, and more recently extreme weather events (EWEs) and climate change. The World Economic Forum (WEF) launched their first report in 2009, which focused on five risk clusters including: environmental, geopolitical, technological, societal and economic risks and trends. The risks and trends identified by the WEF[4] is the basis for the GRAFT framework. This has expanded the scope of risks managed to include NFRs.

There were many indications that the world was already at the edge of a tipping point at the end of 2019.[5] This scenario arose due to the combination of events such as:

- Cyber attacks and data fraud and theft continuing to rise with an estimated 4.1 billion data records exposed in the first half of 2019.[6]
- Rising interstate conflict, nationalism, and populism in the United States, China, Russia, Europe and the Middle East countries.
- A debt crisis with consumer debt/income ratios ranging from 120 to 175 per cent. Sovereign debt to the gross domestic product (GDP) in many developed countries approaching or exceeding 100 per cent.
- EWEs in the form of forest fires in Australia, California and many other geographies; severe droughts followed by flooding are estimated to have caused losses of over US$232bn in 2019.[7]
- An 11-year growth in the asset bubble in both equities and real estate.
- Rising income and disparity of wealth where eight individuals own the same amount of wealth as half of the world's populations (3.6 billion people).

The Canadian FIs pre-COVID had placed their primary emphasis on cybersecurity, including both systems and data; political instability; and household, corporate, and government debt (Figure 1). The highest priority risk received the highest score and is illustrated at the top of the mountain peak graph (rankings of zero either were not included in top risks or information on ranking was not available).

In 2018, two Canadian FIs recovered from cyber breaches with minimal operational impact or reputational damage. These breaches were, however, enough to secure cyber attacks and data fraud and

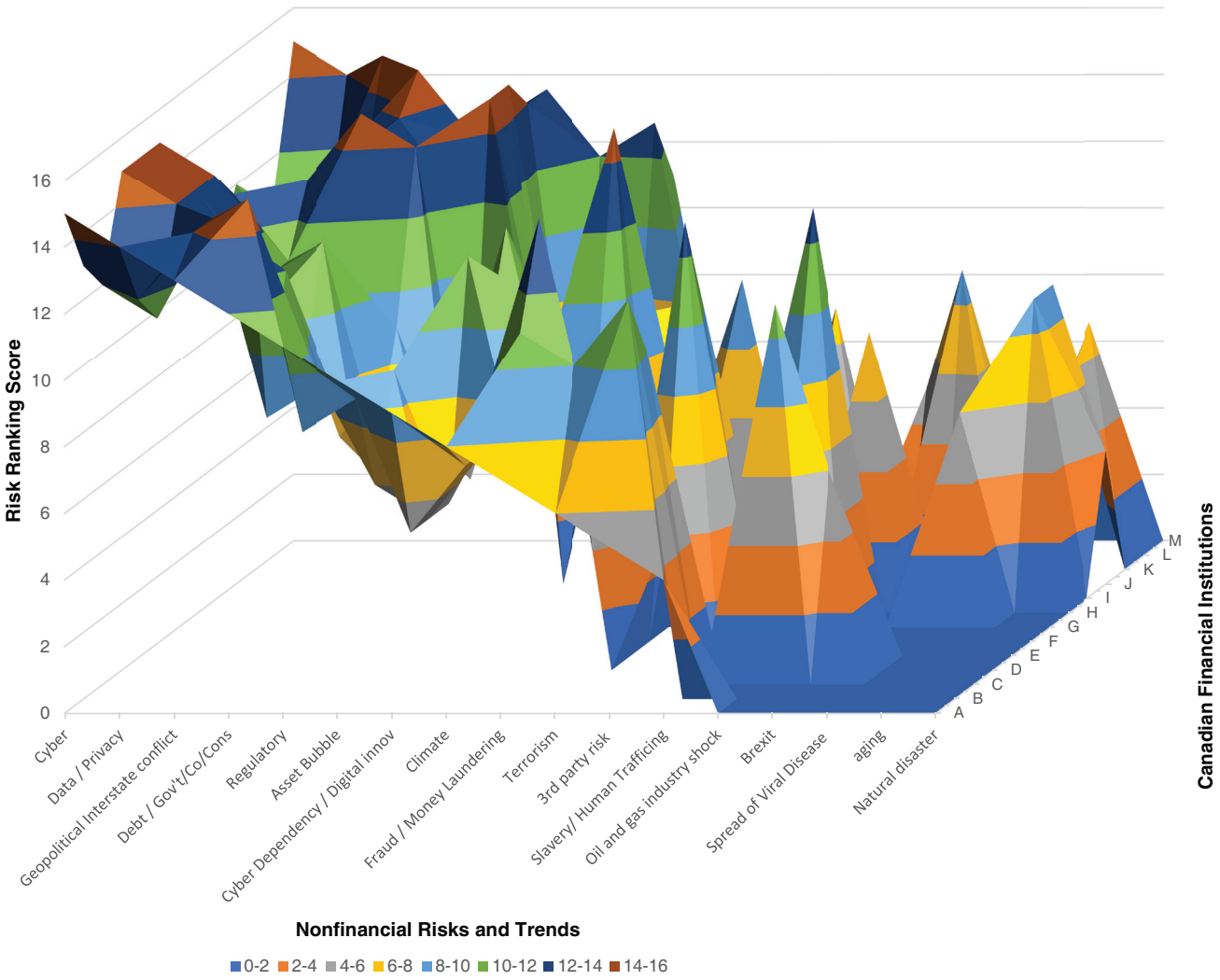

Figure 1: Pre-COVID Nonfinancial risks Prioritises Cyber, Geopolitical, Debt, Asset Bubble and Regulatory Risks

theft as the top-rated risk. Regulatory requirements for cyber-breach reporting also heightened the potential reputational damages caused by cyber breaches.

Geopolitical risk prioritisation was increased as both US and Canadian relations with China hit new lows as Meng Wanzho Huawei's chief financial officer extradition to the United States trial dragged on. This was followed by the timely arrest of the Canadians Michael Kovrig and Michael Spavor in China for espionage. In October of 2019, the United States imposed restrictions on 28 Chinese companies from doing business with American firms and restricted some Chinese officials also.

The risk of consumer debt increased as the ratio of debt/income peaked in 2019 Q2 at 177.54 per cent, exceeding the ratio of US consumer debt prior to the GFC. Sovereign debt globally and in Canada increased in 2019 to net debt/GDP of 34 per cent and gross debt/GDP of 89.7 per cent[8]

FIs that adopted the GRAFT framework for managing global risks and trends (risks have only downsides, while trends have both up and

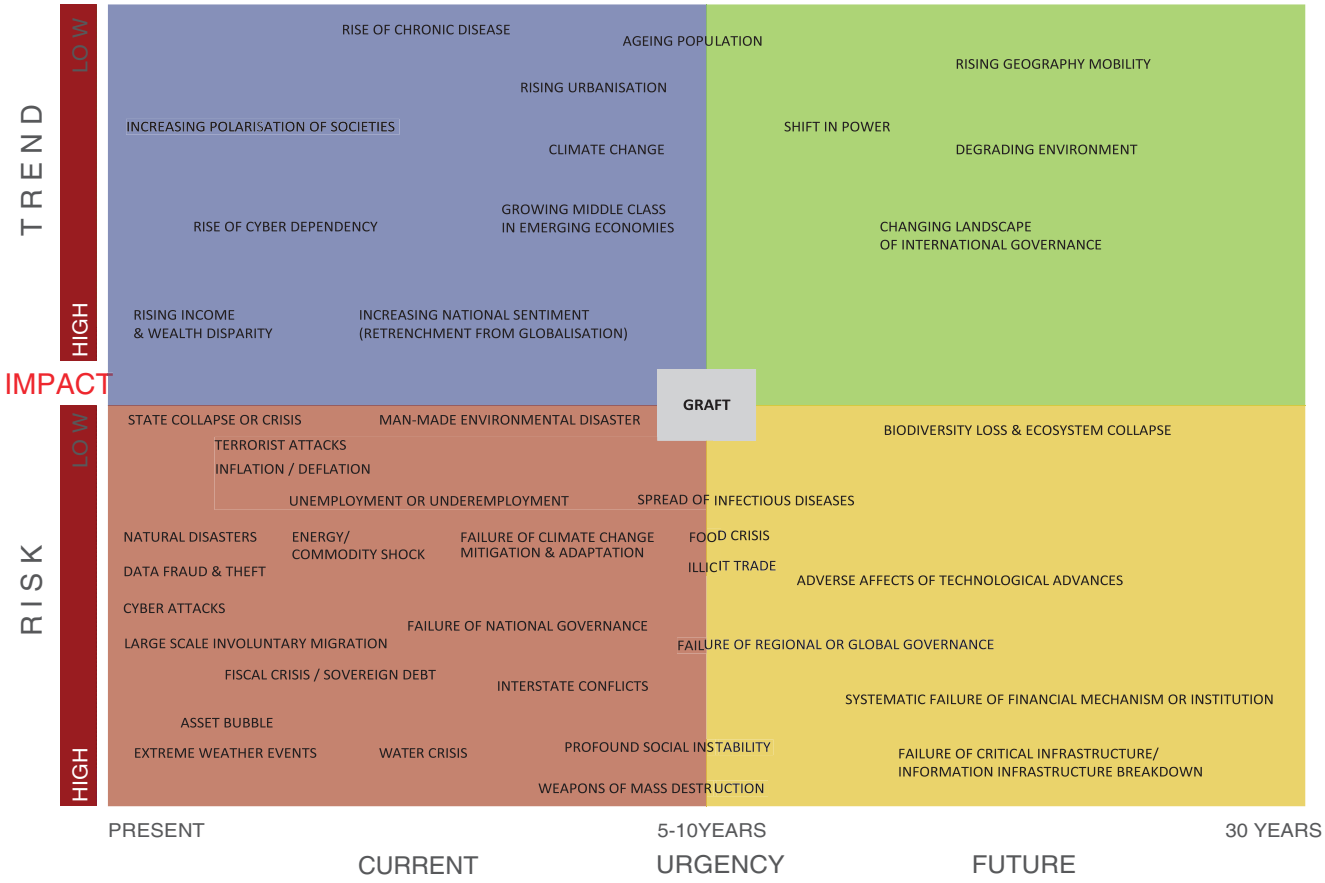

Figure 2: The 2019 Global Risks and Trends Framework matrix illustrates the foundation that was laid before the outbreak of COVID-19[9]

downsides) used the probability of risks and trends over the present to a 30-year time horizon and their impact based upon probability and severity to identify critical risk interrelationships. Figure 2 illustrates the prioritised risks at the end of 2019, and the critical interrelationships. These critical interrelationships between cyber attacks/interstate conflicts/debt crisis/asset bubble/EWEs/income and wealth disparities set the world at the edge of a tipping point at the end of 2019.

POST-COVID-19: PRIMARY AND SECONDARY IMPACTS

The spread of COVID-19 has accelerated the rise of global risks and trends that were already at a tipping point.

- The cost of fighting COVID-19 and its secondary effects have increased sovereign debt levels.
  - The United States estimates US$7 trillion[10] plus a proposal by the 'Grand Old Party' of US$1 trillion vs the House's proposal of US$3 trillion.[11]
  - The EU (European Union) safety net of €540bn[12] establishes an additional €750bn coronavirus fund in addition to individual countries spending.[13]
  - Britain COVID-19 immediate fiscal impulse of £176.7bn.[14]
  - Canada's COVID-19 Parliamentary Budget Office estimates over CAN$350bn.[15]
- Unemployment rates have increased globally by 10–90 per cent varying by age, industry and geography (with the young, women, travel and tourism and emerging countries hit the hardest).

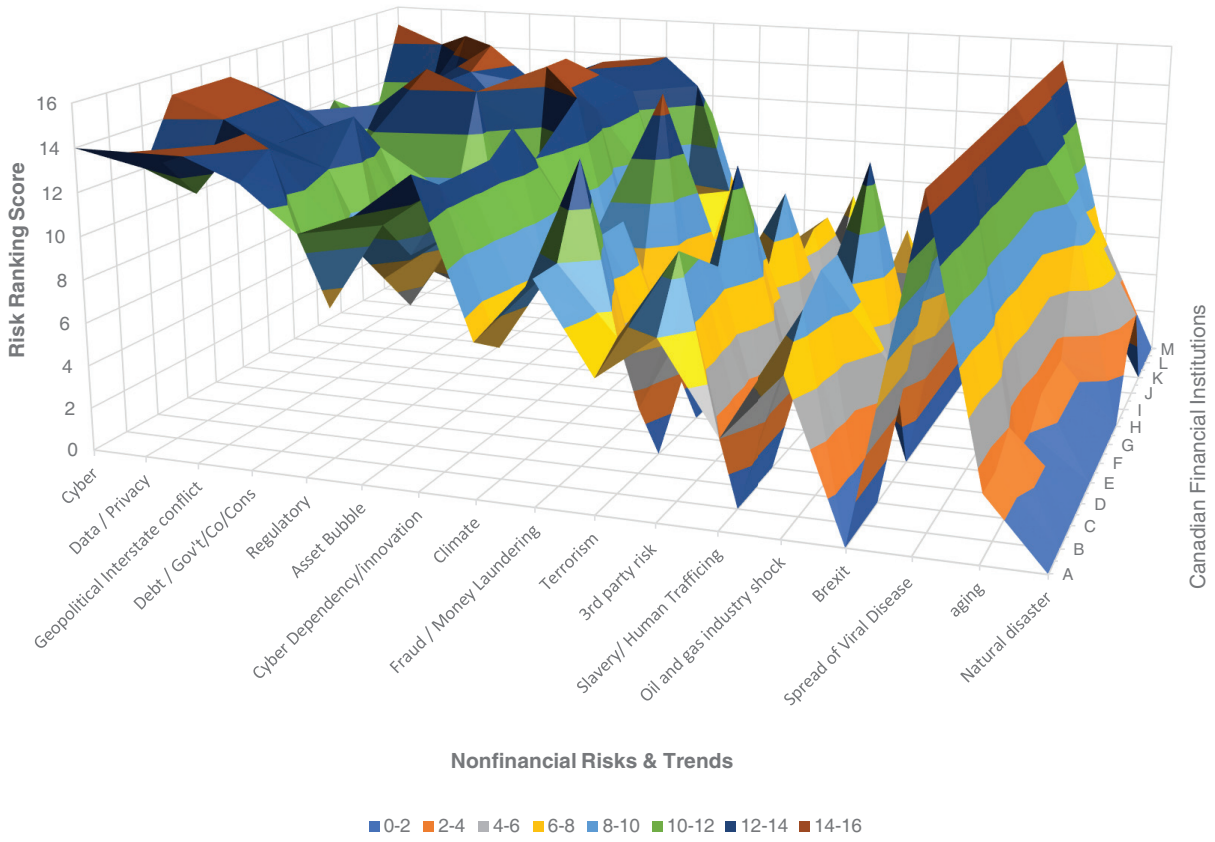

Figure 3: Post COVID: Spread of viral disease prioritised and the threat of other Nonfinancial Risk increased

- Cyber attacks have escalated by up to 667 per cent including phishing attacks and malware attacks,[16] most notably on public sites such as Twitter and both public and private COVID-19 research facilities.
- Interstate conflict has continued to escalate with border closures, economic sanctions, most notably focusing around the four of the Five Eyes banning Huawei equipment from 5G installations, with China considering sanctions to prevent Nokia and Ericsson from sending products it makes in China to other countries.[17]
- Rising nationalism is illustrated by the US$4bn in recent retaliatory European tariffs against the United States for illegal state aid.

The risk of the spread of viral disease before COVID-19 was often not specifically included in Canadian FIs top risk rankings. For all Canadian FIs, the spread of the viral disease has unfortunately jumped to the top of their priority list (Figure 3). In addition, it has increased the threat of already identified risks.

The GRAFT Matrix 2020 in Figure 4 (as compared to Figure 2) illustrates the impact of COVID-19 on other NFRs and trends (NFR&Ts) seen through their movement on the GRAFT matrix to the left and bottom of the chart symbolising increased urgency and impact. The GRAFT matrix illustrates that NFR and trends do not exist in isolation and that when organisations are evaluating the implications and materiality of NFR&Ts they must consider the interrelationship of those NFR&Ts. In this COVID reality, it is also important to remember what you learned in your statistics classes. That during times of 'non-normality', correlations often move towards one or zero. We are living in a 'non-normal' time. NFR&Ts

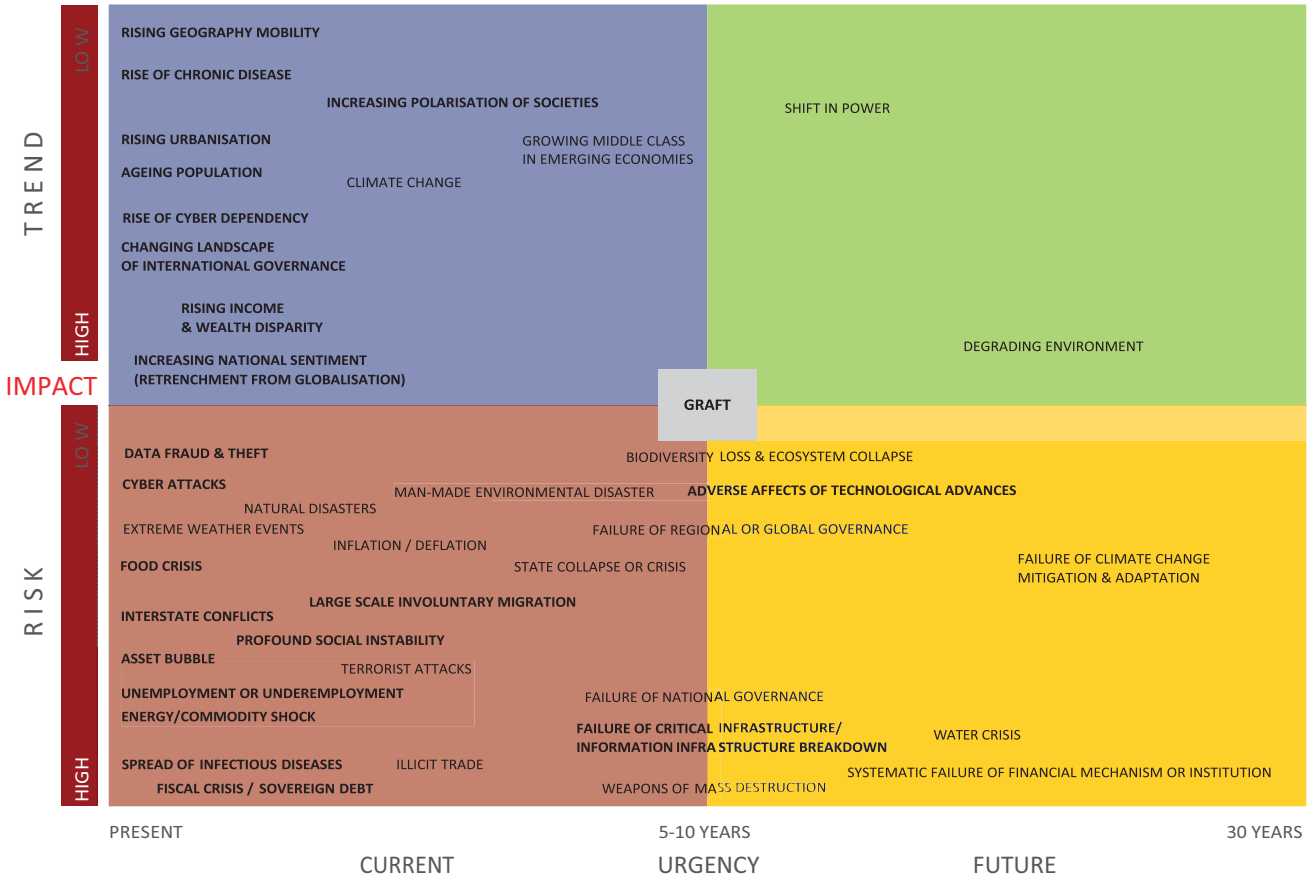

Figure 4: The 2020 Post COVID-19 Global Risks and Trends Framework matrix illustrates the impact of the Spread of Viral Disease on other NFR&Ts

that may traditionally may not have shown a high interrelationship or correlation may now be related.

Example of two NFRs not previously correlated: The risks of 'Spread of Viral Disease' and 'Loss of Biodiversity' are not two risks that you would traditionally link. It is, however, unfortunately illustrated by locusts that are spreading around the world as quickly as the COVID-19 pandemic. In late 2019 and early 2020, East Africa saw growing swarms of locusts. An adult desert locust can munch through its own bodyweight of about 0.07 ounces of vegetation every day. Swarms can swell to 70 billion insects — enough to blanket New York City more than once — and can destroy 300 million pounds of crops in a single day.[18] This additional danger adds to the already heavy plight of poverty, drought, flooding and interstate conflict. COVID-19 had caused a cut in the supply chain of pesticides used to fight the locusts as well as making it more difficult as the threat of spreading the disease has restricted regional cooperation that is needed to fight the further spreading of the insects. The locust's swarms are now spreading to summer breading grounds in India, Pakistan and even as far as southern China.

STAGES OF MANAGING NFR

The COVID-19 crisis has set the stage as the most unbelievable 'scenario' or 'case study'. When people ask me 'How are you doing'?, my most frequent response is: 'Living the dream, because, if I made this up, nobody would believe me'. The COVID-19 pandemic is testing the ability of companies

around the world to manage through a global pandemic. Similar to the GFC where many of Canadian FIs were well prepared and demonstrated best practices in ERM, in 2020, Canadian FIs have been challenged to demonstrate best practices in the management of NFR. The continuum of NFR&Ts management develops over several stages from — Stage 1: not yet focused on NFR&Ts to Stage 6: NFR&Ts quantitatively integrated into strategic planning and ERM. Canadian FIs have been moving through the stages of management of NFR&Ts for top risks, such as cyber, for the past decade and have both qualitatively and quantitatively integrated them into their strategic planning and ERM practices.

The later the stage of development of an FIs ERM, it has been found to positively influence the stage of development in the management of NFR&Ts. Table 1 outlines the stages of maturity for both traditional ERM and NFR&Ts management. Organisations are often at different stages of maturity for credit, market and operational risks. Canadian FIs have benefited from a mature ERM framework, having predominantly entered the pandemic from a position of strength, which included stable and solid operating profits, strong on-balance-sheet liquidity, regulatory capital levels, and credit quality metrics.[19]

Organisations are not just in one place on the continuum or at one stage in the management of NRF&Ts as there are many NFR&Ts (see list of NFR&Ts in Appendix 2). For example, most FIs are in stage 6 (having very advanced risk management) of illicit trade, when it manifests itself in the form of credit card fraud, while at the same time, being in stage 1 (not yet being focused on the particular NFR), such as the risk of loss of biodiversity. For complex trends like cyber dependency that offer both opportunities and risks, organisations are often spread across the stages due to the disparate level of technological development within the organisation. This continuum of cyber dependency is reflected in the stages of technology development from mainframes, minis, networked PCs, cloud computing, artificial intelligence/machine learning and quantum computing. The spread of viral disease (COVID-19) has moved within most organisations from stage 1 to stage 6 of being qualitatively and quantitatively integrated into their strategic planning and ERM framework, at a speed and breadth of impact that has not been seen before.

Figure 5 shows the results of comparing (based upon interviews, investor presentations and comparison of industry reporting, including banks, insurance companies, pension funds and regulators) the management of NFR&Ts at 13 Canadian FIs. Research findings illustrate a gap between NFR&T best practices and the industry average, and a significant gap between best practices and the least mature in the industry. Canadian FIs that demonstrate NFR&T best practices have integrated many of the NFR&Ts into their strategic planning process and their ERM framework. NFR management is, however, still a relatively new discipline where even the most sophisticated FIs are focusing on improving the depth of existing practices and the breadth of the NFR&Ts that are included in their framework.

Canadian FIs with best practice risk-management had already started pre-COVID-19 to prepare and protect their organisations:

- In 2018, best practices Canadian FIs had adopted the GRAFT framework, and through senior management team-strategy workshops identified their existing strategic assumptions, prioritised the NFR by impact and urgency for their FI, identified significant correlations and provided direction for scenario analysis and stress testing, which was then tied back to setting the strategy for the coming year.
- A few best practices Canadian FIs had already identified the spread of viral disease as one of their top ten risks in 2018, based upon their analysis of severe acute respiratory syndrome (SARS), Eboli and the spread of the swine flu throughout the Chinese hog population.

Late in 2019, Canadian FIs started to hear and witness the early stage implications of the COVID-19 in China.

- Early identification (12/2019) of the spread of viral disease (COVID-19) as a risk that should be high in priority or integrated into

Table 1: Stages of development for Traditional enterprise risk management and in the Management of NFR & Trends (NFR&Ts)

Number of Stage	1	2	3	4	5	6
Stage of NFR&Ts management	Some emerging risks or NFR&Ts not a specifically focused on by the organisation	Ad hoc Identification of Emerging or NFR&Ts	Standalone process to identify emerging risks or NFR&Ts	Emerging risks or NFR&Ts integrated into ERM process, Qualitative	Emerging risks or NFR&Ts integrated into ERM process, Quantitative	Emerging risks or NFR&Ts Completely Integrated into Strategic Planning and ERM
ERM framework	Organisation only focused on the business. Risks are addressed if required by regulation, legal or compliance requirement.	Ad hoc address of credit, market and traditional operational risks, such as fraud, and technology operability and security.	Standalone process for the identification of and management of traditional risks.	Well-defined qualitative risk capacity, appetite, limits, KRIs, interrelationship, reporting, communication and culture.	Addition of sophisticated quantitative analysis for traditional risks.	Addition of the interrelationship of traditional risks well integrated into strategic planning.
Nonfinancial Risks and Trends (NFR&T)	NFR&Ts identified and potentially addressed as the result of a loss event. Often the NFR is overlooked or accounted for as part of the loss of a traditional risk.	NFR&Ts identified as a byproduct of the business, risk, audit, compliance or legal procedures. If loss is material, the NFR/T will be separately identifies; if not, it is most often reported as part of the traditional risk losses.	In addition to risk, audit, compliance and legal, a separate NFR&T individual or group is responsible for NFR&Ts or emerging risk identification.	NFR&Ts are identified as part of the qualitative ERM process. Risk capacity, appetite, limits, KRIs, interrelationships, reporting, communication and impact on culture are identified for each NFR&T.	Addition of sophisticated quantitative analysis for NFR&Ts risks.	Addition of the interrelationship of NFR&Ts well integrated into strategic planning.

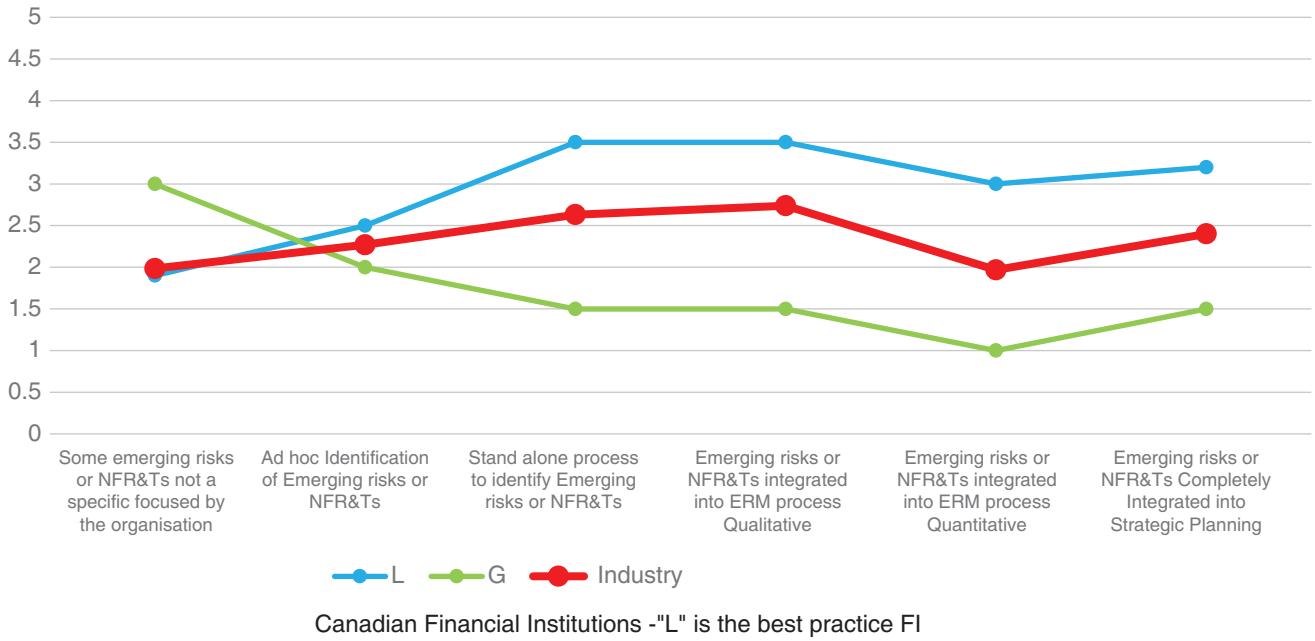

Figure 5: Range of NFR Management Pre-COVID shifting from Qualitative to Quantitative integration into enterprise risk management

the FIs ERM framework both qualitatively and quantitatively was vital. This process was enabled due to the fact that the spread of viral disease was already identified as a risk within the FIs with best practice NFR&T management through the experience of SARS, MERS, Ebola and H1N1. In 2019, analysts were modelling the impact of the Swine Flu that had reduced the hog production in China by 40 to 60 per cent and had impacted the demand for Canadian hog exports.

- The best practices FIs also enhanced their identification of the spread of the COVID-19 with both in-house artificial intelligence/machine learning and third-party capabilities from organisations such as Refinitiv and Datamation. For example, an increase in the number and location of COVID-19-related symptom online searches (12/2019).
- Leading FIs issued two-week work-from-home orders for all employees returning from China (1/2020).
- Leading FIs secured increases in cloud computing demand allocations and increased video conferencing, hardware, software and telecommunications licences. (1/2020), (Local telecommunications report home internet usage is up over 50 per cent).[20]
- They created COVID-19 spread scenarios and stress tests to portfolios and working environments (1–2/2020).

The COVID-19 pandemic and the subsequent focus on the implications of the NFR due to spread of viral disease has signalled the shift of Canadian FIs to later stages of NFR management. The shift demonstrated in Figure 5 and Figure 6 illustrates the advancement in the stages of NFR development of Canadian FIs.

UNITING STRATEGY AND NFR

Best practice of Canadian FIs early on linked the implications of the COVID-19 downturn to a potential asset-driven run and liquidity pressure caused by a rapid draw down of credit facilities and lines of credit. This drove immediate strategy discussions with both governments and regulators to be able to access the capital reserves that had been prudently accumulated for crisis. Through this

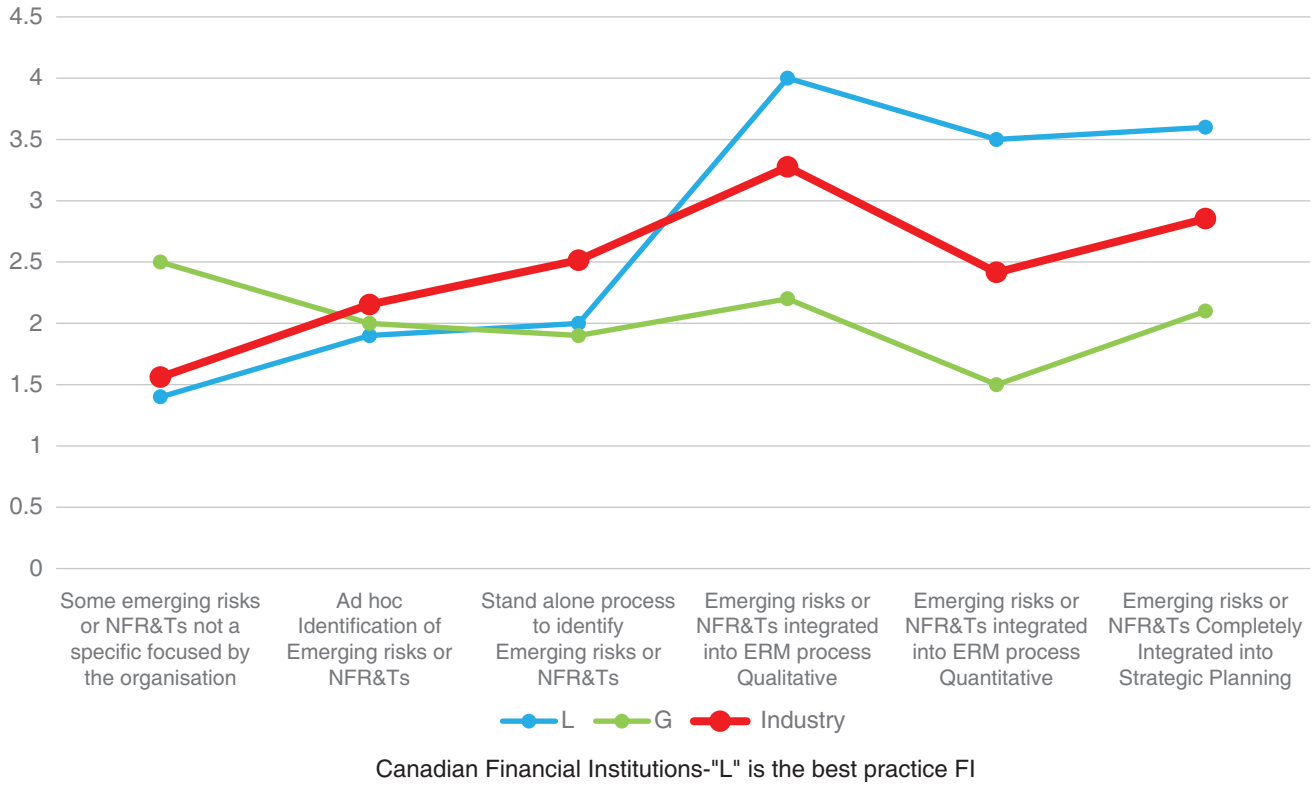

Figure 6: Range of Nonfinancial risk management Post COVID focusing on integrating nonfinancial risk into Strategic Planning
Note: NFR&Ts, nonfinancial risks and trends.

risk-driven strategy, the Canadian FIs worked with OSFI, the Federal Ministry of Finance and the Bank of Canada to implement a reduction of the domestic stability buffer and provide a clear signal that Canadian FIs were working to avoid a tightening of credit levels.[21] This quick collaboration enabled continued trust and confidence in the Canadian banking system.

Canadian FIs have also re-evaluated their underlying assumption about their own business model and the business models of their customers. One of the most significant assumptions for their own business model was a switch to a continued work-from-home model based upon the concentration of the workforce of FIs in Canada's major cities of Toronto, Montreal and Vancouver. This underlying assumption, however, also drives the slow or questionable recovery of the businesses that rely on the financial sector in these cities as well as the implications on the value of large real estate holding in corporate centres. The changes in their assumptions form the bases for both qualitative and quantitative scenario analysis and stress testing including:

- Scenarios on the severity of the spread of the virus in Canada, the United States and globally, and the probability and severity of a second wave
- Resultant impact on the requirement of several work-from-home scenarios
- Identification of the industries that would be most severely impacted by the pandemic
- Quantification of the number of people and the length of time that they would be unemployed
- New estimates of credit provisions based upon new estimates of Probability of Default, Loss Given Default and recovery rates
- New market and liquidity risk scenarios (still ongoing with the gap between the technology-driven market economy and the real economy)

- COVID-19 adjusted cyber security scenarios, models adjusted for increased attack surface due to work from home, and the 600 per cent increase in phishing and malware attacks related to COVID-19
- NFR&T management supported the swift updating and implementation of their Business Continuity Plan (BCP), that was operationalised by the Office of the Superintendent of Financial Institutions (OSFI). BCPs identified and prioritised essential operations that will be impacted by primary and secondary risk factors.

Examples of how Canadian FIs rolled out best practices in NFR management:

- All Canadian FIs had a pandemic preparedness plan. Best practices organisations, however, had muscle memory built into their incidence-response teams through all members knowing who was responsible for what based upon previous experience and practice exercises.
- The ability of best practices FIs to allow employees to work from the home was tested several weekends before going 'live' when the government mandated a state of emergency on 17th March, 2020. Best practice firms differentiate themselves from other FIs by enabling all staff to be able to work during normal business hours vs having to work 24-hour shifts.
- Financial Institutions rolled out federal global policies with national procedures for employees and local instructions to provide financial services digitally or on a socially distanced method in person.
- There was a limited gap between the availability and processing time for the delivery of the Canadian Government emergency benefit programmes (Canadian Government subsidy programmes, CERB — Canadian Emergency Response Benefit for individuals; CEBA Canadian Emergency Business Account for interest free loans; CEWS — Canada Emergency Wage Subsidy for employers, TWS — Temporary Wage Subsidy). Best practices CFIs allowed these benefits to be delivered within two weeks of their announcement.
- There was the ability to implement quickly the FIs' own COVID-19 mortgage deferral programme. One best practice FI was able to approve 'virtually all' of the deferral requests within two weeks of starting the programme. On average, the Canadian Bankers Association (CBA) estimates that Canada's big 6 banks had already deferred 10 per cent of their mortgage portfolio in the first three weeks of the programme.[22]
- There was the ability to maintain secure capital levels, allowing dividend payment to shareholders to continue. Banks still feel that they are well inside of their dividend payout ratios. Currently, earnings would have to fall a further 40 per cent of their already reduced earnings estimates of between 18 and 26 per cent to come close to the danger zone of 90 per cent dividend payout ratio.[23]
- Canadian FIs have been focused on the risks that relying on third-party suppliers bring to the table. Best practice FIs have tiered 1–5 third-party suppliers, with the predominance of the reliance on tier 1 and tier 2 suppliers. This high level of service standards provided by tier 1 and tier 2 providers lowered the requirement to update due diligence reviews to determine the impact of COVID-19 on the providers' ability to continue offering services during the pandemic.

Challenges still existed even at the best practice firms.

- Many FIs thought they had a pandemic plan in place, as mandated by OSFI resiliency mandate. Some FIs were surprised to find out that their pandemic plan was a stress test for a 40 per cent reduction in capacity, demand and net income. It was not a truly operational pandemic plan.
- Roll out of work-from-home was uneven between provinces and business units. It was particularly difficult to implement social distancing in call centres and to transition to work from home quickly. Although this transition was not implemented immediately, most of the call centres were transferred to work from home by the first week of April.
- Top Canadian FIs reported drops in quarter 2, 2019 net income ranging from 1 to 30 per cent. Financial institutions increased their provision for credit losses, by an average of 60 per cent.

At the same time earnings were compressed, by lower interest rates, reductions in fee income decreased market returns, only off-set by decreases in operating expenses due to branch closures or shortened hours.

- The journey is predicted to be a marathon, with FIs' resiliency levels already stretched thin. For example, the BCP has been implemented to have 90 per cent of FI employees work from home. If there were a regional interruption in telecommunications services for work-at-home employees, organisations did not have the option to move these employees back to the office. Resiliency risk is one of the new uncertainties.

Risks of the new reality

The lesson for all organisations is that we are living through the worst pandemic of this century, probably even in history. Like most of us, other NFRs have not taken a vacation either. Stretched resources and supply chains will make it even more difficult to prepare and respond to other post-COVID NFRs.[24]

Risks of the new reality are:

- The risk of interstate conflict is being played out on our screens on a minute-by-minute basis. Embassy and consulates are closing. Because of the further potential spread of the virus, many borders remain closed and travel restrictions influence the resumption of business.
- Cyber attacks and data fraud and theft are increasing in their importance as phishing, malware, ransomware and other cyber attacks continue to grow against the extended work-at-home scenario.
- Profound social instability has been witnessed around the world as the pandemic has shone a light on inequalities with regard to race, poverty and opportunity.
- Rise of nationalism and populism in many countries, including the United States, has fuelled demonstrations triggered by social and economic inequality.
- EWEs continue globally ranging from an early Hurricane season in the United States with nine so far this year, flooding and landslides in Japan, a disastrous monsoon season in India with over 100 killed just by lightning, Florida setting 120-day highest temperature records, Australian wildfires of 2019/20 circling the globe reaching South America 7,500 miles away, lowest ice levels both in the Arctic and the Antarctic and the Siberian heat wave reaching 38°C or over 100°F.[25]

Positive implications of the new reality

- COVID-19 research cooperation — tens of thousands of researchers around the world, from psychology and behavioural science to microbiology and mathematical modelling, have redirected their computers and labs to coronavirus. Resulting in the distribution of several vaccines globally.
- Cyber dependency — The hockey stick up tic in the adoption of e-purchasing/services has accelerated the adoption of online delivery forwards for a projected 5 years in 3 months' time. This adoption provides organisations a window of opportunity to transform delivery of products and services in a way not previously imagined.

The NFR&Ts that were prioritised before COVID-19 have been increased rather than lessened. Now is the time that leaders are required to further integrate strategy and risk management. The leading NFR best practice Canadian FIs are not only addressing the individual NFRs, but also addressing the interrelationships and correlations of those NFRs. This is similar to the development of credit, market and operational risks in silo. The management of NFRs has developed initially in silos. In order to move ahead and address the strategic and operational implications of those NFRs, we must also address these interrelationships between them.

The interrelationship of COVID-19 with other NFRs is illustrated in Figure 7 by the GRAFT COVID-19[26] correlations graphic. Best practice Canadian FIs are just at the start of addressing the implications of these interrelationships and using these interrelationships as the foundation of new scenarios and stress tests.

FIs' strategy to be leaders in their industry requires some focus on digital innovation. Previously, the strategic assumption was that digital innovation was being developed and delivered from

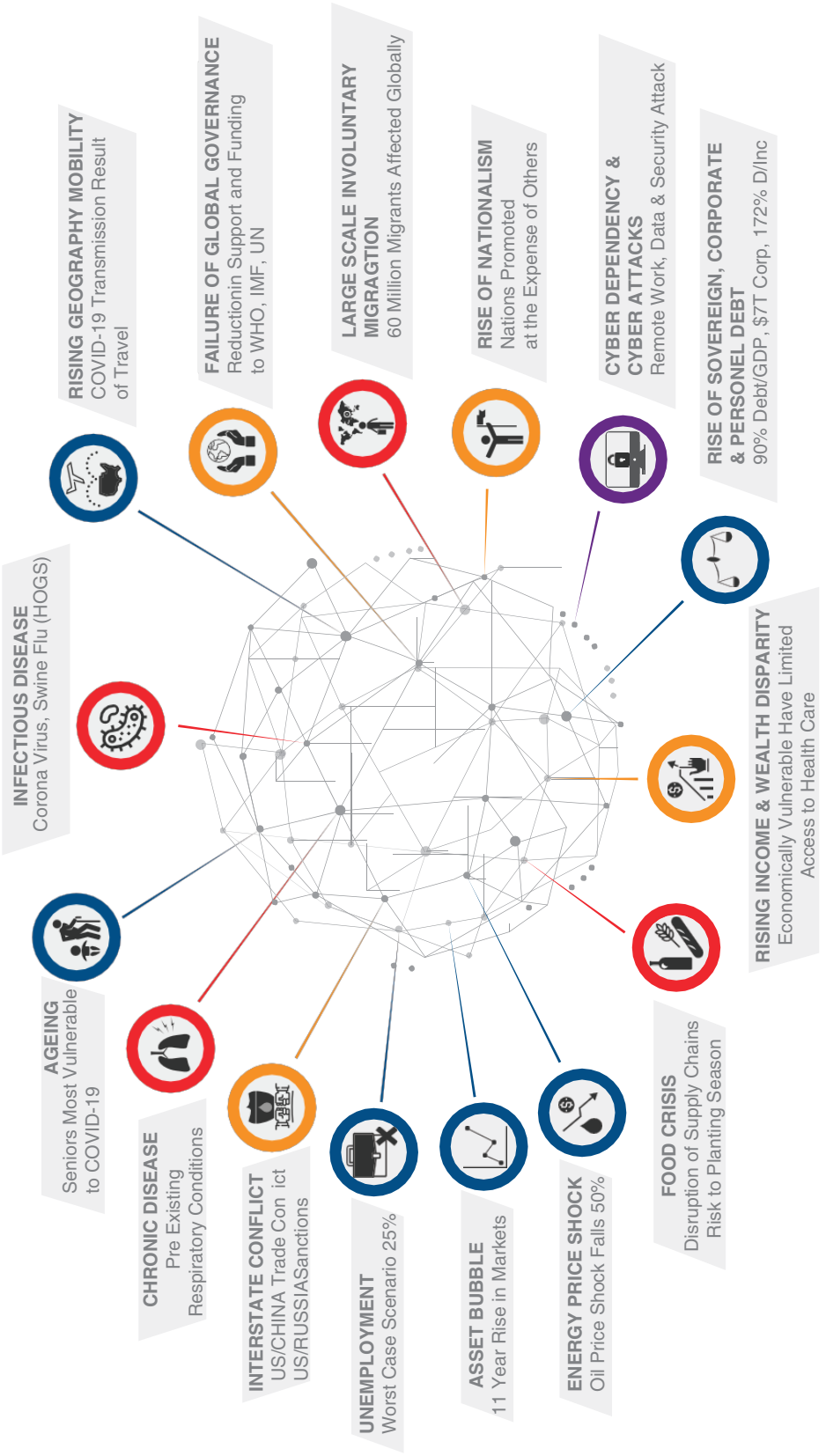

Figure 7: GRAFT COVID-19 Correlation

a central location over a 3- to 5-year time horizon. Triggered by the spread of the viral disease, the requirement for adoption of distributed conception, development and delivery changed over a weekend. FIs had to pivot to ramp up both the technology and the workforce skills required to provide a digital-first customer solution.

Many of the transactional products and services are already being provided in a digital fashion. The challenge for many FIs moving forwards is to address the delivery of 'relationship' products and services. During this time, it is important for organisations to maintain and build on the human capital that existed before the pandemic. Human capital if not maintained through continued interactions will dissipate like a balloon filled with air shrivels over time. FIs require a dual focus on the first line of defence (frontline employees in business units) and data-driven analytics to flag potential shifts in customer behaviour, which may indicate a liquidity or solvency risk, a potential change in their business model or requirement for funds to grow their business. Strengthening the relationship between the first and second lines of defence (the risk management group) against NFRs has never been more important or more difficult.

The way to strengthen this relationship is dependent upon the uniting of strategy and risk management. Risk management is only important to the front/first line if it enables them in achieving their strategic objectives or key performance indicators (KPIs).

ACTIONS FOR THE INDUSTRY

The world is now 'less globalized, more digital, and less equal',[27] organisations must unite strategy with NFR to move past their crisis recovery plans to arrive at a point of limited stability or resilience. The action steps are illustrated in Appendix 1 and outlined as follows:

1) Review the FIs strategy and underlying strategic assumptions to identify how those assumptions have changed and what are the implications for the organisation.
2) Scan for internal and external financial and NFRs and trends to identify top and emerging risks is needed.
3) Rank the identified risks and trends based upon the redefined strategic assumptions and priorities them based upon impact and urgency.
4) Now with new risks and trends prioritised, identify the interrelationships between risks and trends to provide direction to run a scenario analysis, and
5) a stress test.
6) Use the insight provided by the scenario analysis and stress testing as feedback for the qualitative and quantitative analysis required to set a new strategy.

The Best Practice Canadian FIs that have integrated NFRs into their strategy all have had a leader that recognised the importance of NFR. The COVID-19 pandemic is the burning platform for NFRs to influence the direction of future strategy.

CONCLUSION

COVID-19 has triggered the greatest NFR crisis of our times. Best practice FIs will continue to integrate NFR into their business strategy and ERM practices. COVID-19 has cemented NFR management as an essential ingredient for all FIs to navigate successfully in an increasingly uncertain world. Canadian FIs are continuing to lead through NFR best practices to address the uncertainties that lie ahead.

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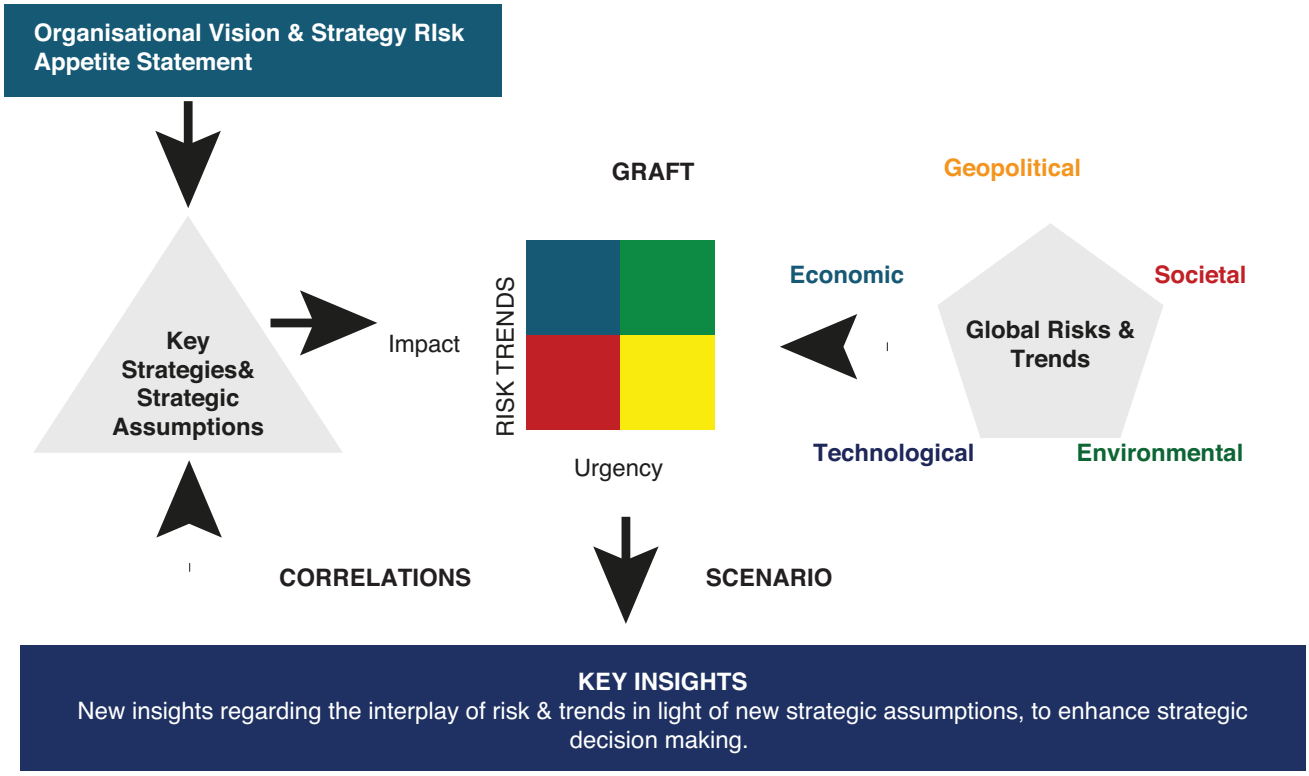
APPENDIX 1
Global Risks and Trends Framework (GRAFT)



APPENDIX 2

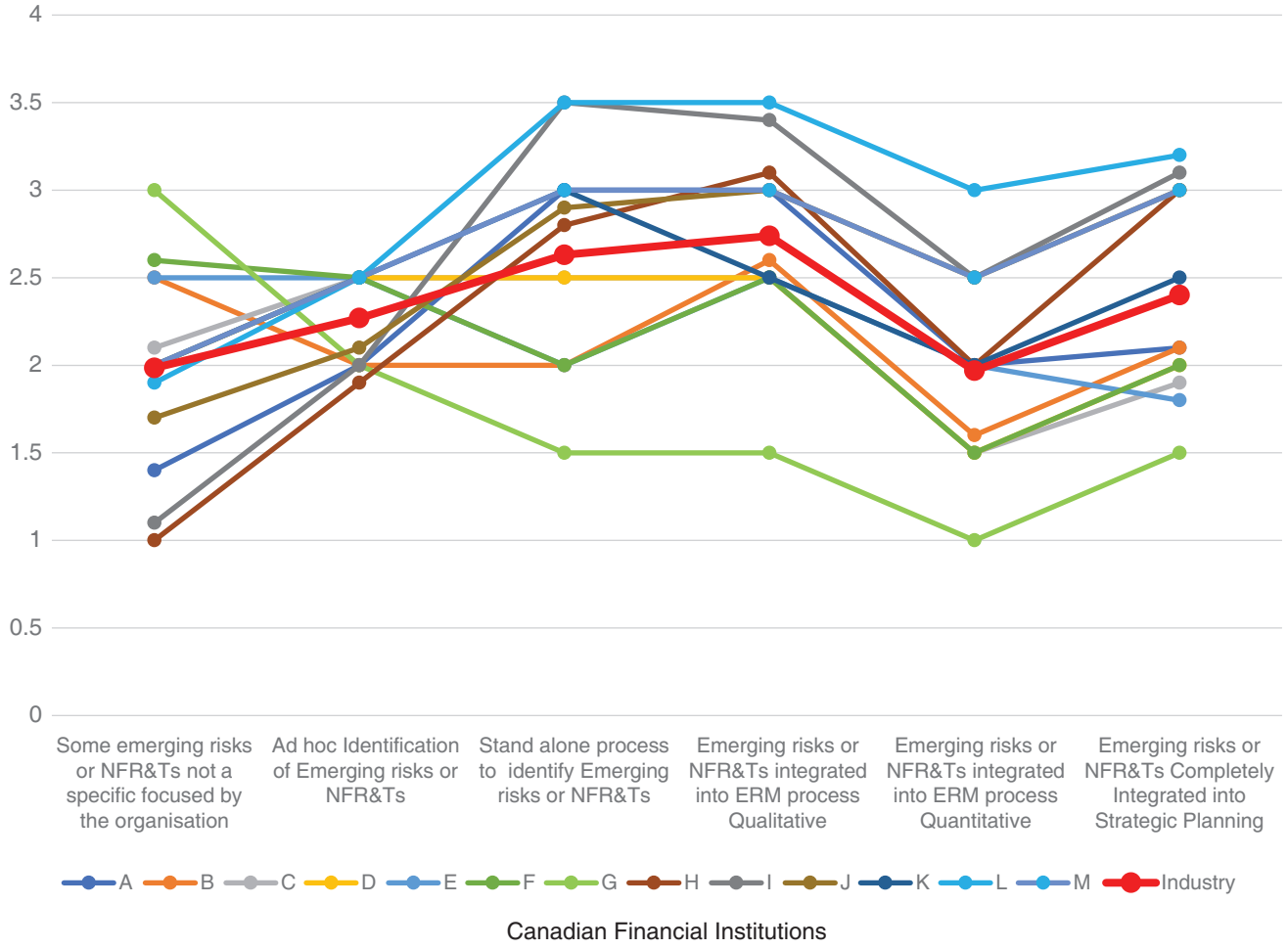
Top Global Risks

1. Spread of Infectious Diseases
2. Fiscal Crisis / Sovereign Debt
3. Interstate Conflict
4. Unemployment / Underemployment
5. Cyber Attacks
6. Asset Bubble
7. Food Crises
8. Extreme weather events
9. Profound Social Instability
10. Energy / Commodity Shock
11. Data Fraud or Theft
12. Natural disasters
13. Biodiversity loss and ecosystem collapse (locust)
14. Illicit Trade
15. Large-scale involuntarymigration
16. Failure of Regional or Global Governance
17. Inflation / Deflation
18. State collapse or Crisis
19. Terrorist Attacks
20. Man-made environmental disasters
21. Weapons of Mass Destruction
22. Failure of national governance
23. Failure of Financial Mechanism or Institution
24. Water Crisis
25. Failure of Critical Infrastructure/Information Infrastructure breakdown
26. Adverse affects of technological advances
27. Failure of climate-change mitigation and adaption

Top Global Trends

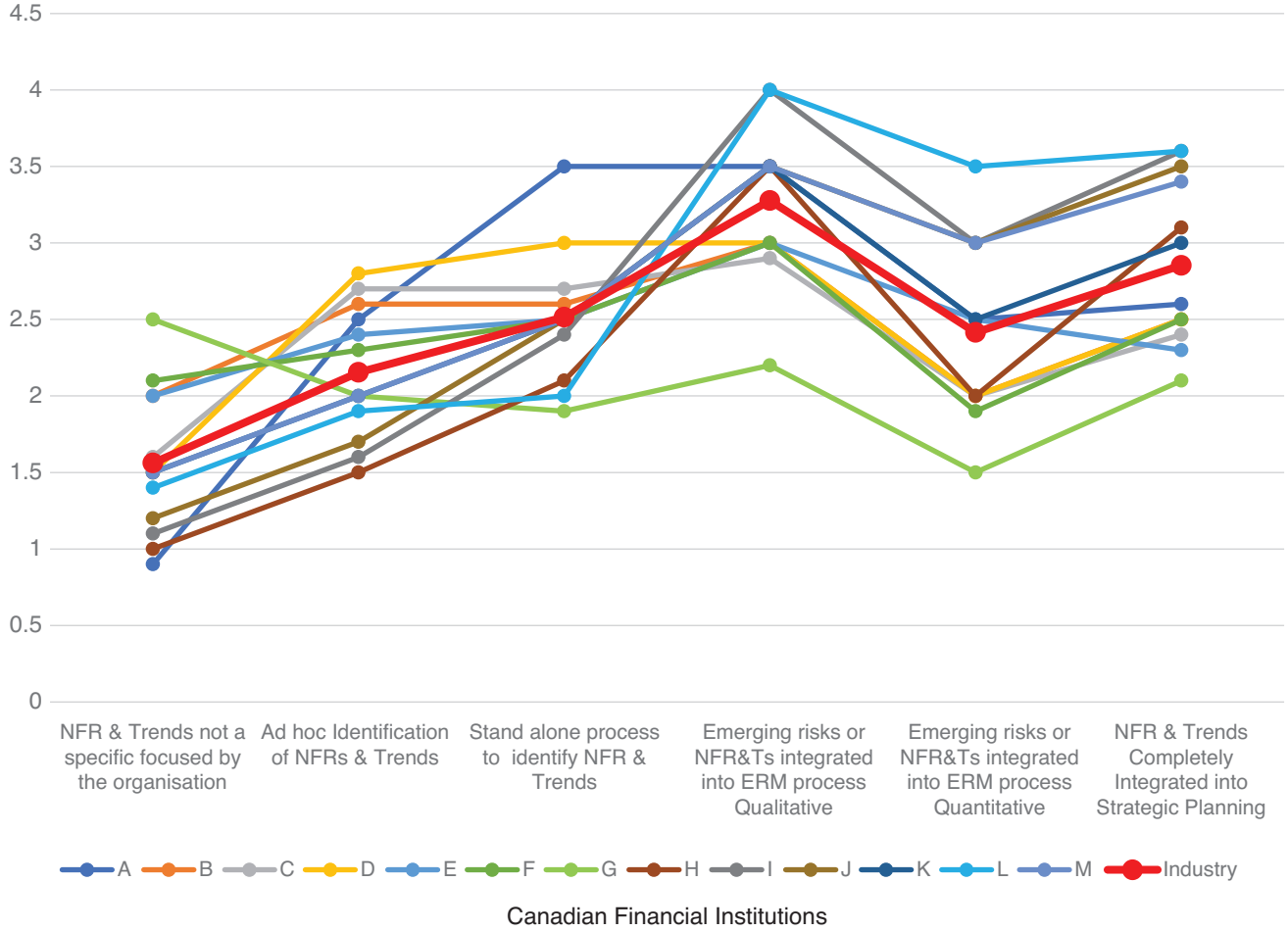
1. Increasing National Sentiments
2. Disparity of Income andWealth
3. Changing landscape of international governance
4. Rise of Cyber Dependency
5. Ageing Population
6. Rising Urbanisation
7. Rising Chronic Disease
8. Rising Geographic Mobility
9. Climate Change
10. Increasing Polarisation of Society
11. Growing middle class in emerging markets
12. Degrading Environment
13. Shift in Power

APPENDIX 3
Stages of Nonfinancial Risk Continuum Pre-COVID-19 for Canadian FIs



Pre-COVID Stages of nonfinancial Management of 13 Canadian Financial institutions
Note: NFR&Ts, nonfinancial risks and trends.

APPENDIX 4
Stages of Nonfinancial Risk Continuum Post-Covid-19



Post-COVID Stages of nonfinancial Management 13 Canadian Financial institutions
Note: NFR&Ts, nonfinancial risks and trends.