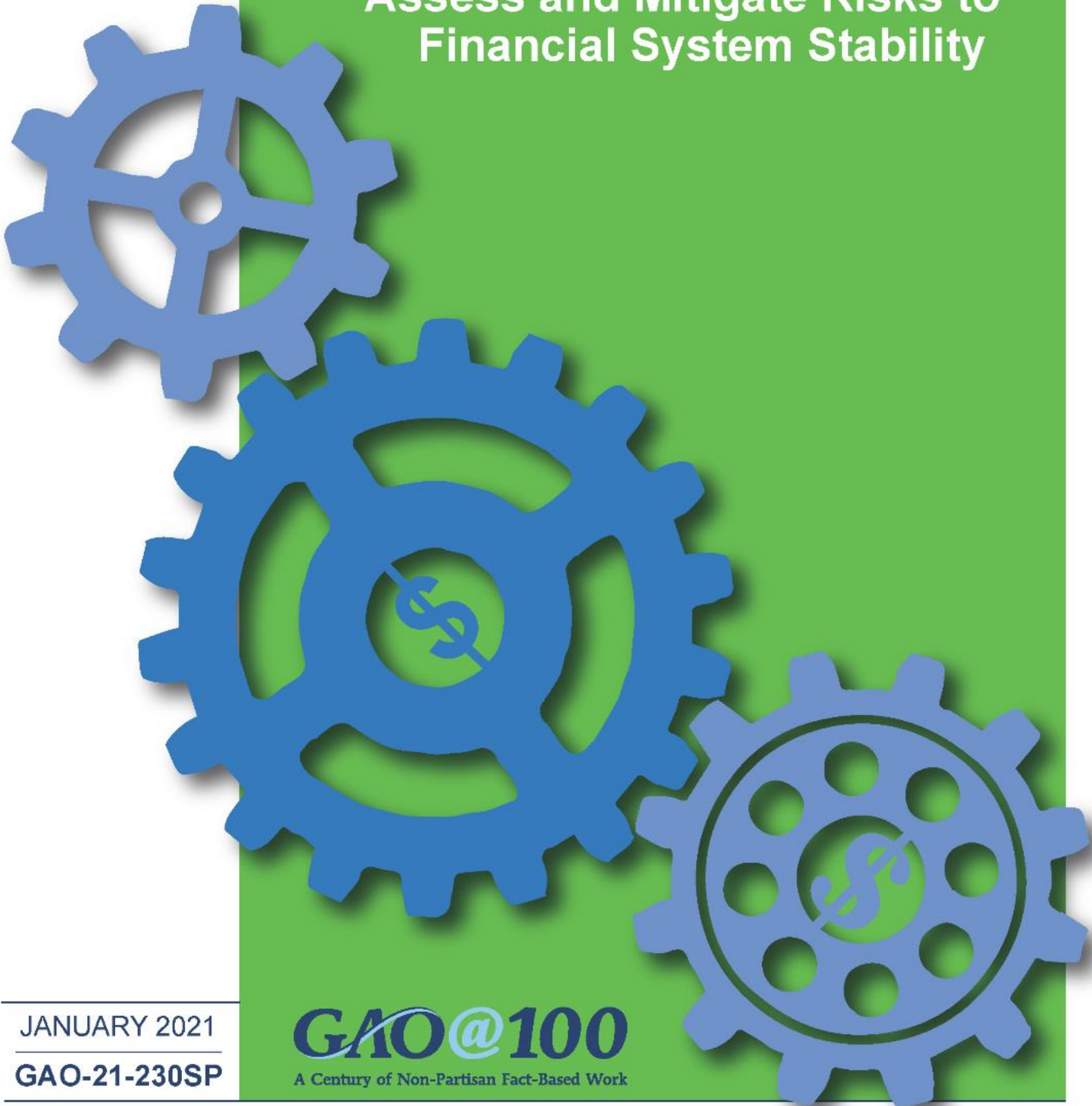




MACROPRUDENTIAL OVERSIGHT

Principles for Evaluating Policies to
Assess and Mitigate Risks to
Financial System Stability



JANUARY 2021

GAO-21-230SP

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INTRODUCTION

In response to the 2007–2009 financial crisis, Congress passed the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), which provided for a broad range of financial regulatory reforms. For example, the act established the Financial Stability Oversight Council (FSOC) to identify risks to financial stability, promote market discipline, and respond to emerging threats to financial stability in the United States.¹ Other countries have created similar entities with comparable mandates.

Framework Purpose and Intended Audience

We created the following framework to serve as criteria for assessing the financial stability efforts of FSOC and its member agencies.² It reflects consideration of our prior work and other relevant literature, internal control and risk-management standards, and discussions with a wide array of stakeholders. (See [appendix I](#) for our complete methodology.) The framework principles reflect governance and operational standards and practices that, if met, promote sound decision-making around financial stability policy. As such, it is intended as a resource not only for GAO, but also for FSOC and its member agencies (in developing and implementing financial stability policy), the Inspectors General community (in overseeing FSOC and its member agencies' activities), and Congress (in considering legislation related to financial stability). In addition, the

¹Pub. L. No. 111-203, §§ 111-23, 124 Stat. 1376, 1392-1412 (2010) (codified as amended at 12 U.S.C. §§ 5321-33). FSOC comprises 10 voting members—the heads of nine federal agencies and an independent insurance expert—and five nonvoting members who serve in an advisory capacity. The federal agencies represented are the Department of the Treasury, Consumer Financial Protection Bureau, Commodity Futures Trading Commission, Federal Deposit Insurance Corporation, Board of Governors of the Federal Reserve System, Federal Housing Finance Agency, Federal Insurance Office (nonvoting), National Credit Union Administration, Office of the Comptroller of the Currency, Office of Financial Research (nonvoting), and Securities and Exchange Commission. The other members are a state banking supervisor (nonvoting), a state insurance commissioner (nonvoting), a state securities commissioner (nonvoting), and an independent member with insurance expertise.

²Although not all FSOC members represent federal agencies, we use “member agencies” to represent all FSOC members—voting and nonvoting—including their agencies, offices, or staff involved in federal macroprudential policy.



framework may be used by legislators, regulators, and auditors in public-sector roles in other countries as well as by observers and analysts in the private sector.

Key Concepts Underlying the Framework

Several key financial stability concepts underlie the framework. The **financial system** comprises financial institutions, financial markets, and other intermediaries that perform a range of activities, including credit allocation, maturity transformation, risk transfer, liquidity provision, price discovery, and payment facilitation.³ We define **systemic risk** as the risk that an event or events—within or outside the financial system—will substantially disrupt the provision of one or more financial system activities, resulting in significant adverse effects on the real economy. For example, systemic disruptions could be triggered or exacerbated by the failure of a financial institution that is disproportionately large and interconnected with other firms and industries, by correlated losses among many small market participants, or by a major external event (such as a pandemic or terror attack) that exhausts short-term market liquidity.

Macroprudential policy aims to maintain financial stability through mechanisms—including, but not limited to, laws and regulations—to assess and mitigate potential systemic risks. The focus of macroprudential policy is reducing the likelihood of financial crises and preparing beforehand to minimize their damage to the economy when the crises occur. Therefore, our framework emphasizes the need for early action to assess and mitigate systemic risks, with the understanding that other policy areas (for example, monetary policy) may have larger roles than macroprudential policy during a financial crisis.

We use **macroprudential entity** to mean all government actors with macroprudential policy responsibilities (such as federal agencies, interagency councils, and the central bank) and a collective obligation to create and carry out macroprudential policy. Such responsibilities may include activities related to risk assessment, risk mitigation, evaluation, and the production of data and information that contribute to assessing and mitigating potential risks to financial stability. As such, a

³See Office of Financial Research, *2012 Annual Report* (Washington, D.C.: 2012): 10-11.



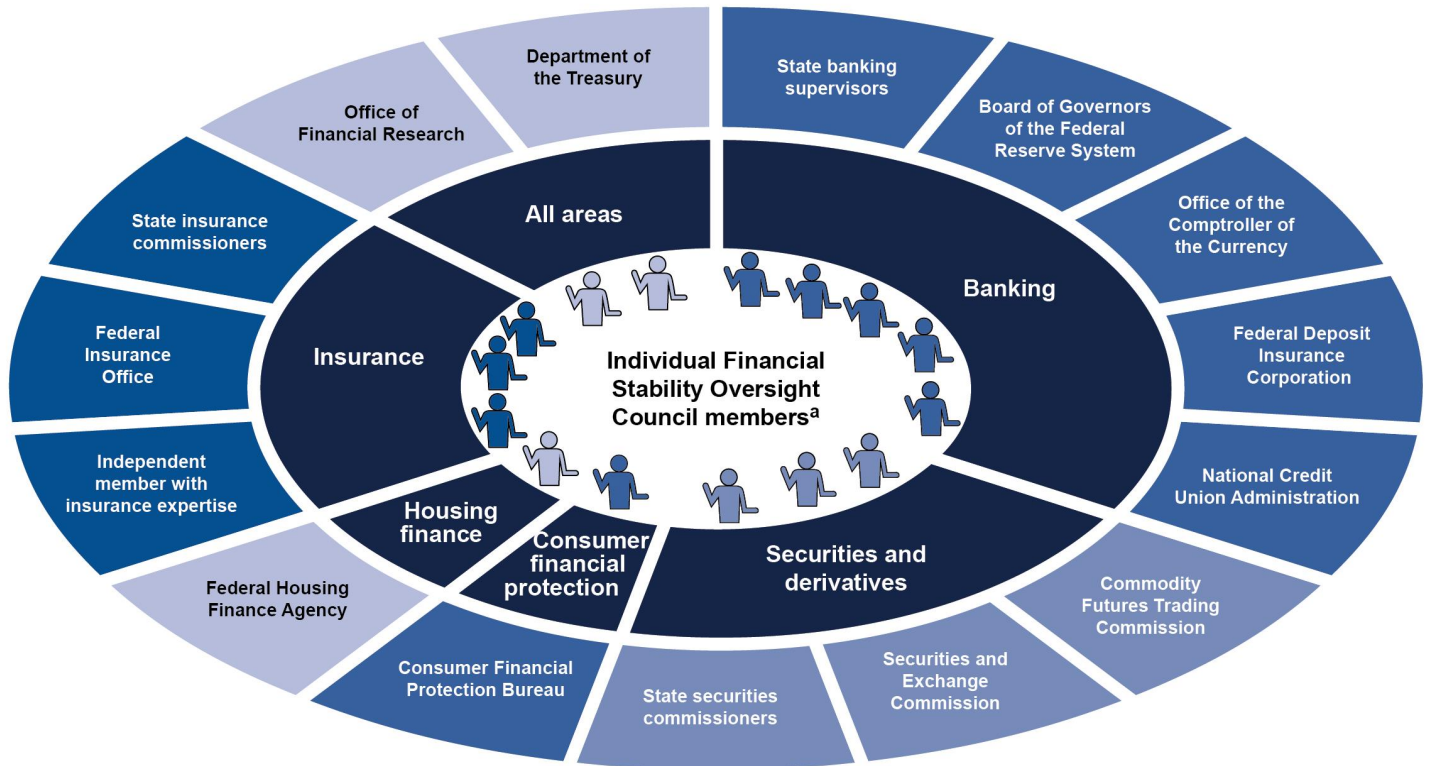
macroprudential entity may not solely refer to a specific legal entity codified in statute, such as a financial stability committee.⁴ It also would include agencies or individuals that are members of the committee—many of which may have a microprudential focus (for example, on a particular set of markets or institutions). In the United States, the macroprudential entity consists of FSOC and its member agencies, some of which have statutory macroprudential responsibilities independent of FSOC (see fig. 1).⁵

⁴As of February 2019, 47 countries out of a sample of 58 countries with advanced or emerging economies had multi-agency financial stability committees. In the remaining 11 countries, which were mostly smaller in population, the central bank or a single prudential regulator served as the macroprudential entity. See Rochelle M. Edge and J. Nellie Liang, “New Financial Stability Governance Structures and Central Banks,” Hutchins Center Working Paper no. 50 (Washington, D.C.: 2019).

⁵For example, the Dodd-Frank Act established the Orderly Liquidation Authority as a regulatory alternative to bankruptcy for resolving failed, systemically important financial institutions. Under the Orderly Liquidation Authority, the Secretary of the Treasury may appoint the Federal Deposit Insurance Corporation as a receiver to resolve those companies. The Dodd-Frank Act also provides FSOC three distinct designation authorities that, if invoked, require certain federal agencies to impose enhanced standards on designated entities or financial institutions conducting designated activities. Under one of these authorities, FSOC can designate a nonbank financial company for consolidated supervision by the Board of Governors of the Federal Reserve System and enhanced prudential standards.



Figure 1: The Financial Stability Oversight Council and Its Members



Source: GAO. | GAO-21-230SP

^aThe individual members of the Financial Stability Oversight Council are the Secretary of the Treasury (Chairperson of the Council); the Chairs of the Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, Commodity Futures Trading Commission, Securities and Exchange Commission, and National Credit Union Administration Board; the Comptroller of the Currency; the Directors of the Consumer Financial Protection Bureau, Federal Housing Finance Agency, Federal Insurance Office (nonvoting), and Office of Financial Research (nonvoting); and a state banking supervisor (nonvoting), state insurance commissioner (nonvoting), state securities commissioner (nonvoting), and independent member with insurance expertise.

Framework Design and Use

The framework includes 18 key principles and related standards, within six general components, related to the legislative and regulatory foundation for financial stability policy and to the activities that put such policy into operation (see table 1). The principles are often interdependent; therefore, some principles are best interpreted based on how they relate to other principles. Unless otherwise specified, the framework is applicable to the macroprudential entity's principal governing body and any government actors with macroprudential



responsibilities. (In the case of a financial stability committee, the macroprudential entity generally would comprise the committee and its member agencies). Government actors are responsible for meeting or contributing to framework principles as they relate to the actors’ individual areas of macroprudential responsibility or authority. The framework allows for flexibility in how the entity’s governing body and individual government actors meet the principles. The contributions of the government actors may vary depending on their responsibilities and authorities, but the end result should be a comprehensive approach to macroprudential policy by the macroprudential entity as a whole.

Table 1: GAO Framework for Evaluating Macroprudential Policy

Component	Principles
	The macroprudential entity should:
Mandate and scope	<ul style="list-style-type: none"> • Have a clear mandate • Have a scope of responsibilities that extends across the financial system • Establish measurable and specific intermediate objectives reflecting the full scope of its responsibilities
Governance	<ul style="list-style-type: none"> • Have a governance structure promoting willingness to mitigate risks to financial stability in a timely manner • Have authorities promoting ability to act consistent with mandate and scope • Have transparency requirements promoting the effectiveness, legitimacy, and predictability of macroprudential policy
Risk assessment	<ul style="list-style-type: none"> • Establish a risk-assessment program corresponding to the scope of the financial system and the entity’s intermediate objectives • Identify and analyze potential sources of systemic risk • Develop criteria to evaluate significance of risk • Establish policies and procedures to conduct systematic risk assessments
Risk mitigation	<ul style="list-style-type: none"> • Develop a range of macroprudential tools consistent with mandate and scope of responsibilities • Develop policies and procedures for conducting risk-mitigation activities
Evaluation	<ul style="list-style-type: none"> • Evaluate effectiveness of its efforts • Document and communicate evaluation findings and promptly remediate issues
Data and information	<ul style="list-style-type: none"> • Use quality data • Develop useful information for decision-making • Document information appropriately • Establish policies and procedures for sharing data and information

Source: GAO. | GAO-21-230SP



MANDATE AND SCOPE

The macroprudential entity should have a clear mandate.

The macroprudential entity should have a clear statutory mandate, which establishes the overall objective of macroprudential policy and serves as the foundation for accountability and effective use of macroprudential authorities. When macroprudential responsibilities are allocated across more than one government actor—for example, members of a financial stability committee—each actor (including the committee itself) should have a clear mandate, consistent with its macroprudential authorities (see [Governance](#)). While there is broad agreement that macroprudential policy is concerned with the promotion of financial stability, this concept on its own may not be sufficiently precise to guide the macroprudential entity in carrying out its responsibilities or to aid the public in holding the entity accountable. Therefore, the macroprudential entity may need to further articulate its mandate to improve the transparency and accountability of macroprudential policy.

The promotion of financial stability is primarily achieved through improving the resilience of the financial system in advance of systemic financial stress. Articulating this and any other relevant aspects of financial stability could aid the macroprudential entity in further clarifying its mandate and improve public understanding.⁶ Moreover, while improving the resilience of the financial system is intended to reduce the severity of recessions associated with financial stress, the achievement of the macroprudential policy mandate is not intended to eliminate fluctuations in asset prices or the economy, or shield the shareholders or managers of financial institutions from losses.

⁶For a discussion of the role of financial system resilience in the promotion of financial stability, see International Monetary Fund, Financial Stability Board, and Bank for International Settlements, *Elements of Effective Macroprudential Policies: Lessons from International Experience* (Aug. 31, 2016). For a discussion of whether financial stability might require a more ambitious mandate, including more actively reducing the amplitude of financial cycles, see Committee on the Global Financial System, *Objective-setting and Communication of Macroprudential Policies*, CGFS Paper no. 57 (November 2016); and Dirk Schoenmaker, *Macroprudentialism* (CEPR Press: 2014).



The macroprudential entity should have a scope of responsibilities that extends across the financial system.

The macroprudential entity should have a statutory scope of responsibilities that extends across the financial system. When macroprudential responsibilities are allocated across more than one government actor—for example, members of a financial stability committee—the responsibilities of those actors taken together, rather than individually, should extend across the financial system. If the entity’s statutory scope of responsibilities is not sufficiently clear or precise, the macroprudential entity should further articulate the scope, including by explicitly defining the financial system, and amending its definition as needed to account for changes in the system. For example, in defining the financial system, the macroprudential entity could identify the principal markets, institutions, and other intermediaries that make up the system. These steps provide a foundation for efforts to assess (through data collection and risk assessment) and mitigate (through risk-mitigation activities) systemic risks, regardless of where they arise.

The macroprudential entity should establish measurable and specific intermediate objectives that reflect the full scope of its responsibilities.

The macroprudential entity should establish measurable and specific intermediate objectives that link the entity’s mandate (overall objective) to financial conditions and macroprudential actions that influence the achievement of the mandate. Intermediate objectives should address the full scope of the macroprudential entity’s responsibilities—for example, across types of financial institutions and markets and aspects of their resilience. When macroprudential responsibilities are allocated across more than one government actor—for example, members of a financial stability committee—intermediate objectives should be established in collaboration or coordination with other relevant actors to eliminate gaps and address any overlap or connections between intermediate objectives. Intermediate objectives should be established in parallel with the establishment of risk tolerances (see [Risk Assessment](#)) and in light of



assessments of the impacts of macroprudential policies on the cost and availability of financial services, including any ultimate impact on economic growth (see [Risk Mitigation](#)). These objectives provide a basis for evaluating the results of risk assessments and the outcomes of risk-mitigation activities.

Intermediate objectives should be measurable and specific.⁷ Intermediate objectives related to financial conditions—for example, the liquidity of certain financial intermediaries—should be monitored with the aid of quantitative indicators.⁸ Other intermediate objectives, such as those related to structural vulnerabilities or policy developments, may not be amenable to monitoring with quantitative indicators but still should be measurable and specific.⁹ Establishing measurable and specific objectives is not intended to encourage macroprudential decision-making based on precise or inflexible quantitative targets. Rather, intermediate objectives help the macroprudential entity and the public assess progress toward achieving objectives.

⁷An objective is measurable when performance toward achieving it can be assessed. An objective is specific when it is clearly set forth and easily understood. See GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 10, 2014).

⁸For example, an individual risk indicator could measure the liquid assets available to certain financial intermediaries or their reliance on unstable funding. Indicators also could be the output of more sophisticated analytical tools, like stress tests, which could be used to measure the level of liquidity required to survive a severe economic downturn.

⁹For example, a qualitative intermediate objective to develop a risk-mitigation tool to improve liquidity among certain financial intermediaries would be measurable and specific if it specified the standards, responsible party, and time frame for developing the tool.



GOVERNANCE

The macroprudential entity should have a governance structure that promotes the willingness to mitigate risks to financial stability in a timely manner.

Decision-making structures in the macroprudential entity, including its principal governing body (for example, a financial stability committee), should provide reasonable assurance that the entity will assess and mitigate threats to financial stability in a timely manner. However, macroprudential policy actions can be unpopular because they are forward-looking and likely to impinge on the short-term profitability of institutions and investors. To promote willingness to act, the entity's institutional design—including key decision-making processes—seeks to reduce bias towards inaction. The design should include the following structural characteristics:

- Significant operational independence
- Decision-making for risk-mitigation actions based primarily on simple majority agreement rather than supermajority or unanimous consent

Operational independence in a federal agency or organization refers to greater autonomy from presidential or legislative direction and insulation from partisan politics. An independent agency structure is thought to partially insulate the agency from short-term political concerns. In determining the extent and nature of the macroprudential entity's operational independence, the following aspects of independence should be considered:

- Leadership independence (see text box)
- Independent data and information collection, rulemaking, and risk mitigation
- Independent publishing of reports, testimony, and other relevant documents
- An independent source of funding



Promoting Leadership Independence

Leadership independence in a macroprudential entity’s principal governing body can be fostered in several ways. Most macroprudential entities are governed through a committee structure, whether a board of directors of a central bank or a financial stability committee. Where committee members are appointed, setting term lengths that differ from the head of government and from each other can support operational independence, as can protecting committee leadership from at-will removal by the head of government. Also, setting qualifications for appointment encourages nominees with greater experience and expertise. Most central banks are designed to be operationally independent and generally feature these characteristics. In the case of a financial stability committee, consideration also should be given to the appropriate role of the Department of the Treasury (or its equivalent) in terms of leadership independence. The participation of the Department of the Treasury (or its equivalent) in the committee can be important for promoting the legitimacy of macroprudential decisions and providing key expertise. However, its designation as committee chair would be inconsistent with the operational independence of the financial stability committee to the extent the chair has veto authority over committee decisions or control over its agenda or other significant work streams.

Source: GAO analysis of government, academic, and international organization literature. | GAO-21-230SP

To further promote willingness to act, decision-making for establishing or directing risk-mitigation actions primarily should be based on simple majority agreement. Simple majority agreement reduces delays in the implementation or activation of macroprudential tools and therefore helps ensure that risk mitigation is timely and proactive. However, there are some circumstances in which requiring supermajority agreement or unanimous consent may be more appropriate. A macroprudential entity may be required to seek supermajority agreement when the risk-mitigation action would have an unusually broad or significant impact on the provision of financial services—for example, significant costs or new requirements for financial institutions or activities not already subject to regulatory oversight.

The macroprudential entity should have authorities that promote the ability to act consistent with its mandate and scope.

The macroprudential entity should have clear and specific statutory authorities that provide a reasonable assurance that it can assess and mitigate threats to financial stability consistent with its mandate and scope of responsibilities. More specifically, the entity should have authority to

- assess risks across the financial system (see [Risk Assessment](#));



- establish and direct or implement delineated macroprudential tools to mitigate risk across the financial system (see sidebar and [Risk Mitigation](#)); and
- collect, share, and use quality data and information—quantitative and qualitative—from government and industry from across the financial system; evaluate data sources to promote quality; and develop standards to enhance data comparability (see [Data and Information](#)).

Authority to Direct

The macroprudential entity's principal governing body may possess authority to direct other agencies with macroprudential functions to activate risk-mitigation tools. For example, in the United States, the Financial Stability Oversight Council has done so through its authority to designate systemically important financial institutions for heightened supervision by the Board of Governors of the Federal Reserve System.

Source: GAO analysis of the Dodd-Frank Wall Street Reform and Consumer Protection Act and government, academic, and international organization literature. | GAO-21-230SP

The macroprudential entity should have transparency requirements to promote the effectiveness, legitimacy, and predictability of macroprudential policy.

To promote the effectiveness, legitimacy, and predictability of macroprudential policy, the macroprudential entity's principal governing body (in most instances, a financial stability committee) should have strong transparency requirements. Transparency helps to enhance the entity's accountability, which can increase public support for its policy decisions. These transparency requirements are balanced with the need to provide adequate protections for sensitive data and information. The entity should be required to publicly disclose information about its efforts to address systemic risk, including:

- Major policy decisions, including the entity's definition of the financial system, its intermediate objectives, its process for aligning risk-assessment activities with its definition of the financial system, and its tools for mitigating existing or potential systemic risks (macroprudential toolkit)
- Information about risk assessments, risk-mitigation actions, and evaluation activities using aggregated data
- How its risk assessments, risk-mitigation actions, evaluations, and intermediate objectives are linked
- How its actions influence financial stability

The entity should be required to report regularly to top elected officials (e.g., the President), the legislative body (e.g., Congress), or the general public, or testify before the legislative body on the status of macroprudential policy.

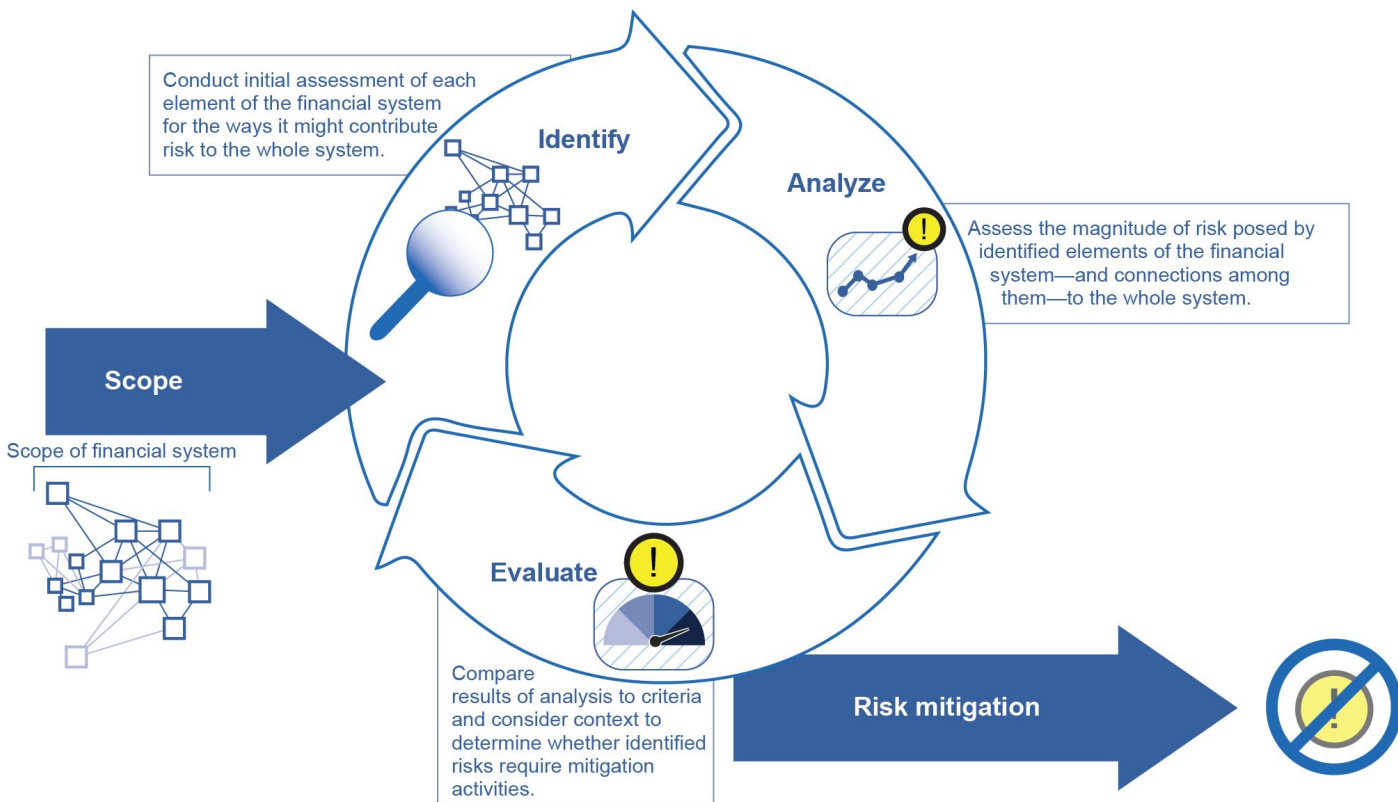


RISK ASSESSMENT

The macroprudential entity should establish a risk-assessment program that corresponds to the scope of the financial system and the entity’s intermediate objectives.

The macroprudential entity should establish a risk-assessment program, which includes risk identification, analysis, and evaluation activities that correspond to the scope of the financial system and the entity’s intermediate objectives (see fig. 2).

Figure 2: Risk-Assessment Program



Source: GAO. | GAO-21-230SP



This program should document which risk assessments are relevant to which aspects of the macroprudential entity's scope of responsibilities, and document the breadth of each assessment, including what is excluded. As new elements of the economy emerge that may pose systemic risk, the macroprudential entity should have an established process to identify and incorporate the new elements into its risk-assessment program. Risk-assessment policies and procedures should allow the macroprudential entity to expand or adjust its definition of the financial system as markets evolve.

The macroprudential entity should identify and analyze potential sources of systemic risk.

The macroprudential entity should develop policies and procedures to identify and analyze the contribution to systemic risk of all relevant attributes of financial institutions, activities, and markets. The risk-identification process should consider the full scope of the financial system and involve an initial assessment of the ways that an element of the system might contribute risk to the whole system.

The macroprudential entity then conducts analyses to assess the magnitude of risk that the identified attributes pose to the financial system. Risk analyses should be designed to contribute to an assessment of the stability of the financial system as a whole rather than of risks in isolation.

In particular, the macroprudential entity should assess how vulnerabilities in one area might affect vulnerabilities in other areas during periods of financial stress. To the extent feasible, risk analyses should include consideration of risks that originate internationally. Additionally, the entity should assess the potential for risks to migrate to new parts of the financial system in response to regulation of another part of the system. Finally, the entity should coordinate across its risk-assessment program to ensure a reasonable degree of consistency among measurement approaches in its analyses: similar risks across the financial system should be assessed using similar methods to the extent feasible.

The macroprudential entity should develop and use analytical tools to assist in identifying and analyzing potential sources of systemic risks across the scope of its responsibilities. Such tools assist the entity in estimating the likelihood and severity of potential systemic risks and economic consequences of those risks if they were realized. These



analytical tools can range from individual risk indicators to risk aggregators such as dashboards, early warning models, and stress tests. The macroprudential entity can use existing quantitative and qualitative methods for aggregating multiple contributors of risk into overall measures of risk—to the stability of an entity, product, sector, and the financial system as a whole. To the extent that existing methods do not allow for a reliable analysis of systemic risk to inform effective decision-making, the macroprudential entity should establish research programs to continue the development of analytic methods to assess systemic risk (see [Data and Information](#)).

The macroprudential entity should develop criteria to evaluate the significance of risk.

The macroprudential entity should develop criteria for evaluating whether risk mitigation activities are necessary. The criteria should be documented and include

- an articulation of specific risk tolerances, describing the acceptable level of systemic risk from the source being evaluated; and
- risk thresholds, describing the range of outcomes for each risk analysis that would trigger further action.

While criteria are generally set at the start of a risk-assessment cycle, they are dynamic and should be reviewed and amended if necessary. Rather than applying “bright-line” thresholds to trigger action, the entity should develop and document a process by which it incorporates the context of the analysis into the evaluation criteria. Contextual factors could include the nature and type of uncertainties involved in the risk analysis and incorporate time-related factors like the business cycle. Risk assessments therefore conclude with an evaluation of risk analyses’ outcomes against the combination of pre-determined criteria for further action and the context in which the analysis took place. This evaluation step should result in recommendations to those responsible for risk-mitigation activities, such as to activate or adjust macroprudential tools.

The macroprudential entity should establish policies and procedures to conduct systematic risk assessments.

The macroprudential entity should establish policies and procedures to conduct risk assessments in a systematic and timely fashion. A calendar



of risk-assessment activities should be developed, which could be informed by the

- identification of the appropriate frequency of risk assessment,
- consideration of how to combine or sequence multiple risk assessments,
- availability of appropriate and up-to-date analysis inputs, and
- timing of decision points such as committee meetings or annual reports.

The risk-assessment program should be adaptive, allowing for new experiences, knowledge, and analysis to lead to revisions of each stage of the assessment. It should be regularly informed by the results of evaluations of the entity's effectiveness (see [Evaluation](#)).

Finally, the macroprudential entity should establish policies and procedures that clarify roles and responsibilities for risk-assessment activities. In systems in which risk-assessment responsibilities are distributed across multiple agencies, policies and procedures should be developed to ensure adequate coordination to allow for a systemwide, integrated assessment. The entity should include all relevant stakeholder entities in the development of risk-assessment methods and criteria for risk evaluation, particularly any agencies with delegated responsibilities for reporting data or with knowledge of emerging sources of risk.



RISK MITIGATION

The macroprudential entity should develop a range of macroprudential tools consistent with its mandate and scope of responsibilities.

The macroprudential entity should develop a comprehensive toolkit based on its statutory authorities to mitigate existing or potential systemic risks before these risks fully materialize. In building its toolkit, the entity can identify and adapt existing tools (which may include microprudential or consumer protection tools) and develop additional tools as needed.

The macroprudential entity should develop tools needed to achieve its intermediate objectives and mitigate the risks it has identified (see [Risk Assessment](#)). Identifying which tools correspond to which risks helps the entity determine if any additional tools are needed to mitigate systemic risks in a timely manner. The macroprudential entity should communicate to the legislature the need for any additional tools for which it does not have statutory authority.

The macroprudential toolkit should have both time-varying and structural elements. Time-varying tools (also referred to as cyclical tools) address systemic risks that vary in magnitude over time. Examples of such tools include countercyclical capital or liquidity buffers. Structural tools address risks that are likely to remain systemic over time. Examples of these tools include capital surcharges and orderly resolution mechanisms for systemically important financial institutions, reforms to reduce structural instability, or loan limits for borrowers or lenders. These categories of tools are overlapping—that is, structural tools may have cyclical components and vice versa.

The macroprudential entity should formally and publicly establish its tools well in advance of potentially systemic financial stress to ensure its ability to act quickly and improve the predictability of policy for the financial industry. The entity should publicly summarize and obtain comment on the tool before implementing it. This summary should include key information about the tool, such as the intermediate objective or objectives the tool is designed to achieve and the related risks it is intended to mitigate, the entity's assessment of the tool's appropriateness



and estimated net benefits, and the proposed methods for activating and calibrating (setting or adjusting at a given level) the tool consistent with relevant intermediate objectives, risk assessments, and evaluation findings on the tool’s effectiveness.

The macroprudential entity should develop policies and procedures for conducting risk-mitigation activities.

Proactive Use of Macroprudential Tools

Advance toolkit development allows the macroprudential entity to proactively use those tools to prevent or mitigate future systemic stress. For example, the entity could undertake reforms to increase the structural stability of certain markets or intermediaries or require potential systemically important financial institutions to plan for their orderly resolution should they fail. Using tools well in advance of potentially systemic financial stress improves their effectiveness and predictability. For example, the entity could employ time-varying tools, such as countercyclical capital buffers, that require financial institutions to put aside more capital during economic boom times. This allows them to draw down their capital buffers in times of stress—thus increasing their ability to weather temporary losses and avoid the need to rapidly sell assets during a crisis.

Source: GAO analysis of academic and international organization literature. | GAO-21-230SP

The macroprudential entity should design policies and procedures to efficiently and consistently implement and calibrate macroprudential tools well in advance of potentially systemic financial stress (see sidebar).

The entity’s policies and procedures should ensure the entity’s reliance on its risk-assessment and evaluation results in deciding when to activate or how to calibrate a given tool. They also should allow for the exercise of judgment in weighing other factors that may inform such decisions, including

- the tool’s potential costs, such as its impact on the cost and availability of financial services and any ultimate impact on economic growth, and its potential benefits, such as the increased resilience of financial institutions contributing to fewer or less severe financial crises and less volatile economic growth during noncrisis periods;
- the likelihood of any spillover effects (positive or negative economic changes in one or more jurisdictions resulting from a change in another jurisdiction) or risk migration (the movement of financial activity outside of the reach of macroprudential policies); and
- other factors for consideration, such as the tool’s potential interaction with concurrent macroprudential, microprudential, monetary, or fiscal policies.

Documentation of the entity’s rationale for tool activation and calibration decisions helps ensure accountability and supports evaluation activities.

Policies and procedures also should establish how the macroprudential entity will coordinate and communicate around the activation of macroprudential tools. Policies and procedures may include

- appropriate coordination mechanisms and criteria for how responsibilities will be shared to manage activation and avoid policy inaction in cases in which more than one government actor has responsibility for activating a risk-mitigation tool;



- how the entity will communicate with relevant industry participants about tool activation; and
- how the entity will communicate with international macroprudential entities—such as through the Financial Stability Board—to facilitate discussion of negative spillover effects or risk migration from a given tool’s activation.

EVALUATION

The macroprudential entity should evaluate the effectiveness of its efforts.

The macroprudential entity should evaluate the effectiveness of all activities within its control and identify recommended statutory changes where appropriate. The entity should evaluate its effectiveness in

- articulating its mandate and definition of the financial system and setting intermediate objectives;
- achieving transparency;
- assessing and mitigating risk; and
- collecting, managing, and sharing data and information and communicating internally and externally.

Evaluations may cover both the substance of the activities and the policies and procedures the entity uses to put them into operation. Evaluations might identify gaps or limitations that are related to the entity’s statutorily determined mandate, scope, structure, or authorities.

The macroprudential entity should develop policies and procedures to ensure timely, objective, and consistent evaluation of policy efforts that incorporates input from all relevant government actors. In addition to performing its own evaluations, the entity should cooperate with third-party evaluation efforts (for example, audits by the Inspectors General community or GAO) by providing timely and complete information, identifying sensitive or confidential information as appropriate.



The macroprudential entity should document and communicate evaluation findings and promptly remediate issues.

The macroprudential entity should document evaluation findings thoroughly and consistently and communicate findings and recommendations to relevant parties on a timely basis. To accomplish this, the entity may establish policies and procedures for the appropriate persons or offices with which evaluation findings must be shared and on the level of information to provide internally and externally, as well as how the entity will communicate any recommended statutory changes to the legislative body.

The macroprudential entity should promptly remediate any issues identified by internal or third-party evaluations. When macroprudential responsibilities are allocated across more than one government actor—for example, members of a financial stability committee—each actor remediates any issues related to its activities.

DATA AND INFORMATION

The macroprudential entity should use quality data.

The macroprudential entity's principal governing body should maintain or designate an actor to maintain an entity-wide inventory of the major sources of data (raw inputs) used to implement its mandate. It should regularly assess how the data pertain to the full scope of the entity's macroprudential responsibilities and whether they are of sufficient quality. Assessments should include documentation and identify any gaps or redundancies in coverage. When relevant, appropriate, and current data do not cover the full scope of the entity's responsibility or are not of sufficient quality, the entity should collect or acquire such data, following best practices in data collection, or should mitigate its absence. But if there are data-coverage redundancies, the entity should avoid duplicative data collection. The approach the entity uses to collect or acquire data or improve its quality should balance the need for the data, possible alternatives, and the cost of collection incurred by both the government and industry. If data acquisition or collection is not feasible, the entity



should develop appropriate mitigation strategies, such as the use of proxies, simulated data, or assumed values for unavailable quantitative data and expert views for unavailable qualitative data.

The macroprudential entity should promote, coordinate, and facilitate the development of standards to enhance data comparability. To be useful for macroprudential analysis, data should allow for reasonable comparisons across firms, jurisdictions, and subsectors of the financial system. Particularly when data (such as from financial statements, call reports, or other business sources) were collected for a different purpose, the macroprudential entity should ensure data are sufficiently comparable or are adapted to make them so. In some cases, rather than changing the data collection process, the entity could apply post-collection data-standardization procedures.

The macroprudential entity should develop useful information for decision-making.

The macroprudential entity should identify appropriate methods to provide decision makers with useful, timely, and accurate information—that is, data that have been analyzed to add context required for decision-making. Such information is used for risk-assessment, risk-mitigation, and evaluation activities, and encompasses a wide range of formats, from summaries of conversations with industry participants to the output of quantitative stress-testing models.

The entity should develop and adapt methods to continually improve the usefulness, timeliness, and accuracy of its information through a robust research program. For example, the macroprudential entity should regularly test its analyses and assess the assumptions, exclusions, and limitations inherent in all its information development programs for the risk they introduce (see text box).



Sources of Risk in Information Development

Information development programs process input data (quantitative or qualitative) and assumptions into information for decision-making. Information is an inherently simplified representation of complex, real-world relationships and therefore can introduce risk that decisions will be based on poor or inappropriately applied information.

Risk can be introduced by

- **Assumptions.** Assumptions can be made about inputs (e.g., that inflation will increase by a specific percent per year); statistical properties of data (e.g., that a variable, such as a default rate, is normally distributed and substantial deviations from the mean are very rare events); or the appropriate outcome measure (e.g., that a measurable proxy for liquidity will continue to proxy for liquidity even when under stress). These assumptions can turn out to be incorrect in important ways that invalidate an analysis.
- **Exclusions.** Information development processes have a scope that is driven by a combination of relevance determinations (e.g., limiting assessment to institutions with assets above a specific threshold) and data availability (e.g., limiting an assessment to regulated entities because other entities do not provide data on a particular activity). Sometimes those exclusions are inappropriate and can have a material effect—they can make the output unrepresentative of underlying conditions.
- **Limitations.** Analyses are designed to illuminate a particular set of conclusions (e.g., a stress test examines the implications of a recession that leads to widespread de-leveraging) that may or may not be applicable to other scenarios (e.g., the consequences of an external shock, such as a pandemic). If those limitations are not well understood, decision makers may not fully appreciate what information they lack in the face of a novel event.

Source: GAO analysis of government publications and international risk-assessment standards. | GAO-21-230SP

The entity should assess if information is misleading, inaccurate, or dated—and conduct research to mitigate the most serious limitations. In addition to conducting research internally, the entity could adapt relevant innovations developed in academia and industry and foster development of promising methodological advances through academic partnerships, grants, conferences, or other research agenda-setting activities.

Much of the information the entity produces will be quantitative in nature, such as cost estimates or probabilities of default or failure. In developing quantitative information, the macroprudential entity should evaluate, to the extent feasible, the range of plausible outcomes under different economic scenarios. In addition, it should consider sources of uncertainty—such as inputs and assumptions used in the analysis or uncertainty about which model would best reflect reality. The entity should take care as it aggregates information to retain, as appropriate, the uncertainty measures, qualitative nuance, and context developed at lower levels of analysis.



For all information, the macroprudential entity should explicitly consider the human, organizational, and cultural aspects (for instance, status quo bias, organizational incentives, or groupthink) of the information development process. To the extent feasible, the entity should make explicit any contextual details that could affect decision makers' use of the information, and periodically review the details for appropriateness in the face of changing conditions. The entity also should explore the bases for divergent opinions and increase the diversity (demographic, methodological, ideological, and experiential) of those analyzing and interpreting data.

The macroprudential entity should document information appropriately.

The macroprudential entity's documentation of information and its supporting analyses should be systematic, consistent, and readily accessible. To help ensure the information's usefulness for decision-making, the macroprudential entity should ensure documentation is comprehensive, and includes, as appropriate, elements such as:

- A summary of the results of each supporting analysis that is accessible to decision makers and other users of the information
- The intended use of the information
- Assumptions, exclusions, and limitations of the analyses
- The human, organizational, and cultural context of analyses—including divergent opinions, biases, and risk perceptions and judgments

Documentation should accompany all information that the entity communicates, both internally and externally—with the level of detail set by the nature of the communication, its purpose, and its intended audience.

The macroprudential entity should establish policies and procedures for sharing data and information.

The macroprudential entity should have policies and procedures for the timely and efficient sharing of data and information consistent with its authorities. Policies and procedures should cover appropriate sharing with



- internal units that need access, including across agency boundaries;
- other governmental entities, particularly fiscal and monetary policy functions;
- peer macroprudential entities and other international bodies; and
- financial industry participants.

Policies and procedures for sharing, particularly among the macroprudential entity's various units, should reflect best practices for securing sensitive information and trade secrets even as data are shared with individuals who have an established need to know. While some sharing will occur on a routine basis, in other instances mechanisms for sharing may be established and tested in anticipation of their use only in crises. For example, the macroprudential entity can identify points of contact, establish protocols for providing access to crisis-response partners, and test computer and data systems for compatibility so that when a crisis occurs, the response is not hampered by an inability to communicate or share information.



Appendix I: How We Developed This Framework

This report provides a framework for evaluating the financial stability efforts of the Financial Stability Oversight Council (FSOC) and the agencies or offices headed by its individual members.

Framework Development Process

We reviewed a wide range of sources to inform the macroprudential framework. We conducted a comprehensive search for literature on macroprudential policy, including literature related to macroprudential policy challenges and frameworks. We generally focused on results that were published in 2015 or later and that were published in a peer-reviewed journal or issued by an authoritative source (for example, the International Monetary Fund, the Bank for International Settlements, or the central bank of an Organisation for Economic Co-operation and Development member country). Within these boundaries, we reviewed both conceptual and empirical articles. For the latter, we focused on articles that addressed multiple financial stability structures, macroprudential tools, or countries (as opposed to single structures, tools, or countries) because they captured a wider range of practices and experiences. Similarly, for both conceptual and theoretical articles, we focused on those that presented a broad literature review or overview of relevant research. We also reviewed prior GAO reports—including the standards for internal controls in the federal government and a 2009 financial regulatory system framework, as well as reports that addressed



FSOC and its activities.¹⁰ In addition, we reviewed relevant laws, regulations, and international risk-management guidelines.

We interviewed officials from the FSOC secretariat (Department of the Treasury) and the 10 federal agencies or offices headed by FSOC individual members: the Board of Governors of the Federal Reserve System, Commodity Futures Trading Commission, Consumer Financial Protection Bureau, Federal Deposit Insurance Corporation, Federal Housing Finance Agency, Federal Insurance Office, National Credit Union Administration, Office of the Comptroller of the Currency, Office of Financial Research, and Securities and Exchange Commission. In addition, we interviewed representatives of international organizations (Financial Stability Board and Bank for International Settlements), and academic and regulatory experts, about challenges for U.S. regulators with regard to macroprudential policy and the components of effective macroprudential policy.

External Review Process

We held a series of discussion groups with experts in July and August 2020 to obtain feedback on an early draft of the framework. We asked participants to comment on the usefulness, appropriateness, and sufficiency of the principles; the extent to which the principles would allow users to address known challenges in designing, implementing, and operating effective macroprudential policy; and whether any additional principles should be included. The six groups represented

- academics (selected based primarily on authorship of macroprudential policy-related literature);

¹⁰See GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 10, 2014); and *Financial Regulation: A Framework for Crafting and Assessing Proposals to Modernize the Outdated U.S. Financial Regulatory System*, [GAO-09-216](#) (Washington, D.C.: Jan. 8, 2009). GAO reports on FSOC include *Financial Regulation: Complex and Fragmented Structure Could Be Streamlined to Improve Effectiveness*, [GAO-16-175](#) (Washington, D.C.: Feb. 25, 2016); *Financial Stability: Continued Actions Needed to Strengthen New Council and Research Office*, [GAO-13-467T](#) (Washington, D.C.: Mar. 14, 2013); and *Financial Stability: New Council and Research Office Should Strengthen the Accountability and Transparency of Their Decisions*, [GAO-12-886](#) (Washington, D.C.: Sept. 11, 2012).



- former regulators and civil servants (selected based on relevant macroprudential policy experience);
- industry associations (selected based on represented industry’s likelihood of being subject to or affected by macroprudential policy);
- international macroprudential entities (selected based on country’s status as a Group of Seven member and expert recommendations);¹¹
- international supreme audit institutions (selected based primarily on country’s status as a Group of Seven member and audit institution’s membership in the International Organization of Supreme Audit Institutions’ Working Group on Financial Modernization and Regulatory Reform); and
- public interest groups (selected based on demonstrated interest in macroprudential policy).

We also received written comments on the draft framework from representatives of two major international organizations and one public interest group (these individuals noted that their comments were their own and did not necessarily reflect the views of their organizations), and we received oral comments from staff of another major international organization. Several experts met more than one category description (for example, many of the former regulators and civil servants currently conduct academic work). We classified participants according to what we determined was their primary category for purposes of macroprudential policy expertise. See [appendix II](#) for a list of participants in the external review. We incorporated the experts’ comments into the framework as appropriate.

After incorporating expert comments on our early draft, we shared a revised draft with FSOC and its 10 federal member agencies, as well as the appointed independent FSOC member with insurance expertise, the state insurance commissioner designated by the National Association of Insurance Commissioners, the state banking supervisor designated by the Conference of State Bank Supervisors, and the state securities commissioner designated by the North American Securities Administrators Association. We obtained a combination of written and oral

¹¹The Group of Seven nations are Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.



comments on the draft from most of the above agencies, offices, and individuals and incorporated them into the framework as appropriate.

We conducted our work from June 2019 to January 2021 in accordance with all sections of GAO's Quality Assurance Framework that are relevant to our objectives. The framework requires that we plan and perform the engagement to obtain sufficient and appropriate evidence to meet our stated objectives and to discuss any limitations in our work. We believe that the information and data obtained, and the analysis conducted, provide a reasonable basis for any findings and conclusions in this product.



Appendix II: External Review Process Participants

This appendix lists the academics, former government regulators and civil servants, and representatives of industry associations, international macroprudential entities, international organizations, international supreme audit institutions, and public interest groups who participated in the external review (late July through early September 2020) of the draft macroprudential policy framework. Our methodology for selecting participants is described in [appendix I](#).

Academics

Claudia M. Buch, Vice President, Deutsche Bundesbank

Andrew Godwin, Associate Professor and Director of Studies, Banking and Finance Law, Melbourne Law School, University of Melbourne

Thomas Philippon, Max L. Heine Professor of Finance, Stern School of Business, New York University

Lilit Popoyan, Assistant Professor, University of Naples Parthenope; Associate Researcher, Sant'Anna School of Advanced Studies

Former Regulators and Civil Servants

Charles Bowsher, former Comptroller General of the United States

Richard Carnell, former Assistant Secretary for Financial Institutions, Department of the Treasury

Greg Feldberg, former Senior Associate Director, Office of Financial Research, Department of the Treasury

Donald Kohn, former Vice-Chair of the Board of Governors of the Federal Reserve System; External Member, Bank of England Financial Policy Committee



Allan Mendelowitz, former Chairman and Member of the Board of Directors, Federal Housing Finance Board

Patricia Mosser, former Deputy Director for Research and Analysis, Office of Financial Research, Department of the Treasury

Janet Yellen, former Chair and Vice-Chair of the Board of Governors of the Federal Reserve System

Industry Association Representatives

Rachel Graham, Associate General Counsel, Investment Company Institute

Bill Hulse, Director, Center for Capital Markets Competitiveness, U.S. Chamber of Commerce

David Leifer, Vice President and Associate General Counsel, American Council of Life Insurers

Ananda Radhakrishnan, Vice President of Bank Derivatives Policy, American Bankers Association and General Counsel, ABA Securities Association

Peter Ryan, Managing Director and Head of International Capital Markets and Prudential Policy, Securities Industry and Financial Markets Association

Chris Young, Head of U.S. Public Policy, International Swaps and Derivatives Association

International Macprudential Entity Representatives

Lee Foulger, Director, Financial Stability Strategy and Risk, Bank of England

Anil Kashyap, External Member, Bank of England Financial Policy Committee; Stevens Distinguished Service Professor of Economics and Finance, Booth School of Business, University of Chicago



Richard Portes, Professor of Economics, London Business School; Chair of the Advisory Scientific Committee to the European Systemic Risk Board (ESRB) and Co-Chair of ESRB's Joint Expert Group on Shadow Banking

Rainer Stühler, Head of National Financial Stability and Risk Analysis Division, Federal Financial Supervisory Authority, Federal Republic of Germany

International Organization Representatives

David Archer, Head of Central Banking Studies, Bank for International Settlements+

Stijn Claessens, Head of Financial Stability Policy and Deputy Head, Monetary and Economic Department, Bank for International Settlements+

Simonetta Iannotti, Member, Financial Stability Board Secretariat+

Costas Stephanou, Head of Financial Stability Analysis, Financial Stability Board Secretariat+

Multiple staff from the International Monetary Fund*

International Supreme Audit Institution Representatives

Erika Guerri, Deputy Head of the International Affairs Office and Judge at the Second Chamber of Appeal, Corte dei Conti, Government of Italy

Philippe Le Goff, Principal, Economic Affairs, Office of the Auditor General of Canada

Inès-Claire Mercereau, Chief Advisor, Cour des Comptes, Government of France

Giulio Stolfi, Assistant Prosecutor General, Corte dei Conti, Government of Italy



Public Interest Group Representatives

Bartlett (Bart) Naylor, Financial Policy Advocate, Public Citizen

Marcus Stanley, Policy Director, Americans for Financial Reform

Sir Paul Tucker, Chair, Systemic Risk Council; Fellow, Harvard Kennedy School; former Deputy Governor of the Bank of England+

+These participants noted that their comments reflected their personal views and not necessarily the views of their organizations.

*Due to scheduling conflicts in July and August 2020, we held a separate telephone meeting with International Monetary Fund staff in early September 2020. Staff provided comments on the same version of the draft as the other external stakeholders.



Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Michael E. Clements, (202) 512-8678 or clementsm@gao.gov

Staff Acknowledgments

In addition to the contact above, Stefanie Jonkman (Assistant Director), Lisa Reynolds (Analyst in Charge), Adriana Aldgate, Abigail Brown, Philip Curtin, Michael Hoffman, Marc Molino, Cynthia Nelson, Barbara Roesmann, Tyler Spunaugle, and Farrah Stone made key contributions to this report.