INTERNATIONAL MONETARY FUND

Macroprudential Policy: An Organizing Framework

Background Paper[1]

Prepared by the Monetary and Capital Markets Department

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Contents

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FINANCIAL STABILITY AND MACROPRUDENTIAL POLICY SURVEY: A STOCK TAKING[2]

Summary

1. **MCM conducted a survey in December 2010 to take stock of international experiences with financial stability and the evolving macroprudential policy framework**. The survey was designed to seek information in three broad areas: the institutional setup for macroprudential policy, the analytical approach to systemic risk monitoring, and the macroprudential policy toolkit. The survey was sent to 63 countries and the European Central Bank (ECB), including all countries in the G-20 and those subject to mandatory Financial Sector Assessment Programs (FSAPs). The target list is designed to cover a broad range of jurisdictions in all regions, but more weight is given to economies that are systemically important (see Annex for details). The response rate is 80 percent. This note provides a summary of the survey's main findings.

2. **Responses to the survey provide a clear indication that macroprudential policy is becoming an overarching public policy in the wake of the global financial crisis**. It is considered to involve the authority, and use the tools of, prudential, monetary, fiscal and competition policies. A rich repertoire of policy actions are cited—many date back to long before the global crises but are now categorized as macroprudential policy actions. The perimeter of macroprudential policy is expansive but not clearly defined, and the interaction between macroprudential policy and other public policies are not very well understood.

3. **Several important themes have emerged from the survey:**

A. **The conduct of macroprudential policy is a multi-agency, consensus process.** The macroprudential policy framework is still embryonic, but the policy perimeter prescribed by respondents is quite extensive. In a majority of the jurisdictions, the macroprudential policy mandate is shared among several public agencies including the central bank. The conduct of macroprudential policy is based on consensus and any policy disagreement is resolved through discussion and negotiation among the various agencies involved.

- The central bank is either the sole institution with the financial stability mandate, or shares the mandate with one or more other agencies, in an overwhelming majority of the jurisdictions.

- Fewer than half of the jurisdictions have a formal mandate for macroprudential policy, and a larger proportion of emerging market economies than advanced

[2] We are grateful to the Central Bank of Uruguay, where a team headed by Gerardo Licandro proposed that we conduct a financial stability survey and designed the initial questions on the institutional arrangement for macroprudential policy. Their insight and our collaboration with them on the survey have proved invaluable.

economies has it. A majority of those without a current mandate have, or are considering, plans for such a mandate.

- Macroprudential policy is operationally defined to limit, mitigate or reduce systemic risk, but there is no mention of crisis management as a function of macroprudential policy.

- The macroprudential policy mandate is usually shared between the central bank and at least one other public agency such as the financial regulator or the ministry of finance (up to five agencies in some jurisdictions).

- A financial stability committee is a way to institutionalize macroprudential policy coordination, but the committee plays largely an advisory role in the majority of jurisdictions.

B. **A variety of indicators and quantitative models/tools is used for systemic risk identification, monitoring and assessment.** The indicators cover both the domestic and international aspects of the financial system, and include macro, micro and sectoral variables ranging from bank capital and performance to market liquidity and household indebtedness. The use of quantitative models and tools is widespread.

- Asset quality and liquidity indicators are considered the most important, with banks' non-performing loans to total loans and the ratio of liquid assets to short-term liabilities the most frequently cited.

- Emerging market economies are more concerned about currency risk and capital inflows, and use indicators such as net open position in foreign exchange to capital and net private capital inflows percentage of GDP) more often.

- Views on leading indicators diverge and few indicators are identified as leading indicators and used operationally as the basis for macroprudential policy decisions. The most frequently cited forward looking indicator is credit growth or credit to GDP.

- The most extensively used models are single institution risk models while stress testing is also quite popular.

- Quantitative models and tools are useful but have their limits, and data availability is cited as a major factor limiting the models' usefulness. For some emerging market economies, the lack of model building skills is also a constraint.

C. **Macroprudential policy is viewed as having a wide range of instruments**. The toolkit contains most notably prudential tools but also tools of monetary, fiscal and competition policies. A large majority of jurisdictions believes that the policymaker can choose a

combination of the tools to achieve macroprudential objectives, and the proportion is larger for emerging market economies than for advanced economies. Many of the instruments have been in use for a long time, although evaluating the effectiveness of specific instruments is a complex and difficult task.

- The most frequently used instruments are restrictions on the loan-to-value ratio, limits on net open currency positions and caps on debt-to-income ratio. The tools are used more frequently by emerging market economies than by advanced economies.

- A small number of emerging market economies has used tools that target non-residents, including unremunerated reserve requirements for non-residents, taxation of capital flows, and minimum holding periods for capital inflows.

- The use of many of the instruments is not new, but they have been calibrated more frequently since the global crisis, indicating their growing importance in the evolving macroprudential policy framework.

- Most jurisdictions strive to choose instruments that are simple, effective and easy to implement with limited cost to financial institutions and minimal market distortions.

- The countercyclical capital buffer is considered susceptible to regulatory arbitrage, and many emerging market economies consider large capital inflows caused by quantitative easing in advanced economies a challenge.

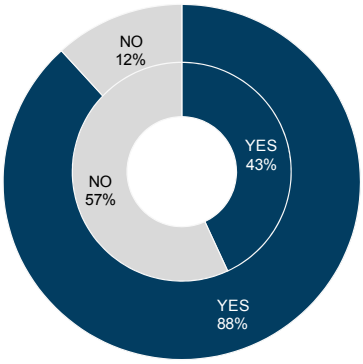
- Regulatory arbitrage, both across borders and across segments of the financial system, is a challenge.

Part 1. Institutional Arrangements

A. Financial Stability

4. **Financial stability is a widely shared policy mandate**. A large majority (88 percent) of respondents has a formal mandate for financial stability (Figure 1.1). Only six respondents (two in Asia, two in Europe, one in the Western Hemisphere, and one in the Middle East) indicate that financial stability is not a formal policy mandate. Most mandates date back to the 1990s with a few established in the 1970s. The central bank plays a key role in promoting financial stability—in most countries (82 percent), it is either the sole institution with the mandate, or shares the mandate with one or more other agencies.

Figure 1.1: Financial Stability and Macroprudential Policy Mandates
Percentage of respondants with financial stability mandate (outside section) and MPP mandate (inside section)



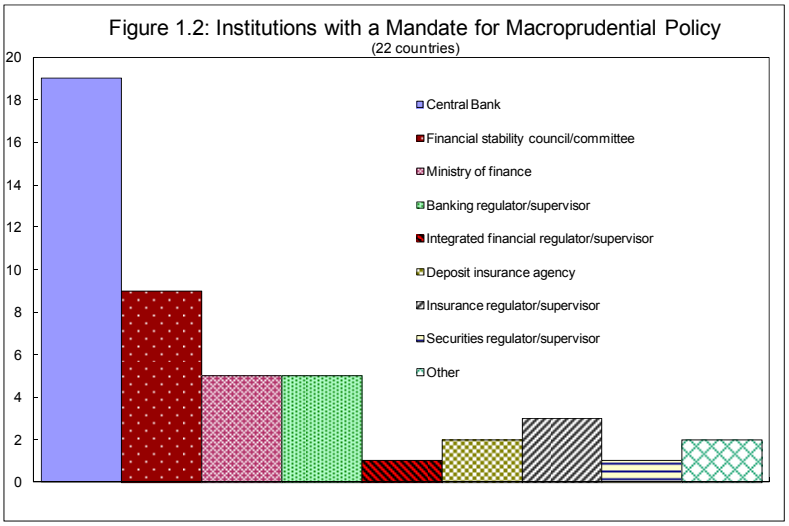
5. **The definition of financial stability is largely informal.** Definitions of financial stability are provided by a majority of respondents (73 percent), of which 81 percent are informal. The definitions share a number of features (Table 1.1). Stable institutions, markets and infrastructure are considered key to financial stability. A stable financial system is viewed as being sound and resilient to shocks, efficient or effective, and able to perform its functions continuously with low volatility. The major functions of a financial system include risk allocation, diversification and management, intermediating flows of funds between savers and borrowers, and providing services for payment, settlement, clearing and trading. Some respondents characterize a stable financial system as secure, reliable and having public confidence. A few respondents define the objective of promoting financial stability as maintaining macroeconomic stability and sustaining growth and development of the economy.

Table 1.1: Financial Stability in a Nutshell
(Reported by % of respondents)

What need to be stable?		What does a stable financial system achieve?		What characterize a stable financial system?		What are the objectives of maintaining financial stability?	
institutions	59.5%	risk allocation, diversification, management	59.5%	efficient, effective	64.9%	macroeconomic stability	10.8%
markets	43.2%	payment, settlement, clearing, trading	43.2%	resilient, robust, sound, able to withstand shocks and unraveling imbalances	62.2%	growth, development	16.2%
market infrastructure (payment, settlement and clearing systems)	59.5%	intermediation between savers and borrowers	45.9%	smooth, continuous, low volatility, sustainable	45.9%	access to international financial markets	2.7%
		allocation of resources	24.3%	absence of instability	16.2%	socially beneficial uses of capital	2.7%
				organized, secure, reliable	10.8%		
				having public confidence and creditability	10.8%		
				effective regulatory infrastructure	5.4%		
				adequate legal framework	2.7%		

B. Macroprudential Policy

6. **The macroprudential policy framework is still evolving.** A formal mandate for macroprudential policy has been established in 43 percent of the respondents. A larger proportion of emerging market economies (50 percent) than advanced economies (35 percent) has such a mandate. A few of the mandates date back to the 1990s, notably after the Asian, Mexican and Russian financial crisis. However, most of the mandates have been established in response to the recent global financial crisis, including those in some of the largest economies in the G-20. Of those without a current mandate, many (52 percent) have plans or are considering plans for a mandate. The central bank plays a key role in the macroprudential policy framework—it is given the mandate or shares it with other agencies in most of the countries (Figure 1.2).



7. **Macroprudential policy is not formally defined.** No respondent has a formal definition of macroprudential policy, although a majority (59 percent) offers an operational definition. Four euro-area jurisdictions indicate that they will use the definition established by the European Systemic Risk Board. The definitions share some common elements (Table 1.2). The role of macroprudential policy is to limit, mitigate or reduce systemic risk, but there is no mention of crisis management as a function of macroprudential policy. Some respondents define macroprudential policy as 'any policy that enhances financial and systemic stability'. Size, interconnectedness and systematically important institutions or markets are mentioned more frequently than procyclicality.

Table 1.2: Highlights of Macroprudential Policy
(Reported by % of respondents)

Tasks		Objectives		Nature of risks		Tools	
identify, measure, monitor risks	23.3%	prevent, mitigate, limit, avoid, reduce risks	63.3%	aggregate, contagious, spreading, systemwide	66.7%	microprudential tools	23.3%
collect, analyze, share information	16.7%	strengthen financial system resilience	16.7%	size, interconnectedness, systemically important	43.3%	monetary tools	6.7%
make recommendations for remedial action	6.7%	lean against financial cycle	3.3%	serious negative consequences on markets and economy	33.3%	fiscal tools	6.7%
implement corrective measures	6.7%			procyclical, over time, through the cycle	20.0%	exchange rate	6.7%
issue warnings	3.3%			imbalances, i.e. leverage, indebtedness, asset price bubble	16.7%	capital flows management	6.7%
						regulation by size	3.3%
						competition policy/M&A	3.3%
						accounting rules	3.3%

8. **Macroprudential policy has an expansive perimeter.** According to most respondents, responsibilities of the macroprudential policymaker range from risk identification and systemic impact assessment to decision making and policy implementation. These responsibilities are usually shared among a number public agencies. The central bank has the decision-making responsibility in a large majority of countries (86 percent), followed by the financial stability committee (41 percent) and the Ministry of Finance (23 percent). The macroprudential policy toolkit also covers a wide range of policies (Table 1.3). While the responsibilities and tools are identified, there seems no clear understanding of how macroprudential policy interacts with other public policies.

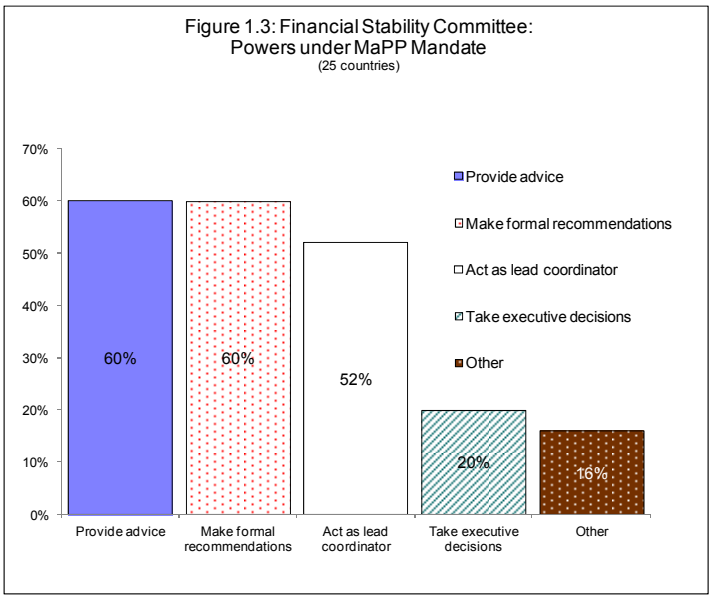
Table 1.3: Perimeter of Macroprudential Policy Toolkit

Instruments	Advice		Formal recommendation		Decision/Co-decision	
	Actual	Planned	Actual	Planned	Actual	Planned
Prudential (e.g., capital and loan-to-value ratios)	18	2	18	2	33	2
Monetary (e.g., interest rate or direct instruments)	6	0	6	0	31	0
Fiscal (e.g., tax policies)	25	1	7	1	9	1
Capital controls	10	0	5	0	11	1
Exchange rate policy	6	0	5	0	22	0
Antitrust/competition policy	6	1	2	0	2	0
Other	3	0	1	0	6	0

9. **The Financial Stability Report is the most extensively used reporting tool for macroprudential policy.** A sizable majority (84 percent) of respondents publishes a Financial Stability Report as a mechanism for public communications. Two-thirds of the respondents publish reports to the executive or parliament. Also used but less popular communications tools are minutes of policy meetings (16 percent) and public announcements (14 percent). Other modes of communications include speeches by central bank governors and/or other representatives of the macroprudential policymaker. The issuance of risk warnings is not a widely shared practice: only about one-third of respondents issue risk warnings to the public.

10. **The conduct of macroprudential policy is a multi-agency coordination process.** In a majority of the respondents (59 percent), the macroprudential policy mandate is shared between the central bank and at least one other public agency such as the financial regulator or the ministry of finance. The large number of agencies sharing the mandate (up to five agencies in some countries) makes policy coordination and taking timely action a challenge. Some countries have a lead coordinating agency for macroprudential policy but others do not. In countries without a lead coordinator, the coordination mechanism is sometimes spelt out in a memorandum of understanding, although in most cases the coordination process is informal. In many jurisdictions, macroprudential policy is based on consensus and any policy disagreement is resolved through discussion and negotiation among the various agencies involved. In only a few countries are such policy differences resolved through majority vote (6 percent) or by executive decision (10 percent).

11. **Macroprudential policy coordination is sometimes institutionalized in a financial stability committee.** A sizable minority of the respondents (44 percent) has established a financial stability committee. The mandate for the committee usually includes coordination and information exchange, monitoring and assessing systemic risks, discussing proposals and making recommendations for financial market issues, and supervising systemically important institutions. In most countries, the committee plays largely an advisory role (Figure 1.3). The committee has the power to take executive decisions in only a few jurisdictions (Belgium, Indonesia, Japan, South Africa, and Thailand). Members of the committee usually consist of the fiscal and monetary authorities and financial regulatory bodies. The committee is chaired by the Ministry of Finance (54 percent), the central bank (23 percent), shared by two or more institutions (18 percent) or the Prime Minister (5 percent).



Part 2: Systemic Risk Monitoring

A. Indicators to Monitor Systemic Risk

12. **A wide array of indicators is used to monitor systemic risk.** The total number of indicators cited by respondents for systemic risk monitoring is 60, ranging from indicators of bank capital (e.g., the capital adequacy ratio) and performance (e.g., return on assets), to indicators of liquidity (e.g., liquid assets to total assets) and indebtedness (e.g., household debt to GDP). The indicators cover both the domestic (e.g., inflation) and international (e.g., net private capital inflows) aspects of the financial system, and include macro (e.g., credit-to-GDP), micro (e.g., bankruptcy proceedings initiated) and sectoral (e.g., real estate price index) variables. However, the indicators are not all used equally frequently—only about a quarter of them are used by more than 20 countries while close to 60 percent are used by fewer than 10 countries.

13. **Asset quality and liquidity indicators are considered the most important to monitor systemic risk.** The most frequently cited indicators by respondents are banks' non-performing loans to total loans and the ratio of liquid assets to short-term liabilities, both by a large majority. The use of these indicators does not vary much across regions, but certain patterns emerge when the use of indicators is associated with broad categories of risks. Financial sector risks with a systemic dimension may be grouped into six broad categories:

credit risk, systemic liquidity risk, excessive leverage risk, foreign currency exposure risk, asset price risk, and risks associated with capital flows. Some indicators are used more by advanced economies while others are used more by emerging market economies (Table 2.1).

Table 2.1: Financial Indicators to Monitor Risks

Risk Category	Indicator	Ratio (%)		
		% of respondents	Of which Advanced Economies	Of which Emerging Market Economies
Credit risk				
	Banks' nonperforming loans to total loans	80.4	87.0	75.0
Systemic liquidity risk				
	Liquid assets to short-term liabilities	78.4	73.9	82.1
Excessive leverage risk				
	Capital to assets (leverage)	66.7	73.9	60.7
Foreign currency exposure risk				
	Net open position in foreign exchange to capital	54.9	26.1	78.6
Asset price risk				
	Real estate price index change	52.9	52.2	53.6
Capital flows reversal risk				
	Net private capital inflows (% of GDP)	43.1	30.4	53.6

14. **Emerging market economies are more concerned about currency risk and risks associated with capital inflows while advanced economies keep an eye on leverage.** The most frequently used indicator for foreign currency exposure risk is the net open position in foreign exchange to capital. It is used by a larger proportion of emerging market economies (79 percent) than advanced economies (26 percent). Similarly, the most frequently used indicator for risks associated with capital flows, i.e., net private capital inflows (percentage of GDP), is used more by emerging market economies (54 percent) than advanced economies (30 percent). In contrast, the indicator for excessive leverage, i.e., capital to assets, is used more often by advanced economies than emerging market economies.

15. **Views on leading indicators diverge.** Although a number of indicators are mentioned by respondents as forward-looking, no single indicator is cited by more than a third of them as a leading indicator. The most frequently cited indicators are credit growth or the credit-to-GDP ratio (25 percent), the ratio of banks' non-performing loans to total loans (18 percent) and changes in property or asset prices (16 percent). Only a few respondents indicate that the leading indicators are used operationally as the basis for making decisions on macroprudential policy. Others caution that, while some leading indicators provide information on the probability of future stress in the financial system, they lack predictive power.

B. Models and Tools to Assess Systemic Risk

16. **The use of quantitative models and tools is widespread.** A large majority (88 percent) of the respondents indicate that they use some type of quantitative models or tools for systemic risk identification and assessment, including all of the advanced economies and 79 percent of emerging market economies. These models and tools are used for the purpose of identifying the buildup of systemic risk (80 percent), to assess the impact of systemic risk (75 percent) and the resilience of the financial system to systemic risk (76 percent).

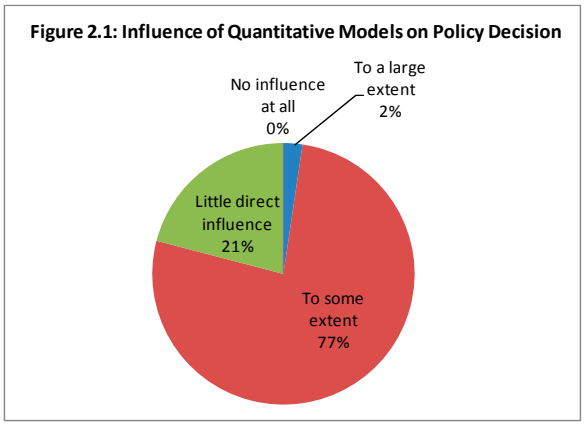
17. **A variety of models and tools are used.** The models include early warning models of financial crises (e.g., Kaminsky and Reinhart), asset price/real estate valuation models (e.g., fundamental analysis models), single-institution risk models (e.g., Merton-type, distance-to-default models, VaR models), systemic financial sector risk models (e.g., systemic CCA models, CoVaR models, distress dependence models), contagion risk models (e.g., Extreme Value Theory-based contagion models, domestic and cross-country network models), and macro-financial linkages models (e.g., sovereign CCA models, rating agency Z-score models). Stress testing is also used by many respondents as an important tool for systemic risk identification and assessment.

18. **The most extensively used models are single institution risk models.** This type of models is used by 55 percent of the respondents, followed by contagion risk models and asset price/real estate valuation models and stress testing. While stress testing is used in similar proportions by both advanced and emerging market economies, the use of other models appears to reflect the complexity of the financial system and the depth of capital markets. For instance, systemic financial sector risk models are used by a larger proportion of advanced economies than emerging market economies, while early warning models are used by a larger proportion of emerging market economies than advanced economies (Table 2.2).

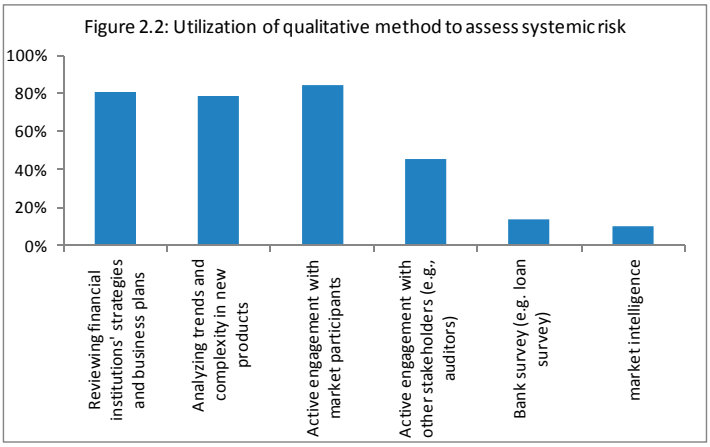
Table 2.2: Utilization of Quantitative models/tools

	Ratio (%)		
	% of respondents	Of which Advanced Economies	Of which Emerging Market Economies
Early warning models	35.3	26.1	42.9
Asset price/real estate valuation models	41.2	56.5	28.6
Single-institution models	54.9	73.9	39.3
Systematic financial sector risk models	33.3	52.2	17.9
Contagion risk models	39.2	39.1	39.3
Macro-financial linkage models	35.3	43.5	28.6
Stress test	39.2	43.5	35.7

19. **Quantitative models and tools are useful but have their limits.** A large majority of the respondents (77 percent) believe that the quantitative models and tools influence policy "to some extent", but only one country considers the influence to be "to a large extent". A sizable minority (21 percent) think that they have little direct influence on policy. Data availability is cited as a major factor limiting the models' usefulness. For some emerging markets, the lack of model building skills is also a constraint.



20. **Qualitative methods supplement quantitative ones in systemic risk assessment**. Many respondents indicate that they use a variety of qualitative methods to make a forward-looking assessment of systemic risk. These include active engagement with market participants (84 percent), reviewing financial institutions' strategy and business plans (80 percent), analyzing trends and complexity in new products or structure of financial institutions (78 percent), and active engagement with other stakeholders such as auditors (45 percent). Some respondents also make use of bank surveys (14 percent) and market intelligence (10 percent).



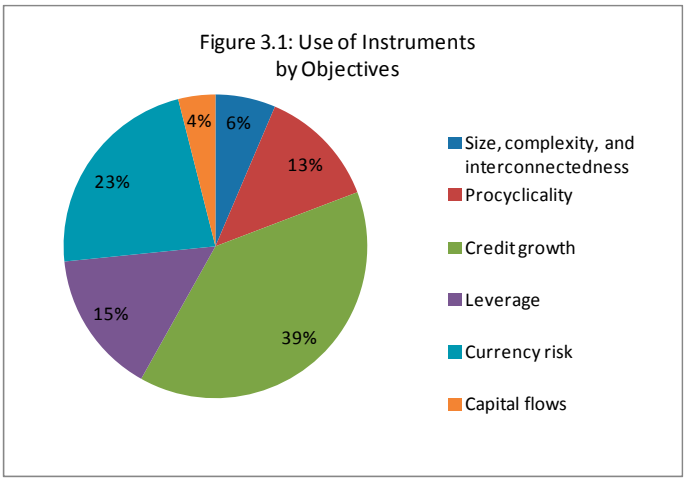
Part 3. The Macroprudential Toolkit

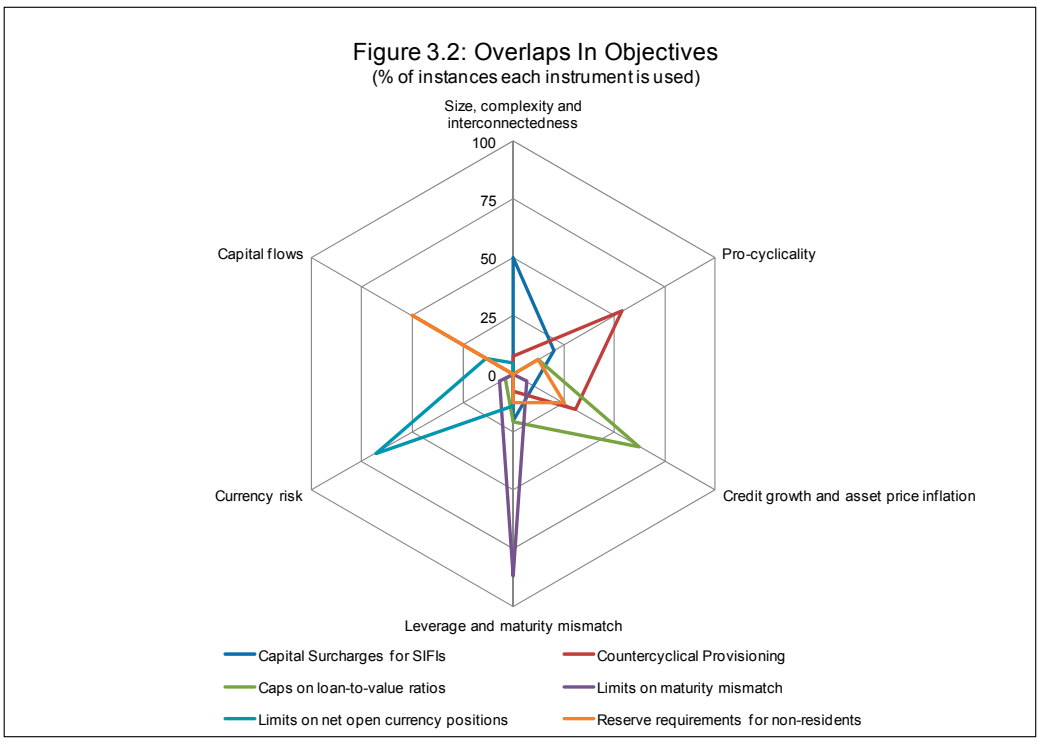
21. **Macroprudential policy is viewed as encompassing a wide range of instruments.** A total of 34 instruments are cited by respondents as potentially useful macroprudential policy tools (see Annex). The toolkit contains most notably prudential measures but also instruments of fiscal, monetary, foreign exchange and competition policies. A large majority of the respondents (86 percent) believe that the policymaker can choose a combination of the tools to achieve macroprudential objectives. A larger majority of respondents from emerging market economies (96 percent) believe so than those from advanced economies (74 percent).

22. **Many of the instruments have been used for macroprudential objectives.** A majority of respondents (73 percent) indicates that a total of 30 instruments have been used, including prudential tools (16), foreign exchange measures (6), monetary policy instruments (5) and fiscal measures (2). Increasing government-owned land sales to boost land supply is also cited as an instrument to prevent asset price bubbles. The most widely used instruments are caps on the loan-to-value ratio, limits on net open currency positions and caps on the

debt-to-income ratio. The tools are used more frequently by emerging market economies (89 percent) than by advanced economies (52 percent).

23. **The instruments are used for a multitude of objectives.** These objectives may be grouped into six categories: those related to size, complexity and interconnectedness, those associated with cyclicality, those linked to leverage, those related to credit growth and asset prices, those associated with capital flows and those related to foreign currency risk. Limiting credit growth and the associated asset price inflation is the most frequently cited objective (Figure 3.1). Of the reported instances of various macroprudential policy instruments being used, 39 percent are aimed at credit growth, followed by currency risk (23 percent), leverage (15 percent), cyclicality (13 percent), size, complexity and interconnectedness (6 percent) and capital flows (4 percent). However, there are overlaps between the objectives. Several instruments are often used to achieve the same objective while the same instrument is sometimes used to achieve several objectives. For instance, most countries use "Caps on foreign currency lending" to address foreign currency risk, but some countries also use the instrument to limit credit growth. Likewise, many countries use "Caps on the loan-to-value ratio" to limit credit growth, but some others also use it to address leverage (Figure 3.2).





24. **Some countries try to minimize currency risk and risks associated with capital flows with capital controls.** A small number of emerging market economies (mostly in Latin America and Asia) has implemented measures that target non-residents. These include unremunerated reserve requirements for non-residents, taxation of capital flows, and minimum holding periods for capital inflows. The instruments are used from time to time for the specific objective of reducing the volatility in capital inflows, and are generally considered effective. A larger number of countries have used limits on net open currency positions and caps on foreign currency lending to minimize currency risk, but these do not specifically target non-residents.

25. **The use of many of the instruments is not new.** For instance, the LTV ratio, which is the most popular instrument used by 22 countries, has been in use since the early 1990s. Eighteen countries have restrictions on LTV and another four use LTV-dependent risk weights. The second most popular instrument, limits on net open currency positions used by 15 countries, has also been in use since the early 1990s. The use of limits on exposure concentration, another popular instrument, dates back to the 1980s. Nevertheless, the instruments have been used or adjusted more frequently since the global crisis, indicating their growing importance in the evolving macroprudential policy framework. More than 70 percent of the respondents using the LTV, and 60 percent using caps on the debt/loan-to-income ratio, have started using or adjusted it since 2008. Likewise, all countries that have imposed restrictions on profit distribution (8) and sector-specific taxes (3) have started using them since 2008.

26. **The choice of policy instruments is underpinned by consideration of effectiveness and market impact.** Respondents indicate that they strive to choose instruments that are simple, effective and easy to implement with limited cost to financial institutions and minimal market distortions. It is desirable to conduct impact studies, based on both theory and empirical evidence, to assess the costs and benefits of a particular instrument. The use of the instruments for macroprudential policy purposes should be consistent with other public policy objectives (fiscal, monetary, and prudential), and it is important to choose instruments that minimize regulatory arbitrage. Some respondents believe that the instruments should target specific risks or imbalances that could trigger a crisis while others would like to limit their use to exceptional circumstances.

27. **Calibration of the instruments is based on a combined approach.** A majority of the respondents reports that they determine the value of the instruments with a combination of: learning by doing (mentioned by 72 percent of the respondents), drawing on cross-country experiences (58 percent), or using models (44 percent). Learning by doing is achieved in one of two ways: the calibration is based on local experience, which is especially important for countries that have experienced financial crises, or policymakers adjust the measures after their introduction according to their effectiveness, impact and feedback from the industry and markets. Some respondents indicate that they also use international

standards (e.g., Basel III) as a reference, while a few others refer to expert judgment in calibrating the instruments.

28. **Views vary on how to evaluate the effectiveness of macroprudential policy.** Respondents indicate that evaluating the effectiveness of specific instruments is a complex and difficult task. While a majority agrees that the effectiveness of the instruments should be measured against their ability to reduce cyclicality or volatility in the financial system, they cite a large variety of indicators to measure, ranging from credit growth, asset prices to capital flows and the current account. A number of respondents believes that the effectiveness should be evaluated with quantitative impact assessment models while other prefer qualitative assessments taking into consideration market feedback, changes in behavior of the regulated institutions and the possibility of regulatory arbitrage. Some respondents evaluate the instruments against historical trends or international benchmarks, while others emphasize that the evaluation should be based on individual country circumstances.

29. **The presence of cross-border banking poses challenges for macroprudential policy.** Many respondents mention as an issue the lack of synchronization in economic cycles and the spillover effect of policy in one jurisdiction on other jurisdictions. The countercyclical capital buffer, in particular, is considered susceptible to regulatory arbitrage if policy is not harmonized across jurisdictions. For many emerging market economies, large capital inflows caused by quantitative easing in advanced economies are a challenge. Respondents agree that, to meet the challenges, cross-border coordination and cooperation are essential. Some European respondents cite the European Systemic Risk Board as the platform for coordination and cooperation while some Asian countries cite the Executives' Meeting of East Asia-Pacific Central Banks as a platform in their region. A few emerging market respondents mention that their requirement for foreign-owned financial institutions to incorporate locally deals with a potential cross-border issue more adequately than a “branch” model.

30. **Regulatory arbitrage presents another challenge.** Respondents cite many opportunities for regulatory arbitrage, ranging from those enjoyed by unregulated institutions (hedge funds, private equity funds and other shadow banks, even nonfinancial corporations) to those provided by unregulated products (over the counter (OTC) derivatives, cross-bordering lending). In order to minimize regulatory arbitrage, many respondents believe that the regulatory perimeter should be extended to nonbank financial institutions. Policymakers and regulators should enhance information exchange and coordination to ensure consistency in policy and regulation across different segments of the financial system and across borders. In addition, important data gaps should be filled. A few respondents mention the need to collect data on nonfinancial corporations, whose leverage and derivatives transactions may result in systemic risks.

31. **Tradeoffs between policy objectives are not a universal concern.** A majority of respondents (62 percent) believes that there are tradeoffs between the objectives of

macroprudential and other public policies (microprudential, monetary, and fiscal), but only a minority (34 percent) cites instances of the tradeoffs. Quite a few respondents indicate they have experienced no tradeoffs. Some respondents consider it possible to minimize the tradeoffs by selecting macroprudential and other policy instruments carefully. A few respondents indicate that the tradeoffs will be limited if it is the same authority that implements both macroprudential and other (e.g., monetary) policies. The divergent views on policy tradeoffs may reflect the lack of clarity in the perimeter of macroprudential policy.

ANNEX. DETAILED RESULTS OF THE SURVEY

List of countries for the survey

√	Argentina	√	India	√	Poland
√	Australia	√	Indonesia	√	Portugal
√	Austria	√	Ireland	√	Romania
√	Belgium	√	Italy	√	Russian Federation
	Bolivia	√	Japan		Saudi Arabia
√	Brazil	√	Jordan	√	Serbia
√	Bulgaria		Korea	√	Singapore
√	Canada	√	Lebanon	√	Slovakia
√	Chile		Luxemburg	√	South Africa
√	China	√	Malaysia	√	Spain
√	Colombia	√	Mexico	√	Sweden
	Costa Rica	√	Mongolia	√	Switzerland
	Croatia		Morocco	√	Thailand
√	Czech Republic		Nepal	√	Turkey
	El Salvador	√	Netherlands		Ukraine
√	Finland	√	New Zealand	√	United Kingdom
√	France	√	Nigeria	√	United States
√	Germany	√	Norway	√	Uruguay
√	Greece		Pakistan		Vietnam
	Guatemala	√	Paraguay	√	ECB
√	Hong Kong SAR	√	Peru		
√	Hungary	√	Philippines		

Note: √ denotes the countries responding to the survey.

Respondents by region:

# of respondents	WHD	APD	AFR	EUR	MCD	G20	Non-G20	AD	EM
51	10	12	2	25	2	18	33	23	28

Note: The definition of advanced economies (AD) is based on MSCI classification. ECB is included in EUR, G-20, and AD.

Part 1

Question. Does any institution or authority within your jurisdiction have a formal mandate for financial stability?

	# of countries	ratio (%)	WHD	APD	AFR	EUR	MCD	G20	Non-G20	AD	EM
Yes	45	88.2	9	10	2	23	1	16	29	21	24
No	6	11.8	1	2	0	2	1	2	4	2	4

Note: Countries which do not respond to this question are included in "No".

Question. If your jurisdiction has a formal mandate for financial stability, please answer the following questions:

- Is the formal mandate made explicit in:

	# of countries	ratio (%)	WHD	APD	AFR	EUR	MCD	G20	Non-G20	AD	EM
Legislation	40	88.9	7	9	1	22	1	12	28	19	21
Decision of the Executive	3	6.7	1	2	0	0	0	2	1	2	1
Memorandum of understanding	0	0.0	0	0	0	0	0	0	0	0	0
EOLs	2	4.4	0	1	1	0	0	1	1	1	1
Other	3	6.7	1	1	0	1	0	1	2	2	1

- Which institution has been given this mandate? Please check all that are relevant.

	# of countries	ratio (%)	WHD	APD	AFR	EUR	MCD	G20	Non-G20	AD	EM
Central Bank	41	91.1	7	9	2	22	1	14	27	19	22
Integrated financial regulator/supervisor	11	24.4	2	2	0	7	0	4	7	8	3
Banking regulator/supervisor	7	15.6	1	2	0	4	0	3	4	5	2
Insurance regulator/supervisor	4	8.9	0	2	0	2	0	1	3	3	1
Securities regulator/supervisor	2	4.4	0	1	0	1	0	0	2	1	1
Ministry of Finance	10	22.2	2	2	0	6	0	2	8	5	5
Deposit insurance agency	5	11.1	2	2	0	1	0	2	3	3	2
Financial stability council/committee	14	31.1	3	3	0	8	0	4	10	7	7
Other	6	13.3	2	1	0	2	0	4	1	3	2

Question. If your jurisdiction does not have a formal mandate for financial stability, please answer the following questions:

- Are there any plans within the next three years to introduce a formal and explicit mandate for financial stability?

	# of countries	ratio (%)	WHD	APD	AFR	EUR	MCD	G20	Non-G20	AD	EM
Yes	1	20.0	0	1	0	0	0	1	0	0	1
No	2	40.0	1	0	0	1	0	0	2	1	1
Other	1	20.0	0	1	0	0	0	1	0	0	1

Question. Does any institution or authority within your jurisdiction have a formal mandate for *macroprudential policy*?

	# of countries	ratio (%)	WHD	APD	AFR	EUR	MCD	G20	Non-G20	AD	EM
Yes	22	43.1	5	6	2	8	1	8	14	8	14
No	29	56.9	5	6	0	17	1	10	19	15	14

Note: Countries which do not respond to this question are included in "No".

Question. If your jurisdiction has a formal mandate for macroprudential policy, please answer the following questions:

- Is the formal mandate made explicit in:

	# of countries	ratio (%)	WHD	APD	AFR	EUR	MCD	G20	Non-G20	AD	EM
Legislation	14	63.6	4	3	0	6	1	6	8	6	8
Decision of the Executive	2	9.1	0	1	1	0	0	1	1	0	2
Memorandum of Understanding	1	4.5	0	0	0	1	0	0	1	0	1
Exchange of letters	2	9.1	0	1	1	0	0	1	1	1	1
Other	3	13.6	1	1	0	1	0	0	3	1	2

- Which institution has been given this mandate? Please check all that are relevant.

	# of countries	ratio (%)	WHD	APD	AFR	EUR	MCD	G20	Non-G20	AD	EM
Central Bank	19	86.4	4	6	2	6	1	6	13	6	13
Integrated financial regulator/supervisor	1	4.5	0	1	0	0	0	1	0	1	0
Banking regulator/supervisor	5	22.7	1	3	0	1	0	2	3	3	2
Insurance regulator/supervisor	3	13.6	0	2	0	1	0	1	2	1	2
Securities regulator/supervisor	1	4.5	0	1	0	0	0	1	0	0	1
Ministry of finance	5	22.7	1	3	0	1	0	3	2	2	3
Deposit insurance agency	2	9.1	1	1	0	0	0	2	0	2	0
Financial stability council/committee	9	40.9	2	2	0	5	0	3	6	5	4
Other	2	9.1	1	1	0	0	0	2	0	0	2

Question. If your jurisdiction does not have a formal mandate for macroprudential policy, please answer the following questions:

- Are there any plans within the next three years to introduce a formal and explicit mandate for macroprudential policy?

	# of countries	ratio (%)	WHD	APD	AFR	EUR	MCD	G20	Non-G20	AD	EM
Yes	15	51.7	1	2	0	12	0	4	11	9	6
No	14	48.3	4	4	0	5	1	6	8	6	8

Note: Countries which do not respond to this question are included in "No".

Question. Referring to Table 1 below, please mark the appropriate column(s) for each institution with an (A) for its actual or current responsibility and a (P) for a planned future responsibility, in the following areas:

(Total)

(# of countrries)

Institution	*Macro-Prudential Responsibilities*											
	Risk Identification		*Systemic Impact Assessment*		*Lead Institution/ Coordinator*		*Decision to Take Action*		*Implementation and Enforcement*		*Reporting to Executive or Parliament*	
	A	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*
Central Bank	47	1	44	4	28	1	40	4	36	5	38	3
Integrated Financial Regulator/Supervisor	14	0	7	1	5	0	12	0	11	1	13	0
Banking Regulator/Supervisor	14	1	10	2	7	1	14	1	15	3	10	1
Insurance Regulator/Supervisor	5	0	4	0	3	0	8	0	7	1	3	0
Securities Regulator/Supervisor	5	2	3	1	1	0	8	0	8	3	4	1
Ministry of Finance	9	0	5	1	9	0	20	1	15	2	18	1
Deposit Insurance Agency	4	0	3	0	1	0	6	0	8	0	3	0
Financial Stability Council/Committee	17	3	16	3	16	3	10	5	6	2	10	6

(WHD)

(# of countrries)

Institution	*Macro-Prudential Responsibilities*											
	Risk Identification		*Systemic Impact Assessment*		*Lead Institution/ Coordinator*		*Decision to Take Action*		*Implementation and Enforcement*		*Reporting to Executive or Parliament*	
	A	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*
Central Bank	9	0	8	1	2	0	9	0	9	0	8	0
Integrated Financial Regulator/Supervisor	2	0	1	1	0	0	2	0	2	0	2	0
Banking Regulator/Supervisor	3	0	2	0	0	0	4	0	4	0	2	0
Insurance Regulator/Supervisor	0	0	0	0	0	0	2	0	2	0	0	0
Securities Regulator/Supervisor	2	1	1	0	0	0	3	0	3	1	1	1
Ministry of Finance	5	0	3	1	3	0	6	0	5	0	5	0
Deposit Insurance Agency	2	0	1	0	0	0	2	0	3	0	1	0
Financial Stability Council/Committee	3	1	3	1	2	1	2	1	0	1	2	1

(APD)

(# of countrries)

Institution	*Macro-Prudential Responsibilities*											
	Risk Identification		*Systemic Impact Assessment*		*Lead Institution/ Coordinator*		*Decision to Take Action*		*Implementation and Enforcement*		*Reporting to Executive or Parliament*	
	A	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*
Central Bank	12	0	10	1	9	0	11	0	11	0	9	1
Integrated Financial Regulator/Supervisor	3	0	2	0	2	0	3	0	3	0	3	0
Banking Regulator/Supervisor	4	0	2	0	3	0	4	0	4	0	3	0
Insurance Regulator/Supervisor	1	0	0	0	0	0	1	0	1	0	0	0
Securities Regulator/Supervisor	2	0	0	0	0	0	2	0	2	0	1	0
Ministry of Finance	2	0	1	0	2	0	5	0	3	0	4	1
Deposit Insurance Agency	0	0	0	0	0	0	1	0	2	0	1	0
Financial Stability Council/Committee	4	0	4	0	4	1	3	2	2	0	4	3

(AFR)

(# of countrries)

Institution	*Macro-Prudential Responsibilities*											
	Risk Identification		*Systemic Impact Assessment*		*Lead Institution/ Coordinator*		*Decision to Take Action*		*Implementation and Enforcement*		*Reporting to Executive or Parliament*	
	A	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*
Central Bank	2	0	2	0	2	0	1	1	1	1	2	0
Integrated Financial Regulator/Supervisor	1	0	0	0	0	0	0	0	1	0	1	0
Banking Regulator/Supervisor	1	1	1	1	0	1	1	1	1	1	1	1
Insurance Regulator/Supervisor	1	0	1	0	1	0	1	0	1	0	1	0
Securities Regulator/Supervisor	0	0	1	0	1	0	1	0	1	0	1	0
Ministry of Finance	1	0	1	0	1	0	0	1	0	1	1	0
Deposit Insurance Agency	1	0	1	0	1	0	1	0	1	0	1	0
Financial Stability Council/Committee	2	0	1	0	1	0	0	1	1	1	1	1

(EUR)

(# of countrries)

Institution	*Macro-Prudential Responsibilities*											
	Risk Identification		*Systemic Impact Assessment*		*Lead Institution/ Coordinator*		*Decision to Take Action*		*Implementation and Enforcement*		*Reporting to Executive or Parliament*	
	A	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*
Central Bank	23	1	24	1	14	1	18	3	15	3	19	2
Integrated Financial Regulator/Supervisor	8	0	4	0	3	0	7	0	5	1	7	0
Banking Regulator/Supervisor	5	0	5	0	4	0	5	0	6	1	4	0
Insurance Regulator/Supervisor	3	0	3	0	2	0	4	0	3	1	2	0
Securities Regulator/Supervisor	1	0	1	0	0	0	2	0	2	1	1	0
Ministry of Finance	1	0	0	0	3	0	9	0	7	1	8	0
Deposit Insurance Agency	1	0	1	0	0	0	2	0	2	0	0	0
Financial Stability Council/Committee	8	1	8	1	9	1	5	1	3	0	3	1

(MCD)

(# of countrries)

Institution	*Macro-Prudential Responsibilities*											
	Risk Identification		*Systemic Impact Assessment*		*Lead Institution/ Coordinator*		*Decision to Take Action*		*Implementation and Enforcement*		*Reporting to Executive or Parliament*	
	A	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*
Central Bank	1	0	0	1	1	0	1	0	0	1	0	0
Integrated Financial Regulator/Supervisor	0	0	0	0	0	0	0	0	0	0	0	0
Banking Regulator/Supervisor	1	0	0	1	0	0	0	0	0	1	0	0
Insurance Regulator/Supervisor	0	0	0	0	0	0	0	0	0	0	0	0
Securities Regulator/Supervisor	0	1	0	1	0	0	0	0	0	1	0	0
Ministry of Finance	0	0	0	0	0	0	0	0	0	0	0	0
Deposit Insurance Agency	0	0	0	0	0	0	0	0	0	0	0	0
Financial Stability Council/Committee	0	1	0	1	0	0	0	0	0	0	0	0

(G20)

(# of countrries)

Institution	*Macro-Prudential Responsibilities*											
	Risk Identification		*Systemic Impact Assessment*		*Lead Institution/ Coordinator*		*Decision to Take Action*		*Implementation and Enforcement*		*Reporting to Executive or Parliament*	
	A	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*
Central Bank	16	0	15	1	7	0	14	1	14	2	12	1
Integrated Financial Regulator/Supervisor	3	0	1	0	2	0	3	0	3	0	3	0
Banking Regulator/Supervisor	5	1	3	1	1	1	5	1	5	2	3	1
Insurance Regulator/Supervisor	2	0	1	0	0	0	3	0	3	1	1	0
Securities Regulator/Supervisor	4	0	1	0	0	0	4	0	4	1	2	0
Ministry of Finance	5	0	4	0	4	0	7	1	6	2	5	1
Deposit Insurance Agency	1	0	1	0	0	0	2	0	4	0	1	0
Financial Stability Council/Committee	6	1	7	1	6	2	3	3	0	1	5	4

(Non-G20)

(# of countrries)

Institution	*Macro-Prudential Responsibilities*											
	Risk Identification		*Systemic Impact Assessment*		*Lead Institution/ Coordinator*		*Decision to Take Action*		*Implementation and Enforcement*		*Reporting to Executive or Parliament*	
	A	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*
Central Bank	31	1	29	3	21	1	26	3	22	3	26	2
Integrated Financial Regulator/Supervisor	11	0	6	1	3	0	9	0	8	1	10	0
Banking Regulator/Supervisor	9	0	7	1	6	0	9	0	10	1	7	0
Insurance Regulator/Supervisor	3	0	3	0	3	0	5	0	4	0	2	0
Securities Regulator/Supervisor	1	2	2	1	1	0	4	0	4	2	2	1
Ministry of Finance	4	0	1	1	5	0	13	0	9	0	13	0
Deposit Insurance Agency	3	0	2	0	1	0	4	0	4	0	2	0
Financial Stability Council/Committee	11	2	9	2	10	1	7	2	6	1	5	2

(AD)

(# of countrries)

Institution	*Macro-Prudential Responsibilities*											
	Risk Identification		*Systemic Impact Assessment*		*Lead Institution/ Coordinator*		*Decision to Take Action*		*Implementation and Enforcement*		*Reporting to Executive or Parliament*	
	A	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*
Central Bank	20	1	21	1	12	1	16	3	14	3	17	2
Integrated Financial Regulator/Supervisor	8	0	4	0	4	0	7	0	6	1	7	0
Banking Regulator/Supervisor	4	0	4	0	3	0	4	0	5	1	3	0
Insurance Regulator/Supervisor	0	0	0	0	0	0	1	0	1	1	0	0
Securities Regulator/Supervisor	2	0	1	0	0	0	3	0	3	1	3	0
Ministry of Finance	3	0	2	0	3	0	8	0	7	1	8	0
Deposit Insurance Agency	1	0	1	0	0	0	3	0	5	0	2	0
Financial Stability Council/Committee	8	1	9	1	9	1	6	1	2	0	6	1

(EM)

(# of countrries)

Institution	*Macro-Prudential Responsibilities*											
	Risk Identification		*Systemic Impact Assessment*		*Lead Institution/ Coordinator*		*Decision to Take Action*		*Implementation and Enforcement*		*Reporting to Executive or Parliament*	
	A	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*	*A*	*P*
Central Bank	27	0	23	3	16	0	24	1	22	2	21	1
Integrated Financial Regulator/Supervisor	6	0	3	1	1	0	5	0	5	0	6	0
Banking Regulator/Supervisor	10	1	6	2	4	1	10	1	10	2	7	1
Insurance Regulator/Supervisor	5	0	4	0	3	0	7	0	6	0	3	0
Securities Regulator/Supervisor	3	2	2	1	1	0	5	0	5	2	1	1
Ministry of Finance	6	0	3	1	6	0	12	1	8	1	10	1
Deposit Insurance Agency	3	0	2	0	1	0	3	0	3	0	1	0
Financial Stability Council/Committee	9	2	7	2	7	2	4	4	4	2	4	5

Question. In the conduct of macroprudential policy, over what range of instruments does or will the macroprudential authority(ies) (i.e., the lead institution or other institutions involved in the policymaking process) have decision-making authority, and over what range will it (they) have only advisory or recommendation powers? Please complete the table below, indicating whether this is your actual or current practice (A) or whether this is a practice that your jurisdiction plans to establish in the future (P).

(Total)

(# of countrries)

Instruments that are available to the macroprudential authority	Level of Authority					
	Advice		Formal recommendation		Decision/ Co-decision	
	A	P	A	P	A	P
Prudential (e.g., capital and loan-to-value ratios)	18	2	18	2	33	2
Monetary (e.g., interest rate or direct instruments)	6	0	6	0	31	0
Fiscal (e.g., tax policies)	25	1	7	1	9	1
Capital controls	10	0	5	0	11	1
Exchange rate policy	6	0	5	0	22	0
Antitrust/competition policy	6	1	2	0	2	0
Other	3	0	1	0	6	0

(WHD)

(# of countrries)

Instruments that are available to the macroprudential authority	Level of Authority					
	Advice		Formal recommendation		Decision/ Co-decision	
	A	P	A	P	A	P
Prudential (e.g., capital and loan-to-value ratios)	4	0	3	0	5	0
Monetary (e.g., interest rate or direct instruments)	2	0	2	0	5	0
Fiscal (e.g., tax policies)	3	0	1	0	2	0
Capital controls	1	0	1	0	4	0
Exchange rate policy	2	0	2	0	5	0
Antitrust/competition policy	0	0	0	0	1	0
Other	1	0	1	0	1	0

(APD)

(# of countrries)

Instruments that are available to the macroprudential authority	Level of Authority					
	Advice		Formal recommendation		Decision/ Co-decision	
	A	P	A	P	A	P
Prudential (e.g., capital and loan-to-value ratios)	2	0	2	0	11	0
Monetary (e.g., interest rate or direct instruments)	0	0	1	0	11	0
Fiscal (e.g., tax policies)	5	0	2	0	4	0
Capital controls	2	0	0	0	4	1
Exchange rate policy	2	0	2	0	8	0
Antitrust/competition policy	1	1	0	0	0	0
Other	0	0	0	0	2	0

(AFR)

(# of countrries)

Instruments that are available to the macroprudential authority	Level of Authority					
	Advice		Formal recommendation		Decision/ Co-decision	
	A	P	A	P	A	P
Prudential (e.g., capital and loan-to-value ratios)	1	0	1	0	1	1
Monetary (e.g., interest rate or direct instruments)	1	0	1	0	2	0
Fiscal (e.g., tax policies)	1	1	0	1	0	1
Capital controls	1	0	0	0	0	0
Exchange rate policy	1	0	0	0	0	0
Antitrust/competition policy	2	0	1	0	1	0
Other	0	0	0	0	0	0

(EUR)

(# of countrries)

Instruments that are available to the macroprudential authority	Level of Authority					
	Advice		Formal recommendation		Decision/ Co-decision	
	A	P	A	P	A	P
Prudential (e.g., capital and loan-to-value ratios)	11	2	12	2	15	1
Monetary (e.g., interest rate or direct instruments)	3	0	2	0	12	0
Fiscal (e.g., tax policies)	15	0	4	0	3	0
Capital controls	6	0	4	0	2	0
Exchange rate policy	1	0	1	0	8	0
Antitrust/competition policy	3	0	1	0	0	0
Other	2	0	0	0	2	0

(MCD)

(# of countrries)

Instruments that are available to the macroprudential authority	Level of Authority					
	Advice		Formal recommendation		Decision/ Co-decision	
	A	P	A	P	A	P
Prudential (e.g., capital and loan-to-value ratios)	0	0	0	0	1	0
Monetary (e.g., interest rate or direct instruments)	0	0	0	0	1	0
Fiscal (e.g., tax policies)	1	0	0	0	0	0
Capital controls	0	0	0	0	1	0
Exchange rate policy	0	0	0	0	1	0
Antitrust/competition policy	0	0	0	0	0	0
Other	0	0	0	0	1	0

(G20)

(# of countrries)

Instruments that are available to the macroprudential authority	Level of Authority					
	Advice		Formal recommendation		Decision/ Co-decision	
	A	P	A	P	A	P
Prudential (e.g., capital and loan-to-value ratios)	4	2	5	2	11	2
Monetary (e.g., interest rate or direct instruments)	1	0	2	0	10	0
Fiscal (e.g., tax policies)	8	0	3	0	5	0
Capital controls	4	0	1	0	4	1
Exchange rate policy	3	0	2	0	8	0
Antitrust/competition policy	3	1	0	0	1	0
Other	2	0	1	0	4	0

(Non-G20)

(# of countrries)

Instruments that are available to the macroprudential authority	Level of Authority					
	Advice		Formal recommendation		Decision/ Co-decision	
	A	P	A	P	A	P
Prudential (e.g., capital and loan-to-value ratios)	14	0	13	0	22	0
Monetary (e.g., interest rate or direct instruments)	5	0	4	0	21	0
Fiscal (e.g., tax policies)	17	1	4	1	4	1
Capital controls	6	0	4	0	7	0
Exchange rate policy	3	0	3	0	14	0
Antitrust/competition policy	3	0	2	0	1	0
Other	1	0	0	0	2	0

(AD)

(# of countrries)

Instruments that are available to the macroprudential authority	Level of Authority					
	Advice		Formal recommendation		Decision/ Co-decision	
	A	P	A	P	A	P
Prudential (e.g., capital and loan-to-value ratios)	10	2	8	2	13	1
Monetary (e.g., interest rate or direct instruments)	2	0	1	0	8	0
Fiscal (e.g., tax policies)	11	0	0	0	2	0
Capital controls	3	0	0	0	1	0
Exchange rate policy	2	0	0	0	4	0
Antitrust/competition policy	2	0	1	0	0	0
Other	0	0	0	0	3	0

(EM)

(# of countrries)

Instruments that are available to the macroprudential authority	Level of Authority					
	Advice		Formal recommendation		Decision/ Co-decision	
	A	P	A	P	A	P
Prudential (e.g., capital and loan-to-value ratios)	8	0	10	0	20	1
Monetary (e.g., interest rate or direct instruments)	4	0	5	0	23	0
Fiscal (e.g., tax policies)	14	1	7	1	7	1
Capital controls	7	0	5	0	10	1
Exchange rate policy	4	0	5	0	18	0
Antitrust/competition policy	4	1	1	0	2	0
Other	3	0	1	0	3	0

Question. This question is about macroprudential policy coordination.

- How are controversies resolved in the event of policy disagreements?

	# of countries	ratio (%)	WHD	APD	AFR	EUR	MCD	G20	Non-G20	AD	EM
The Executive decides	6	14.0	1	1	0	4	0	3	3	2	4
Majority vote	7	16.3	1	2	0	4	0	3	4	4	3
Discussion and negotiation in committee	28	65.1	6	8	1	12	1	11	17	12	16
Other	2	4.7	1	0	0	1	0	0	2	1	1

Question. Please provide the information requested in Table 3 below. For any given reporting requirement, please indicate whether the information is made public, not made public, or is not applicable.

(Total)

(# of countrries)

Reporting requirements of institution(s) involved in financial stability and macroprudential oversight	Irregular			Regular		
	Public	Non-public	N/A	Public	Non-Public	N/A
Report to executive or parliament	7	7	1	27	7	0
Financial stability report	1	2	0	42	3	0
Minutes of meetings	2	6	0	6	18	1
Risk-warnings	5	9	1	9	13	1
Rankings of risk-warnings, with severity grading	1	7	2	3	9	2
Speech/press conference	6	0	0	1	0	0
Report of economic conditions/monetary policy	2	0	0	3	0	0

(WHD)

(# of countrries)

Reporting requirements of institution(s) involved in financial stability and macroprudential oversight	Irregular			Regular		
	Public	Non-public	N/A	Public	Non-Public	N/A
Report to executive or parliament	0	1	0	7	0	0
Financial stability report	0	0	0	9	0	0
Minutes of meetings	0	2	0	2	2	0
Risk-warnings	1	1	0	2	3	0
Rankings of risk-warnings, with severity grading	0	3	0	1	2	0
Speech/press conference	0	0	0	0	0	0
Report of economic conditions/monetary policy	0	0	0	2	0	0

(APD)

(# of countrries)

Reporting requirements of institution(s) involved in financial stability and macroprudential oversight	Irregular			Regular		
	Public	Non-public	N/A	Public	Non-Public	N/A
Report to executive or parliament	1	4	0	5	2	0
Financial stability report	0	1	0	9	1	0
Minutes of meetings	1	2	0	0	6	1
Risk-warnings	0	2	1	1	5	0
Rankings of risk-warnings, with severity grading	0	1	1	0	3	0
Speech/press conference	3	0	0	1	0	0
Report of economic conditions/monetary policy	1	0	0	0	0	0

(AFR)

(# of countrries)

Reporting requirements of institution(s) involved in financial stability and macroprudential oversight	Irregular			Regular		
	Public	Non-public	N/A	Public	Non-Public	N/A
Report to executive or parliament	0	0	0	2	0	0
Financial stability report	0	0	0	2	0	0
Minutes of meetings	0	0	0	0	2	0
Risk-warnings	0	0	0	0	1	1
Rankings of risk-warnings, with severity grading	0	0	0	0	1	1
Speech/press conference	0	0	0	0	0	0
Report of economic conditions/monetary policy	0	0	0	0	0	0

(EUR)

(# of countrries)

Reporting requirements of institution(s) involved in financial stability and macroprudential oversight	Irregular			Regular		
	Public	Non-public	N/A	Public	Non-Public	N/A
Report to executive or parliament	5	2	1	13	5	0
Financial stability report	1	1	0	22	1	0
Minutes of meetings	1	2	0	4	7	0
Risk-warnings	4	6	0	6	3	0
Rankings of risk-warnings, with severity grading	1	3	1	2	2	1
Speech/press conference	3	0	0	0	0	0
Report of economic conditions/monetary policy	1	0	0	1	0	0

(MCD)

(# of countrries)

Reporting requirements of institution(s) involved in financial stability and macroprudential oversight	Irregular			Regular		
	Public	Non-public	N/A	Public	Non-Public	N/A
Report to executive or parliament	1	0	0	0	0	0
Financial stability report	0	0	0	0	1	0
Minutes of meetings	0	0	0	0	1	0
Risk-warnings	0	0	0	0	1	0
Rankings of risk-warnings, with severity grading	0	0	0	0	1	0
Speech/press conference	0	0	0	0	0	0
Report of economic conditions/monetary policy	0	0	0	0	0	0

(G20)

(# of countrries)

Reporting requirements of institution(s) involved in financial stability and macroprudential oversight	Irregular			Regular		
	Public	Non-public	N/A	Public	Non-Public	N/A
Report to executive or parliament	1	2	1	11	3	0
Financial stability report	0	0	0	16	0	0
Minutes of meetings	1	1	0	2	8	0
Risk-warnings	0	4	1	1	4	0
Rankings of risk-warnings, with severity grading	0	4	1	0	3	0
Speech/press conference	2	0	0	1	0	0
Report of economic conditions/monetary policy	1	0	0	2	0	0

(Non-G20)

(# of countrries)

Reporting requirements of institution(s) involved in financial stability and macroprudential oversight	Irregular			Regular		
	Public	Non-public	N/A	Public	Non-Public	N/A
Report to executive or parliament	6	5	0	16	4	0
Financial stability report	1	2	0	26	3	0
Minutes of meetings	1	5	0	4	10	1
Risk-warnings	5	5	0	8	9	1
Rankings of risk-warnings, with severity grading	1	3	1	3	6	2
Speech/press conference	4	0	0	0	0	0
Report of economic conditions/monetary policy	1	0	0	1	0	0

(AD)

(# of countrries)

Reporting requirements of institution(s) involved in financial stability and macroprudential oversight	Irregular			Regular		
	Public	Non-public	N/A	Public	Non-Public	N/A
Report to executive or parliament	6	1	1	13	3	0
Financial stability report	1	1	0	20	0	0
Minutes of meetings	1	2	0	3	6	1
Risk-warnings	2	4	1	5	4	0
Rankings of risk-warnings, with severity grading	0	3	1	1	1	1
Speech/press conference	5	0	0	1	0	0
Report of economic conditions/monetary policy	1	0	0	0	0	0

(EM)

(# of countrries)

Reporting requirements of institution(s) involved in financial stability and macroprudential oversight	Irregular			Regular		
	Public	Non-public	N/A	Public	Non-Public	N/A
Report to executive or parliament	1	6	0	14	4	0
Financial stability report	0	1	0	22	3	0
Minutes of meetings	1	4	0	3	12	0
Risk-warnings	3	5	0	4	9	1
Rankings of risk-warnings, with severity grading	1	4	1	2	8	1
Speech/press conference	1	0	0	0	0	0
Report of economic conditions/monetary policy	1	0	0	3	0	0

Question. If your jurisdiction has or is actively considering introducing a financial stability council/committee with a formal mandate for macroprudential policy, please indicate the following:

- What role and powers does the council/committee have or will have in the conduct of macroprudential policy?

	# of countries	ratio (%)	WHD	APD	AFR	EUR	MCD	G20	Non-G20	AD	EM
Provide advice	15	60.0	2	2	0	11	0	5	10	8	7
Make formal recommendations	15	60.0	1	4	1	8	1	5	10	7	8
Act as lead coordinator	13	52.0	3	2	0	7	1	4	9	7	6
Take executive decisions	5	20.0	0	3	0	2	0	3	2	3	2
Other	4	16.0	0	1	0	3	0	2	2	1	3

- The manner in which the council/committee was or will be established:

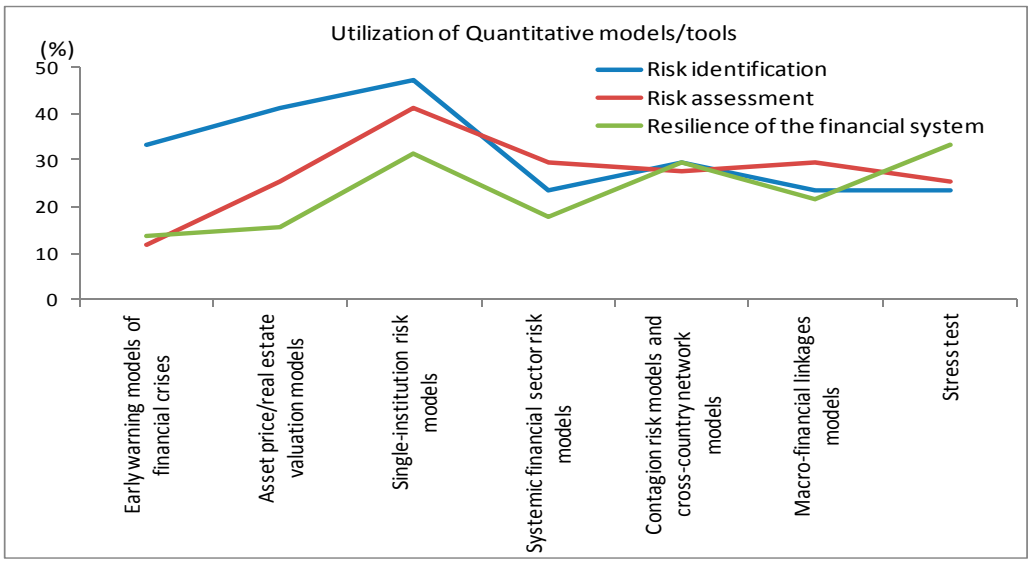
	# of countries	ratio (%)	WHD	APD	AFR	EUR	MCD	G20	Non-G20	AD	EM
Legislation	14	56.0	1	4	0	9	0	5	9	7	7
Decision of the Executive	6	24.0	2	3	1	0	0	2	4	1	5
Memorandum of Understanding	2	8.0	0	0	0	2	0	0	2	1	1
Exchange of Letters	0	0.0	0	0	0	0	0	0	0	0	0
Other	3	12.0	0	1	0	1	1	1	2	1	2

[Part 2]

Question. In monitoring systemic risk, please indicate from the drop down menu (in Excel) provided in Table 4 below the top three direct or model-based indicators you regularly monitor for each of the risk categories. The menu is by no means exhaustive so please add any indicators that you regularly monitor but are not mentioned in the list by selecting the other category. Have you identified any threshold or range that you use or could potentially use to respond to the excessive build-up of systemic risk?

Risk Category	Indicator	# of countries	Ratio (%)
Credit risk			
	Banks' nonperforming loans to total loans	41	80.4
	Credit-to-GDP	21	41.2
	Banks' nonperforming loans net of provisions to capital	18	35.3
Systemic liquidity risk			
	Liquid assets to short-term liabilities	40	78.4
	Liquid assets to total assets	32	62.7
	Funding gap	21	41.2
Leverage			
	Capital to assets (leverage)	34	66.7
	Banks' regulatory capital to risk-weighted assets	18	35.3
	Banks' regulatory Tier I capital to risk-weighted assets	17	33.3
Foreign currency exposure risk			
	Net open position in foreign exchange to capital	28	54.9
	Foreign-currency-denominated loans to total loans	24	47.1
	Foreign-currency-denominated liabilities to total liabilities	19	37.3
Asset price risk			
	Real estate price index change	27	52.9
	Asset price index change	25	49.0
	Implied stock market volatility	15	29.4
Capital flows			
	Net private capital inflows (% of GDP)	22	43.1
	Gross international reserve to short-term external debt	11	21.6
	Gross external debt (% of GDP)	9	17.6

Question. Please indicate in Table 5 the types of quantitative analytical models that your jurisdiction uses to *identify the build-up of systemic risk* (probability and timing of its materialization, including the risk of low probability but high impact events, i.e., tail risk), *assess systemic impact* (effect of risk materialization, transmission channels of risk within the financial system, and between the financial system and the economy), *and assess the resilience of the financial system to systemic risk* (ability to withstand shocks).



Question. Have the quantitative models identified in Table 5 directly influenced policy decisions?

	# of countries	ratio (%)	WHD	APD	AFR	EUR	MCD	G20	Non-G20	AD	EM
To a large extent	1	2.3	1	0	0	0	0	0	1	0	1
To some extent	33	76.7	6	9	0	17	1	11	22	16	17
Little direct influence	9	20.9	0	1	1	7	0	4	5	4	5
No influence at all	0	0.0	0	0	0	0	0	0	0	0	0

Question. What qualitative methods does your jurisdiction use to make a forward-looking assessment of systemic risks, including tail risks? Please check all that are relevant.

	# of countries	ratio (%)	WHD	APD	AFR	EUR	MCD	G20	Non-G20	AD	EM
Reviewing financial institutions' strategies and business plans	41	80.4	6	10	1	23	1	16	25	21	20
Analyzing trends and complexity in new products	40	78.4	8	9	1	21	1	15	25	18	22
Active engagement with market participants	43	84.3	8	10	1	23	1	16	27	21	22
Active engagement with other stakeholders (e.g., auditors)	23	45.1	2	8	1	11	1	10	13	11	12
Bank survey (e.g. loan survey)	7	13.7	1	1	0	5	0	1	6	1	6
market intelligence	5	9.8	1	1	0	3	0	3	2	4	1

Part 3

Question. Table 6 gives examples of policy instruments that have been used by different countries to achieve financial stability objectives. Please check the ones that you believe should be included or are currently considering as part of the toolkit of macroprudential policy in your jurisdiction. In responding to this question, you may wish to refer back to your answers in Q8.

Question. Please indicate in Table 7 the policy instruments that you are currently using or have used in the last five years to achieve the stated macroprudential policy objectives. You can draw on the instrument list provided in Table 6 above, but this list is by no means exhaustive, and you are encouraged to include other instruments that you consider appropriate. Please also feel free to add any other objectives you consider appropriate but were not included in Table 7.