



MOROCCO

TECHNICAL NOTE - MACROPRUDENTIAL POLICY: INSTITUTIONAL ARRANGEMENTS AND INSTRUMENTS

October 2016

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FINANCIAL SECTOR ASSESSMENT PROGRAM

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TECHNICAL NOTE

MACROPRUDENTIAL POLICY: INSTITUTIONAL ARRANGEMENTS AND INSTRUMENTS

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This Technical Note was prepared by IMF staff in the context of the Financial Sector Assessment Program in Morocco. It contains technical analysis and detailed information underpinning the FSAP's findings and recommendations. Further information on the FSAP can be found at <http://www.imf.org/external/np/fsap/fssa.aspx>

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EXECUTIVE SUMMARY¹

Macroprudential policies (MaPP) can play an important role in mitigating financial stability risks in Morocco. MaPP aims to increase the overall resilience of the financial system, contain the buildup of systemic risks over time, and address vulnerabilities stemming from structural relationships between financial intermediaries (IMF 2013). For Morocco, limited fiscal and external policy buffers, high vulnerability to external shocks due to dependencies on oil imports and trade with Europe, and the expanding size and complexity of a bank-dominated financial sector underscore the importance of an effective MaPP framework.

The current institutional framework is sound, but could be further strengthened. The current institutional setup comprising the Systemic Risk Surveillance and Coordination Committee (CCSRS) provides a good framework, but remaining gaps can undermine its ability and willingness to act. The framework could be strengthened to ensure effective MaPP implementation by: (i) clearly setting out the powers entrusted to the CCSRS in fulfilling its MaPP mandate and the decision-making process, preferably a majority rule with a power of veto right to BAM; (ii) the laws governing other financial regulators need to include financial stability in their domain; and (iii) the CCSRS should be made accountable through the disclosure of its policy decisions and through regular appearances in front of the parliament.

Complementarities and externalities between policies make clear the need for the central bank to play a key role in the MaPP framework, while ensuring its independence and credibility are not jeopardized. At the current juncture, with monetary policy constrained and fiscal policy overextended, there may be an important role for MaPP to manage financial stability risks and address specific externalities. However, on occasion, MaPP may come in conflict with microprudential or monetary policy. With interagency coordination committees in place, Morocco is well-placed to navigate potential conflicts among different policy objectives.

Effective MaPP relies on the capacity to comprehensively assess potential systemic risks. This provides a cogent basis for the selection and calibration of macroprudential tools. Systemic risks should be monitored through a risk mapping framework comprising multiple indicators of relevant, material risk from statistical and supervisory bodies, both in the time (cyclical) and cross-sectional (structural) dimensions, and be updated periodically (IMF 2013).

Bank Al-Maghrib has recently taken important steps to advance financial stability analysis and develop a macroprudential policy framework. A risk mapping framework has been put in place, a Financial Stability Report is now produced, and stress testing has been fine-tuned. The groundwork is being laid to develop the Basel III countercyclical capital buffer regime, leverage ratio, and capital surcharge for systemically important banks, as well as LTV/DTI ratios.

Whereas the risk mapping framework now plays an integral role in monitoring systemic risks and producing assessments, their frequency could be increased and coverage further extended in the nonfinancial sector. Periodic internal surveillance should take place on at least a quarterly basis in view of an evolving macrofinancial climate. Increased data coverage for nonfinancial

¹ Prepared by Pilar Garcia Martinez (MCD), Sanaa Nadeem (MCM), and Onenne Partsch (LEG external expert).

institutions, particularly households, SMEs, insurance, and pensions, would improve the scope of surveillance, particularly in light of their interconnectedness and the possibility of policy leakages from more supervised sectors. Risk mapping indicators and selection of macroprudential tools should also remain forward-looking and flexible to respond to emerging systemic risks.

Near-term implementation of the Basel III countercyclical capital buffer (CCB) should be a priority. Preparatory work is underway to introduce the CCB (with the leverage ratio), but the existing roadmap for its implementation should be accelerated. The current macroeconomic environment provides an opportune juncture to implement the CCB, ensuring that system-wide capital buffers can be accumulated in an upturn. The CCB could be complemented by other broad-based tools such as dynamic provisioning requirements (DPRs) to enhance existing bank provisioning for risky loans.

Broad-based tools could be further complemented by targeted sectoral tools that more closely address the sources of systemic risk. In addition to the planned implementation of LTV/DTI and capital surcharges for systemic banks, the toolkit could include targeted risk weights and exposure caps for riskier sectors such as real estate development. To address chronic liquidity shortages in times of financial distress, differentiated liquidity charges for SIBs that build on the existing prudential liquidity coverage ratio (LCR) could be considered.

Table 1. Table of Recommendations	
Recommendations	Priority²
Clarify the powers, instruments and voting arrangements of the CCSRS	I
Amend laws governing the regulators for capital markets, and insurance and pensions to include financial stability objective	I/NT
Prioritize the implementation of countercyclical buffer	NT
Expand data coverage for the risk mapping framework	I/NT
Expand the current toolkit to include more targeted sectoral instruments	NT

² "I-Immediate" is within one year; "NT-near-term" is 1–3 years; and "MT-medium-term" is 3–5 years.

INTRODUCTION

1. The global financial crisis has illustrated that to promote macroeconomic stability, economic policy should include financial stability as a policy objective. The crisis highlighted the need for better understanding macrofinancial linkages, and the importance of MaPP in addition to microprudential regulation and supervision, in supporting fiscal and monetary policy. MaPP is defined as the use of primarily prudential tools to limit systemic risks arising from macrofinancial linkages and interconnectedness among financial institutions that can entail significant macroeconomic costs in the event of a crisis.³ Such policies do not replace, but complement microprudential policies, whose main focus is the soundness of individual financial institutions.⁴

2. The characteristics of the Moroccan economy together with macroeconomic policy limitations emphasize the importance of MaPP in mitigating financial stability risks. As an oil importer, Morocco is prone to significant macroeconomic volatility related to sharp movements in oil prices. With small external and fiscal buffers, and with monetary policy currently constrained to supporting the exchange rate, the importance of MaPP is heightened. In addition, fiscal policy may not be well-suited to prevent credit booms and the buildup of systemic risk in the financial system. Further, with credit growth weak and with financial deepening an important policy priority, MaPP is sufficiently targeted to address potential systemic risks without risking financial inclusion. Developing the MaPP toolkit would leverage the already strong microprudential supervision of banks in particular.

3. As the financial system has expanded—a landscape now defined by systemically important banks, increasing cross-border linkages, and interconnectedness between banks and nonbank financial institutions (particularly insurance)—systemic risks have intensified. Despite the recent geographical and sectoral expansion not posing material concerns so far, going forward, further increases in the size and complexity of the financial system could create externalities such that the very structure of the system could amplify adverse shocks.

4. The Moroccan authorities are committed to developing an effective macroprudential policy framework. Bank-Al-Maghrib (BAM)'s Strategic Plan 2013-15 involves establishing a macroprudential toolkit along with a communication strategy for financial stability policy.⁵ Several Fund TA missions have helped lay the groundwork for this strategy, focusing on developing a systemic risk mapping system, fine tuning stress testing, as well as introducing the elements of a macroprudential toolkit.

5. Maintaining financial stability requires the capacity to adopt and implement flexible and adaptive MaPPs. A MaPP framework should ideally encompass: (i) a system of early warning indicators that signal increased vulnerabilities in financial stability; (ii) a set of policy tools that can help contain risks *ex ante*, address vulnerabilities at an early stage, and also build buffers to absorb shocks; and (iii) an institutional framework that ensures the effective implementation of MaPPs.

³ See IMF (2011) and FSB, IMF, and BIS (2011).

⁴ Key Aspects of Macroprudential Policy, IMF Monetary and Capital Markets Department (2013).

⁵ This builds on the 2010-2012 Strategic Plan that included guidelines on developing a financial stability function within BAM.

6. The remainder of the paper proceeds as follows: Part I discusses institutional arrangements in light of international best practice, Part II examines the current systemic risk assessment framework, Part III discusses the macroeconomic and financial risks faced by Morocco, and Part IV looks at ways to bolster the macroprudential toolkit in light of key systemic risks.

INSTITUTIONAL ARRANGEMENTS

A. Main Features

7. The Moroccan authorities have gradually developed their macroprudential institutional framework. As a first step, in 2006, the Banking Law⁶ established a Commission of Coordination of the Supervisory Agencies of the Financial Sector, composed of BAM and the supervisory agencies for insurance and capital markets (*Autorité de Contrôle des Assurances et de la Prévoyance Sociale* [ACAPS] and *Le Conseil Déontologique des Valeurs Mobilières* [CDVM] respectively). This committee was tasked with coordinating supervisory actions and information exchange among members. As a second step, in 2012, BAM, ACAPS, and CDVM signed an agreement with the MEF that established the Crisis Committee to coordinate crisis management requiring state financial support. As a third step, BAM inducted a Strategic Plan 2013–2015 that involves establishing a macroprudential toolkit and a communication strategy for financial stability policy.

8. The new banking law has set up a macroprudential policy committee, the CCSRS. Composed of BAM, ACAPS, and *Autorité Marocaine du Marché des Capitaux* (ACMM, replacing CDVM) as well as the MEF, this committee is responsible for identifying and assessing systemic risks (including by coordinating the surveillance of entities controlling component parts of financial conglomerates). Supervisors also meet (without the MEF) in order to coordinate supervision and crisis management of their respective entities, including in the cross-border context. This committee further serves as a forum for information exchange under normal and extraordinary circumstances. The functioning of this committee is to be further developed in a decree and a set of internal rules, which have not yet been adopted.

9. The central bank plays a leading role in the CCSRS. The Governor of BAM chairs the CCSRS, and BAM provides the secretariat function for the Committee. A committee internal to BAM, the Financial Stability Committee⁷ that assesses systemic risks, actively supports the work of the CCSRS.

10. A reform of the central bank act is being prepared to adapt BAM's objectives and instruments accordingly. Under these amendments, BAM's primary mandate to maintain price stability would now be complemented by a mandate to support financial stability, including in the context of the CCSRS. BAM's Governor would also regularly consult with the MEF, in order to ensure the consistency of MaPP as well as monetary policy with other macroeconomic policies.

11. The laws governing ACAPS and ACMM have also been amended in order to strengthen their respective independence. These laws have been extensively reviewed to create separate legal

⁶ Article 81 of the Banking Law.

⁷ This comprises the Monetary and Exchange Operations Department, Economic Studies and International Relationship Department, Banking Supervision, and Research Department.

entities, endowed with financial, institutional, and personal independence. These new institutions shall become fully operational with the appointment of their respective management bodies, scheduled to take place by the end of April 2015.

B. International Best Practices

12. Following international best practice, macroprudential policy needs to be supported by a strong institutional framework to ensure its effectiveness. This framework needs to foster the ability to act and assure the willingness to act in the face of evolving systemic risks. The foundation of such a framework comprises: (i) a precise *definition of the macroprudential mandate* to be discharged, the functions to be carried out, and the instruments to be implemented to this end; (ii) an appropriate *accountability mechanism* to the public at large and political principals in particular; (iii) an effective *communication strategy* to develop public awareness of systemic risks and the need to take mitigating action; and (iv) appropriate *mechanisms of coordination* with other policies that could also affect systemic risk (including monetary, microprudential, fiscal policy).

13. Whereas no one-size fits all, the design of the actual institution in charge of macroprudential policy will be essential to ensure policy effectiveness. Institutional frameworks for MaPP differ from one country to another. The authorities have the leeway to opt for the model deemed most appropriate to match their institutional tradition, regulatory architecture and typology of risks. In some countries (e.g., Ireland and the Czech Republic), the central bank is responsible for both micro- and macroprudential functions, while in others, macroprudential policy is assigned to a MaPP committee internal to the central bank (for example, the United Kingdom). In yet other cases (Austria, the United States, France, and Germany), MaPP is entrusted to an inter-institutional committee, which may be presided by the Minister of Finance. The Moroccan Legislator has opted for an inter-institutional model, which contributes to bolstering ACAPS and ACMM, as autonomous regulatory agencies, acting on an equal footing with BAM as fully-fledged members of the CCSRS.⁸

14. Based on a review of international experiences, regardless of its form, the institutional setup needs to ensure that:

- The mandate of the authority(ies) in charge of macroprudential policy is clearly defined in terms of objectives, functions, and tools and powers.
- The central bank plays an important role, but its independency and credibility is not undermined.
- Participation by the Ministry of Finance is useful, but too dominant a role may pose risks.
- The decision-making process is able to address complex financial stability issues in a timely manner and avoids “inaction bias.”
- A communication strategy raises public awareness of systemic risks and mitigating measures, without causing a public panic.

⁸ Notwithstanding the capacity of BAM’s governor to act as chairman of the committee and the provision of secretariat services by BAM.

An appropriate accountability mechanism ensures the disclosure of macroprudential policy and decisions to the public at large and political principals in particular.

C. CCSRS as Macroprudential Authority

15. The current institutional framework of the CCSRS is sound, but gaps remain that undermine the ability and willingness to act.

The institutional setup of the CCSRS (with coordination of parallel measures taken by each of the three supervisory agencies) provides a good framework that requires a few adaptations to achieve effective macroprudential policy. More specifically:

- First, the banking law (or its implementation decree) should clarify the powers available to CCSRS in discharging its macroprudential mandate, including, the power to issue recommendations to its members or individual institutions, with application of the “comply or explain” principle.
- Second, the banking law (or its implementation decree) would need to provide for a decision-making process at majority, possibly with a veto right to BAM.
- Third, the laws governing ACAPS and CDVM need to stipulate that they take into account financial stability when contributing to the work of the CCSRS.
- Fourth, CCSRS should be made accountable in the banking law (or its implementation decree), through the disclosure of its MaPP and decisions (unless it would undermine financial stability) and through regular appearances in front of the parliament.

16. The envisaged regular consultation between MEF and BAM may help ensure the consistencies between policies, but the central bank’s independence should be guaranteed.

The draft reform of the central bank act proposes to organize regular consultation between MEF and BAM’s Governor in order to ensure the consistency of MaPP and monetary policy with the other instruments of the MaPP. Such a consultation mechanism would, however, not exclude disagreements between the MEF and BAM as to the prioritization of their respective policies. This would, in turn, give rise to political negotiations between MEF and BAM, thereby undermining the latter’s independence.

D. Recommendations

17. Greater clarity on the instruments available to the CCSRS in the discharge of its functions is recommended.

As the decree implementing the provisions of the banking law on CCSRS has not yet been adopted, it is unclear, at this stage, whether the committee can enact any circular or adopt any specific measure on its own, or whether the committee exclusively relies on its members’ instruments for the implementation of MaPP. While the definition of CCSRS’ missions in terms of coordination of their respective supervision or crisis management functions would argue in favor of the committee relying exclusively on its members’ instruments, the reference made to a joint circular in the context of the supervision of financial conglomerates seems to suggest that the CCSRS would be entitled to adopt decision on its own. Such mechanisms would be especially welcome in order to enforce specific macroprudential tools, which are currently available to none of CCSRS’s members, taken individually. Joint on-site inspections could also be considered in this perspective, especially in the context of financial conglomerates.

18. The ability and willingness to act of the CCSRS should be further bolstered through clear rules on voting arrangements and frequency of meetings. Absent any formal decision-making rule in the banking law, the committee is expected to work on a consensus basis.⁹ This would imply that a coordination of the respective supervisory or resolution mechanisms could only be adopted with the express agreement of all supervisory agencies. This may, however, risk paralysis in MaPP, in case of conflicting interests. It is therefore recommended to clearly stipulate a majority rule. In order to protect the role of the central bank, a veto right might be granted to the latter. However, these voting arrangements raise the question of what balance to strike between the individual autonomy of supervisory agencies and macroprudential objectives. Should the committee decide on the coordination of supervisory or resolution mechanisms under the rule of majority, the question arises whether a supervisory entity which has voted against such coordinated action is bound to implement this decision. In line with the principle of autonomy of each of the supervisory agencies, the “comply or explain rule” should be applied to strike the necessary balance between the effectiveness of MaPP and the autonomy of the regulatory agencies. The frequency of the meetings (for instance, every quarter and on a need basis) should also be stipulated.

19. The accountability for MaPP needs to be substantiated. At this stage, there is no mechanism of accountability for the CCSRS, whose actions and decisions are neither disclosed nor explained or assessed. A disclosure policy should also be adopted in order to determine, *ex ante*, the conditions under which specific actions (e.g., directed towards a group of institutions or a single institution) should be disclosed to the public. This is an important element not only to signal the MaPP stance but also to induce relevant institutions to take mitigating actions. The CCSRS should also disclose *ex post* MaPP to the parliament. The parliamentary sessions could coincide with the issuance of the stability reports. Regular reports on (or even the minutes of) CCSRS meetings could also be considered.

20. It is also advisable to adopt rules on conflicts of interests which may arise within the CCSRS. The decree implementing the banking law would establish a governance framework in order to identify, disclose and address the conflicts of interests which may derive from the involvement of CCSRS’s members in MaPP.

E. Going Forward

21. The CCSRS MaPP framework may need to be adapted in the future to further financial sector developments, including increased interconnectedness between banking and non-banking activities. As an inter-institutional committee, the CCSRS relies in principle on the instruments available to its members for the enforcement of its policy. In the medium-term, this may prove insufficient to address increasing macroprudential risks, even if the above-mentioned recommendations are implemented. Future possible options are that CCSRS may become an internal committee of BAM, which would be tasked, in the context of its financial stability mandate, with the implementation of CCSRS’s decisions, including through circulars. Alternatively, BAM could be appointed as the macroprudential authority. In this latter option, cooperative arrangements with ACAPS and ACMM would need to be re-established for the sharing of information and coordination of their respective actions.

⁹ Authorities expect that the decree and internal rules would not contain such decision-making process either.

COORDINATION WITH OTHER POLICIES

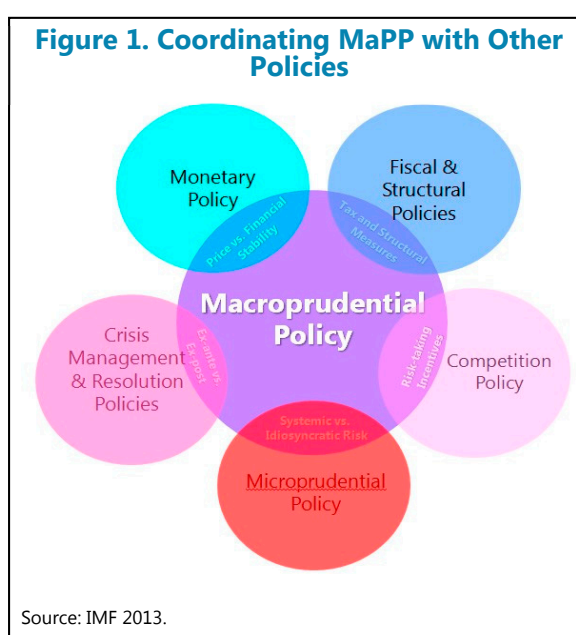
22. Financial stability is affected by a range of policies other than MaPP, and possible externalities and conflicts should be considered when designing the appropriate toolkit.

Coordination is particularly important when different institutions have formal authority on different aspects of financial stability, as is the case for Morocco. The CCSRS comprises a juxtaposition of supervisory agencies, whose mandate, functions, and tools were initially designed under a sectoral approach. Taken individually or jointly, CCSRS members are involved in various policies which may give rise to conflicts between the sectoral approach (especially embedded in laws governing the prudential supervisors for insurance, pension funds, and financial markets) and the macroprudential dimension reflected in the banking law. The current collaborative institutional arrangement in the CCSRS provides a good foundation for policy cooperation between different institutions. The leading role played by BAM in the CCSRS should help prevent potential conflicts.

23. Complementarities and externalities between policies make clear the central role to be played by the central bank in the MaPP framework, while ensuring its independence and credibility is not jeopardized. At the current juncture, with monetary policy constrained by the fixed exchange rate regime and fiscal policy overextended, there is a greater role for MaPP to manage financial stability risks and address specific externalities. However, on particular occasions, MaPP may come in conflict especially with microprudential or monetary policy (Figure 1).

24. A clear hierarchy between monetary policy and financial stability objectives would be helpful. In order to strengthen the autonomy of the central bank in defining and implementing monetary policy, price stability needs to be defined as a primary mandate to which all other mandates are subordinate. In the context of the reform of the central bank act, the price stability mandate is now defined as a “primary objective” in Article 6. The same article would maintain the stipulation that “without prejudice to the price stability mandate, BAM discharges its mission in the context of the economic and financial policy of the Government.” The contribution to financial stability would now be subject to a separate article (Article 10), which does not reiterate that the discharge of such (new) mandate would be without prejudice to the primary objective of price stability. For greater transparency and clarity, a better practice would be to describe all mandates in one provision and clearly reflect the overall hierarchy between the primary mandate of price stability and the other subordinate mandates.

25. The current collaborative institutional arrangement in the CCSRS provides a good foundation for policy coordination between agencies. With interagency coordination committees in place, Morocco is well-placed to navigate potential conflicts among different policy objectives.



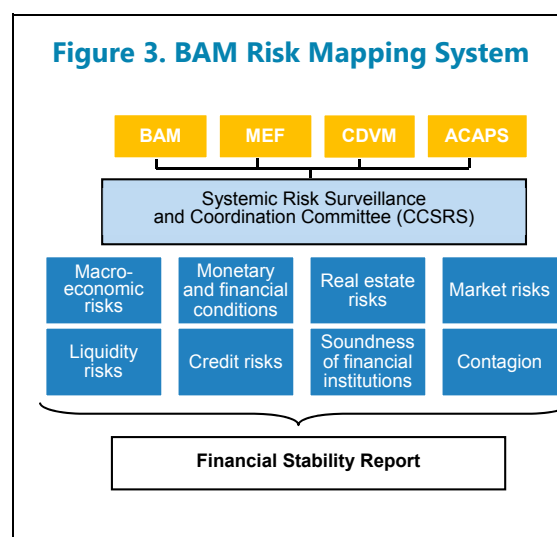
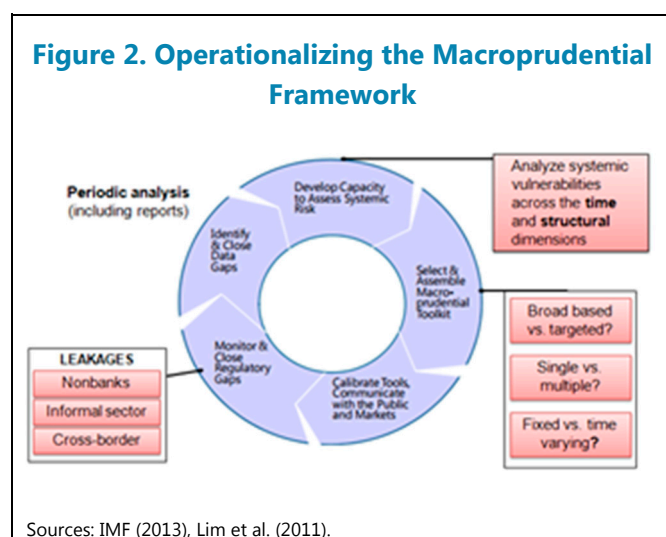
However, as the exchange rate becomes more flexible, there will be an increased need for coordination

26. MaPP authorities have an incentive to influence the design of tax and other structural measures affecting the functioning of the housing market. Morocco has already used tax measures to prevent house price appreciation in different segments of the market. While these measures should not be viewed as macroprudential *stricto sensu*, their effect on house price dynamics may have benefits in reducing systemic risks; therefore, the MaPP perspective should be taken into account when designing such measures.

SYSTEMIC RISK MAPPING

27. Effective macroprudential policies rely on the capacity to comprehensively assess potential systemic risks (Figure 2). This provides a basis for the selection and calibration of macroprudential tools. Systemic risks should be monitored through a risk mapping framework comprising multiple indicators of relevant, material risk from statistical and supervisory bodies, both in the time (cyclical) and cross-sectional (structural) dimensions, and be updated periodically (IMF 2013).

28. In 2012, BAM introduced an eight-pillared risk monitoring and assessment framework to support the functions of the CCSRS. Each pillar monitors different dimensions of systemic risk, drawing data from relevant supervisory agencies: BAM for credit institutions, the Ministry of Economy and Finance (MEF) for macroeconomic indicators, ACAPS for insurance and pensions, and CDVM for capital markets (Figure 3). [Twice a year], each agency prepares sectoral assessments for the CCSRS Monitoring Committee. Here, pillars are scored from 1 to 5 in increasing severity and backed with qualitative judgment and country benchmarking, allowing for a prioritization of systemic risks. This analysis serves as the basis for BAM's Financial Stability Report, first published in 2013.



29. In addition, bank stress tests have been conducted since 2010. Top-down stress tests are conducted annually, and two types of bottom-up tests are conducted by banks: the minimal stress

scenario defined by BAM, which is conducted annually, and specific stress tests with scenarios defined by banks, comprising liquidity (monthly), credit, concentration, market, and country risk (half-yearly), real-estate (half-yearly), and macro (annual) scenarios.

30. BAM’s risk mapping framework has greatly enhanced systemic risk analysis and interagency coordination within the CCSRS. The Financial Stability Report provides wide-ranging descriptions of developments in the domestic and global economy, the banking system, households, businesses, and pensions and insurance companies. Nevertheless, analysis could be better integrated to provide a systemic (as opposed to comprehensive but segmented) and forward-looking analysis of financial stability risks. This approach may need to be supported by investment in data gathering and analytical models.

31. Stress testing could be better integrated with the CCSRS. Macroeconomic stress scenarios could be developed in conjunction with the CCSRS, and could also account for shocks between bank and nonbank sectors to assess the degree of interconnectedness.

32. Improvements could be made to further expand data coverage to the less-monitored nonfinancial sector, particularly households, SMEs, insurance, and pensions, in view of their interconnectedness with the more supervised banking system. This would enable a more complete assessment of systemic risks, and a more cogent basis for selecting and operationalizing macroprudential tools. Currently, ACAPS is developing methodology to identify systemically important insurance companies, together with appropriate statistics for pensions. More specifically:

- More granular data and forward-looking assessments could be collected for existing pillars (Appendix Table 1);
- Data on household balance sheets, including on the asset side, could be assembled by integrating existing data from banks, insurance, pensions, the Credit Bureau, and MEF;
- Formal coordination with the Office des Changes in the CCSRS could also provide useful information on exposures to exchange rate risks and capital flows; and
- A study to assess the role of shadow banking in financial intermediation could be conducted, as a large and undocumented informal sector appears to provide a non-negligible amount of credit, and is beyond the regulatory perimeter.

33. The risk mapping exercise should be conducted more frequently in view of rapidly evolving risks. Given most indicators are available on a quarterly basis, risk assessment exercises could be conducted at least quarterly (more often if required) to obtain more frequent risk assessments. An automated data sharing system (a “risk dashboard”), supplemented by short, periodic internal surveillance notes could also be considered. Further, the choice of risk mapping pillars should remain sufficiently flexible to anticipate emergent risks.

34. In addition to the risk mapping system, identifying a set of early warning indicators to trigger the activation and release of instruments will be key to successfully implementing the macroprudential toolkit. The role of such indicators is to guide policymakers’ judgment on the decision to activate or release MaPP instruments. This could include: (i) credit-to-GDP ratio or its

deviation from a trend level (credit gap) at the aggregate or sectoral level; (ii) indicators for market volatility or other price-based measures of default or distress; and (iii) indicators measuring bank vulnerability and potential funding stress, such as deposits by non-residents and Moroccan residents living. Sectoral measures (such as measures of household or corporate indebtedness) would more easily identify buildup in sectoral vulnerabilities that may not be well-captured by the aggregate private credit-to-GDP ratio. Different indicators within the set provide distinct information for the activation and release phase, for example, market-based indicators may be more suited for the release of instruments (see IMF 2014b).

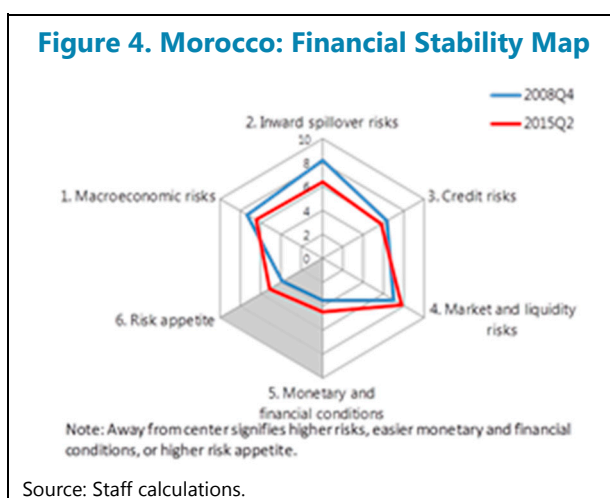
SYSTEMIC RISKS ASSESSMENT: AN OVERVIEW

35. Macroeconomic characteristics expose Morocco to significant external shocks.

Following the global crisis, a strong dependence on oil imports and close trade, FDI and remittance links with Europe exposed the economy to a succession of shocks, including energy prices hikes and a prolonged slowdown in Europe. Under the pegged exchange regime, although capital outflow restrictions provide some margin for monetary policy, fiscal policy was the first line of defense to manage the cycle. As a result, fiscal and external deficits picked up in 2012. External shocks had limited direct impact on the financial sector, mainly because of banks' limited exposure to toxic assets, low foreign debt, and relatively weak linkages of the Moroccan financial system to global financial markets. However, NPLs remain a concern, having increased since 2012, and the twin deficits have taken a toll on banking system liquidity.

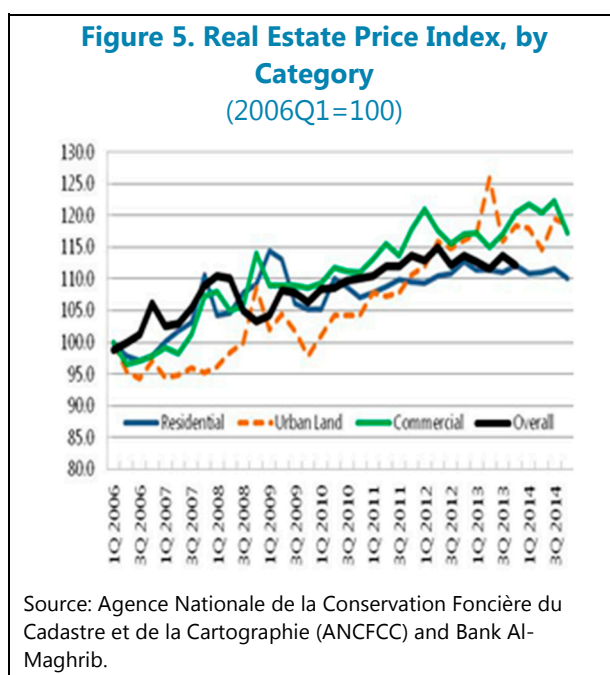
36. However, policy actions, the emergence of new export sectors, and the recent decline in energy prices helped improve macroeconomic stability, and somewhat temper financial stability risks. Fiscal consolidation and structural reforms, notable subsidy reform and the adoption of a new organic budget law, have been instrumental in reducing fiscal and external vulnerabilities. The diversification of exports achieved over the last decade has mitigated the decline of traditional exports, notably textile and phosphate. Financial inflows were buoyed by corporate and sovereign international bond issuances and the delivery of financial assistance by development partners.

37. A preliminary evaluation of systemic risk factors suggests that between 2008Q4 to 2015Q2, inward spillover and macroeconomic risks have declined while financial risks have slightly increased (Figure 4). Inward spillover risks, which derive from exposure to risks from abroad, diminished as oil prices declined and Europe began experiencing a slow recovery. Domestic macroeconomic risks also receded due to important policy actions. Credit risks slightly improved due to strong supervision practices, while market and liquidity risks and risk appetite worsened. Monetary and financial conditions were loosened to face the downward phase of the business cycle.



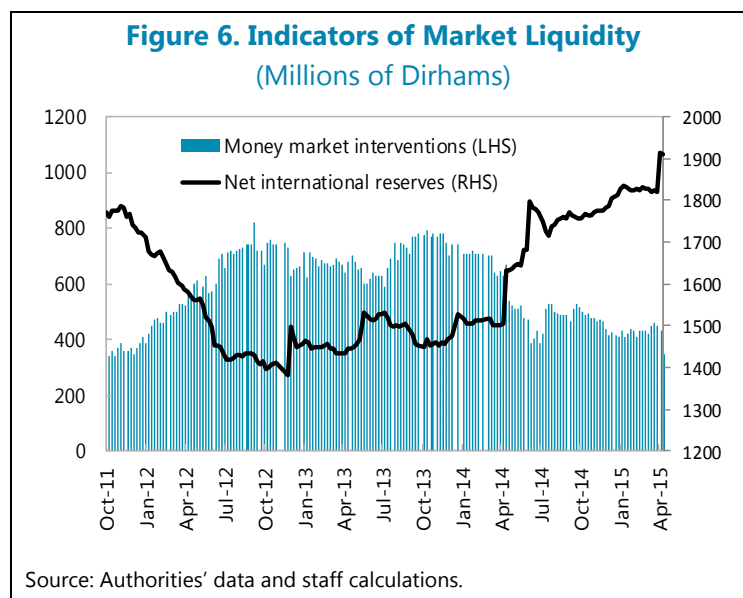
38. In addition, the country is exposed to potential domestic risks derived mainly from the construction sector, recent cross-border activities of systemic banks, and interconnections with the non-banking sector. The main potential risks are the following:

- Construction sector.** Whereas credit to the housing sector and overall house prices have been contained since the 2006-08 boom (Figure 5), there exist demand and supply mismatches in market sub segments, especially in the high-end segment. These create a vulnerability to sharp price changes. Further, aggressive strategies by some real estate developers have heightened liquidity pressures in the sector, and their connections with banks – although contained—raise concerns. With a rebound projected in nonagricultural growth, the housing credit cycle may turn upward following its current trough. With non-performing loans still on the rise, it would be prudent to prepare the groundwork for several real-estate related instruments in the near-term.



- Liquidity.** Whereas the Moroccan deposit-driven bank funding is more stable than one reliant on wholesale funding, deposits themselves can be a source of risk. Remittances constitute a fifth of deposits and although steady could potentially be a source of external vulnerability. In addition, earlier episodes of reserve depletion, particularly in 2012 and 2013 caused by worsening fiscal and external deficits, created significant liquidity shortages (Figure 6). BAM addressed these mainly through liquidity injections, lowering reserve requirements, and extending eligible collateral SMEs loans. Since March 2014, the reserve requirement remains low at 2 percent, which reduces the margin for further adjustments if needed. The low reliance of banks on external funding has shielded them from deleveraging in Europe. However, banks' deposit-to-loan has been steadily decreasing since 2007 until recently because the pool of available deposits can no longer accommodate the size and pace of needed lending activities. The problem is exacerbated by narrow domestic debt markets and limited resort to external funding. In response, banks are enlarging their funding sources by expanding securitization instruments, increasing financing in foreign currencies via subsidiaries, and extending eligible collateral under BAM's monetary operations. The extension of collateral to SMEs instruments does not create concerns at present but continued monitoring is needed. In additions, mutual funds subscriptions are about 60 percent of total bonds issued by financial institutions.
- Systemically important banks.** Morocco's three largest banks (80 percent of banking system assets and two-thirds of deposits) exhibit robust soundness indicators and are well-supervised. However, their size, complexity, and interconnectedness with other sectors make them systemic to the financial system, likely to amplify and propagate risks.

- Cross-border expansion.** The internationalization of some domestic companies, particularly systemic banks, exposes Morocco to external shocks. Cross-border consolidation of the three largest banks accounts for about one-fifth of their activities. International assets form an increasing proportion of bank balance sheets, and cross-border banks are systemic in host countries. High supervision standards in Morocco reassure the health of the consolidated banks, but lower standards in host countries pose concerns. In addition, NPLs are higher in host countries (commensurate with higher return) while data comparability and integration for consolidated supervision with parent banks can be challenging.



- Non-banking financial sector (households, insurance, and pensions).** Concentration and cross-border expansion within the insurance sector may need to be addressed with similar prudential tools as banks. The pension system is not sustainable; lack of reforms could potentially lead to significant consequences for the public budget and household consumption and savings. Mutual funds' links with banks should be closely monitored.

DEVELOPING THE MACROPRUDENTIAL TOOLKIT

39. The Moroccan authorities have been taking preparatory steps to develop a macroprudential toolkit. With the help of Fund TA,¹⁰ work is underway to introduce several Basel III regulatory tools for the banking sector, namely the countercyclical capital buffer regime (CCB), the leverage ratio, and a capital surcharge for systemically important banks, for which preliminary calculations are underway. To address vulnerabilities in the housing sector, there are plans to introduce the loan-to-value (LTV) and debt-to-income (DTI) ratios. A sample dataset of 100,000 households is currently being analyzed to identify data gaps, relevant variables to monitor, and calibration parameters.

40. Several prudential tools have previously been used to manage financial stability risks. For instance, in the context of rapid credit growth, the minimum solvency ratio was increased from 8 percent to 10 percent in 2008 and to 12 percent in 2013. A code of ethics was also adopted by banks in 2008 to tighten lending standards for real estate. In addition, an increased tax on

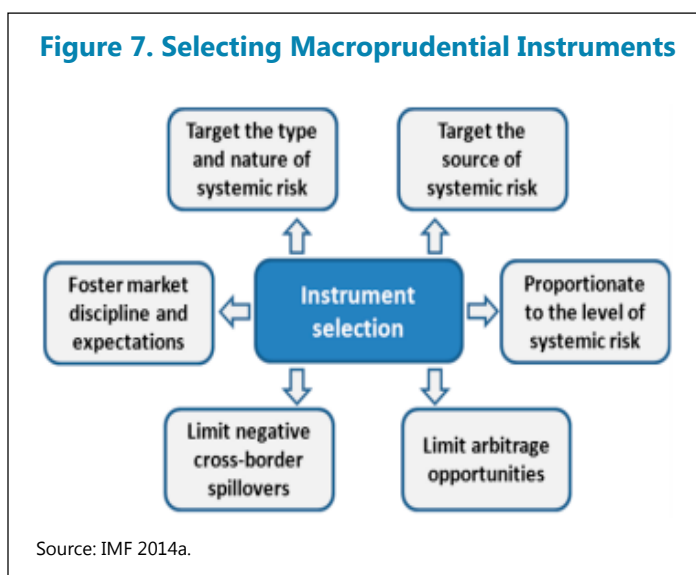
¹⁰ These include TA on Risk Mapping and Stress Testing (June 2011), Vulnerability Analysis (December 2011), Systemic Risks and Macroprudential Instruments (May 2012), Fine-tuning of Macroprudential Analysis and Stress Tests (October 2012), and most recently, Developing Macroprudential Instruments (November 2014).

(continued)

nonprimary housing was used to discourage speculative house purchases in 2006–08.¹¹ Further, since 2011, banks have been required to hold general provisions (currently 10 percent) for a “watch list” of risky loans.

41. The macroprudential toolkit should comprise well-targeted instruments that address systemic risks across both the time- and cross-sectional dimensions (Figure 7).

Instruments on the time dimension strengthen the overall resilience of the financial system and mitigate the procyclicality of credit, while those on the cross-sectional dimension address structural issues that increase the financial system’s vulnerability to shocks such as the presence of “too big to fail” banks (IMF 2014a). These, in turn, can be broad-based or more targeted. Key priorities include: strengthening banking system resilience in the presence of systemic banks and cross-border expansion, managing credit growth with attention to credit-sensitive sectors such as real estate; and understanding better the interconnectedness between the well-supervised banking system and relatively less-monitored nonfinancial institutions, such as households, SMEs, insurance, and the pension system.



42. Instruments should also be mutually complimentary and appropriately sequenced to avoid over-regulation, significant adjustment costs for intermediaries, and unanticipated policy leakages. Selected tools should keep clear the financial stability objectives of macroprudential policy to avoid overburdening the toolkit.

A. Broad-based Tools

43. As part of implementing the Basel III framework, Morocco plans to introduce the CCB and the leverage ratio. The CCB is designed to strengthen financial system resilience by accumulating adequate capital buffers during periods of excessive credit growth to be drawn down to absorb unexpected losses in periods of financial distress. By raising the cost of new credit, the CCB also tends to dampen the procyclicality of credit. The CCB is to be supported by the minimum leverage ratio. Also aimed at increasing resilience, the leverage ratio aims to limit banks’ on- and off-balance sheet exposures relative to equity. The leverage ratio can serve as a backstop to the CCB, which is risk-weighted: in an upturn, risk weights can decline, eroding the size of the capital buffer; this can be mitigated by the leverage ratio requirements, which are not-risk weighted.

¹¹ Whereas it is difficult to quantify precisely the effectiveness of these measures, as the following period coincided with the European crisis, credit growth decreased in just one year from 24.4 percent in 2008 to 10.4 percent in 2009.

44. Early implementation of the CCB should be a priority. With the credit cycle neutral and macroeconomic indicators on the upturn, at least one broad-based tool should be in place to build system-wide buffers. Designed to accumulate capital buffers that directly strengthen the ability of banks to cover losses, the CCB provides a first line of defense for the banking system, and would work well with existing capital adequacy regulations. By comparison, by targeting the relative composition of the overall balance sheet rather than the size of capital per se, the leverage ratio can at most take a second-order, and hence secondary role in bolstering resilience (IMF 2014b). Consequently, plans to implement the CCB should be accelerated and requisite groundwork on data collection and calibration should take precedence. Nevertheless, care should be exercised to avoid too mechanical a calibration of the CCB based on the aggregate credit gap as recommended by BCBS; supplementary measures such as sectoral credit growth, house price spikes, or increased leverage may better detect rising vulnerabilities. More broadly, quantitative indicators should serve to guide rather than dictate policy action (see IMF 2014a).

- **The CCB could be further complemented by dynamic provisioning requirements (DPRs).** DPRs smooth provisioning costs over the cycle, allowing a buildup of general provisions in an upturn to address potential loan losses under periods of financial distress. This would enhance the more ad hoc provisioning banks are already subject to with an approach that is more forward-looking, systematic, and addresses the procyclicality of credit, as well encourage greater classification and analysis of near- and non-performing loans. *Countercyclicality of credit:* Conventional credit provisioning tends to encourage the procyclicality of credit as NPLs and provisions decline in an upturn, expanding credit. Dynamic provisioning could contain credit procyclicality by introducing general provisions that increase with the stock of outstanding and new extended loans, slowing credit growth.
- *Forward-looking general provisioning:* A “through-the-cycle” accumulation of provisions could be implemented at first, as applied by Spain and Uruguay, as it is less data-intensive than trigger-based DPR approaches requiring complex models with more granular data. This approach requires data only on the outstanding stock of existing loans, new loans extended during the period, and the specific provisions applied (IMF 2014b, Wezel et. al, 2012). This approach could be differentiated for particular loan types, e.g., corporate vs. SMEs. This approach would also be easier to implement given banks’ current watch list classification exercises that group risky loan categories.
- *Relationship with CCB:* CCBs complement DPRs by providing buffers for unanticipated shocks. The degree of countercyclicality in the DPR should, however, be coordinated with that for CCB, which is also countercyclical, to achieve an appropriate degree of control that mitigates financial stability risks without excessively increasing the cost of credit.

45. Whereas broad-based tools are valuable in building overall resilience, they may not be sufficient to target specific risks. Broad-based tools may be more effective at building resilience than managing credit procyclicality; for instance, CCB requirements can be circumvented by lower quality or cheaper capital, reducing its ability to tame credit procyclicality (IMF 2014a, IMF 2014b, Osborne 2012). Next, by impacting credit exposures of the entire banking system, broad-based tools may be too blunt to contain vulnerabilities emerging in specific segments of the credit market. Moreover, being applied to the banking sector specifically, the current set of broad-based tools

introduces the potential for financial activity migrating toward other financial or informal institutions, where such regulations do not apply and credit costs are possibly lower. Whereas BAM is empowered to monitor nonbank financial institutions in addition to banks (comprising about 10 percent of total credit), there remains merit in understanding the extent of credit extension by informal institutions outside the supervisory perimeter.¹²

B. Targeted Tools

46. More targeted tools could better address sources of systemic risk as they emerge, while limiting externalities. As the financial sector becomes more complex, the macroprudential toolkit should be equipped with tools that target specific sectoral vulnerabilities and address interconnections between banks, nonbanks, and nonfinancial institutions, while complementing broad-based tools.

C. Housing

47. Sectoral tools on the lending side would complement LTV/DTI ratios in managing real estate risks. LTV/DTIs aim to manage borrower demand, with secondary effects on constraining bank lending. However, cognizant of risks from real estate development, complimentary instruments targeting lenders (banks) should also be considered, such as *targeted risk weights* or *exposure caps* for new loans to riskier segments. Additional sectoral risk weights, for instance, would increase the relative cost of credit for riskier segments such as by geographical markets (tourist cities), housing type (luxury homes), or borrower type (real estate developers, foreign buyers, second homeowners). Other measures could also be considered depending on the root cause of concern: debt service coverage (DSC) limits could be imposed, although this may be trickier to implement given implicit difficulties in valuing collateral and calculating income for projects under development, which generate cash flows with long lags. Given the higher risks posed by commercial real estate, more stringent loan covenants, guarantees and possibly pre-selling a proportion of the project could be considered. Such targeted approaches could limit bank exposure to riskier real estate developers without constricting overall real estate development, an important welfare goal for the government.

48. Instruments could also be developed to contain the credit-price feedback loop. To prevent rapid escalation in house prices, the *rollover period between real estate purchase and sales* could be lengthened, and *additional stamp duties (transaction tax)* could be applied on target markets (luxury/investment/repeat purchases to discourage demand for a particular segment or borrower type). Such measures are used to address or preempt suspected bubble episodes, such as in Singapore and Hong Kong following the global crisis. However, such quantity and price regulations tend to introduce incentives for circumvention, and the successful application of such surgical measures requires granular data and a comprehensive (and possibly costly) monitoring and enforcement capacity.

¹² The new banking law has significantly expanded the scope of BAM's supervision to include banks, financing, factoring and leasing companies, and microfinance institutions.

D. Systemically Important Banks and Cross-Border Expansion

49. Implementation of the capital surcharge for systemic banks should be accelerated. BAM currently plans to introduce capital surcharges SIBs by 2019; using Basel III methodology, SIBs have been identified, and the capital surcharge is currently being calibrated. A communication strategy for banks has not yet been devised. Given the current size, interconnectedness, and recent expansion of systemic banks, a capital surcharge for SIBs should be in place.

50. Several additional tools could be designed to address the possible vulnerabilities of cross-border expansion of SIBs. The planned capital surcharge for SIBs (currently with fixed weights for size of cross-border exposures) could apply varying risk-weights for type of cross-border exposures in relation to, for example, host countries' credit cycles, with possible variation for specific sectoral exposures. Varying provisioning requirements or loss given default (LDG) floors could also be considered for risky and non-performing cross-border loans. This would need to be supported by more granular monitoring of cross-border exposures.

51. Existing surveillance of financial groups could be leveraged to assess the financial stability risks of cross-border expansion of nonbank institutions. The cross-border expansion of insurance companies in particular could be assessed via their linkages with banking groups. BAM could also use its surveillance capacity (particularly for consolidated groups) to define permissible activity; this would require an enhanced ability to better monitor cross-border spillovers.

E. Liquidity

52. BAM has previously used reserve requirements to address liquidity shortages. Currently standing 2 percent, BAM has also provided liquidity support using lending to SMEs as collateral for liquidity provision. Reserve requirements have the advantage of being able to be used in a timely and flexible fashion, but can be complemented by their use in being a main instrument for monetary policy in Morocco.

53. The Liquidity Coverage Ratio (LCR) could be used to manage systemic liquidity stresses. Compliance with the Basel III LCR has been met by most banks for microprudential purposes. The LCR could also be used as a macroprudential tool to be relaxed during periods of financial distress. This macroprudential use of LCR would require little preparation, as operational and regulatory capacity for it already exists.

54. The LCR could be complemented by differentiated liquidity charges for SIBs. Given the systemic role of large banks in the financial system, differentiated liquidity charges could be applied to SIBs to hedge against liquidity stresses and reduce the likelihood of amplified systemic shortages.

55. Whereas macroprudential tools may, at the margin, ease liquidity strains on the banking system, they cannot substitute for more structural remedies for chronic liquidity problems. Morocco's liquidity issues stem, among others, from the lack of sufficiently deep interbank and other capital markets together with a recent lack of credit demand, which lie beyond the scope of macroprudential policy.

F. Nonfinancial Institutions

56. Greater surveillance of nonfinancial institutions is required. The nonfinancial sector, particularly households, SMEs, insurance companies, and the pension system, can be important sources of financial stability risk requiring macroprudential supervision, particularly as a destination for migration of financial activity from more regulated sectors. Data collection and analysis in these areas, leading up to microprudential supervision, should be strengthened as a first step (IMF 2013).

57. Risks in the pension system should also be monitored closely for its potential systemic impact. This includes the impact on government budget, and on household consumption and savings, especially in the case of delays of the much-needed reform. The impact on household balance sheets should also be analyzed. The risk mapping system should ensure households and pensions are present as pillars, as well as in the contagion pillar to analyze transmission of financial stability risks among nonfinancial institutions.

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Appendix Table I. Risk Mapping Framework: Existing Indicators and Recommendations

Pillar	Current Indicators	Supplementary Data/Other Analytical Steps
Macroeconomic Risks	<p>GDP growth and main components</p> <ul style="list-style-type: none"> • Agriculture, value-added in % • Non-agriculture GDP in % • Overall GDP <p>Domestic output Domestic Inflation External position</p> <ul style="list-style-type: none"> • Current account balance, as % of GDP • Net international foreign reserves <p>Commodity prices</p> <ul style="list-style-type: none"> • Oil prices • Phosphate prices • Index of non-energy product index, excluding phosphate <p>Foreign demand</p> <ul style="list-style-type: none"> • GDP of partner countries 	<ul style="list-style-type: none"> • Consider impact of tax regime in creating incentives for risk taking by agents (households, corporations)
Monetary and Financial Conditions	<p>Evolution of bank credit relative to fundamentals</p> <ul style="list-style-type: none"> • Difference between credit growth and non-agriculture GDP growth • Credit supply • Credit demand • Credit growth relative to trend <p>Risks linked to net international foreign reserves Pressures from interest rates</p> <ul style="list-style-type: none"> • Policy rate • Real interest rate <p>Exchange rate fluctuations</p> <ul style="list-style-type: none"> • Gap between REER and trend 	<ul style="list-style-type: none"> • Compare aggregate with sectoral credit growth/gap measures, scoring of early warning indicators

Pillar	Current Indicators	Supplementary Data/Other Analytical Steps
	<ul style="list-style-type: none"> • Gap between dirham to dollar exchange rate and its trend 	
Real Estate Risk	<p>Property market developments</p> <ul style="list-style-type: none"> • Growth in overall price index (REPI) • Number of transactions <p>Bubble Formation Risks</p> <ul style="list-style-type: none"> • Growth in housing loans • Interest rate applied on mortgages • Difference between credit growth in promoters and residential real estate • Median duration in months between nth and n+1th sale of same property <p>Valuation Indicators</p> <ul style="list-style-type: none"> • Housing affordability index • Risk premium on investment of property 	<ul style="list-style-type: none"> • Data on stock, upcoming inventory • Demand by region, domestic vs. foreign • “Household credit gap” (deviation of LTI from long-term trend) • Develop a housing price/transactions model on macrofundamentals (particularly credit, output growth)
Credit Risks	<ul style="list-style-type: none"> • Household debt/GDP in sample, share of sample >40 percent • Private nonfinancial enterprises: private debt/GDP, debt ratio in sample • Public Sector: Treasury debt to GDP, public debt to GDP, state payment arrears 	<ul style="list-style-type: none"> • SME NPLs • Sovereign risk indicators • Construct household balance sheets triangulating data from banks, insurance, pensions, MEF
Market Risk	<p>Concentration</p> <ul style="list-style-type: none"> • HHI concentration of unsecured overnight money market • HHI repo market • HHI of interbank purchases and sales in domestic spot exchange market • Number of banks obtaining overnight unsecured loans on the MIB market at significantly higher rates 	<ul style="list-style-type: none"> • Could complement with forward-looking market-based measures, such as probability of default (Distance-to-Default, Expected Default-Frequency)

Pillar	Current Indicators	Supplementary Data/Other Analytical Steps
	<p>Depth</p> <ul style="list-style-type: none"> • Turnover ratio of Treasury bonds • Turnover ratio of shares traded on the stock market • Turnover ratio on the domestic exchange market <p>Dispersion</p> <ul style="list-style-type: none"> • Difference between minimum and maximum rates on interbank market for unsecured overnight lending and borrowing • Difference between minimum and maximum rates on the overnight interbank REPO market • Difference between MIB overnight average weighted rate and the repo overnight average weighted rate <p>Valuation</p> <ul style="list-style-type: none"> • Forward P/E ratio <p>Volatility</p> <ul style="list-style-type: none"> • Standard deviation of MASI • Standard deviation of 10-year and 2-year treasury bond rates <p>VaR of trading books</p> <ul style="list-style-type: none"> • VaR of trading books of the three largest banks on the exchange 	
Liquidity Risk	<p>Overall liquidity deficit</p> <ul style="list-style-type: none"> • Injections by BAM • HHI liquidity of Central Bank advances <p>Liquidity concentration</p> <ul style="list-style-type: none"> • HHI concentration of bank liquidity (banks' cash holdings) <p>Pressures on collateral</p>	

Pillar	Current Indicators	Supplementary Data/Other Analytical Steps
	<ul style="list-style-type: none"> • Number of banks whose pressure on the collateral exceeds overall market indicator Outstanding items • Operations outstanding in the Morocco Gross Settlement System (SRBM) Interbank Contagion • Number of bankruptcies caused by spillover effects Collection/Outflow of mutual funds • Net subscriptions of mutual funds • Share of mutual funds' loans on the repo market 	
Soundness of Financial Institutions	Banks Asset quality <ul style="list-style-type: none"> • Sectoral distribution of loans to businesses • Concentration by large debtors • Coverage ratio by provisions Profitability <ul style="list-style-type: none"> • Overall intermediation margin • Cost of risk • Operating ratio • ROA Equity and solvency capital <ul style="list-style-type: none"> • Solvency ratio • Tier 1 Interest rate risk <ul style="list-style-type: none"> • SANEC interest rate risk rating Liquidity and refinancing <ul style="list-style-type: none"> • Bond investment ratio • Liquidity ratio • Level of liquid assets 	

Pillar	Current Indicators	Supplementary Data/Other Analytical Steps
	<ul style="list-style-type: none"> • Share of short-term market resources to total resources <p>Sensitivity to market risks</p> <ul style="list-style-type: none"> • Market performance/net banking income • Net foreign exchange position <p>Governance and risk management</p> <ul style="list-style-type: none"> • SANEC rating given to governance and risk management <p>Insurance</p> <p>Capital adequacy</p> <ul style="list-style-type: none"> • Coverage rate of solvency margin • Coverage of technical liabilities by representative assets • Net reinsurance premiums/equity capital <p>Investment risk</p> <ul style="list-style-type: none"> • Net unrealized gains/assets <p>Interest rate risk</p> <ul style="list-style-type: none"> • Risk model on stress test relating to interest rate, created by DAPS <p>Redemption risk</p> <ul style="list-style-type: none"> • Redemptions/Mathematical reserves <p>Profitability and management</p> <ul style="list-style-type: none"> • Management fees/gross written premiums • Net income/equity capital <p>Technical risk</p> <ul style="list-style-type: none"> • Net claims/net reinsurance premiums <p>Liquidity Risk</p> <ul style="list-style-type: none"> • liquid assets/liabilities <p>Reinsurers' counterparty risk</p> <ul style="list-style-type: none"> • Reinsurer's share of technical reserves 	<ul style="list-style-type: none"> • Pension indicators (in progress)

Pillar	Current Indicators	Supplementary Data/Other Analytical Steps
	<ul style="list-style-type: none"> • Rating of reinsurers Governance Appraisal by expert 	
Contagion	TBA	<ul style="list-style-type: none"> • Construct a flow of funds diagram to map possible interconnections between financial intermediaries. Could move to developing network analysis at a later stage • Integrate stress testing with shocks from other intermediaries (e.g., bank-insurance)