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O-SII REVISED METHODOLOGY

Article published in the Financial Stability Report 2019, pp. 96-102

BOX 2: O-SII REVISED METHODOLOGY[1]

The size, business model complexity and lack of substitutes for credit institutions determines whether such institutions are classified as 'too-big-to-fail', or in technical terms, systemically important. The failure or impairment of such institutions, particularly in cases where they are highly interconnected with other financial institutions and the macro economy, would have a domino effect and severe adverse repercussions on the same macroeconomic and financial environment. The risk that these systemically important institutions exert is referred to as systemic risk.

On 1 January 2016, the CBM jointly with the MFSA ('the Authorities') introduced for the first time a Policy Document on the identification of the O-SIIs and the calibration of the related capital buffer.[2]

The O-SII framework comprises of two stages, namely the identification stage and the buffer calibration stage. In the identification stage, O-SIIs are identified based on a core set of criteria, indicators and weights, whereby those credit institutions which surpass an established threshold will be classified as O-SIIs. Subsequently, the buffer calibration stage involves the setting of an additional CET1 capital buffer to enhance a given O-SII's resilience and loss absorbing capacity, thereby ensuring that such institution poses less risk to the domestic economy and in so doing, minimising the 'too big to fail' problem.

This box will discuss the revised joint CBM-MFSA O-SII framework, highlighting the rationale for such changes as well as explaining the major differences.

Changes to the Identification Methodology

Following a review of the 2016 O-SII framework, the Authorities in 2019 decided to revise their methodology. The rationale behind this revision, which became effective as from January 2020, is to better reflect developments in the domestic financial sector and to further align the domestic O-SII methodology with the EBA Guidelines on the assessment of O-SIIs.[3] The revised methodology is deemed to provide a better representation of the developments observed in the domestic banking sector while concurrently departing from the concept of relative importance against an 'average' reference institution, and moving to a concept of a threshold-based approach as prescribed by the EBA Guidelines.

As highlighted in Table 1, the 2016 O-SII identification methodology was based on a two-step approach. As a first step, the Authorities assessed systemically important institutions on the basis of their relevance within the domestic financial sector taking into account the following four categories: (i) 'size', (ii) 'substitutability', (iii) 'cross-border activity' and (iv) 'resident interconnectedness'. These categories were weighted at 20%, 40%, 20% and 20% respectively.

The 'Size' criterion was entirely based on the value of total assets whereas the 'Substitutability' criterion was based on three equally weighted (13.33%) indicators namely: (i) 'Resident customer loans', (ii) 'Resident customer deposits' and (iii) 'Holdings of Government debt'. Meanwhile, the 'Cross-Border Activity' criterion featured two equally-weighted (10%) indicators: 'Cross-Border Assets' and

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[2] CBM-MFSA Policy Document on the methodology for the identification of other systemically important institutions (O-SIIs) and the related capital buffer calibration

[3] Criteria to determine the conditions of application of Article 131(3) of Directive 2013/36/EU (CRD) in relation to the assessment of other systemically important institutions (O-SIIs) https://eba.europa.eu/sites/default/documents/files/documents/10180/930752/964fa8c7-6f7c-431a-8c34-82d42d112d91/EBA-GL-2014-10%20(Guidelines%20on%20O-SIIs%20Assessment).pdf.

Table 1
FEATURES OF THE 2016 O-SII IDENTIFICATION METHODOLOGY (STEP 1)

2016 O-SII Methodology			
Criterion	**Indicators**	**Weight**	
Size	Total Assets	20.00%	20%
Substitutability	Resident customer loans	13.33%	40%
	Resident customer deposits	13.33%	
	Holdings of Government debt	13.33%	
Cross-Border Activity	Cross-border assets	10.00%	20%
	Cross-border liabilities	10.00%	
Resident Interconnectedness	Resident Interbank assets	10.00%	20%
	Resident Interbank liabilities	10.00%	

Source: Central Bank of Malta.

'Cross-Border Liabilities'. Lastly, the 'Resident Interconnectedness' criterion included two equally weighted (10%) indicators, namely 'Resident Interbank Assets' and 'Resident Interbank Liabilities'.

Under the 2016 O-SII methodology, the identification stage used a system of relative importance against the mean by employing a z-scoring methodology. Institutions with an overall result exceeding the value of 1, i.e. beyond one standard deviation from the mean, were classified as O-SIIs based on the above-mentioned criteria.

The 2016 O-SII identification methodology also included a second step to assess whether further institutions should be designated as O-SIIs based on the following two additional indicators:

(i) Size ≥ 25% of GDP; and
(ii) Covered Deposits ≥ 2.5 times the domestic DCS funding.

Irrespective of the first step, an institution that meets both indicators listed in points 1 and 2 above would still be subject to an O-SII capital buffer.

Under the revised O-SII identification methodology, the definition of the 'Size' criterion remained unchanged while the definition of the 'Substitutability' criterion was replaced by the 'Importance' criterion, 'Cross-Border Activity' was replaced by 'Complexity' and 'Resident Interconnectedness' was replaced by the broader 'Interconnectedness' criterion. Although using different terminologies, the economic rationale remained relatively unchanged.

In terms of the identification stage, while the 2016 methodology relied on a system of z-scoring, the revised methodology is based on market concentrations. Indeed, the revised O-SII identification methodology measures the weighted-average market share of a credit institution within the industry, with market shares being expressed in basis points and determined as proportions of the various chosen indicators. Thus, the score of bank j can be expressed through the following formula:

$$S_j = \sum_{i=1}^{12} \frac{x_{ij}.a_i.b_i}{\sum_{j=1}^{23} x_{ij}}.10,000$$

Where:

- S_j refers to the O-SII score of bank j
- x_{ij} is the value of indicator i for bank j
- a_i is the weight of indicator i as a proportion of the weight of the criterion to which it belongs
- b_i is the weight of the criterion to which indicator i belongs

In other words, the obtained score for a credit institution in a given indicator can range from 0 to 10,000, with 10,000 indicating a 100% market share in the given indicator. The score in each indicator is then weighted according to the respective weight of the respective criterion to produce a final overall O-SII score.

The weights have been calibrated to somewhat depart from a system of equal weighting as applied in the EBA Guidelines and as also applied in the 2016 identification methodology. This new weighting system used in the revised methodology puts more weight on those channels which pose greater systemic risk to the Maltese economy and financial system. Indeed, the revised identification methodology has been designed to reflect the Maltese banking sector which is predominantly based on the traditional banking business model (i.e. resident deposit taking and loan provisions) and dominated by a small number of relatively large credit institutions. This is evidenced through the allocation of higher weights to the 'Importance' and the 'Size' categories (see Table 2).

Compared with the 2016 methodology, the weight assigned to the 'Size' criterion under the new methodology was increased from 20% to 22%, while the total weight assigned to the 'Importance' criterion remained unchanged (at 40%) but composed of five indicators based on those outlined in the EBA Guidelines – three mandatory and two optional. The optional (and additional) indicators –, namely 'Private sector deposits from Maltese residents' and 'Private sector loans to Maltese residents' – capture the specificities of the Maltese financial sector, in particular, the strong orientation towards domestic deposits and loans. The remaining three indicators (i.e. 'Value of domestic payment transactions', 'Private sector loans to recipients in the EU' and 'Private sector deposits from depositors in the EU'), apart from being mandatory in the EBA Guidelines, also reflect other sources of systemic importance.

Table 2
REVISED SCORING METHODOLOGY FOR DOMESTIC O-SII IDENTIFICATION

Criterion	Indicators	Indicator weight	Criterion weights
Size	Total Assets	22.00%	22.00%
Importance	Value of domestic payment transactions	8.00%	40.00%
	Private sector deposits from depositors in the EU[1]	5.50%	
	Private sector loans to recipients in the EU[2]	5.50%	
	Private sector deposits from Maltese residents	10.50%	
	Private sector loans to Maltese residents	10.50%	
Complexity	Value of OTC derivatives (notional)	4.00%	18.00%
	Cross-jurisdictional liabilities	7.00%	
	Cross-jurisdictional claims	7.00%	
Interconnectedness	Intra-financial system liabilities	9.00%	20.00%
	Intra-financial system assets	9.00%	
	Debt securities outstanding	2.00%	

Source: Central Bank of Malta.

(1) MT deposits are incorporated in 'private sector deposits from depositors in the EU' indicator.

(2) MT loans are incorporated in 'private sector loans to recipients in the EU' indicator.

The clearing of transactions is very important for a properly functioning financial markets infrastructure and any interruptions to payment systems are considered as a source of systemic risk. As a result, the 'Value of domestic payment transactions' indicator has been assigned a relatively higher weight of 8%.

The 'Private sector loans to recipients in the EU' indicator reflects a domestic institution's exposure to foreign economies, which may pose an element of imported systemic risk. Hence, loans towards Maltese and EU residents reflect a more complete assessment of the exposure of an O-SII to the economies which it transacts with. On the other hand, the inclusion of 'Private sector deposits from depositors in the EU' represents a more complete assessment of the impact on the domestic DCS, given that EU depositors are also covered by the scheme.[4] Thus, the degree of systemic risk posed through the DCS is more complete when one accounts for both domestic and EU covered depositors. It is worth noting, however, that domestic private sector deposits and loans indicators were given a greater weight of 10.5%, to reflect the greater relevance of their systemic impact on the domestic real economy compared to the EU-level indicators which were assigned a lower weight of 5.5%. It is also worth highlighting that the EU-level indicators also include values for Malta in order to further reinforce the impact towards the Maltese economy.

The lower weight assigned to the 'Complexity' criterion (18%) reflects the typical Maltese credit institution which operates under the simple, traditional banking business model. This criterion includes the three EBA-mandatory indicators; 'Cross-jurisdictional liabilities', 'Cross-jurisdictional claims' and 'Value of OTC derivatives', with the latter being an addition when compared to the 2016 O-SII methodology.

'Interconnectedness' reflects the degree of interconnectivity across credit institutions and the rest of the banking and financial sector as a whole. In this way, one can gauge the degree of systemic risk as a result of contagion. Unlike the 2016 O-SII methodology, the revised identification methodology does not solely rely on 'Resident interbank assets and liabilities' but also incorporates exposures towards non-resident financial systems, which is an important indicator for assessing the risk of contagion. Indeed, a domestic O-SII may be exposed to foreign financial systems to an extent that any problems in these financial systems may lead to imported systemic risk in Malta. Furthermore, while the 2016 O-SII methodology focused only on intra-bank exposures, the revised methodology considers exposures to the financial system as a whole to capture a more holistic approach towards the channels of contagion. The indicator 'Debt securities outstanding' has been assigned a 2% weight to reflect the fact that debt securities represent a relatively small source of finance for domestic credit institutions, which are more reliant on deposit taking.

Lastly, the revised identification methodology makes full use of the maximum +/-75bps leeway on the 350bps identification threshold specified in the EBA Guidelines, to reflect Malta's relatively small and highly concentrated financial sector. Thus, those credit institutions whose O-SII score exceeds the 425bps cut-off threshold point would be considered as O-SII.

Changes to the Buffer Calibration Methodology

Credit institutions that are identified as O-SIIs are required to maintain an applicable O-SII capital buffer, which consists of – and is supplementary to – CET 1 capital, and is expressed as a percentage of the total risk exposure amount.

As per 2016 O-SII methodology, an identified O-SII would fall within one of four buckets as per Table 3.

Conversely, under the revised 2019 methodology, identified O-SIIs would be classified into one of five buckets, depending on the O-SII score obtained during the revised identification stage as per Table 4. The use of five buckets allows for a more proportionate and commensurate O-SII surcharge.

[4] Covered deposits are the part of eligible deposits that do not exceed the coverage level laid down in Regulation 10 of the Depositor Compensation Scheme Regulations, 2015 (S.L. 371.09).

Table 3
2016 O-SII METHODOLOGY BUCKETING APPROACH

	Buckets	Capital Buffer Rate	Criterion for each bucket
Step 1	3	2.00%	High risk due to most of the criteria and/or score equal to or above 1.75
	2	1.50%	Risk due to most of the criteria and/or score equal to or above 1.25 and below 1.75
	1	1.00%	Some risk due to some criteria and/or score equal to or above 1 and below 1.25
Step 2		0.50%	Step 2 (additional indicators)

Source: Central Bank of Malta.

Table 4
REVISED O-SII BUCKETING METHODOLOGY

Buckets	Capital Buffer Rate	Score range for each bucket (bps)
5	2.00%	1700 ≤ Score
4	1.50%	1200 ≤ Score < 1700
3	1.00%	830 ≤ Score < 1200
2	0.50%	580 ≤ Score < 830
1	0.25%	425 ≤ Score < 580

Source: Central Bank of Malta.

Furthermore, there is a better delineation between those O-SIIs which marginally exceed the 425bps identification threshold (i.e. falling under bucket 1) and other O-SIIs with higher O-SII score, whose O-SII identification is more likely to remain permanent. The highest and lowest buckets apply a 2% and 0.25% capital surcharge respectively; the higher the systemic risk posed by the respective O-SII, the higher the capital buffer rate applied.

Based on the revised O-SII methodology, the Authorities following the recommendation of the Joint Financial Stability Board and, following consultation with the European Central Bank, identified four institutions as O-SIIs. Table 5 below lists these institutions together with their obtained O-SII scores and the corresponding capital buffer rates:[5]

Table 6 provides a general comparison of the overall features of the 2016 O-SII methodology and the revised methodology including indicators chosen, the scoring system employed and respective buckets used for calibration purposes.

Table 5
DESIGNATED O-SIIS SCORES AND CORRESPONDING CAPITAL BUFFER RATES

Credit Institution	Scores (bps)	Buffer Rate
Bank of Valletta Group (BOV)	2,739	2.00%
HSBC Bank Malta plc (HSBC)	1,362	1.50%
MDB Group Ltd (MED)	662	0.50%
APS Bank plc (APS)	472	0.25%

Source: Central Bank of Malta.

[5] The Authorities recognise the impact that certain provisions of the measure could have on a credit institution's capital planning. In view of this, the Authorities decided to grant a transitory period for the build-up of the O-SII buffer for newly identified O-SIIs. The transitory period is specified in the applicable yearly Statement of Decision, available on both the Authorities' websites.

Table 6
COMPARISON BETWEEN THE 2016 O-SII METHODOLOGY AND THE REVISED O-SII METHODOLOGY

2016 O-SII Methodology				Revised O-SII Methodology			
Criterion	**Indicators**	**Weight**		**Criterion**	**Indicators**	**Weight**	
Size	Total Assets	20.00%	20%	Size	Total Assets	22.00%	22%
Substitutability	Resident customer loans	13.33%	40%	Importance	Value of domestic payment transactions	8.00%	40%
	Resident customer deposits	13.33%			Private sector deposits from depositors in the EU	5.50%	
	Holdings of Government debt	13.33%			Private sector loans to recipients in the EU	5.50%	
					Private sector deposits from Maltese residents	10.50%	
					Private sector loans to Maltese residents	10.50%	
Cross-Border Activity	Cross-border assets	10.00%	20%	Complexity	Value of OTC derivatives (notional)	4.00%	18%
	Cross-border liabilities	10.00%			Cross-jurisdictional liabilities	7.00%	
					Cross-jurisdictional claims	7.00%	
Resident Interconnectedness	Resident Interbank assets	10.00%	20%	Interconnectedness	Intra-financial system liabilities	9.00%	20%
	Resident Interbank liabilities	10.00%			Intra-financial system assets	9.00%	
					Debt securities outstanding	2.00%	
Scoring System		Weighted average - Z-scoring		Scoring System		Weighted Average - Basis Points	
Identification criteria		Step 1 - Standard deviation from the mean ≥ 1 Step 2 - 1. Size ≥ 25% of domestic GDP; and 2. Covered Deposits ≥ 2.5 times the domestic Depositor Compensation Scheme (DCS) funding		Identification Criteria		Overall score ≥ 425 basis points	
Calibration	4 Buckets	Exceed Step 2 thresholds	0.5% Capital buffer	Calibration	5 buckets	425 ≤ Score < 580	0.25% capital buffer
		1 ≤ Score < 1.25	1.0% Capital buffer			580 ≤ Score < 830	0.5% capital buffer
		1.25 ≤ Score < 1.75	1.5% Capital buffer			830 ≤ Score < 1200	1.0% capital buffer
		1.75 ≤ Score	2.0% Capital buffer			1200 ≤ Score < 1700	1.5% capital buffer
						1700 ≤ Score	2.0% capital buffer

Source: Central Bank of Malta.

Conclusion

This box has compared and highlighted the main changes, implemented as from January 2020, of the joint CBM-MFSA O-SII methodology when compared to the 2016 O-SII methodology. The main objective of the changes was to bring the domestic methodology more in line with the EBA Guidelines. These changes also aim to provide more consistent and comparable results, which reflect the system-wide implications of the domestic systemically important banks.

In general, the changes relating to the identification stage included (i) a shift from a system of z-scoring to a system based on weighted averages and market shares and (ii) the introduction of new indicators coupled with a redistribution of the indicator weightings. The main change relating to the calibration stage was the increase in the number of buckets from four to five, thus providing a relatively more proportionate approach to the O-SII buffer calibration.

The Authorities will continue to actively monitor the appropriateness of the O-SII methodology and, following the necessary consultation procedures, will affect any changes as necessary. The O-SII identification and calibration methodologies are undertaken on an annual basis, and the results are published in the Statement of Decision.[6] The list of O-SIIs is publicly available on the CBM's and MFSA's websites.

[6] 2020 Statement of Decision available on the following link.