



Securities and
Exchange
Commission
PHILIPPINES

FINANCIAL STABILITY COORDINATION COUNCIL

SYSTEMIC RISK CRISIS MANAGEMENT FRAMEWORK

JUNE 2022

Key Action Items (Defining the Foundations) for the Financial Stability Coordination Council (FSCC)

1. Define the general conditions for declaring a crisis as measured by a significant deterioration, already evident or anticipated, in socio-economic parameters.
2. Ensure that the periodic systemic risk analysis considers differences across varied segments of society.
3. Carry out assessments for potential deficiencies in risk management practices, broad-based increase in financial leverage, and changes in financial markets and products.
4. Identify possible gaps in the regulatory regime governing the insolvency of financial institutions through a systematized monitoring and evaluation process.
5. Propose potential legislative action, prudential measures, and regulatory intervention to curtail systemic risks across the financial system, to be reviewed by the Council.
6. Publish regular monitoring reports, in cooperation with various agencies and relevant organizations, on the stability of the financial system, to foster market transparency.
7. Consider existing partnerships that the Government has in place with various bilateral and multilateral institutions.
8. Manage the contagion effects which may be drawn from the experiences of past financial crisis.
9. Design and execute recovery and/or related action plans for the financial system.
10. Constitute a Systemic Risk Crisis Management Team (SR-CMT) composed of the Heads of the FSCC-member agencies. The Heads of the FSCC member-agencies may designate their alternative representative to the SR-CMT for any given crisis.
11. Constitute a Crisis Management Communication Team (Comm Team), composed of representatives from the FSCC-member agencies. At the discretion of the FSCC Chairperson, a Spokesperson, other than the FSCC Chairperson, may be designated from among the members of the Comm Team.
12. Require a Business Continuity Plan (BCP) from each Financial Market Infrastructures (FMI).
 - a. Protocols and procedures should distinguish between BCP events specific to an FMI versus a market-development that requires a collaborative handling via “market-aligned” BCP.
 - b. Ensure that the BCPs of the designated FMIs and PS are aligned with one another and are periodically tested.

13. Undertake pre-emptive market stress tests and simulations to identify possible vulnerabilities. These tests and simulations may draw from the experience of previous crises.
14. Prepare a communication strategy that defines the baseline messages as well as the means for the continuous and strategic conveyance to targeted stakeholders.
15. Partake in 3rd-party communication training initiatives that would support the crafting and conveyance of the approved FSCC messages (from item 6).
16. Create a central hub for all information and materials relevant to the country's state and handling of systemic risk.
17. Scope the systemic risks that arise from cyber security risks, given the current state of preparedness of the financial industry and the policy directions of the authorities.
18. Update any Philippine study on the costs of insuring weather-related damages and its impact on non-life and life insurers.
19. Introduce disclosure requirements and template for climate risk related exposures and initiatives among covered institutions.
20. Arrange with the FSCC member agencies and/or other government agencies for a hub within which the SR-CMT can operate. These include physical logistics, communication lines, and other support requirements. At the discretion of the FSCC, the Public Information Center (PIC) may likewise be situated in the same area as the hub.

Key Action Items by the FSCC Once a Systemic Risk Crisis is Declared

1. The FSCC Chairperson, upon the majority vote of the FSCC Executive Committee, shall formally designate whether or not that there are systemic risks that present a viable potential for escalating into a crisis and, as such, must be addressed purposefully.
2. Convene the SR-CMT and the Comm Team. The "hub" (the command post) and the PIC shall be activated.
3. The Comm Team shall immediately formulate its messages, based on the key issues raised in the SRCM. The Comm team shall provide periodic updates.
4. In consultation with FMIs and PS, the market BCP may be triggered. The protocols for clearing and settlement under the market-wide BCP should be communicated to market participants and the general public.

TABLE OF CONTENTS

LIST OF CHARTS	4
LIST OF TABLES	4
LIST OF ACRONYMS AND ABBREVIATIONS	5
INTRODUCTION	6
1. Coverage and Basic Protocols	7
1.1 Defining a Systemic Risk and a Crisis Due to Systemic Risks	7
1.2 Objective and Role of FSCC Member Agencies	9
1.3 Designation of Crisis Management Team	13
1.4 Designation of Crisis Management Communication Team and Main Spokesperson	13
2. Arrangement During Normal Times	14
2.1 Surveillance and Monitoring Tools	14
2.2 Putting in Place Financial Safety Nets	15
2.3 Market Protocols on Infrastructure	17
2.4 Periodic Macroprudential Stress Tests and Crisis Simulation Exercises	17
2.5 Communication: A Cornerstone for Informed Decisions	19
3. Specific Risks that Can Cause Systemic Dislocations	21
3.1 Managing Against Cyber Events	21
3.2 Managing Climate-Related Risks	25
4. Arrangements During Crisis Times	31
4.1 Escalation and a Declaration that a Crisis Has Been Triggered	32
4.2 Handling the First 48 Hours	33
4.3 Policy Interventions	35
4.4 Assessment and Containment	36
5. Transitions to Post-Crisis Protocols	37
5.1 Winding Down	37
5.2 Lessons Learned	37

List of Charts

- Figure 1 – The FSCC Decision Tree on Managing Systemic Risks and Possible Crises
- Figure 2 – The 4Cs Model
- Figure 3 – The BSP Financial Stability Framework
- Figure 4 – Bank-Conglomerate Network Analysis
- Figure 5 – The Macroprudential Stress Test Framework
- Figure 6 – Holistic Approach to Communicating Financial Stability Policies
- Figure 7 – Climate-Related Economic and Human Loss vs. GDP per Capita (PPP)
- Figure 8 – Costs of Weather-Related Natural Catastrophes
- Figure 9 – Carbon Dioxide Emissions in the Philippines
- Figure 10 – Economic and financial fallout from climate change

List of Tables

- Table 1 – Costliest Philippines Typhoons

List of Acronyms and Abbreviations

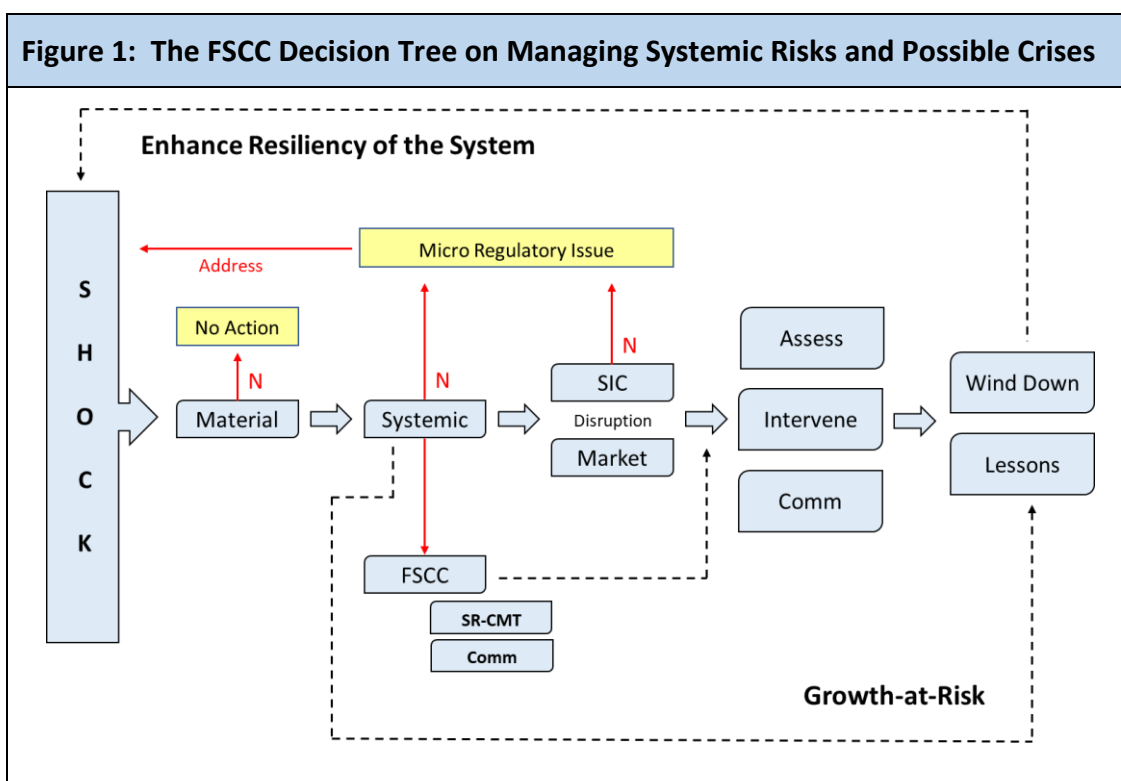
BCP	- Business Continuity Plan
BIS	- Bank for International Settlements
BSP	- Bangko Sentral ng Pilipinas
C&S	- Clearing and Settlement
DOF	- Department of Finance
FI	- Financial Institutions
FMI	- Financial Market Infrastructure
FSN	- Financial Safety Net
FSB	- Financial Stability Board
FSAP	- Financial Sector Assessment Program
FSCC	- Financial Stability Coordination Council
GFC	- Global Financial Crisis
IAIS	- International Association of Insurance Supervisors
IC	- Insurance Commission
ICT	- Information and Communication Technology
IMF	- International Monetary Fund
MaPST	- Macroprudential Stress Test
NFC	- Non-Financial Corporation
OECD	- Organization for Economic Cooperation and Development
OFR	- Office of Financial Research
OSRM	- Office of Systemic Risk Management
PDIC	- Philippine Deposit Insurance Corporation
PIC	- Public Information Center
PIN	- Personal Identification Number
PS	- Payment Systems
SEC	- Securities and Exchange Commission
SIC	- Systemically Important Corporation
SRCM	- Systemic Risk Crisis Management
SR-CMT	- Systemic Risk Crisis Management Team

INTRODUCTION

This framework outlines the coordination and handling by the Financial Stability Coordination Council (FSCC or the Council) of systemic risks that escalate into a crisis. We refer to “Systemic Risks” as it is defined by the joint work of the International Monetary Fund (IMF), the Financial Stability Board (FSB), and the Bank for International Settlements (BIS) in their seminal technical paper (IMF-FSB-BIS, 2009) that has underpinned the global reform agenda since the Global Financial Crisis (GFC). As practiced by the Council, systemic risks are not only those in the financial market. These likewise include shocks from the macroeconomy which can adversely affect financial products and services, which can then instigate a negative feedback loop to the macroeconomy that is already vulnerable from the initial shock.

Our discussion is purposely high-level, focusing on the general issues of concern. We include the general arrangements during non-crisis periods to provide a comparison against stressed market conditions. Teams convened under this framework are expected to craft implementing guidelines, which are to be periodically updated. Furthermore, it should be clear that our focus is on a crisis in the financial system, as prescribed within the ambit of our Macroprudential Policy Strategy Framework. Thus, this framework does not cover recovery and/or resolution arrangements of individual financial institutions.

We adopt the earlier work of Singh and LaBrosse (OECD, 2012) and refine their framework to generate the following decision tree. It does not require a shock to be the catalyst, since the Council can learn from its ongoing assessments, interventions, and communication efforts to enhance the resiliency of the financial system. This is the intermediate objective that should ultimately translate to the improvement of the welfare of current and future generations.



1. Coverage and Basic Protocols

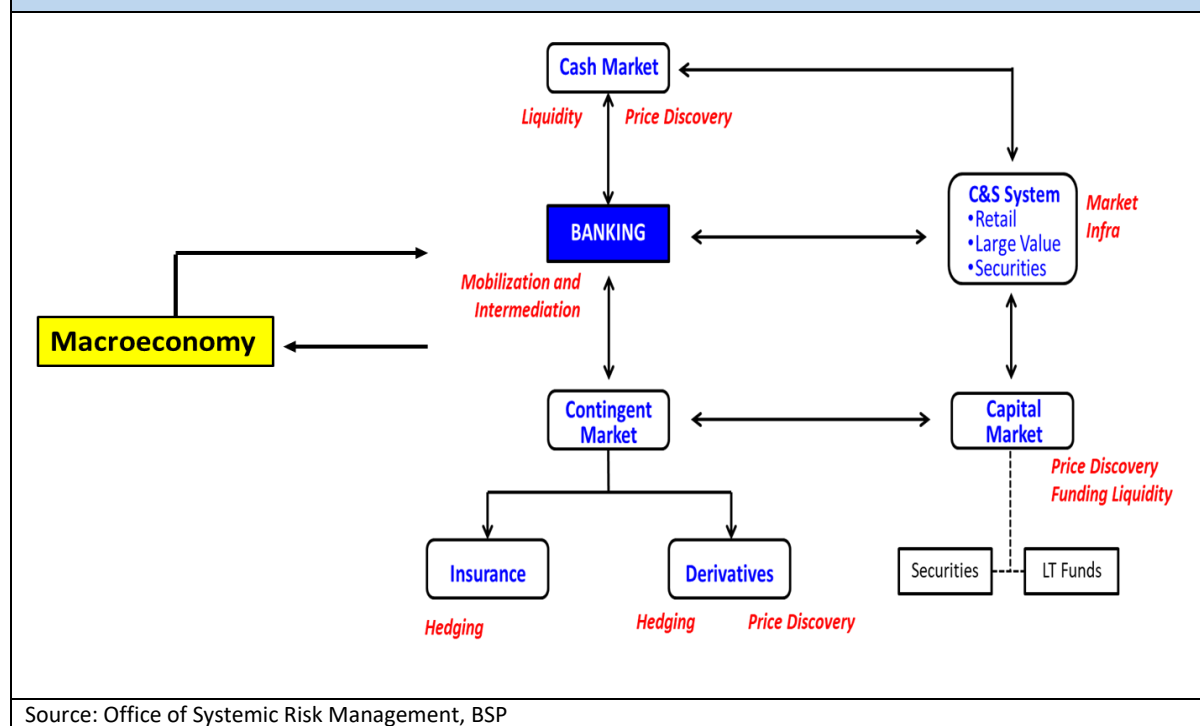
1.1 Defining a Systemic Risk and a Crisis Due to Systemic Risks

- a. The occurrence of the GFC, after the pronounced period of relative tranquility referred to as the Great Moderation, caused a fundamental re-thinking among financial market authorities. The causes and the eventual transmission of the shocks were, at that point, unprecedented and unexpected. Since the GFC, the reform of the financial market architecture – its market oversight, the risks of concern, and the governance of risk behaviors – has been premised on mitigating systemic risks. This defines the policy objective referred to as Financial Stability.
- b. A challenge of this agenda is that “systemic risk” is not uniquely defined, both in the academic literature and as practiced by the authorities.¹ To fill this gap, the FSB-IMF-BIS (2009) introduced language that is generally the benchmark today. To provide guidance for determining the systemic importance of markets, institutions, or instruments, the three multilateral agencies define systemic risk as:

“the disruption to the flow of financial services that is (i) caused by an impairment of all or parts of the financial system; and (ii) has the potential to have serious negative consequences for the real economy.”

- c. This definition clearly makes the effect on the economy as the ultimate barometer, without which a disruption would not qualify as “systemic”. Taken from a different standpoint, it is not the magnitude of the initial shock, but rather how the shock can potentially amplify to affect different elements of the broader economy. While the focus is on the financial market, this includes (i.e., exogenous) shocks to the system as well as those created by the financial system itself (i.e., endogenous). This focus on endogenous shocks is a recent concern. It helps clarify the point that the health of individual financial institutions remains the purview of the micro-prudential regulator. As defined, these institutions only become a macroprudential policy issue if they manifest “negative externalities” i.e., their behaviors have a significant impact on the system.
- d. It is important to reiterate that the FSCC recognizes the critical link between the real economy and the financial system, as well as the intricate relationships within the financial system. To provide clarity, the FSCC expresses these linkages through the following schematic:

¹ See Bisias *et al* (January 2012) and BIS (May 2011).

Figure 2: The 4Cs Model

- e. Items “c” and “d” explain why this SRCM framework does not include the rehabilitation and/or resolution of individual financial institutions. Where such institutions are deemed as “systemically important”, this framework takes their handling synonymously to markets and instruments which are also taken as “systemically-important”. This understanding, that judgement is needed to determine the impact on society, plays an integral role in handling systemic risks and of crises.
- f. Taking this further, the FSCC argues that a “crisis” has arisen or about to arise if the disruptions caused by the systemic risks are expected to have significant socio-economic effects, in whole or in parts of society. In effect, if the “state of stability” is likely to be materially affected, then this set of conditions can be described as nurturing a crisis. This requires a threshold of materiality that the FSCC shall define as part of the implementing guidelines of this framework.
- g. Schinasi (2004) shows, however, that the “state of stability” is not absolute. It can change quickly with evolving market conditions (i.e., state dependent) or through the manner that the vulnerabilities are transmitted through society (i.e., path dependent). More importantly, the same set of conditions need not be assessed to be equivalent in terms of the prevailing state of stability.

- h. In executing the above principles, the FSCC is guided by the understanding that the financial market is formally a “complex system”.² This emphasizes the point that the effects of a shock will differ across different constituents. In addressing the crisis then, the FSCC is cognizant that societal welfare is best understood as the range of likely effects on different segments of society, rather than aggregating the gains and losses.

1.2 Objective and Role of FSCC Member Agencies

- a. This Framework reflects the protocols and procedures agreed upon by the member agencies of the FSCC for handling the occurrence of systemic risk. What is envisaged by this Framework is a situation where the disruptions from the systemic risks have become evident to the public or there is a reasonable expectation of material deterioration, both of which can lead to the possibility of surprise and panic.
- b. The FSCC should take direct jurisdiction when the consequences are principally macro-financial in nature. The FSCC shall then stem further deterioration with concrete and timely interventions, including a communications campaign that periodically discloses but not alarms the public.
- c. It should be stated clearly and categorically that the objective is not to prevent the closure of a financial institution, particularly a bank. Part of a well-functioning market is the acceptance that some institutions could not serve the public interest and may fail as an institution. The task of this SRCM is to instill a framework for the oversight of the entire financial system, cognizant of the interlinkages between stakeholders, and having in place an organized mechanism for handling systemic crises. The rehabilitation and resolution of individual financial institutions – except where they are themselves important to the welfare of the system – remains the purview of their respective regulatory authority.
- d. In the context of mitigating systemic risks, and thus in managing a crisis situation, each of the FSCC member agencies have a role. Specifically:
 - 1. **Bangko Sentral ng Pilipinas (BSP)** – Central bank policy decisions can affect the price and availability of short-term funding liquidity. As the regulator of banks, its prudential regulations can affect the deployment of liquidity, the creation of leverage, and manage the possible externalities from “systemically-important banks”. As the

² All systems reflect the relationship among its elements but it is categorized as “complex” if, among others, one observes a strong degree of interconnectedness among the elements, if there are feedback loops, if small changes can generate much larger outcomes, if said outcomes are very sensitive to small changes in initial conditions, if “tail events” occur more often than anticipated, and if the outcomes of the system are not the simple sum of the outcomes of the individual elements.

authority on payments, the ability of the system to redistribute purchasing power and/or settle obligations rests with the market infrastructure meeting prudential standards. As the agency that is mandated to promote financial stability, it takes on the *primus inter pares* role in providing the FSCC with sound technical analytics. In a systemic risk crisis, managing contagion, concentration, leverage and liquidity (in the system and its channels of risk, including the payments systems) are key to reducing the panic premium and achieving the new state of stability.

2. **Department of Finance (DOF)** – As the fiscal authority, DOF actions will have a direct bearing on the capital market (i.e., the issuance and management of government securities), on the private sector (i.e., via tax/tariff policies and other GOCCs), and on the economy (through the administration of fiscal policies, the management of all public debt, the supervision of the revenue operations of LGUs, and the provision of credit guarantees). The Secretary of Finance is likewise the head of the Economic Development cluster in the Executive Branch. All these perspectives come to bear in normal and stressed market conditions, since restoring a state of stability involves the prudent use of taxpayers' money and the calibration of several, if not all, of the facets.
3. **Securities and Exchange Commission (SEC)** – The SEC exercises supervision over the corporate sector, and the capital market (its participants and instruments), and as such, directly is engaged with the investing public. In normal periods, the frontier of sustained growth is affected by the availability of longer-term finance (for borrowers and savers). As market expectations change under stressed conditions, the fixed-income and equity markets – their governance and the risk premiums they reflect -- play an important role in mitigating the shorter-term panic premium. Protecting the investing public is always at a premium, if the country is to sustain the migration from saving to investing.
4. **Insurance Commission (IC)** – The insurance sector provides risk coverage as well as investment opportunities to policyholders. Yet, the industry has always been relatively modest in size, both here and abroad. The global standard-setting body (IAIS) has recently issued its “Holistic Framework”, reinforcing the need to include a macroprudential policy lens in the monitoring of its firms, their collective exposure, their integration with other segments of the market, and in recognition of the time-sensitive nature of actuarial risks. In more normal market conditions, this new IAIS standard

requires the industry to assess emerging risks (section 3) and to address data gaps to better assess systemic risks. Under stressed conditions, liquidity (via increased claims), solvency (via investment risks), and a recalibration of actuarial estimates are needed. These reinforce the symbiotic relationships within the financial market, underscoring that the insurance sector is important for systemic risk analysis as it is the counterparty to banks and long-term instrument issuers/providers.

5. **Philippine Deposit Insurance Corporation (PDIC)** – It may look as if the function of the PDIC – as insurer, regulator, receiver – is strictly that of a Financial Safety Net (FSN) for protecting the public interest. However, there are studies³ that show how deposit insurance has different risk behavior effects in “good” times (i.e., moral hazard effect) versus “bad” times (i.e., stabilization effect). The design of the incentive structure then matters vis-à-vis market conditions, suggesting that systemic risk must be factored into the pricing of the insurance premium that banks pay. Yet, ensuring the resilience of the financial system is a separate policy – because of externalities and interlinkages – from insuring a bank’s depositors.⁴ Thus, systemic risk for the deposit insurer requires an assessment of the underlying externalities in the banking industry, whose results can change between normal versus stressed market conditions. This should be complementary to but separate from its microregulatory responsibilities as receiver.
- e. The preceding paragraph is meant to clarify how each agency’s mandate is consistent with the handling of a systemic risk occurrence with respect to the FSCC’s dealing with the general public. However, it is understood that handling the systemic risk and supporting the public remains a collective effort, for which the FSCC is uniquely positioned.
 - f. In support of this point, and to highlight the unique challenge that crisis management bears upon various financial authorities, we quote from the Singh and LaBrosse (OECD, 2012), which undertook its seminal study on crisis management frameworks in response to the Global Financial Crisis (GFC). Their report states:

“... the FSN players all have mandates and roles, and benefits can be achieved through the creation of a financial stability committee (FSC): it would bring those discrete roles together

³ See Anginer, Demircuc-Kunt, and Zhu (August, 2013)

⁴ See Acharya, Santos, and Yorulmazer (FRBNY, August 2010), Acharya (VoxEU, September, 2009)

so that if a change in supervision needs to take place it can be initiated from a broader vantage point. If certain stress points are detected, it would be a good platform to direct change or hold those responsible for regulation and supervision to account. The stress points in the financial markets were certainly discussed in the financial stability reports, but how the information trickled down into day-to-day regulation and supervision is not so clear. The FSC therefore needs to have a surveillance role linking macro-oversight with micro-regulation, distinguishing it from any regulatory or supervisory role. One thing which does seem inevitable with the introduction of the new generation of financial stability oversight is the 'conversation' about financial stability could flow into a range of financial and economic policy affairs. The FSC will need to have a mandate to act and initiate actions to prevent a financial and economic system overheating. This will obviously pose considerable political tensions, but as we have seen the risk to financial stability can arise from a variety of sources and bank and non-bank institutions, and the following of certain social and economic policy objectives. Nor is it likely that the FSC will extend or be allowed to extend its reach beyond concerns about the financial system, hence the political expectations will not mirror the actual reality."

"Another facet to the discussion is how to bring the key themes of the crisis together. The perimeter of the macro-prudential and micro-prudential dialogue highlights the complexity of the causes of a financial crisis and the difficulty of trying to build them into a coherent decision-making process. The move to a separate oversight body is certainly a useful one to try and should be given appropriate attention. However, the powers and responsibilities it will have need further reflection. One issue that needs to be addressed is with whom the ultimate responsibility for crisis management should reside. It is suggested that the new generation of financial stability committees should have the responsibility in order to improve the level of independence of decision-making and quite possibly the speed with which decisions can be made. Had policy-makers better understood the roles and responsibilities of the agencies within and outside the FSN and had they adopted a better decision-making process, then perhaps the crisis might have turned out just a bit different this time."

1.3 Designation of Crisis Management Team

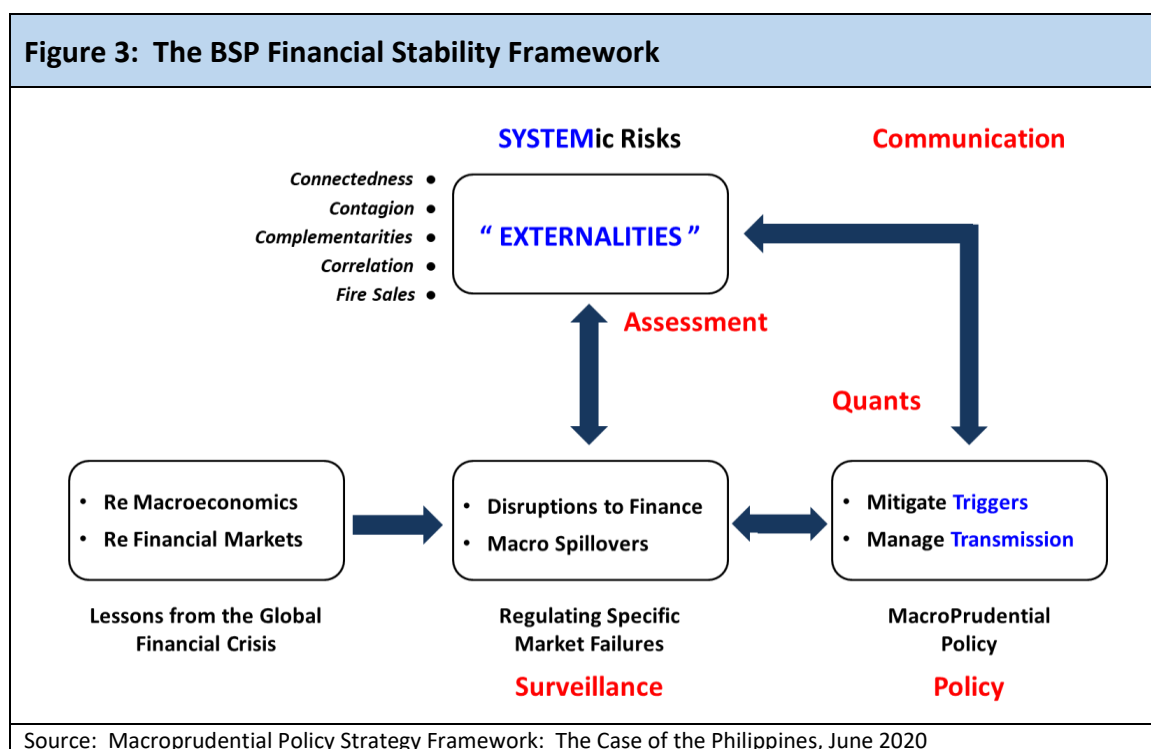
- a. The FSCC Executive Committee (ExeComm) shall constitute a Systemic Risk Crisis Management Team (SR-CMT). It shall be composed of the Heads of the FSCC-member agencies.
- b. The Heads of the FSCC member agencies may designate their alternate representative to the SR-CMT for any given crisis. If the representative of the FSCC-member agency in the SR-CMT is not the Head of Agency of said institution, the designated representative is expected to be duly authorized to make decisions that can affect and commit the agency. This is necessary, particularly at the initial stages of a crisis, when quick and decisive actions are warranted.
- c. To ensure consistency, those designated are expected to fully understand the Macroprudential Policy Strategy framework, this SRCM framework, as well as the role of each agency within these frameworks. This necessitates then that the frameworks alluded must be actively updated to ensure viability.

1.4 Designation of Crisis Management Communication Team and Main Spokesperson

- a. A Crisis Management Communication Team (Comm Team), made up of representatives from the FSCC member agencies, shall likewise be convened by the ExeComm. The Comm Team shall be the central point of contact with the media. As such, it must formulate the strategy and messages that will be conveyed, guided by the principle that stakeholders can make well-informed decisions only if they have been provided all information relevant to their choices.
- b. A Spokesperson shall be designated from among the members of the Comm Team. The ExeComm shall designate a Spokesperson, ideally from among the Comm Team members but without prejudice to the right of the ExeComm to designate any other person to this position. The Spokesperson is the duly authorized official who can speak on behalf of the FSCC. At the discretion of the FSCC Chairperson, the Chairperson may directly engage the media.

2. Arrangements During Normal Times

This section briefly discusses the technical framework used in monitoring the markets. It draws heavily from the Macroprudential Policy Strategy framework and premised on the following schematic:



2.1 Surveillance and Monitoring Tools

- An effective crisis management framework pre-emptively identifies and mitigates systemic risks before its adverse effects can materialize and spread. This requires active surveillance and continuous monitoring of changing risk premiums and how agents accordingly adapt their risk-taking behavior.
 - Periodic Analysis.** The FSCC Technical Secretariat shall provide the FSCC Executive Committee with a periodic assessment of the state of stability. In said assessments, the Technical Secretariat shall recommend appropriate interventions that would address identified systemic risks. Furthermore, the Technical Secretariat shall recommend a basis for why and when a systemic risk crisis may be called.
 - Monitoring trigger mechanisms.** Systemic risk analysis relies on several indicators to assess the shifting balance of risks and what it means for the state of stability. Among the models currently used by the FSCC,

Network models are particularly useful for crisis management. We complement this with models that analyze risks over time, particularly those that get reflected through the business and financial cycles.

3. **Transmission Channels and Monitoring of Systemic Institutions.** We view the financial market as a network of interlinked agents and decisions. The “systemic-ness” of risks emanates from the interlinkages within this network, allowing for financial fragility and the financial accelerator principle.⁵ Managing the spillovers requires an understanding of how the network is structured and connected.

- b. This does not overlook the possibility that some shocks may materialize without apparent early signals. In such cases, the FSCC may not be properly informed with historical data and trends. Section 4 of this Framework provides guidance for this handling.

2.2 Putting in Place Financial Safety Nets (FSNs)

- a. Ensuring stability does not only address instabilities as they arise, but more generally focuses on sustaining the added value of financial markets. It does this by increasing its resilience so that the flow of financial services is not disrupted when shocks arise, and, when these do arise, that the system is better able to handle them.
- b. Present practice has financial authorities typically providing FSNs. This reflects the fact that today’s financial transactions involve an expected counter action in the future, but these future events are subject to uncertainties and risks. These FSNs are meant to address vulnerabilities that arise because of our inherent limitation to perfectly anticipate the future, and thus mitigate the escalation of such occurrences from becoming the crux of a crisis.
- c. In the domestic market, these FSNs take the form of:
 1. Deposit insurance – to protect the interests of depositors, banks pay a national authority to insure deposits. To prevent the problem of moral hazard⁶, however, the insured amount is only up to a fixed maximum amount, thus effectively requiring the depositors to

⁵ Financial fragility refers to the phenomenon what small shocks can cause disproportionately large effects on the financial system. The classic references are *Lagunoff and Schreft (2001)* and *Allen and Gale (2004)*. *The financial accelerator principle, on the other hand, talks of shocks to the macroeconomy that worsen because the financial market is affected, causing further pressures to the real economy. The seminal paper would be Bernanke, Gertler, and Gilchrist (1996).*

⁶ The cover that the benefit provides comes at the “hazard” that the covered institution may not properly manage risks (as they would otherwise do) because they know that there is protection in place that provides the benefit. To the extent that the banks pay for, in this case, the deposit insurance but its costs may be much less than the possible payout of the risky use of the deposit funds, then moral hazard is present.

exercise their own due diligence in the handling of their savings in their chosen banks beyond the fixed maximum amount.

2. Lender of Last Resort – the central bank provides liquidity to a bank that is unable to do so privately in the interbank market. From the point of view of the authority, smoothening liquidity difficulties at the bank level is to prevent panic and contagion to the broader system. To guard against moral hazard, this facility is provided at a cost to the borrowing bank.
 3. Prudential regulation – the role of regulation is premised on the limited information that depositors have on the use of their savings by a 3rd-party (i.e., the bank). Oversight of these 3rd-parties provide a safety net for the interests of depositors while providing an organized framework within which only “viable” entities should be allowed to operate and engage with the public.
 4. Resolution mechanisms – when prior interventions have not been successful and a financial institution has been deemed non-viable, resolution provides for orderly liquidation.
- d. These FSNs, however, course their intended benefits through institutions, specifically banks, rather than directly focus on the welfare of the system. One can see that the preceding FSNs are designed to prevent the escalation of bank-level issues, but the need for any of the four does not automatically mean the existence of systemic risks in a complex system, as defined.
- e. The above suggests separate, but complementary, roles for managing crises at either the financial institution level or the financial system itself. To make the link from the former to systemic risks, one must consider the extent to which the failure of a bank will have on the rest of the financial system and the broader economy. This is the focus of section 2.3 below.
- f. The systemic risks discussed thus far should also consider macroeconomic shocks for which FSNs have also been formulated. For example, building on a sufficient level of international reserves is seen as “self-insurance” against foreign exchange risks. Regional and bilateral liquidity risks are mitigated through pre-arranged swap lines, among others. While funding risks at the global level can be assuaged through the intervention of multilateral agencies.
- g. To the extent that systemic risks is concerned about the transmission between the macroeconomy and the financial markets, it is necessary then that we provide, in principle, for FSNs across all other elements. This should cover payment systems – whose failure in a relatively small archipelagic economy

would necessarily be significant – as well as the markets for cash, capital, and contingent claims. It should also provide for the needs of the general public through consumer protection regulations, and other auxiliary means.

- h. These are very broadly covered in this SRCM. However, we expect a fuller discussion and more targeted FSNs as this framework develops through time.

2.3 Market Protocols on Infrastructure

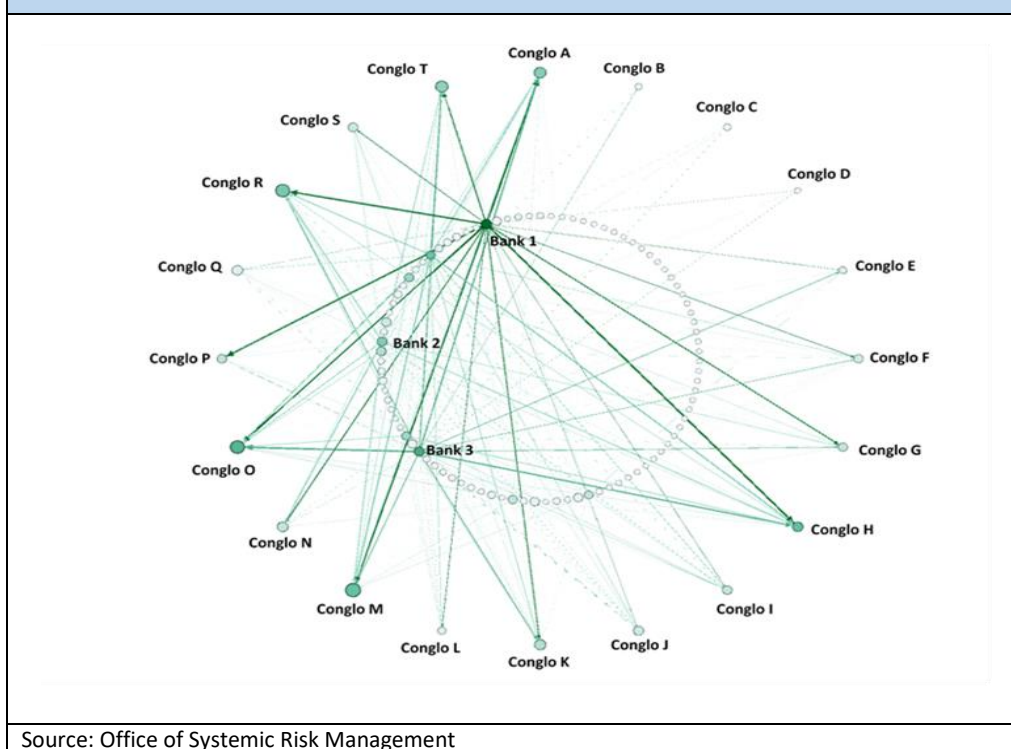
- a. Financial authorities shall require a Business Continuity Plan (BCP) from each Financial Market Infrastructures (FMI).
- b. Protocols and procedures should be clearly distinguished between BCP events specific to an FMI, versus a market-development that requires a collaborative handling via “market-aligned” BCP. Among the issues that should be considered in the latter are the protocols for the clearing and settlement of wholesale funds (i.e., payments and maturities) as well as the guidelines for making available retail liquidity via fund transfers.
- c. These BCPs shall then reflect, among others, the critical dependencies across functions and units within their own entity, and across other entities in the market. The functional objective is to have the overall financial infrastructure of the market revert to normal status within pre-identified recovery periods.
- d. The FSCC, in coordination with the relevant authorities, shall ensure that the BCPs of the designated FMIs are aligned with one another once market-dependent shocks arise. The authorities shall likewise cause periodic exercises so that all stakeholders are prepared to execute their BCP and that said BCPs remain relevant to the existing market conventions/conditions.

2.4 Periodic Macroprudential Stress Tests and Crisis Simulation Exercises

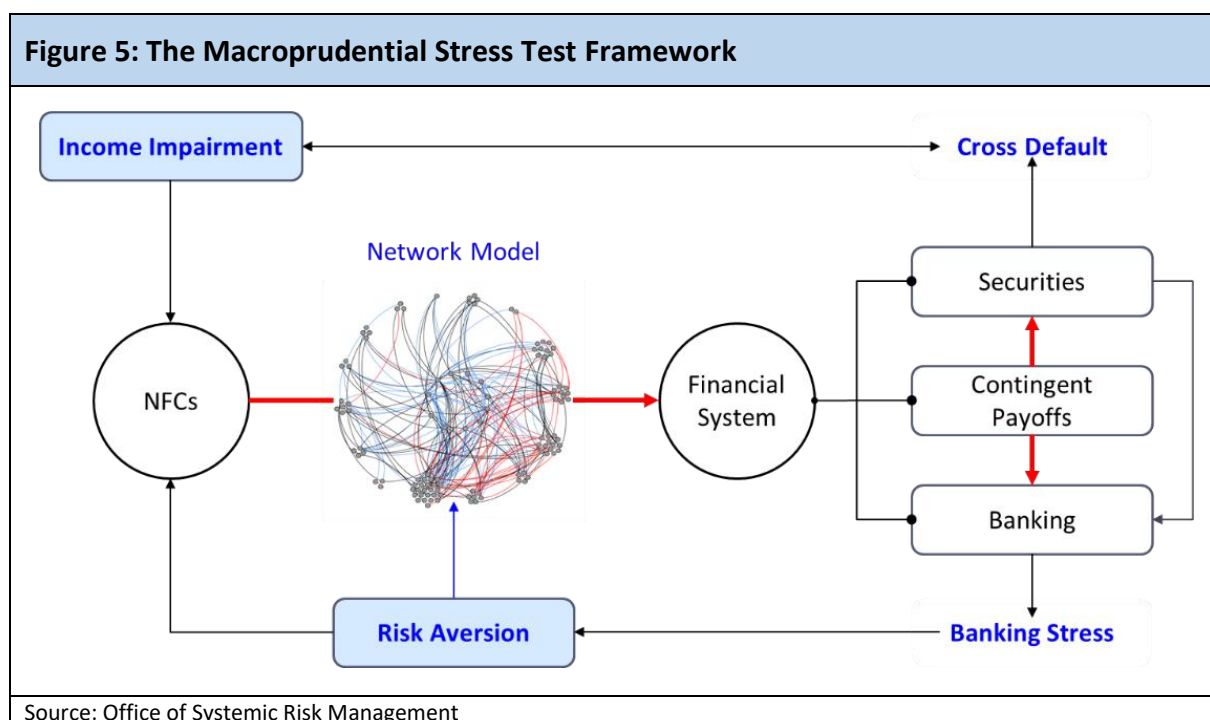
- a. Responding to a crisis should not start from when the risks have already materialized. Systemic risk analysis is pre-emptive and as such, the authorities take pre-emptive measures in assessing the state of stability. Since complex systems are defined by the changing risk behaviors among interconnected participants, the analysis needs to preserve the linkages while testing for how risks are transmitted and magnified.
- b. Traditional policy models are prone to limitations, either of data reflecting the interlinkages or how behaviors need not be symmetric across different states of market conditions. This is where macroprudential stress tests and crisis simulation exercises play an important role.

- c. These are whole-of-market simulations meant to detect vulnerabilities and they have become a necessary due diligence standard. Such simulations focus on the interlinkages within the market network that ultimately define the health of the system. At the minimum, both financial institutions (FIs) and Non-Financial Corporations (NFCs) shall be covered by the simulations. These can be extended eventually to cover cross-border arrangements.
- d. At present, the FSCC is able to map out the network linkages between conglomerates and the banks using actual data on credit exposures. This network reflects the channels through which risks can be transmitted, either directly between bilateral parties, or indirectly through 3rd-party linkages. The FSCC can conduct network tests at the firm level or aggregate this to reflect industry-to-industry connections, with the firms providing the underlying connections. Schematically, this can be presented as follows:

Figure 4: Bank-Conglomerate Network Analysis

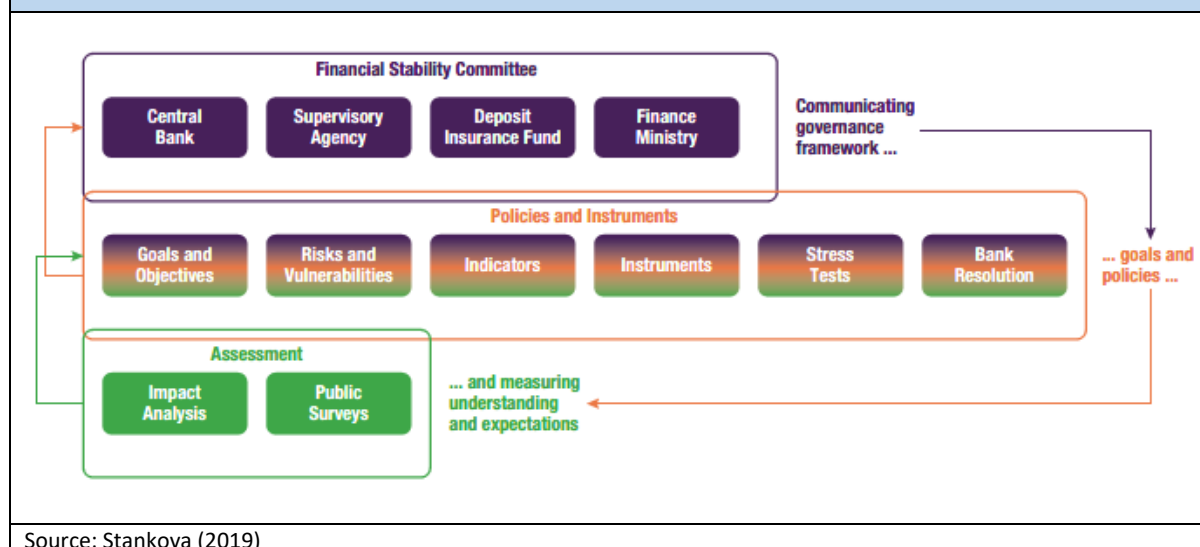


- e. At the time of this writing, a macroprudential stress test (MaPST) has been designed by the FSCC and should be undertaken soon. This MaPST specifically incorporates a network among firms so that the link between private entities and the financial market can be simulated. After which, more detailed simulations on the different segments of the financial market shall be undertaken in due course. Schematically, the MaPST is represented as follows:



2.5 Communication: A Cornerstone for Informed Decisions

- a. Financial stability, systemic risk management, and macroprudential policy interventions are highly nuanced topics, and are often discussed only within specialized circles. Thus, communicating to a broader audience what these are, why they matter, and to whom they matter is inherently a challenge.
- b. Yet, there is recognition that communication is essential for effective policy. On this point, our communication strategy is guided by Stankova (2019) who reiterated the effectiveness of policy as depending on key messages being simultaneously conveyed to different stakeholders. This is fundamentally different from the previous top-down approach where the messages are first delivered to specialists, and the information finds its way to other stakeholders through a vertical chain.
- c. The FSCC is cognizant of the need for a central hub for information and references. Already, the FSCC has a presence in social media. To facilitate the handling on more materials, work is underway to create a central hub, likely through a dedicated website.

Figure 6: Holistic Approach to Communicating Financial Stability Policies

- d. The FSCC recognizes that strategic communication is a skill that needs to be nurtured and developed. For the FSCC in general and the Comm team in particular, workshops should be regularly conducted. This will sustain the strategic level of the communication initiative, which at the outset is arguably more complicated than other policy objectives.
- e. In the end, communication is as much about information during normal times as it is in preparation for possible crisis situations. This allows the FSCC to raise awareness of the strategic issues under systemic risk management, and to focus only on the core issues when crisis situations materialize.

3. Specific Risks that Can Cause Systemic Dislocations

We include a high-level discussion of specific risks that concern the FSCC. Each of these will be governed by their respective detailed protocols. These are included here, nonetheless, to provide a general reference of the top-level issues and how their governance fit into the overall risk oversight of the market.

3.1 Managing against Cyber Events

- a. Technology continues to be immersed into daily economic activity and the digitization of finance is among the inevitable trends. The shift is in managing the underlying information rather than the physical paper on which the information is conveyed. Quite literally then, filing cabinets have given way to data management systems, transactions are done online, while one's wealth and investments are just a PIN and authentication code away.
- b. At the margin, digital finance is cheaper and more agile than paper-based finance. The information is easier to store and act upon, more so on remote basis. But it is also subject to malicious abuse or technological frailties. The market has seen several events where significant amounts of money have been maliciously siphoned or redirected. This is the case for both cross-border and domestic markets. However, in both cases, our appreciation of the extent of cyber events is dependent on what is reported. Furthermore, a break-down in the IT system in financial markets may not be done for illegal financial gains, but the mere inability of stakeholders to complete transactions as they desire in and of itself constitutes a financial cost.
- c. Aldasoro *et al* (2020) succinctly refer to cyber risk as *"the risk of financial loss, disruption or reputational damage to an organisation resulting from the failure of its IT systems"*. To be more general, one should qualify that the financial loss and the cost of disruption may be borne by the public and is not limited to the financial institution itself. What is clear is that, given the high degree to which the financial market has shifted towards digital platforms, it is not surprising that they also make the point that *"[i]n the financial sector, cyber risks are a key "known unknown" tail risk to the system and a potential major threat to financial stability"*.
- d. To formalize, the FSCC subscribes to the following definitions as provided by the Financial Stability Board (2018).
 1. Cyber incident – *"A cyber event that: (i) jeopardizes the cyber security of an information system or the information the system processes, stores or transmits; or (ii) violates the security policies,*

security procedures or acceptable use policies, whether resulting from malicious activity or not.”

2. Cyber event – *“Any observable occurrence in an information system. Cyber events sometimes provide indication that a cyber incident is occurring.”*
3. Cyber risk – *“The combination of the probability of cyber incidents occurring and their impact.”*
4. Cyber security – *“Preservation of confidentiality, integrity and availability of information and/or information systems through the cyber medium. In addition, other properties, such as authenticity, accountability, non-repudiation and reliability can also be involved.”*

These definitions are entirely consistent with Aldasoro *et al* (2020). They frame the issue as a strike – intended or not – against information and/or the security protocols safeguarding said information, and the focus is to address the costs of such breakdown pre-emptively i.e., manage the risks before they can fully materialize.

- e. Thinking of the financial system – and thus, systemic risk – in the context of a complex system represented schematically by a network, the challenge is that there could be multiple penetration points. Rather than consider the nature of each possibility, the OFR (2017) summarizes the financial stability risks into three main elements.
 1. Lack of substitutability – financial entities are uniquely positioned to provide technology-based services. While these services add value to the financial network, there is also an element of exclusivity which will be difficult to replace at an instant. Systemic risks are created when these unique services are disrupted and the nature of the complex system ensures that the effects are amplified once all the interlinkages are considered.
 2. Loss of confidence – financial markets naturally work on the basis of trust i.e., depositors entrust their saving to banks without knowing how their saving is being used; accountholders store critical personal information with financial institutions; even within institutions, there are so-called Chinese Walls that inhibit the use of specific information. Should an attack successfully breach the IT system, stakeholders may not be as trusting and can take action that can be detrimental to the stability of the system.

3. Loss of data integrity – since the ultimate asset is information, data corruption issues take a primordial interest. Compromising data integrity cannot be acceptable under any circumstance because stakeholders act on the information presented to them and their decisions ensure that information breeds more information. A balance between the increased speed of access versus ensuring data integrity is necessary.

The analysis of Healey *et al* (2018) suggests a 4th route for cyber events to cause financial instability. That is:

4. Lack of ICT substitutability – they point out that the scale involved with digitization is also concentrating ICT resources i.e., use of the same cloud service providers or the dependence on the same Transmission Control Protocol/Internet Protocol (TCP/IP) system. These are infrastructures that are inherently difficult to replace on the fly, if there is an attack on them.
- f. To differentiate this 4th item from the 1st point of OFR (2017), Healey *et al* (2018) note that cyber security risks are different because of:
1. Timing of attacks – cyber-attacks take time to lay the foundation but can be triggered at the pleasure of the attacker. It is a slow and unseen build-up of systemic risk at the ICT level itself but whose result affects financial values.
 2. Complexity – cyber space is itself a complex system that is defined by interconnected parts linked in a path and time-sensitive manner. This creates the basis of the amplification effects and, because it is a complex system, creates an outcome that is more than the sum of its parts i.e., the “unacknowledged correlated risk of cyberspace is why cyberspace is capable of black swan behavior,” as Healey *et al* quote Geer (2018).
 3. Adversary intent – separate from the unexpected breakdowns of systems, most cyber security attacks are pre-meditated and with the willful intention to gain from the disruption.
- g. The discussion above pre-supposes that cyber events are, ultimately, evident. However, the FSCC recognizes that reporting is itself a challenge on two levels.
1. First, financial institutions have an incentive to keep cyber-attacks as an internal matter, rather than have these publicly disclosed or reported to the authorities. Doing so ensures opacity and,

arguably, is a breach of supervisory standards. More importantly, there will be no guarantee that the cyber-attack has not been perpetuated on other institutions, simultaneously or at other points in time. The authorities may have to revisit its reporting structure so that disclosure is not penalized but encouraged in order for an informed market response.

2. Second, an unexpected breakdown in the IT system that disrupts the ability of a financial institution's clients from accessing their own funds (i.e., withdrawals, transfers) is itself a cyber event that has costs. It may not immediately rise to the bar of being "systemic" but a prolonged disruption leaves a cascade of liquidity pressures that, thus far, has not been assessed or estimated.
- h. All of the above highlight the often-cited point: that cyber risks do not stop at one's national boundaries. It then follows that the systemic risks that are created as a result likewise do not have boundaries. The footprints of the risk are laid when the markets appear in good standing but once triggered, the effects are systemic. This is not to suggest that cyber risks as defined by the FSB with low probabilities and/or low estimate impact are not systemic in nature. To the contrary, the FSCC view of "systemic" arises from how a shock affects different stakeholders differently and it is that difference between the "left" and "right" tails of the distribution of the effects that is most disruptive.
- i. The work then is to build-up cyber resilience which, as defined by the FSB, is:
1. Cyber resilience – *"The ability of an organisation to continue to carry out its mission by anticipating and adapting to cyber threats and other relevant changes in the environment and by withstanding, containing and rapidly recovering from cyber incidents."*
 2. Cyber threat – *"A circumstance with the potential to exploit one or more vulnerabilities that adversely affects cyber security."*

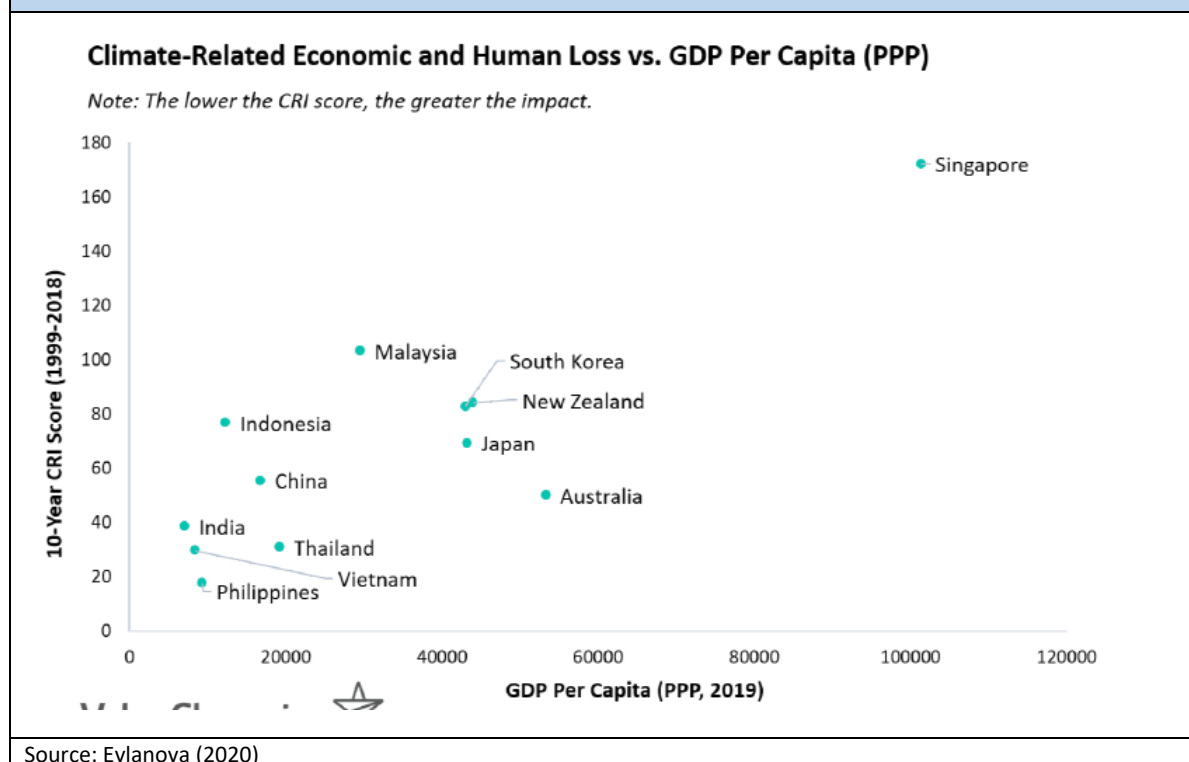
However, it should be clear that while cyber security is itself a policy issue, the focus cannot stop there because there are systemic risks that have not been fully scoped, at least specifically for the Philippine context. Thus, the work of the FSCC in this area is to further explore the systemic risks that can arise, given current financial infrastructure, our state of cyber preparedness, and in line with our plans on digitization moving forward.

3.2 Managing Climate-Related Risks

Climate-related risks are classified into physical and transition risks. On both risks, the Philippines is vulnerable.

a. Physical risk and financial stability

1. Data between 1948 to 2004 from PAGASA show that 28 storms and/or typhoons on average a year enter the Philippine Area of Responsibility. Of these, 9 on average make landfall, but this has ranged from a low of four to a high of 19.
2. These storms and/or typhoons cause considerable damage. Regular monsoon rains are known to cause flooding and the sustained rainfall from storms/typhoons exacerbates this situation for a protracted period, causing invariably to the suspension of economic activity and physical damage to affected areas.
3. A study by a Singapore-based fintech company ValueChampion (Evlanova, 2020) describes the Philippines as *“having the riskiest 10-year Climate Risk Index score, above average annual temperature and sea level rises along with increased likelihood of severe weather”*, and ranked 3rd most vulnerable overall among the countries studied. Flooding is projected to move further inland as sea levels have been rising. Of note, the study *“found that its average annual rainfall increased the most out of our 12 countries”* and despite being generally prone to rainfall, *“the probability of experiencing a heatwave in a given day is 10% above long-term average in the next 20 years”*.
4. The same study pointed out that the Philippines experienced in 2018 the most powerful typhoon ever recorded and then has six typhoons in 2019 that cost the economy a USD3.35 million economic loss per capita. Without surprise then, the comparative position of the Philippines with respect to their Climate Risk Index is poor.

Figure 7: Climate-Related Economic and Human Loss vs. GDP per Capita (PPP)

5. A related study is the 2019 World Risk Report. From among 180 countries assessed, the Philippines is the ninth most vulnerable to disasters and climate change-related risks. On average, 20 tropical cyclones enter the Philippines region every year, and about eight or nine of them directly cross the Philippines. These numbers are the highest in the world and are expected to increase in frequency and severity due to climate change. Further, the combined impact of climate change and the COVID-19 pandemic could make the country even more vulnerable.
6. As significant as the estimated costs in currency terms suggested by the table below, it is not debatable that the social devastation in terms of lives lost and displacing families are permanent costs.
7. The scientific evidence thus far suggests that anthropogenic effects will cause climate-related events to occur more frequently and will likely amplify. This has implications on supply chains (disruptive) and in interruptions, if not reductions, in economic productivity. The challenge, however, is one of validation since data tends to vary considerably across locations and across time. Thus, while climate risk has gained policy focus, there is still that element of looking at it as tail events.

Table 1: Costliest Philippines Typhoons

Rank	Storm / Typhoon	Year	PHP Damage	USD Damage
1	Yolanda (Haiyan)	2013	₱95.5 billion	\$2,200 million
2	Pablo (Bopha)	2012	₱43.2 billion	\$1,060 million
3	Glenda (Rammasun)	2014	₱38.6 billion	\$885 million
4	Ompong (Mangkhut)	2018	₱33.9 billion	\$627 million
5	Pepeng (Parma)	2009	₱27.3 billion	\$581 million
6	Ulysses (Vamco)	2020	₱20.3 billion	\$421 million
7	Rolly (Goni)	2020	₱20.0 billion	\$369 million
8	Pedring (Nesat)	2011	₱15.6 billion	\$356 million
9	Lando (Koppu)	2015	₱14.4 billion	\$313 million
10	Frank (Fengshen)	2008	₱13.5 billion	\$304 million

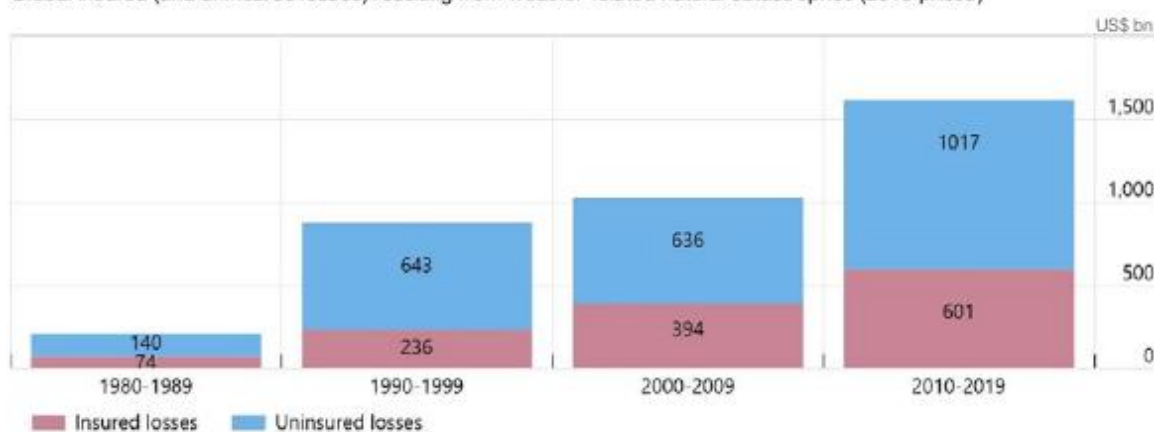
Source: Culled from several sources

8. In the financial markets, climate conditions affect the value (if not existence) of physical assets and thus, credit and revaluation risks. While the “wet” season is traditionally between May to October, there is also variability over the timing of natural calamities. Typhoons Yolanda (Haiyan) and Pablo (Bopha), for example, landed in November and December, respectively. Metro Manila experienced its worst flooding in a decade with typhoon Ulysses (Vamco) which also made its landfall in November.
9. More generally, data consistency issues make it difficult, however, to assign likely outcomes over a reasonable distribution. This again exacerbates the “tail risk syndrome” and/or transforms the probability into a yes-no (i.e., binary) situation, with the expected adverse effect from a “yes” occurrence to be infrequent-but-large while a “no” happens more frequently but at a cost that has seemingly now been accepted as “inherent inconvenience”.
10. Contingent markets are more directly impacted. Claims on non-life policies rise with physical risks materializing while, in principle, the actuarial pricing of these risks should be relatively higher than in other jurisdictions. At the time of this writing, we do not have more specific data for the Philippines, but it may not be too unreasonable to argue that a “yes-no” thinking may influence some not to insure against physical risks, despite evidence of rising frequency and effects.

11. At the nominal aggregate, the following chart does suggest that the costs from weather-related events have been rising. This is causing a risk to insurers and to the rest of the economy. An updated study on the impact of said physical risks on the underwriting business of insurers, specifically for the Philippines, is worth pursuing.
12. We should likewise note that the BSP introduced the “Sustainable Finance Framework” through BSP Circular No. 1085 in 2020. It mandates banks to disclose in their Annual Reports information relating to environmental and social risk exposures of the bank per industry or sector. The said framework can be used as a take-off point for the FSCC in gathering data and assessing the climate risk related exposures of their respective covered institutions.

Figure 8: Costs of Weather-Related Natural Catastrophes

Global insured (and uninsured losses) resulting from weather-related natural catastrophes (2019 prices)



Source: FSB (2020)

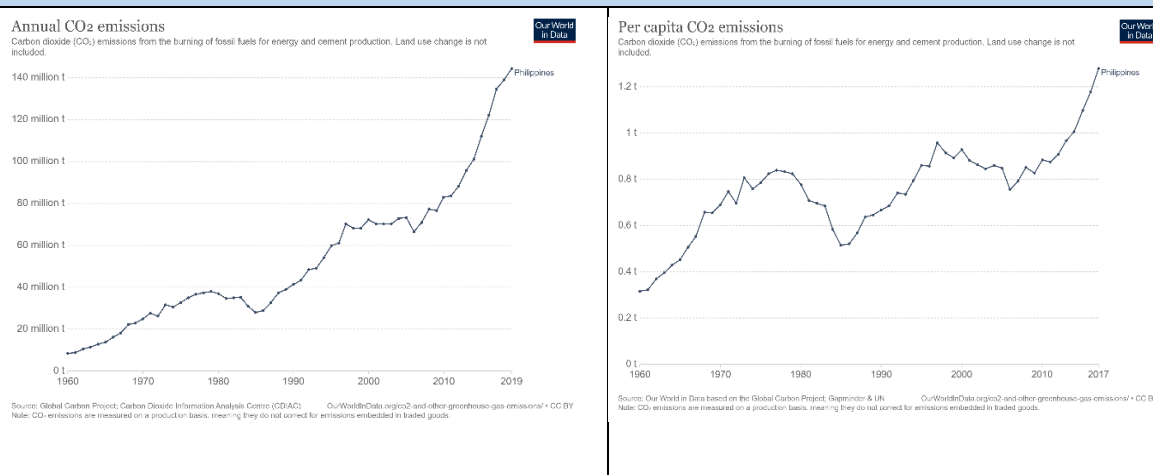
b. Transition risks and financial stability

1. The Philippines is a signatory to the 2015 Paris Climate Agreement which calls for countries to address global warming by limiting temperatures to 2°C above pre-industrial levels by 2030, or a more aggressive target of 1.5°C. This will be done by increasingly limiting greenhouse gas (GHG) emissions over 5-year cycles.
2. The latest draft document – reported by the media in February 2021 – has the Philippines intending to reduce carbon emissions by 75% by 2030, of which around 2% points will be implemented unconditionally through domestic resources while the balance of

72.67% will depend on the financial, technological, and capacity-building support as provided for under the Paris Agreement.

3. This is an ambitious target considering our history on carbon emission. As indicated below, we see a clear rising trend, either in aggregate amount or on a per capital basis.

Figure 9: Carbon Dioxide Emissions in the Philippines



Source: Philippines: CO₂ Country Profile - Our World in Data

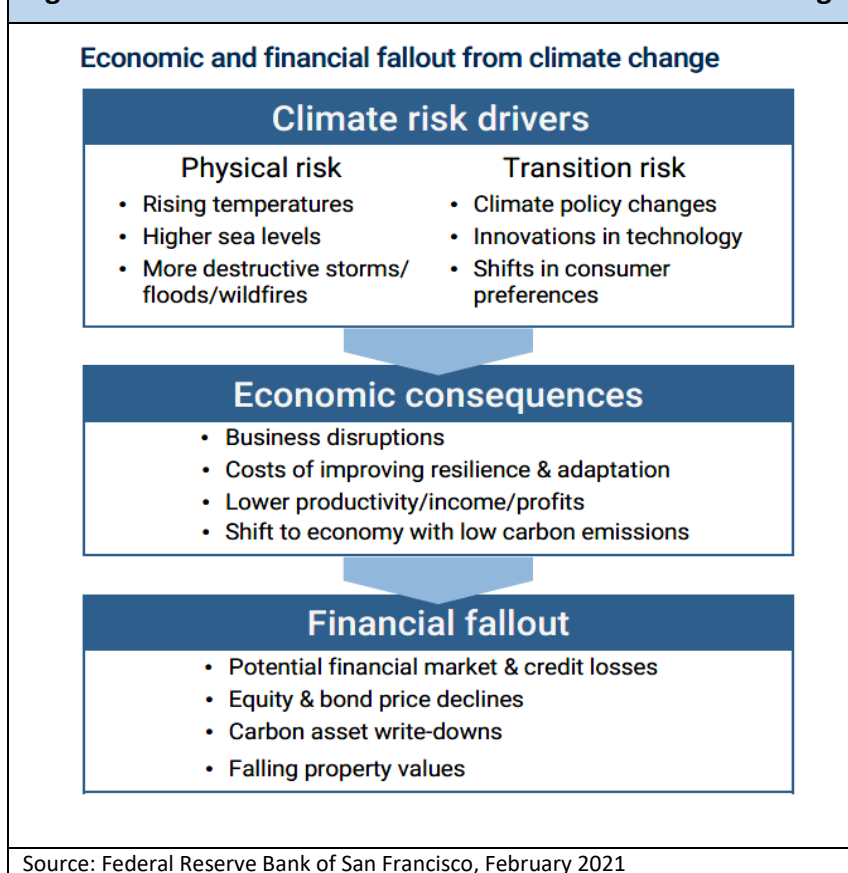
4. Financial markets are direct stakeholders. The significant reduction in carbon emissions must correspond to a restructuring of the economic landscape i.e., on the energy, transportation, and manufacturing sectors, among others, which will then impact on the financing component of productive capacity. Alternatives to fossil fuels must be considered given our commitment to the Paris Agreement, and the financing of this covers bringing in new technology, replacing the old production processes (which may still have outstanding debt obligations), and ensuring the capacity to sustain the newer technology. This cannot be trivial.
5. Of particular concern is the relatively short time remaining relative to the 2030 target. A “disorderly transition” is the most commonly cited concern which would have credit and market risk disruptions. For private firms in business lines that depend on energy, this can affect company valuations directly.
6. While the premise of a disorderly transition may be a possibility, this must be better understood as currently a Black Swan. It is not that the possibility is a tail event but rather because the financial

authorities do not have direct firm-level exposures that would allow for a more reasoned analysis. Other jurisdictions, for example the Bank of England, have moved forward on this with a directive for covered institutions for an organized disclosure of their exposures that will be affected by climate change.

c. The Systemic-ness of Climate Risk

The risks are undoubtedly systemic and there is clearly much to be done. However, much is still unknown about the financial stability issues of climate risk that we face in the Philippines. More importantly, we do not take comfort in tail event simulations that can show the damage. The FSCC recognizes the urgency to act, not only in the context of our commitments to the Paris Agreement, but more generally because of the significant dislocations that we anticipate, lest the issue is managed in an orderly fashion using a whole-of-market approach.

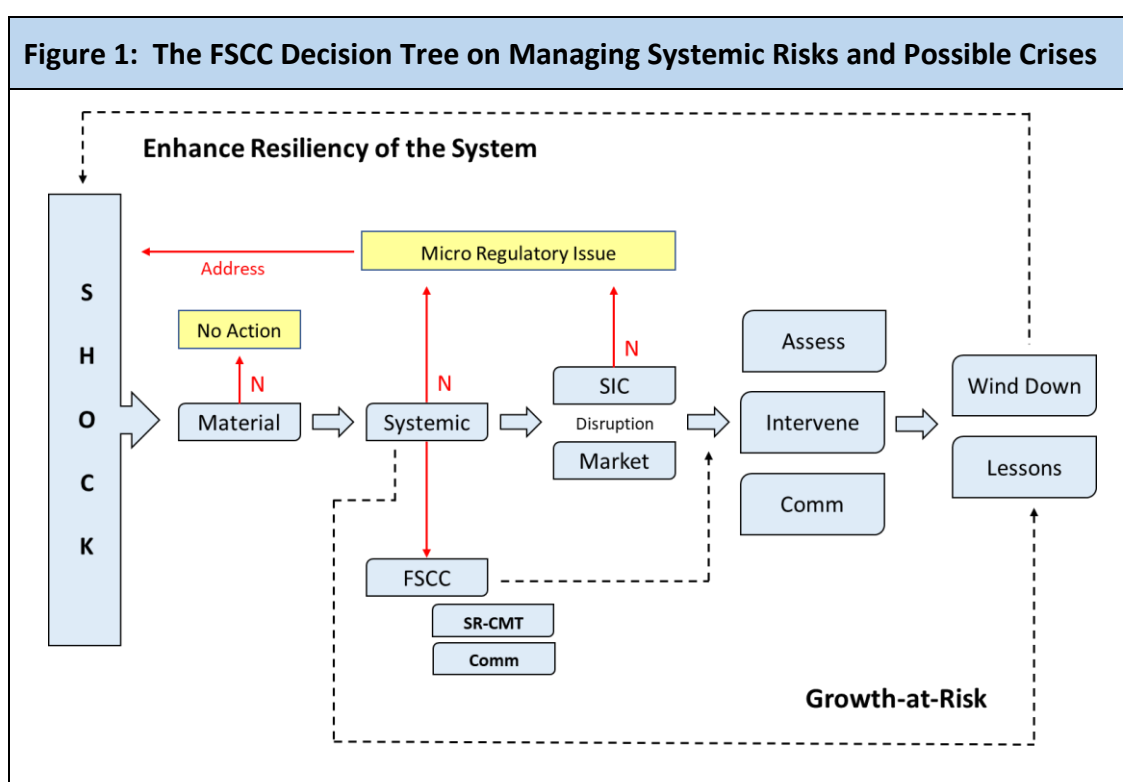
Figure 10: Economic and financial fallout from climate change



4. Arrangements During Crisis Times

Having the protocols in place to handle an evolving crisis in an organized manner reduces the panic premium and provides a level of comfort to the public. This requires constant, calming but transparent communication, the context of which shall focus on an objective analysis of what has happened with systemic risks and an update of what is being done.

Abstracting from the framework espoused by the Singh and LaBrosse (OECD, 2012) and following Crockett (2000), we follow the following decision tree:



Taken left to right, market disruptions are first assessed if they represent a material change. This will distinguish it from the frequent though normal market fluctuations. If it is deemed to be a material change, the next question that begs to be answered is whether the material disruption is expected to be systemic in nature, meeting the bar set by the FSB-IMF-BIS definition. Material but institution-specific issues may be handled by the natural supervisory authority while systemic risk issues will fall under the ambit of the FSCC. We make an important distinction in that corporations whose financial health can affect the welfare of the system are deemed “systemic” in nature, aside from those shocks that can lead to market failures in general.

A judgement of whether a crisis is looming emanates at this point. This is likewise the component of the decision tree where assessments, interventions, and messaging efforts

provide live “teaching moments”. This is an essential facet of this decision tree. Systemic risks, by their nature, are typically unseen through mainstream indicators and those of crisis proportions are infrequently reported.

However, the non-occurrence of a crisis does not suggest the absence of systemic risks. If the FSCC is effective in its continuing assessments, calibrated interventions, and targeted messaging efforts, the systemic risks arguably may not escalate into crisis proportions. Together with its empirical models and technical metrics, these assessments, interventions, and messaging efforts are meant to enhance the resiliency of the financial market i.e. resilient to future shocks and have the distinguishing ability to sustain its functions even when it is already under stressed market conditions. This is the point on why ultimately managing systemic risks redounds to enhancing the welfare of current and future generations of financial market stakeholders.

4.1 Escalation and a Declaration that a Crisis Has Been Triggered

- a. Financial markets do not operate under full guarantee and thus, risk is always an essential element in the normal course. A crisis, however, specifically one that can be defined as “systemic” in nature, requires more than the occurrence of an unanticipated turnouts. To properly distinguish between private losses and a public concern, the FSCC will set the general guidelines for determining when the financial market is in a crisis due to systemic risks.
- b. The FSCC takes “systemic risk” from the point of view of a “complex system” and its technical features. As such, any concern over particular risks cannot be defined by conditions relative to absolute thresholds. Instead, the FSCC shall render a view of the existence of such systemic risks even though available data may not reflect yet the vulnerabilities.⁷ This escalation from possible risks to would-be-crisis is central to the periodic surveillance of the market, assessing specifically the state of stability.
- c. Upon the majority vote of the FSCC Executive Committee, the FSCC Chairperson shall formally designate whether there are systemic risks that present a viable potential for escalating into a crisis and, as such, must be addressed purposefully.
- d. Such designation by the FSCC Chairperson shall be fully documented in the records of the FSCC. Thereafter, this information shall be conveyed.

⁷ In the case of the present pandemic, the IMF judged the global economy to be in recession without waiting for validation from official (but lagged) data. Pronouncing the recession early – and making periodic updates -- has helped policymakers frame their course of action and mitigate the “inaction bias”.

1. In a manner that is appropriate, the FSCC Chairperson shall convey to the co-equal branches of government the nature of the crisis, its underlying systemic risks, and the initial assessment of the FSCC to contain the further escalation of the crisis.
 2. The FSCC shall likewise communicate with relevant financial market associations and/or industry groups about the crisis.
 3. Communicating with the general public is a critical element in managing the crisis. At all times, the FSCC shall be guided by its purpose of keeping the public aware so that said public can make informed choices. In this regard, the FSCC is deliberately instilling transparency as a means to mitigate undue anxiety.
- e. The value of strategic communication cannot be overemphasized. Systemic risk analysis is pre-emptive, and constituents need to be properly informed of the nature of the crisis, particularly when market conditions do not yet reflect any clear signs of disruptions.

4.2 Handling the First 48 Hours

- a. Once a crisis has been “called”, the SR-CMT and Comm team shall be convened by the FSCC Chairperson. The immediate task is to distil the available information, inform stakeholders, identify immediate actions requested of various counterparties, and draw up the communication message for the public. These lay the groundwork for executing Section 4.1.d.
- b. Crisis Management Logistics
 1. The SR-CMT shall operate from a designated hub. The hub is meant to be a command post whose location and logistics are pre-arranged but, generally, would be activated only when a crisis occurs, unless the FSCC Executive Committee decides otherwise. This will involve a combination of physical presence as well as communication lines to make sure that essential information coming in and out are unhampered. The FSCC shall make prior arrangements on how this hub shall be mobilized.
 2. A public information center (PIC) shall be set up expediently, as may be practical. This PIC shall be accessible to the public to provide periodic updates. In addition, the PIC shall be a central contact for public queries and requests for assistance, as may be warranted.

3. The FSCC shall arrange with the relevant government agencies so that the logistical requirements of the designated hub, and within it the PIC, have been made available in advance and can be set up within hours of the designation of a crisis situation.
4. The FSCC shall define the necessary guidelines in order for the logistical requirements to be properly addressed. Business continuity exercises may be conducted from time to time to ensure that all relevant agencies are aware of their role in setting up crisis management logistics within the guidelines and in the timely manner defined by the FSCC.

c. Communication

1. The initial communication initiatives will be critical since there is either a lot of misinformation or there will be market surprise with the determination of a crisis situation. However, unhampered access to reliable information is expected to eventually reduce the panic premium. This is the desired outcome so that decisions of the state and of stakeholders are well-informed.
2. The crafting of the core messages shall be managed by the Comm team and delivered by the authorized spokesperson. Among the key issues are:
 - i. What is the crisis all about?
 - ii. What caused the crisis?
 - iii. How extensive are the initial effects?
 - iv. What are the further risks?
 - v. Who is at further risk?
 - vi. What has been done so far to resolve the crisis and/or mitigate its adverse effects?
 - vii. Which agencies are involved in handling or resolving the crisis?
 - viii. Where can affected individuals raise their concerns and/or clarifications?
 - ix. What should be done next?
3. The authorized spokesperson is expected to provide periodic public updates. This will be in a manner and at a frequency that the Comm team believes is appropriate for the situation.

d. Market Protocols on Infrastructure

1. The FSCC shall determine if, and when, the whole-of-market BCP shall be triggered into action.
2. Since finality of value is most critical to the proper functioning of financial markets, this aspect should be conveyed expeditiously and clearly to market transactors.
3. It is understood that it is in the best interest of all stakeholders for the BCP status to be lifted in the soonest possible time and for the market to revert to its protocols practiced in normal times.
4. In the event that exigencies require a further but prudent delay in lifting the BCP status, all market participants shall ensure the full protection of funds. A testable system must be in place for determining the legal title and corresponding amounts of all financial resources at the point that the BCP was triggered.

4.3 Policy Interventions

- a. The Macroprudential Policy Strategy Framework highlights the focus of the FSCC on contagion, concentration, leverage, and liquidity issues as the most immediate policy issues. In addition, evolving risk behaviors – combined with the structure of market incentives, and compounded by moral hazard – will always be a consistent focus of systemic risk analysis.
- b. In a crisis situation, however, it will be inappropriate to limit the central policy issue to those above. The FSCC shall retain the flexibility to intervene in the manner and timing warranted to stem pressure points from the real economy to the financial system or those created by the financial market itself.
- c. These policy interventions shall be guided by the strategic objective of financial stability which is to enhance the welfare of present and future generations in society. In a systemic risk crisis, the operational objective is to return the financial system to its well-functioning state.
- d. This does not mean returning to the pre-crisis arrangements since the system has to respond and assimilate the changing risks in the marketplace. It does require that all the elements of the financial system recalibrate, governed still by interlinkages between and among market elements. That is, for the system to settle into a post-crisis state of stability that incorporates the added information about risks and the choices stakeholders make as a result.

- e. This highlights the balance between assessing systemic risks, implementing targeted interventions, and communicating continuously with stakeholders to mitigate undue risk aversion.

4.4 Assessment and Containment

- a. An assessment of the effectiveness of interventions often takes time because the interventions themselves take time to take root. However, there are more immediate but indirect measures that may be considered. The important element is to manage the panic premium so that risk aversion does not get out of hand and there remains leeway for policy interventions to affect behaviors.
- b. The SR-CMT should assess continuously whether the interventions have been effective, and risks are no longer amplifying. This moves us out of remedial management and into the stabilization phase.

5. Transition to Post-Crisis Protocols

Once the immediate shocks of the crisis have been addressed, getting back to normalcy requires an exit strategy from the crisis management protocols. All interventions introduced during the crisis period need to be assessed whether they address either structural vulnerabilities (and must be retained) or temporary imbalances, in which case they need to be unwound in due course.

5.1 Winding Down

The entire Crisis Management operations will be closed in phases. A centralized hub may no longer be as relevant since actions can now be devolved. All transitory market protocols can be agreed by the SR-CMT to be lifted with due consideration of a transition period. The Comm team shall prepare the announcements.

- a. Communication
- b. Market Protocols for Infrastructure
- c. Crisis Management Logistics

5.2 Lessons Learned

A post-crisis report shall be prepared to identify how the crisis started, what can be done to avoid future occurrence, what interventions proved effective during the crisis, as well as those that did not. These information are useful inputs for proposing:

- a. Possible Adjustments to Market Protocols
- b. Possible Adjustments to Regulation
- c. Possible Adjustments in Legislation

REFERENCES

- Acharya, Viral. “Systemic risk and deposit insurance premiums”. VoxEU, September, 2009. Systemic risk and deposit insurance premiums | VOX, CEPR Policy Portal (voxeu.org)
- Acharya, Viral; Santos, João A. C.; and Yorulmazer, Tanju. (2010). “Systemic Risk and Deposit Insurance Premiums”. Federal Reserve Bank of New York (FRBNY) Economic Policy Review. August.
- Aldasoro, Iñaki. Gambacorta, Leonardo. Giudici, Paolo. and Leach, Thomas. (2020). “The drivers of cyber risk”. Bank of International Settlements. Monetary and Economic Department. Working Paper No. 865. May 2020.
- Allen, Franklin. and Gale, Douglas. (2000). Financial Contagion. Journal of Political Economy, 108(1), pp. 1-33.
- Anginer, Deniz; Demirguc-Kunt, Asli; and Zhu, Min. (2013). “How Does Deposit Insurance Affect Bank Risk? Evidence from the Recent Crisis”. World Bank. August.
- Bank of International Settlements. (2011). “Central bank governance and financial stability: A report by a Study Group.” May.
- Bisias, Dimitrios; Flood, Mark; Lo, Andrew W.; and Valavanis, Stavros. (2012). “A Survey of Systemic Risk Analytics “. Office of Financial Research. Working Paper #0001. January.
- Crockett, Andrew. “Marrying the micro- and macro-prudential dimensions of financial stability.” (2000). Remarks of the General Manager of the Bank for International Settlements and Chairman of the Financial Stability Forum, before the Eleventh International Conference of Banking Supervisors, held in Basel, 20-21. BIS Review 76. September.
- Evalanova, Anastassia. (2020) “Top 5 Countries in Asia Pacific Most Affected by Climate Change”. ValueChampion. October 2020. <https://www.valuechampion.sg/top-5-countries-asia-pacific-most-affected-climate-change>
- Financial Stability Board; International Monetary Fund; and the Bank of International Settlements. (2009). Guidance to Assess the Systemic Importance of Financial Institutions, Markets and Instruments: Initial Considerations: Report to the G-20 Finance Ministers and Central Bank Governors. October.
- Financial Stability Board. (2018). “Cyber lexicon”. November 2018.
- Financial Stability Board. (2020). “ The Implications of Climate Change for Financial Stability”. November 2020.
- Geer, Jr., Dan. (2018). “A Rubicon”. Stanford University. Hoover Institute. Working Group on National Security, Technology, and Law, Aegis Series Paper No. 1801. February 2018.
- Healey, Jason. Mosser, Patricia. Rosen, Katheryn. and Tache, Adriana. (2018). “The Future of Financial Stability and Cyber Risk”. The Brookings Institution. School of International and Public Affairs, Columbia University. October 2018.

- Lagunoff, Roger; Stacey Schreft (2001). "A Model of Financial Fragility". *Journal of Economic Theory*. 99 (1–2): 220–264.
- Office of Financial Research. (2017). "Cybersecurity and Financial Stability: Risks and Resilience". OFR Viewpoint. February 2017.
- Singh, Dalvinder and LaBrosse, John Raymond. (2012). "Developing a Framework for Effective Financial Crisis Management". *OECD Journal: Financial Market Trends*. Volume 2011- Issue 2. OECD 2012.
- Schinasi, Garry J. "Defining Financial Stability". (2004). International Monetary Fund. International Monetary Fund. International Capital Markets Department. Working Paper No. WP/04/187. October.
- Stankova, O. (2019). "Frontiers of Economic Policy Communications". International Monetary Fund Communications Department. Policy Paper No. 19-08. May 2019.



FINANCIAL STABILITY COORDINATION COUNCIL

Bangko Sentral ng Pilipinas
5th Floor Multi-storey Building, BSP Complex
A. Mabini Street, Malate, 1004 Manila, Philippines

Telephone No.: (+632) 53062152 | Fax No.: (+632) 53062448

E-mail: fsc@bsp.gov.ph

Facebook: www.facebook.com/FSCCph