South African Reserve Bank

Financial Stability Department

A methodology to determine which banks are systemically important within the South African context

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Contents

1. Policy objective

The main policy objective of this paper is to develop a methodology to determine which banks are systemically important financial institutions (SIFIs) in the South African context, in line with the requirements set out in the Financial Sector Regulation Act 9 of 2017 (FSR Act).

2. Policy rationale

In terms of section 29 of the FSR Act, the Governor of the South African Reserve Bank (SARB) may, by written notice to a financial institution, designate the institution as a SIFI. Prior to the designation, the Governor must give the Financial Stability Oversight Committee (FSOC) notice of the proposed designation and provide reasons for the proposed designation. The FSOC should be invited to provide advice on the proposal within a specified period. If, after considering the FSOC's advice, the Governor proceeds to designate the financial institution as a SIFI, the financial institution should be invited to make submissions on the matter, within a reasonable time frame. The Governor must consider any submissions by the financial institution and either confirm or abandon the proposed designation. In accordance with the FSR Act, the designation of a financial institution as a SIFI, or the revocation thereof, must be published.

When determining the designation, the Governor must take the following indicators into account:

i. size of the financial institution;
ii. complexity of the financial institution and its business affairs;
iii. interconnectedness of the financial institution with other financial institutions;
iv. whether there are readily available substitutes for the financial services and financial products that the financial institution provides;
v. recommendations made by the FSOC;
vi. submissions made by or for the financial institution concerned; and
vii. any other matter prescribed by the FSR Act regulations.

A methodology was accordingly developed to assist the Governor in fulfilling the requirements placed on him/her in designating a bank[1] as a SIFI and to ensure consistency in the designation, especially due to the potential impact that the designation as a SIFI could have on banks.

The methodology for designating SIFIs cannot capture all considerations and potential risks, and the Governor may also apply judgement when designating an institution as a SIFI. In addition, if in terms of section 29(4) of the FSR Act the Governor has determined that a systemic event[2] has occurred or is imminent, he/she may designate a financial institution as a SIFI without complying, or without fully complying, with the requirements set out in section 29 of the FSR Act.

3. Background

Following the failure of several large international banks during the financial crisis that started in 2007, a high degree of public sector intervention was required by governments to restore financial stability. The significant economic, financial and social costs associated with these interventions as well as the resulting increase in moral hazard necessitated the implementation of additional measures to deal with the challenges that arose from the failure of global SIFIs.

The Basel Committee on Banking Supervision (BCBS) and the Financial Stability Board developed several policy measures to improve the resilience of banks and the financial system. Some of these policy measures were specifically aimed at SIFIs due to the negative externalities associated with these institutions, which stemmed from the fact that they should preferably not be allowed to fail because of the impact their failure would have on other institutions, the financial system and the broader economy. The objective of these policy measures is firstly aimed at reducing the probability that a SIFI will fail (e.g. through prudential regulation such as higher capital requirements), and secondly at making them more resolvable without having to use taxpayers' money and without disrupting financial stability. A regulatory framework was formulated to reduce the probability of the failure of global systemically important banks (G-SIBs) by

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[1] The methodology described in this paper relates only to banks. Methodologies for non-bank financial institutions will be developed in due course, as international best practices and guidance are finalised.

[2] This is defined in section 14 of the FSR Act.

increasing their going-concern loss absorbency and reducing the consequences of their failure through the use of global recovery and resolution frameworks.

The identification of SIFIs has become increasingly important since these institutions require closer supervision, greater loss absorbency as well as resolution frameworks with minimal (if any) public support. In order to determine the additional going-concern loss absorbency for G-SIBs in the global context, an international methodology was developed to determine which banks qualify as G-SIBs. In November 2011 the BCBS issued a paper titled 'Global systemically important banks: assessment methodology and the additional loss absorbency requirement'. An updated assessment methodology was subsequently published in July 2013. The overall methodology and the indicators remained largely unchanged. The BCBS also released guidelines for the identification of domestic systemically important banks (D-SIBs). The BCBS proposed the use of an indicator-based measurement to reflect the various dimensions of negative externalities and contributions to systemic risk.

However, it is also recognised that these measurement criteria cannot fully capture systemic importance and some degree of judgement has to be applied, in particular in a domestic context. While the G-SIB methodology provides a good basis for identifying D-SIBs, it should be enhanced and adjusted to take into account country-specific characteristics as well as the general state of stability of the domestic financial system.

4. South Africa's approach

Even though no measurement criteria could fully capture systemic importance, the BCBS proposed the use of an indicator-based measurement to reflect the various dimensions of negative externalities and contributions to systemic risk. The BCBS's approach for the identification of G-SIBs consists of selected indicators with equal weights, including size, interconnectedness, the lack of readily available substitutes, global activity and complexity, while the BCBS's D-SIB methodology proposes the customisation of the indicators and weightings to reflect the characteristics of the domestic financial system.

The South African approach is broadly based on the BCBS's approach and utilises similar indicators, but it has been enhanced for domestic use by adding indicators and criteria that better reflect the South African conditions.

The data used for each of the sub-indicators are obtained from a variety of sources, including returns prescribed by the Banks Act 94 of 1990, data from the South African Multiple Option Settlement (SAMOS) system, data on participation in the domestic foreign currency market, data on participation in the primary bond and money market, and data on security settlement and custodian services in the secondary financial markets.

Designation as a SIFI in terms of the FSR Act is a legally prescribed process of which the outcome is published, and which provides the SARB with the following additional powers and responsibilities to protect financial stability:

i. In terms of section 30 of the FSR Act, the SARB may, after consultation with the Prudential Authority, impose additional requirements on SIFIs to mitigate the risk that systemic events may occur.
ii. Because the failure of institutions designated as SIFIs will, in all probability, have a more significant impact on financial stability, it will require the preparation of a detailed resolution plan that involves more intrusive resolution powers.
iii. Section 31 of the FSR Act puts constraints on regulators when dealing with SIFIs, and the concurrence of the SARB is required prior to actions being taken in respect of a wind-up or any of the other steps listed in that section.

5. Assessment methodology for the identification of banks that should be declared as SIFIs

The following indicators are used to identify potential banking SIFIs in South Africa:

Table 1: Indicators and weightings

Indicator	Weighting
Size	40%
Interconnectedness and substitutability	40%
Global activity	10%
Complexity	10%

Each indicator listed above has various sub-indicators that are used to calculate the relative systemic importance of each bank.

5.1 Indicator 1: Size (weighting: 0.4)

The larger an institution:

- the more likely its failure will damage the economy, financial markets and confidence;
- the more difficult it will be to speedily replace its service offering; and
- the wider the potential impact will be on its clients, customers and employees.

A 40% weighting is given to the size indicator (compared to the 20% weighting given in the G-SIB methodology) due to the concentrated nature of the South African banking sector.

5.2 Indicator 2: Interconnectedness and substitutability (weighting: 0.4)

The degree to which a financial institution is linked or connected to other parts of the financial system determines the channels through which, and the speed at which, any distress is spread to the rest of the system. Interconnectedness is measured through the bank's exposure to other financial institutions and through its participation in the financial markets.

The substitutability of a financial institution, together with the products and services that it provides, is another factor that can affect its systemic importance. The lower the substitutability of a financial institution, the more systemically important it becomes, especially if the functions it performs are deemed to be critical to the functioning of the wider economy.

In the South African methodology, the interconnectedness and substitutability indicators were combined because there was a significant degree of overlap in the variables utilised to measure these indicators. Interconnectedness and substitutability each received a weighting of 20% within the G-SIB methodology, and therefore the South African-developed methodology is in line with the G-SIB methodology.

5.3 Indicator 3: Global activity (weighting: 0.1)

The international impact of a bank's failure and the complexity of resolving it vary in line with its share in the banking sector's cross-jurisdictional assets and liabilities. Accordingly, the higher a bank's share in the cross-jurisdictional assets and liabilities, the greater the spillover effects will be. It also becomes more difficult to coordinate the resolution of a bank if it has a high level of global activity. Although this indicator was excluded from the D-SIB methodology proposed by the BCBS, it was decided that it remained relevant for South African banks due to their global activity, mainly in the African context. As the BCBS rightly noted, it is not only G-SIBs that could cause spillover effects to other jurisdictions, but also D-SIBs with relatively material cross-border operations.

However, South African banks' cross-border operations, although material to some of the host jurisdictions, do not carry the same systemic risk as those G-SIBs with a full global reach. Therefore, the weighting assigned to this indicator was reduced to 10%, compared to the 20% weighting used to determine G-SIBs.

5.4 Indicator 4: Complexity (weighting: 0.1)

The systemic impact of a bank's failure is influenced by the complexity of its business model, organisational and group structure, and operating model. The greater a financial institution's complexity, the more difficult it becomes to resolve the failure, and therefore the disruption to the financial sector could be more severe. In addition, the more complex a bank's operations, the more difficult it becomes to assess its contribution to systemic risk.

Within the South African context, the complexity indicator received a 10% weighting compared to the 20% weighting allocated by the G-SIB methodology. The main reason for the lower weighting is that South African banks, in general, do not extensively engage in complex derivative and trading activities, unlike most of the G-SIBs. In addition, the indicators prescribed in the G-SIB methodology do not fully capture the same complexities as those in the South African context, and a degree of judgement would therefore still be required.

6. Governor's judgement

No quantitative methodology is able to capture all potential risks. There will always be a possibility that institutional risks are more systemic than indicated by the methodology. Regulators often have qualitative information available that cannot be quantified in a methodology. For example, banks may perform functions that are not easily substitutable or transferable, and without these functions there will be a spillover effect to the wider economy to the extent that these are deemed to be systemic. Yet, in the overall aggregated score, these specific risks may not show. Alternatively, there may be potential sources of systemic risk for which there are no quantitative indicators readily available, for example a degree of a social, industrial or geographic concentration of activities that may be high enough to have a systemic impact.

Because the weightings and aggregation used in a numerical methodology can never accurately reflect the real world, there may be instances where a bank's overall score underestimates its actual systemic importance. Therefore, there should be room for judgement to be applied by the Governor to ensure that all areas and risks are sufficiently considered. It is important to note that the FSR Act does not prescribe that the Governor should develop a methodology or that the Governor, in making his/her decision, should make a determination according to a methodology. The methodology merely serves as a basis for decision making. Section 29 of the FSR Act provides the Governor with the ability to use his/her discretion when making the determination.

Judgement applied by the Governor cannot be fully discretionary and should still be economically justifiable. For example, an institution might be identified as systemically important due to a single factor, such as interconnectedness. However, due to a variety of indicators being applied, the overall score might not indicate systemic significance. In such a scenario (i.e. where the SARB is of the view that a single indicator carries sufficient weight to justify designation as a SIFI), judgement may accordingly be applied by the Governor.

To this end, and complementary to the indicators discussed in section 5, additional elements that might be considered when applying judgement as to whether or not to designate an institution as a SIFI include, but are not limited to, the following:

i. the reaction of investors, depositors and the broader financial markets in the event of a failure;

ii. geographical area serviced and the possibility of a suitable substitute;
iii. products provided and the possibility of a suitable substitute;
iv. services provided and the possibility of a suitable substitute;
v. number of clients and employees of the institution; and
vi. possible negative perception from an international market perspective.

7. International comparison of methodologies

Because South Africa is a member of the global financial community, it is important that its methodology is not out of line with those of other countries with a similar banking and regulatory structure. The regulatory bodies that have disclosed information on their methodologies to which South Africa could be compared include the United Kingdom's Prudential Regulatory Authority (PRA), the European Banking Authority (EBA), the Bank of Japan, the Australian Prudential Regulatory Authority (APRA), the Bank of Canada and the Reserve Bank of New Zealand.

When researching the methodologies of international jurisdictions, it became apparent that no central bank provides information regarding the way in which supervisory judgement is applied. It is, however, made clear that when supervisory judgement is applied, it should be done in line with the intention of the primary purpose of SIFI designation, which is to reduce moral hazard and the potential cost to tax payers.

Some jurisdictions provide a summary of the indicators used within the methodology without providing detailed information. Table 2 sets out the available indicators used.

Table 2: Comparison of systemic significance indicators

	Size	Interconnectedness	Substitutability	Complexity	Global activity
G-SIB framework	Total exposures	- Intra-financial system assets - Intra-financial system liabilities - Securities outstanding	- Payment activity - Assets under custody - Underwritten transactions in debt and equity markets	- Notional value of over-the-counter derivatives - Trading and available-for-sale securities - Level 3 assets	- Cross-jurisdictional claims - Cross-jurisdictional liabilities
Australian Prudential Regulatory Authority	Total resident assets	- Intra-financial system assets - Intra-financial system liabilities - Securities outstanding - Large exposures	- Assets under custody - Payment activity - Underwritten transactions in debt and equity markets - Total gross loans and advances - Total household lending	- Notional amount of over-the-counter derivatives - Trading and available-for-sale securities - Risk-weighted assets for traded market	n/a
Prudential Regulatory Authority (United Kingdom)	Total assets	- Intra-financial system assets - Intra-financial system liabilities Debt securities outstanding	- Value of domestic payment transactions - Private sector deposits from depositors in the European Union (EU) - Private sector loans to recipients in the EU	- Value of over-the-counter derivatives (notional) - Cross-jurisdictional claims - Cross-jurisdictional liabilities	n/a
Bank of Japan	Total exposures	- Intra-financial system assets - Intra-financial system liabilities - Securities outstanding - Market price of equities categorised as ‘available-for-sale’ - Total amounts of deposits that exceed the ¥10 million maximum guarantee (uninsured deposits)	- Payment activities in Japanese yen - Assets under custody held on behalf of Japanese clients - Underwritten transactions in debt and equity markets	- Notional amount of over-the-counter derivatives - Cross-jurisdictional claims - Cross-jurisdictional liabilities	n/a
European Banking Authority	Total assets	- Intra-financial system assets - Intra-financial system liabilities - Debt securities outstanding	- Value of domestic payment transactions - Private sector deposits from depositors in the EU - Private sector loans to recipients in the EU	- Value of over-the-counter derivatives (notional) - Cross-jurisdictional claims - Cross-jurisdictional liabilities	n/a

Reserve Bank of New Zealand	See footnote[3]				
Bank of Canada	See footnote[4]				
SARB	- Total assets and off-balance sheet items - Short-term contractual claims - Number of customers - Number of branches - Number of employees	Exposure to other financial institutions (FIs): - Interbank liabilities - Interbank assets - Cross-holdings funding non-bank FIs - Loans to non-bank FIs - Wholesale funding Interconnectedness through market infrastructure: - Share in value settled in SAMOS system - Value in money market settlement - Share in equity settlement - Value in bond settlement - Participation in Strate custodian services for equities, bonds and money markets Interconnectedness through financial market participator: - Take-up ratio in primary bond auction - Treasury bills and SARB debenture auction participation - Foreign exchange market activity - Derivatives activity		- Notional value of over-the-counter derivatives	- Foreign currency liabilities - Foreign currency claims

[3] New Zealand does not have an explicit D-SIB methodology as it believes that an open bank resolution framework addresses the necessary risks, as this will be the option executed for banks that could be deemed to be D-SIBs, especially given the fact that its banking sector is dominated by five large banks.
[4] Canada indicated that the measures used to determine systemic importance are in line with the guidelines proposed by the BCBS. However, no information on the sub-indicators was provided.

Based on Table 2, it is clear that the indicators applied by South Africa to measure systemic importance are in line with those of other jurisdictions. Although the interconnectedness and substitutability indicators are combined in the South African methodology, the sub-indicators used for these main indicators are sufficient to measure both these indicators. In addition, South Africa deemed it appropriate to also measure global activity for the purpose of determining systemic importance, mainly to recognise the potential spillover effect and the increased complexity involved in resolving a regionally or internationally active bank.

8. Periodic review and refinement

The methodology will be reviewed annually or when there is a significant change in the international guidance or in the information made available to the SARB. Calculations are updated on a quarterly basis. There is no fixed interval at which a designation by the Governor can be made.

9. Public disclosure

In terms of the requirements of the BCBS's guidance papers, the methodology used to assess the systemic significance of institutions should be published. In line with this requirement, an overview of the methodology was published in the SARB's September 2013 *Financial Stability Review*. The methodology was re-published in the May 2019 version of the *Financial Stability Review* to reflect the refinements made.

In terms of the FSR Act, both the designation and the revocation of a designation as a SIFI must be published.

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Abbreviations

APRA	Australian Prudential Regulatory Authority
BCBS	Basel Committee on Banking Supervision
D-SIB	domestic systemically important bank
EBA	European Banking Authority
EU	European Union
FSOC	Financial Sector Oversight Committee
FSR Act	Financial Sector Regulation Act 9 of 2017
G-SIB	global systemically important bank
PA	Prudential Authority
PRA	Prudential Regulatory Authority
SAMOS	South African Multiple Option Settlement [system]
SARB	South African Reserve Bank
SIFI	systemically important financial institution