



The SEACEN Centre

Volume 4 / May 2015

# SEACEN FINANCIAL STABILITY JOURNAL

Insights and Thought Leadership  
on Financial Stability

**Financial Stability and Risk-Based Supervision:  
A View from the United States**

By Thomas J. Curry

**Implementing Macroprudential Policies: Challenges,  
Pitfalls and Way Forward**

By Hans Genberg and Michael Zamorski

**Using Macroprudential Tools to Address Systemic  
Risks in the Property Sector in Singapore**

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**Controlling Banks' and Financial Systems' Exposure to  
Money Laundering and Terrorist Financing Risks**

By Ralph Fatigate, Craig D. Stone, Thomas J. Dujenski  
and Mike Burkhalter

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The background of the page is a light blue gradient. It is decorated with numerous hexagonal shapes in various shades of blue, from light to dark. Some hexagons are solid, while others are outlined or have concentric borders. Thin white lines connect some of the hexagons, creating a network-like pattern. The overall design is modern and geometric.

SEACEN's core membership is comprised of twenty central banks/monetary authorities in the Asia-Pacific region. SEACEN serves its members through its learning programs, research work, and networking and collaboration platforms for capacity building in central banking knowledge. Through its various activities, SEACEN also strives to promote financial stability in the region, especially through maintaining cooperative relationships and the advocacy of good and best practices in financial institution supervision and central bank policy actions. In addition to its 20 members, it has an outreach of 15 other central banks in the Asia-Pacific region, as well as 26 regional and international strategic partners with which SEACEN collaborates in the design and delivery of its learning programs.

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Adviser  
Financial Stability and Supervision  
The SEACEN Centre

The Editorial Board has designated Mr. Zamorski as Chief Editor.

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### Article Submission Guidelines

The *SEACEN Financial Stability Journal* Editorial Board welcomes potential contributions to the *Journal*. Articles written for the *SEACEN Financial Stability Journal* should focus on providing insights and thought leadership with respect to information and developments relevant and critical to promoting financial stability and related matters, contextualized to the Asia-Pacific region.

- Article drafts should be submitted in 12 point Times Roman font and should be double-spaced, and sent by email to: [article@seacen.org](mailto:article@seacen.org).
- The length of draft articles will generally range from 3,000 to 5,000 words (12 to 20 double-spaced typed pages), though treatment of some topics could necessitate longer articles, which would be considered.
- Authors should include a biographical summary at the end of the article. If an article expresses expert opinions, contributors' expert credentials should be apparent.
- Articles will be evaluated by the *Journal's* Editorial Board.
- The Chief Editor and Senior Manager, Communications Unit, are available at any time to answer authors' questions, discuss potential articles, review early drafts, or provide other input. Their contact details are as follows:

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## Letter from the Executive Director

Dear Colleagues and Readers

The U.S./Eurozone Crisis of 2007-9 (the Crisis) was the most significant period of global financial instability in more than 70 years. While the Asia Pacific region was impacted by the Crisis, it has been eighteen years since the last regional financial crisis. Preserving the soundness and resiliency of the increasingly integrated regional banking system is essential to avoiding or containing future periods of financial instability or crisis in the region.

In that regard, we have three articles in this issue on lessons learned from the Crisis related to banking system supervision. The U.S. Comptroller of the Currency, Thomas J. Curry, is responsible for supervising more than 1,600 U.S. banks and federal branches and agencies of foreign banks, which comprise nearly two-thirds of U.S. banking system assets. Mr. Curry has provided an article on risk-based supervision. His article emphasizes that bank supervision needs to be proactive and based on a regular program of on-site examinations focused on the most significant risk areas. He describes the OCC's continuous supervision approach and the importance of in-depth examiner evaluations of banks' risk management capabilities.

The Crisis highlighted that traditional bank supervision methods focused on individual institution risks may not consider that a build-up of macroeconomic risks and vulnerabilities, such as real estate market bubbles, can adversely impact a number of institutions simultaneously, posing systemic risk. A wide range of macroprudential policy measures can be used to control such risks.

An article by SEACEN Advisers Hans Genberg and Michael Zamorski provides an overview of macroprudential policy measures and some implementation challenges. An article by Wong Nai Seng, Aloysius Lim and Wong Siang Leng of the Monetary Authority of Singapore focuses on their institution's experience in using macroprudential policy measures to control systemic risk in the Singapore property market.

The IMF has recently reiterated concerns "...about the possible consequences money laundering, terrorist financing and related crimes have on the integrity and stability of the financial sector and the broader economy." A fourth article by Messrs. Ralph Fatigate, Craig D. Stone, Thomas J. Dujenski and Mike Burkhalter of Alvarez & Marsal, a global consulting firm, discusses international standards pertaining to prevention of money laundering and terrorist financing, and measures that banks and regulatory authorities can take to enhance control of these risks.



I will complete my term as SEACEN's Executive Director next month. The establishment of this *Journal* in 2013 is an important organizational accomplishment in promoting thought leadership on financial stability. I would like to express my sincere gratitude to our readers, authors, SEACEN member central banks and monetary authorities and the *Journal's* Editorial Board for their invaluable contributions toward its success to date, and for their continued support.

Hookyu RHU  
Executive Director  
18 May 2015

**Disclaimer:**

The content and views expressed in the SEACEN Financial Stability Journal are solely the responsibility of the authors, and do not reflect the official views, policies or positions of The South East Asian Central Banks (SEACEN) Research and Training Centre or its member central banks and monetary authorities.

## Financial Stability and Risk-Based Supervision: A View from the United States

Thomas J. Curry  
Comptroller of the Currency

In the years leading up to the recent financial crisis and in the years since, lawmakers, legislators, and bankers have consistently reaffirmed their commitment to financial stability. Not coincidentally, the group created by the Dodd-Frank Act of 2010 to evaluate and respond to systemic risk was established as the Financial Stability Oversight Council. The international body that studies and makes recommendations for the global financial system was chartered as the Financial Stability Board. And the Basel Committee on Banking Supervision's mission statement expresses its goal of "enhancing financial stability."

Yet, despite many invocations, there are wide differences of opinion on what financial stability means and what policies it implies for financial institutions.<sup>1</sup>

That was not the case after the financial crisis that led to the Great Depression of the 1930s. Policy makers of that era were in very close agreement on what financial stability entailed and the steps that were necessary to achieve it. In the watershed legislation of 1933 (the Glass-Steagall Act) and 1935, they restricted entry into the banking system, suppressed bank competition, limited bank powers to the basics of deposit-taking and loan-making, made banking laws more prescriptive, and reduced regulatory discretion. Under this approach, the acceptable threshold for bank failures was effectively zero, reflecting a fear that the failure of a bank of any size would do unacceptable damage to still shaky public confidence.

This regulatory approach held for a full generation. As late as the 1960s and 1970s, the scars were still fresh enough that the failure of some quite minor U.S. banks triggered exaggerated public and congressional concerns that the Great Depression experience was about to repeat itself.<sup>2</sup>

Today we view financial stability in more nuanced terms. We recognize that banks must innovate and compete, not just with each other for business opportunities but also in the market for smart, talented people. We recognize that banks must take prudent risks in order to serve their public purpose. We further recognize that in serving their public purpose, bankers will take their share of chances that will not pan out, and that, especially in unfavorable economic conditions, too many errors of judgment could endanger the bank's viability. Although bank examiners identify and address many problems in banks, mostly unseen by the public, they cannot realistically catch them all. Nor is it clear that they would want to: a banking system that is safe and sound without exception or condition is probably one that is not doing its part to support customers and the communities in which they live and work.

In short, stable does not necessarily mean static nor risk free.

The goal of U.S. bank regulation today is, therefore, a banking system that is dynamic and safe and sound. For regulators, this requires careful balancing of our responsibilities. We must stay attuned both to the industry policies and behaviors that must be regulated, and then do so in a firm and measured way. But we must also take into consideration the burdens these regulations impose. We must constantly refine those regulations and act to revise or remove those found to be unnecessary or ineffective. Indeed, comprehensive periodic regulatory reviews are required under U.S. law, and we are in the process of conducting one of these reviews as I write.

Our approach to risk has also become more sophisticated. Some have suggested that, post crisis, bank regulators have embraced an uncompromising attitude toward risk, especially at the largest and most complex institutions. Some critics might view this as reminiscent of the regulatory response to the Great Depression, when overly cautious and constrained U.S. banks lost ground to foreign and non-bank domestic competitors, to the detriment of U.S. businesses and households.

But nothing could be further from the truth. At the Office of the Comptroller of the Currency (OCC), we recognize that banking is the business of informed risk-taking, and believe that banks, consistent with safety and soundness and consumer protection safeguards, should be free to exercise their own independent judgment when it comes to deciding which borrowers are creditworthy and which are not. Those are calls that bank managers—not regulators—are paid to make.

What we do insist upon is the proper management of the risks banks are empowered to take. This is an important distinction. OCC examiners require that the banks we supervise demonstrate a high level of risk awareness at all levels of the organization. We require them to have effective systems to identify, measure, monitor, and control risk-taking, and to ensure that boards of directors have sufficient information on the bank's risk profile and risk management practices to do their job, which is to provide oversight and guidance on strategy and risk appetite.

In other words, OCC supervision emphasizes that, subject to restrictions embodied in law, risk in and of itself is not what gets banks in trouble. Trouble happens when banks are unaware of and therefore unprepared for the possible consequences of the risk they take.

In my view, one fundamental reason for the recent instability in U.S. banking is that we periodically lost sight of the importance of strong bank supervision in an increasingly deregulated environment. In the several important pieces of legislation passed between 1980 and 1999 that dismantled the Great Depression-era rules and permitted U.S. banks to expand their activities and take on new risks, there was the expectation that these changes would be accompanied by less strict supervision. Indeed, some regulators embraced what they saw as the spirit of the times, examining and supervising with a lighter hand.



That proved to be a serious mistake. Recent history tells us that when the rules governing banking powers and activities are relaxed, banks should be subjected to intensified bank supervision to ensure that they are managing their affairs and activities in a responsible and legal manner.

Recent history also demonstrates the importance of the timely dissolution of financial institutions when their problems are so acute that recovery is no longer a realistic possibility. During the U.S. savings and loan crisis of the late 1980s and early 1990s, many insolvent institutions were allowed to continue operations in hopes they could grow their way back to health. More often than not, “regulatory forbearance” produced so-called “zombie banks” that eventually failed anyway, but at higher cost to the government-backed deposit insurance funds than if they had been closed earlier. In response, Congress in 1991 passed the FDIC Improvement Act (FDICIA), which established a new regime of “prompt corrective action” requiring regulators to respond in graduated ways to declines in a bank’s capital. When it reached a point deemed to be “critically undercapitalized,” FDICIA required regulators to close the bank and liquidate it. In this respect, FDICIA was a turning point, affirming that the failure of a bank was not necessarily a failure of public policy.

Similarly, the Dodd-Frank Act of 2010 was based on a new concept: that henceforward, no U.S. bank would be viewed as inherently too big to fail and that the implicit public commitment to rescue such a bank—a commitment believed to have contributed to excessive and mismanaged risk-taking and, ultimately, to the multi-billion dollar public bailout—was no longer on the table. To that end, Dodd-Frank provided the FDIC with “orderly resolution authority” to liquidate insolvent institutions, which includes the ability to fire bank management and board members, and to “claw back” previous compensation. It prohibited the Federal Reserve from using its lending authority to prop up failing companies. And, among other things, it required the largest banking companies to develop plans, subject to regulatory approval, for their own rapid and orderly resolution in the event of severe financial distress—so-called “living wills.”

More importantly, Dodd-Frank raised prudential standards so that regulators have the tools they need to ensure a banking system that is both dynamic and safe and sound. The Dodd-Frank mandate for enhanced prudential standards complemented parallel work undertaken internationally by the Basel Committee to strengthen capital and liquidity standards for global financial institutions. The OCC has implemented these various new provisions through the U.S. federal banking agencies’ rules that impose higher standards for capital and liquidity, the so-called Volcker Rule that sharply limits bank involvement in proprietary trading and speculating in derivative instruments, and the OCC’s enforceable safety and soundness guidelines for heightened standards for bank management and board oversight.

As I have said, the thrust of the OCC’s supervisory policy has been to ensure that banks properly understand, manage, and monitor the risks they assume. That

approach is embodied in what we call “supervision by risk.” This is an approach to bank supervision that the OCC introduced more than 20 years ago, and one that we have been refining ever since.

Supervision by risk as practiced by the OCC is built on three pillars: regulations that carry the force of law; guidance that instructs bankers on how to meet their legal and prudential obligations; and supervision, which focuses on evaluating the risks banks face, identifying material and emerging problems, and ensuring that banks take action to resolve problems before those problems compromise their safety and soundness. This is a dynamic approach that is responsive to changing risks at individual institutions and sensitive to evolving market conditions and regulatory changes. It is based on the premise that no two banks are alike, and that their unique characteristics of size, location, corporate structure, risk profile, systemic importance, and many other variables require customized supervision.

For supervisory purposes, the OCC designates each national bank as a large, mid-size, or community bank. This designation is based on the bank’s asset size and the presence or absence of other factors that affect its risk profile and complexity. Among those factors are the bank’s relationship to any corporate partners, its share of the market in which it competes, and its product mix. For example, banks with extensive international operations, or sophisticated capital market activities, or customer menus that offer riskier products and services are more likely to qualify for a designation that provides a more intensive level of supervisory oversight than banks of similar asset size that do not share those characteristics.

The OCC’s organization is designed to support the large, mid-size, and community bank designations. Large bank supervision is coordinated through the Senior Deputy Comptroller for Large Bank Supervision in the agency’s Washington, D.C. headquarters. Mid-size and community banks receive a decentralized brand of supervision. Community banks, which constitute the overwhelming majority of OCC-supervised institutions, are supervised by local examiners, who often bring first-hand familiarity with the bank’s market and business model to their work. We periodically rotate the assignments of lead examiners for large, mid-size, and community banks.

The OCC’s supervision concentrates on systemic risk and institutions that pose the greatest risk to the banking system. Under this approach, the OCC allocates greater resources to areas of higher risk. It does this by identifying risk using common definitions. The OCC has defined eight categories of risk for the purposes of its supervisory activities: credit, interest rate, liquidity, price, operational, compliance, strategic, and reputation. These categories are not mutually exclusive; any product or service may expose a bank to multiple risks. For example, mortgage loans that are not properly underwritten or do not comply with the applicable law may expose banks to multiple categories of risk. Poorly underwritten mortgages may entail a loss that diminishes the bank’s capital and liquidity, while seizing collateral that is a debtor’s family home may tarnish its reputation with present and future customers. And, if in

making or servicing such loans the bank runs afoul of the complex rules governing these activities, it may be exposed to substantial penalties that can interfere with its ability to operate.

Supervision by risk requires examiners to determine how certain existing or emerging issues for a bank, its related organizations, or the banking industry as a whole affect the nature and extent of risks in that institution. It guides examiners in the risk evaluation process by providing consistent definitions of risk, a four-dimensional system for assessing those risks, and integration of risk assessment in the supervisory process. After performing risk evaluations, OCC examiners tailor supervisory activities to the risks identified. Examiners also include periodic testing in their supervisory activities to validate risk assessments.

National banks and Federal savings associations are required to undergo a full-scope, on-site examination at least once during each 12-month period. This may be extended to 18 months if the bank has total assets of less than \$500 million, qualifies as “well capitalized” under the FDICIA definitions, is not under a formal enforcement action, and has received at least a satisfactory rating at its last examination. The OCC also has the latitude to schedule examinations more frequently if a bank’s deterioration requires immediate attention.

But as important as what goes on during examinations—and what distinguishes the OCC’s supervisory approach from others—is what goes on between examinations. The OCC practices what it calls “continuous supervision.” This is most apparent in our large bank program, where resident examiners constantly monitor the bank’s condition and evaluate its risk profile, drawing on their communications with bank management and with OCC headquarters experts on broader economic and market trends. But we also provide continuous supervision for our mid-size banks and continuous monitoring of our community banks: OCC managers who have responsibility for a “portfolio” of community banks stay abreast of their condition through various tracking mechanisms, as do officials in our four district offices, which are located in Chicago, Dallas, Denver, and New York.

The flexibility built into the OCC’s supervisory system enables the agency to respond to day-to-day, week-to-week changes in a bank’s condition. It also enables us to spot and take action in response to new and evolving risks. Consider, as a case in point, our growing attention to operational risk. A decade ago, operational risk was rarely referred to by name; and although regulators and bank managers were well familiar with what that species of risk entailed, coping with it was not usually an enterprise-wide or supervisory priority. But especially as credit risk has temporarily receded in the years following the financial crisis, operational risk has taken its place in importance and prominence, to the point where, today, the risk of inadequate or compromised bank systems and weaknesses in the bank’s risk culture constitute one of the foremost threats to safety and soundness. To describe all the steps that the OCC has taken to address such risk, especially those associated with, for example,

cybersecurity, would take a paper several times the length of this one. I would refer you instead to the OCC Web site, OCC.Gov, where, under the “news and issuances” and “publications” tabs, you can familiarize yourself with the many papers, speeches, and regulatory issuances that we have produced to focus the industry’s attention and help mobilize the regulatory community.

As I said at the outset, there is plenty of room for national regulators and central bankers to disagree about their understanding of the concept of financial stability and even the best methods to preserve it. Whatever your national inclinations, the techniques of risk-based supervision may be useful in supporting them. I offer these thoughts in the spirit of international collaboration and information sharing that brings us together through this forum and others around the world.

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**Thomas J. Curry** was sworn in as the 30th Comptroller of the Currency on April 9, 2012. On April 1, 2013, Mr. Curry was named Chairman of the Federal Financial Institutions Examination Council (FFIEC) for a two-year term. Comptroller Curry is the 21st FFIEC Chairman, marking the fifth time the OCC has led the Council. Prior to becoming Comptroller of the Currency, Mr. Curry served as a Director of the FDIC since January 2004, and as the Chairman of the NeighborWorks® America Board of Directors.

Prior to joining the FDIC’s Board of Directors, Mr. Curry served five Massachusetts Governors as the Commonwealth’s Commissioner of Banks from 1990 to 1991 and from 1995 to 2003. He served as Acting Commissioner from February 1994 to June 1995. He previously served as First Deputy Commissioner and Assistant General Counsel within the Massachusetts Division of Banks. He entered state government in 1982 as an attorney with the Massachusetts’ Secretary of State’s Office. Mr. Curry served as the Chairman of the Conference of State Bank Supervisors from 2000 to 2001, and served two terms on the State Liaison Committee of the FFIEC, including a term as Committee chairman.

He is a graduate of Manhattan College (summa cum laude), where he was elected to Phi Beta Kappa. He received his law degree from the New England School of Law.

## Endnotes

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1. On this point, see Garry J. Schinasi, (2004), “Defining Financial Stability,” *World Bank Working Paper*, WP/04/187, October, and Abayomi A. Alawode, (2008), “What is Financial Stability?,” *Central Bank of Bahrain Financial Stability Paper*, Series No. 1, March.
2. The San Francisco National Bank, whose failure was the subject of hearings in 1965, would not have ranked in the top 1000 U.S. banks by assets at the time. The U.S. National Bank of San Diego, California, ranked 86<sup>th</sup> when it failed and was investigated by Congress in 1973.





# Implementing Macroprudential Policies: Challenges, Pitfalls and Way Forward

Hans Genberg and Michael Zamorski  
Advisers, The SEACEN Centre<sup>1</sup>

## 1. Introduction

Macroprudential policies have become the buzz word in central bank and regulatory circles as well as in international financial institutions like the IMF and BIS.<sup>2</sup> As the name suggests, these policies are regulatory measures taken to influence the stability of the financial system as a whole in a particular jurisdiction and by extension in the global financial system.

So while they are regulatory in nature, they are different from microprudential measures which are taken to ensure the stability of individual financial institutions.

To understand the reasons why macroprudential policies have generated so much analysis and debate, it is necessary to go back some fifteen years in time and recall what was then the conventional wisdom with respect to central bank policy and how this conventional wisdom has changed as a result of intervening events, in particular the financial crisis in the United States and Europe and the Global Great Recession.

In the early 2000s, the broad consensus among central bankers and academics was that central bank policy should focus on inflation as the primary, if not only, objective. This focus would ideally be implemented using the inflation-targeting strategy pioneered by the Reserve Bank of New Zealand in 1990. The focus on inflation became widely adopted in advanced economies, and a number of emerging market central banks also followed suit, the Czech Republic and Israel in 1997, Poland in 1998, and Brazil and Chile in 1999 to mention just the early converts (Roger (2010)).

Some emerging market central banks were skeptical, however, emphasizing the importance of paying attention to a wider set of variables, in particular the potentially damaging effects of exchange-rate misalignments, and taking measures to limit excessive volatility of the exchange rate.

Some economists had also been questioning the exclusive focus on inflation, suggesting that central banks should also pay attention to financial imbalances building in the economy.<sup>3</sup> But the status quo was robustly defended (in Bernanke and Gertler (2001), for example.) One facet of this defense was that it would not be desirable to use interest rates to lean against asset price increases since it was not possible to determine whether such increases were due to fundamental economic developments or to irrational exuberance in financial markets. All central banks could, and needed to do was to clean up the financial wreckage should a collapse of asset prices lead to widespread failures of financial institutions. Furthermore, it was also widely thought that the policy interest rate was too blunt an instrument to correct asset price misalignments.<sup>4</sup>

The financial crisis of 2007-9 in the U.S. and Europe (the Crisis) led to widespread acceptance of the idea that financial stability should be added to inflation as a policy objective of central banks, however.<sup>5</sup> The Crisis was the most significant period of global financial instability in more than seventy years. Post-crisis analyses by the IMF, the Financial Stability Board, the Basel Committee on Banking Supervision and other respected experts have concluded that one of the causal factors was the failure to adequately monitor and control systemic financial risks. Banking system stability monitoring focused on the risks in individual institutions failed to consider that a build-up of macroeconomic risks and vulnerabilities could adversely impact a number of institutions simultaneously, posing systemic risk.

The Crisis underscored the need for relevant national authorities, primarily central banks, to improve surveillance systems to detect, at their incipient stages, the build-up of macroeconomic risks, vulnerabilities or threats that could jeopardize financial system stability. At the same time, it became recognized that the traditional interest rate tool needed to be supplemented with another policy instrument to deal with the additional policy objective. Thus, macroprudential policies were seen as the solution to the Tinbergen dictum which states that in order to achieve a certain number of policy objectives, you need at least as many policy instruments. Timely macroprudential policy measures can then be taken, alone or in concert with other policy actions, to avert, dampen or mitigate periods of instability or crisis.

In its purest form, the post-crisis consensus saw the short-term interest rate as focusing exclusively on inflation, or macroeconomic stability more generally, and leaving regulatory measures, macroprudential policies, to focus exclusively on financial stability (e.g. Bernanke (2011) and Svensson (2012)).

But this strict division of labor between the policy interest rate and macroprudential policies has been challenged. For example, there is evidence that changes in the short-term monetary policy interest rate can have an impact on risk taking by economic agents (C. Borio and H. Zhu (2008)). In addition, macroprudential instruments are, as we shall see, often focused on specific markets and, as such, may not fully guard against more diffuse risks to financial stability. In such cases, using interest-rate policy may be justified as it ‘gets into all the cracks’ as Professor Jeremy Stein once expressed it when he was one of the Governors of the U.S. Federal Reserve (see Stein (2013)).

Furthermore, if macroprudential policies succeed in restraining excessive credit expansion in the economy, then it may have an impact on macroeconomic conditions, and thus on inflation and other macroeconomic variables.

While monetary policy has the most direct, and therefore presumably the strongest, effect on price stability and macroprudential policy has the most direct, and therefore presumably the strongest, effect on financial stability, there are enough cross-over influences in the transmission stage that some form of coordination between the two types of policies is desirable.<sup>6</sup>

Preserving financial stability is now widely accepted as a legitimate objective of public policy. Staff of international financial institutions as well as authorities in central banks, regulatory bodies as well as finance ministries are actively looking for appropriate policy instruments, analyzing their effects, and setting up governance arrangements for their implantation.

These tasks raise a number of challenges and open up possible pitfalls. Sections 3, 4 and 5 of the paper will discuss these challenges and pitfalls and how they may be dealt with. Before doing so, the next section will be a little bit more specific about what we actually refer to when we speak about macroprudential policy instruments, and about their use.

## **2. What are Macroprudential Policies and How Widespread is Their Use?**

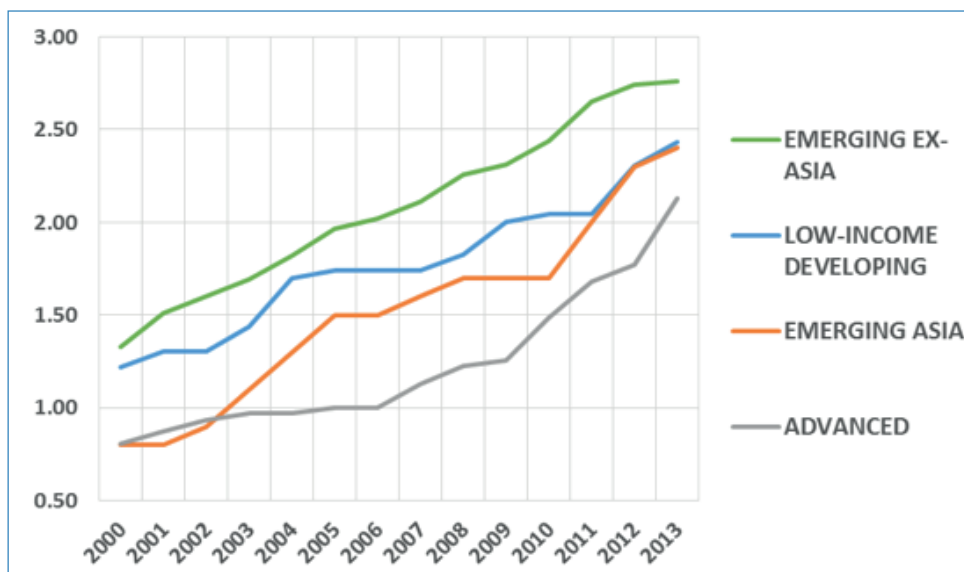
Macroprudential policies take many forms reflecting the diffuse nature of ‘financial stability’.<sup>7</sup> For example, there are measures intended to influence the aggregate growth of credit to the private non-financial sector, measures that focus on credit growth or price developments in particular sectors of the economy, measures to affect maturity mismatches and liquidity mismatches on banks’ balance sheets, and measures to curtail currency mismatches in the financial sector of the economy.

Cerutti, Claessens and Laeven (2015) report data for 119 IMF member countries on the use of twelve types of macroprudential policies obtained from a survey of country authorities. The survey asked when a particular measure was introduced and, if relevant, when it was removed. It did not record changes in the intensity of the measure, nor was there an attempt to assess whether or not a particular measure was binding. Figure 1 gives the average per country grouping of the number of macroprudential measures in place in each year from 2000 to 2013. An increasing trend is clearly visible for all with a tripling of the average number of measures used in Emerging Asia over the period and a doubling in low-income developing countries.

IMF (2014) and Zhang and Zoli (2014) present data which attempt to account not only for the number of macroprudential measures in place but also whether their intensity has increased or decreased. These data confirm the positive trend throughout the decade in most country groupings, but in contrast with Figure 1, they show a sharp increase the intensity of the application of macroprudential measures in the second half. Looking behind the aggregate figures reveals that Asian authorities have been particularly active in the use of measures aimed at the housing sector.

Zhang and Zoli also contain data on the use of capital flow management policies. They show that authorities in Latin America have been active users of these policies, particularly in the aftermath of the financial Crisis. Authorities in Asia have also increased the use of these measures substantially during this period.

**Figure 1**  
**Macroprudential Measures in Place: Averages Per Region**



Source: Authors' calculations based on data from Cerutti et al.

### 3. Challenges

#### 3.1 Financial Stability as an Objective

##### 3.1.1 Defining Financial Stability

We have argued that it is now uncontroversial to view financial stability as a policy objective. It is, however, not easy to find a concrete measure of 'financial stability.' Yet we need a measurable indicator in order to identify policy instruments and to judge whether their application is successful.

In the case of other central bank policy objectives, such as price stability, the problem is relatively simple. While there are debates about the proper price index to use and what actually constitutes 'stability' – i.e., which numerical rate of inflation should be the target – these problems are minimal in comparison with what we face when we attempt to quantify 'financial stability.'

In its Financial Stability Review of December, 2012, the European Central Bank proposed the following definition of financial stability.

"Financial stability can be defined as a condition in which the financial system – which comprises financial intermediaries, markets and market infrastructures – is capable of withstanding shocks and the unravelling of financial imbalances. This mitigates the likelihood of disruptions in the

financial intermediation process that are severe enough to significantly impair the allocation of savings to profitable investment opportunities.” (European Central Bank (2012), p. 5)

### ***3.1.2 Identifying an Intermediate Target***

This definition is clearly too general to be directly applicable in a concrete policy strategy. For this purpose, we therefore resort to finding an intermediate target that is more directly observed and which can be influenced by policy measures.

To appreciate how this is implemented, recall how money supply targeting worked when it was a common monetary policy strategy in the 1970s. As now, the ultimate target was price stability or more generally some notion of macroeconomic stability. The money supply was chosen as it was believed that an appropriate rate of growth of money was closely associated with macroeconomic stability, and since the growth rate of money could be influenced to a reasonably degree of accuracy by the central bank. What the appropriate rate of growth should be was determined with reference to the demand for money, and open market operations were conducted to achieve the desired growth rate.

The strategy appeared to work well as long as the relationship between the intermediate target and the ultimate target remained stable and predictable, as long as the demand for money was a stable function of a small number of variables, and as long as central bank policy instruments could reliably influence the relevant monetary aggregate with a certain degree of accuracy. When these conditions broke down, monetary targeting was gradually abandoned. The Governor of Bank of Canada, Gerald Bouey, described the reason for abandoning M1 targets in Canada in November 1982 as follows: “We didn’t abandon monetary aggregates, they abandoned us.”

Similar procedures have been conceived for macroprudential policies. For example, the evolution of housing prices has been adopted in some jurisdictions as an intermediate target and limitation on loan-to-value ratios have been introduced to prevent excessive mortgage lending from stoking speculative demand for housing, thereby leading to excessive increases in house prices. Similarly credit growth, or more precisely the evolution of the ratio of total bank credit to GDP, has been elevated to a particular status by the Financial Stability Board as an indicator triggering the imposition of Countercyclical Capital Buffers (CCB) on banks.

Note however, that while both variables can be relatively readily measured, it is not a simple matter to decide when housing prices or credit growth has reached levels that threaten financial stability. Both variables evolve over time in response to fundamental economic forces, and policies should react only to growth rates over and above what these forces dictate. In other words, we are faced with exactly the same difficulty as that identified in the debate about whether interest rate policy should react to asset prices, except now the problem is associated with the introduction of macroprudential policies.

The solution proposed by the Basel Committee in the so-called Basle III framework is to recommend that countercyclical capital buffers should be required only when the ratio of bank credit to GDP (credit-to-GDP gap) exceeds its trend value by a specified threshold.<sup>8</sup> This recommendation is based on empirical grounds. In a comparison with a number of other variables, the credit-to-GDP gap was found to be the best predictor of forty-nine banking crises since 1960 in a cross-section of thirty-six countries.<sup>9</sup> But nothing guarantees that this predictability will be stable over time or that the recommendation in the Basel III framework is applicable to all countries without modification.<sup>10</sup> Indeed, in a recent research project sponsored by The SEACEN Centre,<sup>11</sup> it was found that while the credit-to-GDP gap does have some early warning properties, the fact that “...this variable has exhibited considerable volatility over the last decade [makes] its application as a rule difficult.”<sup>12</sup>

These considerations suggest that the choice of variables to serve as intermediate targets for macroprudential policies may have to be country- and context-specific.

### *3.1.3 Choosing Policy Instruments*

Finally, the policy framework relies on a reasonably dependable relationship between the policy instruments and the intermediate target. Different instruments are likely to be needed depending on the intended target of the policy. The European Systemic Risk Board (ESRB) (2014b) provides a useful taxonomy focusing on four targets: excessive credit growth and leverage; excessive maturity mismatches and market illiquidity; exposure concentration; and misaligned incentives and moral hazard. In each case, the ESRB identifies a number of possible policy instruments. For example, to counter excessive credit growth, six measures are identified that country authorities may use; among them are countercyclical capital buffers, caps on loan-to-value ratios, and liquidity ratios. To prevent excessive maturity mismatches and market illiquidity, regulators may impose a minimum net stable funding ratio (NSFR) or maximum loan-to-deposit ratios.

Some instruments may be used to achieve several targets. For example, the ESRB suggests that systemic risk buffers (SRBs) can be implemented both to address exposure concentration and misaligned incentives.

The abundance of targets and instruments complicates significantly the process of deciding which one(s) to focus on, particularly since the limited experience with their implementation gives little information on which ones are most effective. As we discuss further below, the sheer number of targets and instruments may also lead to policy over-reach in which the policy maker is tempted to use multiple instruments without a clear understanding of how they interact with each other and what the overall effect on the economy will be.



## 3.2 Evaluating the Impact

A second challenge facing the implementation of macroprudential policies relates to evaluating their impact. Three separate aspects are particularly important: the effect on the intermediate targets; the effect on the ultimate target; and to unintended side effects. We illustrate this using empirical evidence from a large cross-section of countries reported in Cerutti et al. (2015) and from the experience of Hong Kong with the regulations of loan-to-value (LTV) ratios on housing loans (Wong et al. (2014)).

### 3.2.1 *Impact on the Intermediate Target*

Cerutti et al. make use of a new and comprehensive cross-country data base (see Section 2, paragraph 2 above) on the implementation of macroprudential policies to study the effects of these measures on credit growth and house prices. A number of interesting findings emerge from their analysis. The implementation of macroprudential measures is associated with an economically significant reduction in overall credit growth in the economy. The size of the reduction is estimated to be larger in developing and emerging economies than in advanced economies. This is consistent with the hypothesis that macroprudential policies have smaller effects in financial markets that are highly developed, thus offering more possibilities to circumvent the policies. The effects of macroprudential policies on credit growth is also found to be larger in economies that are highly open to international capital flows, a finding also consistent with the proposition that opportunities to circumvent the intended effects of macroprudential measures will reduce their impact on the economy.

The case study of Hong Kong was designed to measure the impact of maximum loan-to-value ratios for mortgage lending by Hong Kong banks. Hong Kong has a history going back to the 1990s of imposing such restrictions (see He (2014) for a description). Since 2009, the policy has been particularly active permitting a time-series regression analysis of its effect on actual loan-to-value ratios on the books of local banks. In a recent paper, Wong et al. carry out such analysis which allows them to calculate how the loan-to-value ratio would have evolved if no policy of reducing the maximum authorized had been carried out since 2009. According to the results, the policies introduced by the Hong Kong authorities resulted in a reduction of some seven percentage points, suggesting that the risk to banks from this type of lending may have declined.

### 3.2.2 *Impact on the Ultimate Target*

To measure the effect of the reduction in the maximum LTV ratio on the ultimate financial stability objective, Wong et al. conducted a second regression analysis in which the frequency of non-performing mortgage loans was related to the LTV ratio and other control variables. Using the estimation results, they then performed a counterfactual simulation and concluded that without the imposition of maximum

LTV ratios, the frequency of non-performing mortgage loans (NPL) would have more than doubled by the end of 2014 from about 1% to 2¼ %. On this measure, financial stability in Hong Kong has been strengthened.

### ***3.2.3 Unintended Side Effects***

But can we be sure that the NPL ratio in mortgage lending is the appropriate measure to assess financial stability more generally? Perhaps the reduction in mortgage lending of Hong Kong banks led them to turn to other markets and other customers, and perhaps these other markets and customers were actually more risky than the mortgage market.

In order to answer this question, we need to understand what effects regulations in one market, the mortgage lending market in this example, has on the financial system as a whole. How will lenders adjust their business model if mortgage lending is restricted by the LTV policy? Will they reduce total lending, in which case what would be the effect on the economy? Will they seek out other borrowers, and if so, how would that impact the riskiness of their lending book?

What about the borrowers who are no longer able to obtain a mortgage loan from traditional mortgage banks? Will they seek out other institutions, perhaps even foreign institutions, to obtain credit, and if so how is the stability of the financial system as a whole affected?

The paper by Cerutti et al. contains partial answers this last question. To investigate the possible role of circumvention the authors test whether the size of cross-border claims is systematically related to the use of macroprudential policies. They find that this is indeed the case: the existence of macroprudential measures is associated with larger cross-border financial claims.<sup>13</sup> Based on this result, the authors conclude that there is a “need to consider macroprudential policies and capital flow measures simultaneously and in an integrated manner.” (Cerutti et al., p.14)

From a theoretical perspective, the question of how the stability of the financial system as a whole will be influenced by regulations in general and macroprudential and capital-account measures in particular, would have to be addressed in a full general equilibrium model of the financial system and its interaction with the rest of the economy. We do not have such models at the moment, even if much research has been devoted to this issue since the financial Crisis. Without such a model, it is not possible to carry out a thorough cost-benefit analysis of a proposed set of regulatory measures.<sup>14</sup>

## **3.3 Coordination**

A third implementation challenge relates to the need for coordination between different actors that are involved with monetary policy, regulatory policy, and fiscal policy. The need for coordination arises because of interactions between monetary and

macroprudential policies already noted, and because of potential international spillovers.

A full discussion of the arrangements that would need to be made to govern the coordination processes would easily fill an entire separate paper and we will not dwell on them here. We note that coordination may be required inside the central bank between the monetary policy branch and the regulatory branch when both of these reside within the bank as is the case, for example, here at Bank Negara Malaysia and also at the Bank of England.

When the responsibility for monetary policy and regulatory policy reside in two different institutions, as for example in Indonesia and Sweden, then the coordination will have to be organized across the agencies.

In cases where a regulatory policy has fiscal implications or falls directly under the authority of the finance ministry, an additional layer of coordination may have to be organized.

Cross-border coordination between just two countries could potentially include six institutions, a herculean organizational task.

### **3.4 Communication**

Central banks have substantial experience in announcing monetary policy actions and crafting communications that clearly convey the rationale of decisions taken. Market participants and observers scrutinize and dissect these statements to understand the decisions, and what the messages may imply about future policy direction. Despite careful crafting, policymakers' explanations are sometimes misconstrued or misinterpreted. Unintended market reactions may require clarification, potentially eroding policymakers' and institutional credibility.

The efficacy of macroprudential policy actions depends in part, on policymakers' ability to clearly articulate the intent of actions taken. Communications need to influence market behavior in proportion to policymakers' concerns. Explaining a macroprudential policy action is perhaps more difficult than monetary policy actions, since the transmission mechanisms between macroprudential policy actions and desired outcomes may be indirect or less clear.

Macroprudential measures may receive significant criticism from market participants with strong financial interests in preserving the status quo. Some policy actions may also be unwelcome across a broader segment of the population. It may be useful to preempt such reactions in either the communication itself and/or any contemporaneous media interactions.

Central banks may face significant reputational risk in defending more controversial macroprudential policy decisions. One difficult criticism to avoid and

refute is the assertion that policymakers' actions caused adverse market reactions, financial instability or a crisis, rather than preventing or mitigating threats to financial stability through their actions.

Responsibility for implementing various macroprudential measures may reside in different national authorities and not necessarily be a central bank mandate. Policy actions necessitate close cooperation and communication among domestic authorities to ensure they do not have contradictory goals or offset each other.

Macroprudential policy decisions may also involve more than one authority. For example, some central banks have authority to set margin requirements on banks and nonbanks for loans to finance the purchase of equity securities, specifying the maximum amount that can be loaned against the value of the collateral securities. Authority for setting margin requirements for broker dealers may reside outside the central bank in a securities regulator. If the authorities believe there are imbalances building in domestic equity markets, they may decide to raise margin requirements to control the amount of purchase leverage. In this case, it is essential that both regulators collaborate in formulating consistent policy actions. Also, coordinating the timing, form and content of public announcements of their policy actions is useful to maximize the intended impact of the action and control reputational risk.

## 4. Potential Pitfalls

Having discussed the challenges that are associated with implementing macroprudential policies, it is easy to imagine some of the pitfalls that need to be avoided.

### 4.1 Side Effects

#### *4.1.1 Risk Mitigation or Risk Transfer?*

Macroprudential policies are typically focused on a particular type of institution (e.g. limits on the growth of credit extended by commercial banks or countercyclical capital buffers required of regulated banks), a particular financial activity (e.g. maximum loan-to-value ratios on mortgage lending or a minimum net stable funding ratio for a commercial bank), or the financial strength of bank clients (e.g. ceilings on debt-to-income ratios). As such, they aim to reduce risks associated with the institution, the financial activity, or the type of individual being targeted. While the measures taken may well be successful in curbing these risks, the more difficult question to answer is whether they succeed in significantly reducing overall financial risk in the economy, or whether the risk is transferred somewhere else in the financial system: from regulated banks to shadow banks or the capital market; from mortgage lending to credit-card lending; and from borrowing from commercial banks to borrowing from 'curb-market' money lenders. If so, the risk in the system may not decrease substantially but become more opaque. There is also a danger that the transfer of risk will beget additional

macroprudential policies targeted at the new activities resulting in multiple layers of policies whose aggregate effects may be hard to assess.<sup>15</sup>

#### ***4.1.2 Distributional Effects***

Being targeted at particular financial institutions or activities, macroprudential policies are likely to have more pronounced distributional effects than conventional monetary policy. Ceilings on loan-to-value ratios on mortgages offer a pertinent example. Such ceilings are likely to be particularly binding on young first-time home buyers who do not have substantial funds available for a down-payment, potentially leading to calls for the introduction of fiscal measures to reduce the burden on such borrowers.

#### ***4.1.3 Regulatory Arbitrage***

Financial services providers face strong competition to book profitable business. Earnings pressures may induce some of firms to find ways to legally circumvent regulatory restrictions, including macroprudential policy measures. If macroprudential policy measures are imposed in one jurisdiction, it may be possible to book business in affiliates in different jurisdictions, including unregulated entities, to circumvent legal prohibitions, or take advantage of less stringent (or no) legal requirements. Some jurisdictions have crafted their policy measures and implementing rules to close arbitrage opportunities or imposed extraterritorial restrictions to prevent forum shopping that could undermine the impact of the policy action.

### **4.2 Losing Sight of the Ultimate Objective**

Since macroprudential policies are by necessity focused on influencing an intermediate target, there is a risk that success of the policy is measured by the effect on the intermediate target, forgetting that what ultimately matters is its contribution to financial stability broadly. The development of numerical models to guide the imposition of macroprudential policies (for example the CCB approach in Basel III) may give us a false sense of security.

In other words, can we be sure that if we reach the intermediate target, we will also reach the ultimate financial stability target? We need to remember the fate of monetary targeting and reassess on a continuing basis whether the relationship between the intermediate targets subject to macroprudential policies and the ultimate policy objective remains stable over time.

A particular aspect of the possible breakdown of the link between the macroprudential policy instrument and the financial stability objective is Goodhart's Law. Will the relationships between the macroprudential policy instrument and the intermediate target, on the one hand, and between the intermediate and ultimate targets on the other, remain stable once the instrument is actively used?

A related issue is policy complementarities. Central bank policy actions need to be internally consistent. For example, a central bank maintains a low policy rate in an attempt, consistent with its mandates, to enhance economic activity, including housing market affordability. At the same time, the same central bank institutes prudential policies requiring higher minimum down payments on bank financing of home purchases. In the absence of concern about real estate market systemic risk build-up, are the policies consistent? Do they tend to offset each other? A different but related concern is implementing macroprudential measures when there is a public perception that prior central bank policy actions have induced imbalances which the macroprudential measure is targeting.

#### 4.3 Outside Influences and the Risk of Regulatory Capture

Central banks have considerable experience in effecting and explaining monetary policy, and there is a vast body of supporting research. Since macroprudential policy decisions rely heavily on judgment, the chains of causation and transmission mechanisms involved in macroprudential policy action are less certain and predictable than monetary policy actions. They are also likely to be more difficult to explain to the public.

Market participants and the public are generally familiar with central bank policy rate decision processes. While there may be adverse market and public reactions, they are usually contained and of short duration. Central banks strive to be as transparent as possible in explaining the basis for their actions and, while there is political accountability and even criticism, there is usually not political interference.

However, central banks' macroprudential policy actions have been episodic and are less familiar. Forceful opposition and criticism may be unleashed by market participants that are financially benefitting from the build-up of certain systemic risks, such as inflating asset bubbles. Opponents may try to enlist political support in attempts to mitigate or defeat policy actions. Strong central bank leadership and resolve is necessary to take action under such circumstances.

### 5. Summary and the Way Forward

Central banks have increasingly been given explicit financial stability mandates.<sup>16</sup> Many also already have direct responsibility for microprudential supervision of their banking systems. Macroprudential policies are a useful addition to the toolbox of central banks and regulatory authorities as they seek to control systemic risk arising from the formation of potentially destabilizing asset price bubbles. There is a need to coordinate the use of macroprudential policies and traditional monetary policy so they complement each other in achieving desired policy objectives and outcomes.

The implementation of macroprudential policies requires a disciplined and transparent process to overcome challenges and potential pitfalls and to be able to



communicate effectively with the public. Transparency and clear communication are essential to instill public and market confidence and to promote accountability.

Central bank implementation of macroprudential policy measures needs to be timely and decisive to curtail the build-up of systemic risks. Policy actions and discretion should be supported by clear legal authority and the same degree of autonomy and independence that pertains to monetary policy actions. Governance arrangements should allow sufficient internal debate of alternative policy choices and calibration of the chosen policy action. Of course, central bank macroprudential policy decisions need to be well-designed and supported by sound analysis, while avoiding “analytical paralysis,” since time is usually a factor in successfully controlling the build-up of system risk.

The Asia Pacific region has been a leader in using macroprudential measures. As mentioned, proving the efficacy of macroprudential policy actions is difficult. Such policy action will probably remain largely a judgmental process, though experience will provide more empirical underpinnings to the macroprudential policy formulation process, and allow more granular data to assist researchers in this area. Regionally, it is useful to continue sharing experiences on macroprudential policy decision-making, and collaborate in related research. Given the increasing level of financial integration and close linkages among regional economies, consideration to implementing coordinated multilateral policy measures can also be explored.

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## Endnotes

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1. Seconded from Bank Negara Malaysia. The opinions contained in this paper are our own and should not be ascribed to The SEACEN Centre or Bank Negara Malaysia.
2. A very extensive literature dealing with macroprudential policies has emerged recently. Comprehensive coverages can be found in Bank for International Settlements (2011), European Systemic Risk Board (2014a, b), and International Monetary Fund (2013a, b). In addition, there are numerous publications by academics as well as from individual central banks and regulatory authorities.
3. Borio and Crockett (2000); Borio and Lowe (2002); Borio and White (2004); Cecchetti, Genberg, Lipsky and Wadhvani (2000).
4. “The evolving consensus, which is by no means settled, is that monetary policy is too blunt a tool to be routinely used to address possible financial imbalances; instead, monetary policy should remain focused on macroeconomic objectives, while more-targeted micro-prudential and macroprudential tools should be used to address developing risks to financial stability, such as excessive credit growth.” Bernanke (2011).
5. In some jurisdictions, the task of implementing macroprudential policies is vested in a separate institution from the central bank. This raises issues of coordination with decisions taken at the central bank which may also have a consequences for economy-wide financial stability. See Section 3.3 for a discussion.
6. Smets (2013).
7. European Systemic Risk Board (2014a) lists five measures that will be covered by an EU Directive, three measures covered by a Regulation, and an additional three that are not covered by EU legislation but that member countries may use. Cerutti, Claessens, and Laeven (2015) reports the result of a survey of IMF member countries on their use of macroprudential measures. They identify no less than twelve such measures.
8. The methodology suggested for calculating the trend is to apply the Hedrick-Prescott filter with a large smoothing parameter ( $\lambda=400000$  for the initiated).
9. Drehman, Borio and Tsatsaronis, (2011).
10. See Edge and Meisenzahl (2011), Repullo and Saurina, (2011) for critical reviews.

11. SEACEN stands for South East Asian Central Banks Research and Training Centre. Its headquarters is in Kuala Lumpur, Malaysia. Information about the Centre and the research project on “Building on the Countercyclical Consensus: An Empirical Test” can be found at [www.seacen.org](http://www.seacen.org).
12. Ghosh (2015), p. 29. The paper by Ghosh is an overview of the findings of the entire project based on team project papers for Cambodia, Chinese Taipei, Indonesia, Malaysia, Papua New Guinea, Philippines, Thailand, and Vietnam.
13. Note that it is possible reversed causality is present so that large cross-border claims lead to the imposition of macroprudential policies. While the authors address this issue using conventional econometric methods, they are nevertheless not completely sanguine about the efficacy of these methods to completely rule out reversed causality.
14. See Cochrane (2014) for an insightful discussion.
15. The arcade game ‘whack-a-mole’ offers an apt analogy. In this game, the player faces ‘moles’ that appear temporarily from different holes in the game console, and the goal is to whack each mole before it disappears. The application of macroprudential policies must guard against the temptation to chase each type of new risk that appears in what might be called a ‘whack-a-risk’ fashion.
16. For example, Zeti (2013).

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# Using Macroprudential Tools to Address Systemic Risks in the Property Sector in Singapore

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## 1. Introduction

The rapid rise of property prices in several Asian markets following the Global Financial Crisis (GFC) has been a macroprudential policy concern for authorities in those jurisdictions. In some instances, emerging signs of speculative behaviour have led authorities to take measures to temper property market exuberance and promote more stable conditions.

In Singapore, property market stability is closely linked to macroeconomic and financial stability. Property is the largest component of household wealth, representing about half of total household assets. Mortgage loans account for some three-quarters of total household liabilities, and property-related loans form a substantial portion of banks' loan books.<sup>2</sup> As a result, adverse developments in the property market could have serious implications for households, the banking system and the broader economy. Therefore, when property prices rose rapidly shortly after the GFC, the Singapore authorities decided to introduce a series of measures to promote a more stable and sustainable property market.

These macroprudential policy measures aimed to achieve several objectives. First, to safeguard financial stability. Unsustainably high and rising property prices could create financial stability risks given households' and the banking system's exposure to property. Second, to encourage financial prudence among households. The combination of low global interest rates and high asset prices could lead some households to over-extend themselves financially when purchasing properties, without sufficient regard to longer term debt servicing ability. In addition, the measures served an ancillary objective of moderating inflationary pressures, since housing is also a sizeable component of household expenditure.<sup>3</sup>

Singapore has taken a multi-pronged approach to mitigate macroprudential risks from rising housing prices. The authorities used a combination of demand-side (including both credit-based and fiscal-based measures) and supply-side measures (e.g. government land sales).

This paper investigates whether Singapore's property market measures have been effective in containing the build-up of risks from rising home prices. We examine whether the measures have helped to reduce property transactions, property prices, and mortgage loans and to improve the risk profile of borrowers.

The paper is organized as follows. Section 2 reviews the property market measures implemented in Singapore since the 1990s. Section 3 surveys past studies on the effectiveness of macroprudential policies. Section 4 sets out a model of the

Singapore private property market. Section 5 evaluates the effectiveness of Singapore's property market measures using the model. The last section concludes and discusses policy implications.

## **2. Evolution of Singapore's Private Residential Property Market since the 1990s**

The use of policy measures to stabilize the property market in Singapore dates back to the 1990s (Annex). Responding to an upswing between 1990 and 1996 when private residential property prices had more than doubled, the Singapore government announced a package of measures in 1996 aimed at stabilizing the market. Stamp duty and a capital gains tax were applied to sales of property within three years of purchase to discourage speculative activity. A loan-to-value (LTV) cap of 80% was imposed. Foreigners were prohibited from taking on Singapore dollar loans for property purchases. Land supply for property development was also increased. These measures had an immediate effect in cooling the property market – the private property price index eased by about 16% between the peak in Q2 1996 and Q4 1997.

Measures to cool the property market were eased when the situation warranted it. Following the onset of the Asian Financial Crisis (AFC) when private residential property prices hit a trough in Q4 1998, the Singapore government relaxed stamp duties for both buyers and sellers and permitted the Deferred Payment Scheme (DPS), under which buyers could defer payments until the completion of their properties. Later in 2003, the Singapore government lifted the capital gains tax and allowed foreigners access to Singapore dollar property loans. Between 2003 and mid-2005, stamp duties were reduced by 30%. Further, the LTV limit was raised to 90% in July 2005 while the minimum cash down-payment requirement was reduced from 10% to 5%. Developers were also given more time to complete their projects.

When short-term speculative activities soared between end-2006 and Q2 2008, the stamp duty concession was withdrawn, and buyers were required to pay the stamp duty within 14 days of accepting their Option-To-Purchase (OTP).<sup>4</sup> The DPS was also disallowed in October 2007.

When the GFC unfolded in Q3 2008, property prices in Singapore declined sharply by 25% over four quarters and transaction activity fell. In response, the Singapore government suspended land sales to developers and allowed them more time to phase in the construction and sale of their projects.

The property market began to show signs of an upswing after Q2 2009 as the economy began to recover and global interest rates eased (Annex). Prices rose by almost 16% in Q3 2009, the largest q-o-q increase since 1981. To pre-empt a speculative bubble, the Singapore government increased land supply and disallowed loan schemes which could have encouraged speculation in September 2009.

Between 2010 and 2012, a mix of credit-based and fiscal-based measures were progressively introduced and tightened to stabilize the property market. The LTV limit was brought down to 80% for private properties and tightened further for borrowers with multiple loans and corporates. A seller's stamp duty (SSD) was introduced in 2010 to discourage speculative flipping of properties. This was followed by an additional buyer's stamp duty (ABSD) in 2011. A cap on loan tenures for housing loans was also put in place in 2012.

In June 2013, the Total Debt Servicing Ratio (TDSR) was introduced for all property loans to encourage financial prudence among borrowers and strengthen credit underwriting practices by financial institutions. Since then, prices in the private housing market have declined for six consecutive quarters between Q4 2013 and Q1 2015 by a cumulative 6%. Monthly property transaction volumes have fallen to less than half of the levels during the preceding two years. New housing loans have also contracted.

### 3. Literature Review

Various studies have analyzed the effects of macroprudential policies on financial stability. Lim et al. (2011) explored the role of macroprudential policies and found evidence that some policies are effective in reducing the pro-cyclicality of credit and leverage.<sup>5</sup> Crowe et al. (2011) found that tools that are more targeted - such as macroprudential measures - deliver the highest welfare.<sup>6</sup> Zhang and Zoli (2014) found that macroprudential measures, in particular property-related measures, appear to have contributed to reducing credit growth in Asia. Further, only property-related measures are found to have had a significant impact, partly reflecting the heavy use of such measures in Asia compared to other prudential tools. While these studies in general show that property-related macroprudential measures are effective in lowering credit, the exact phase of the housing cycle in which the measures are being implemented and whether they are being tightened or loosened might have consequences on the effectiveness of the measures. McDonald (2015) found that tightening property-related macroprudential measures impacted credit and house prices during a boom, whereas the effectiveness of easing these measures during down-cycles is limited.

Other studies have sought to ascertain the differential impact of various policy tools on house prices and credit. A study by the Hong Kong Monetary Authority highlighted that credit-based measures helped dampen mortgage loan growth and transaction volume in Hong Kong, but did not appear to have had a direct impact on house prices. In particular, the second, third and fourth rounds of prudential measures, which imposed stringent LTV requirements, debt servicing ratio (DSR) caps and stress tests of borrowers' repayment ability against interest rate hikes, were found to be relatively more effective in limiting mortgage loan growth than other rounds of prudential measures.<sup>7</sup> The study also found that demand-management measures (e.g. stamp duties) helped dampen transaction volume and growth in house prices, but did not have a statistically significant direct impact on mortgage loan growth.

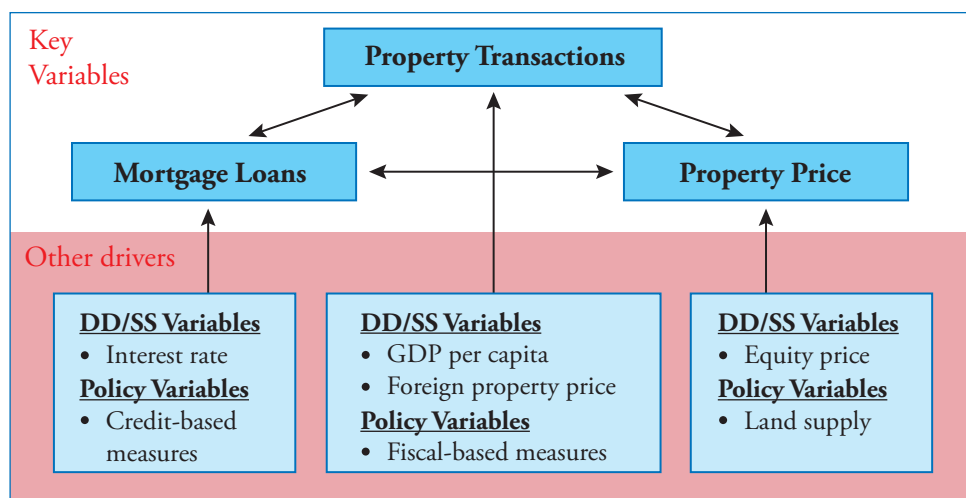
Nevertheless, there remains an indirect effect on loan growth through the impact on house prices and transaction volume.

Kuttner and Shim (2013) found that amongst the non-interest rate policy tools, the debt service-to-income (DSTI) ratio most consistently affects housing credit growth by about 4 to 7 percentage points over four quarters.<sup>8</sup> In addition, the increase in housing-related taxes can slow the growth of house prices, although the findings are sensitive to the econometric technique used.

#### 4. A Model of Singapore's Private Property Market

To assess the effectiveness of macroprudential policies, we first set out the drivers and transmission channels in Singapore's private property market. Figure 1 highlights the dynamic linkages among the key variables, namely property transactions, property prices, and mortgage loans. These key variables are driven by policy variables such as credit-based and fiscal-based measures, as well as other demand and supply drivers in the market.

**Figure 1**  
**Interlinkages in Singapore's Private Property Market**



Source: MAS

These relationships and transmission channels are set out in the three underlying equations of the model that we use for this study (Table 1). Regressions of these equations are estimated using data<sup>9</sup> between Q3 2002 and Q2 2014.

**Table 1**  
**Specifications of Equations**

Equation	Key Variable	Drivers
1	Property transactions	$= f(\text{Property price, Mortgage loans, Foreign property price, Fiscal-based measures, GDP per capita, Dummy variable 1}^{10})$
2	Property prices	$= f(\text{Mortgage loans, Property transactions, Equity price, Land supply})$
3	Mortgage loans	$= f(\text{Property transactions, Property price, Interest rate, Credit-based measures, Dummy variable 2}^{11})$

The model estimates indicate that the relationships between the three key variables – property transactions, property prices and mortgage loans – are statistically significant and move in the same direction. These findings are in line with existing literature (Igan and Kang, 2011), and can be explained by an increase in property prices raising household wealth, which in turn translates into higher consumption demand, including property purchases (Case et al., 2005).<sup>12</sup> Further, higher property prices and property transactions would tend to increase mortgage loans. Conversely, mortgage loans is an important driver for property transactions and property prices as financing is often required for property purchases. US-centric studies on property markets that do not include mortgage credit growth in their models are not able to show conclusive results (Duca et al., 2011).

Turning to the policy variables, credit-based measures such as LTV limits<sup>13</sup> and the Total Debt Servicing Ratio (TDSR) framework<sup>14</sup> are found to directly constrain mortgage lending. These measures also impact property transactions and property prices slightly through the credit channel.

Fiscal-based measures as a whole, which include the SSD<sup>15</sup> and the ABSD<sup>16</sup>, are found to directly constrain property transactions, with attendant effects on property prices and mortgage loans.

Land supply, which refers to the government land sales programme, is found to impact property prices, with slight spillover effects on property transactions and mortgage loans.

The model included other economic and financial factors – GDP per capita, interest rates, trends in other asset markets such as equity prices, and the prices of product substitutes like foreign property. GDP per capita is an indicator of income and is thus considered to be a fundamental driver of housing demand (Jacobsen and Naug, 2005). Higher interest rates would tend to deter property purchases through the credit channel. Equity prices capture wealth effects on households as well as

general market sentiment.<sup>17</sup> The actual and perceived rise in wealth generated by rising GDP per capita and equity prices could lead to more property purchases. External factors are also important. Property demand is driven in part by foreigners residing in Singapore and non-resident investors searching for yield. Their investment decisions are influenced by the relative prices of Singapore property vis-à-vis foreign properties.

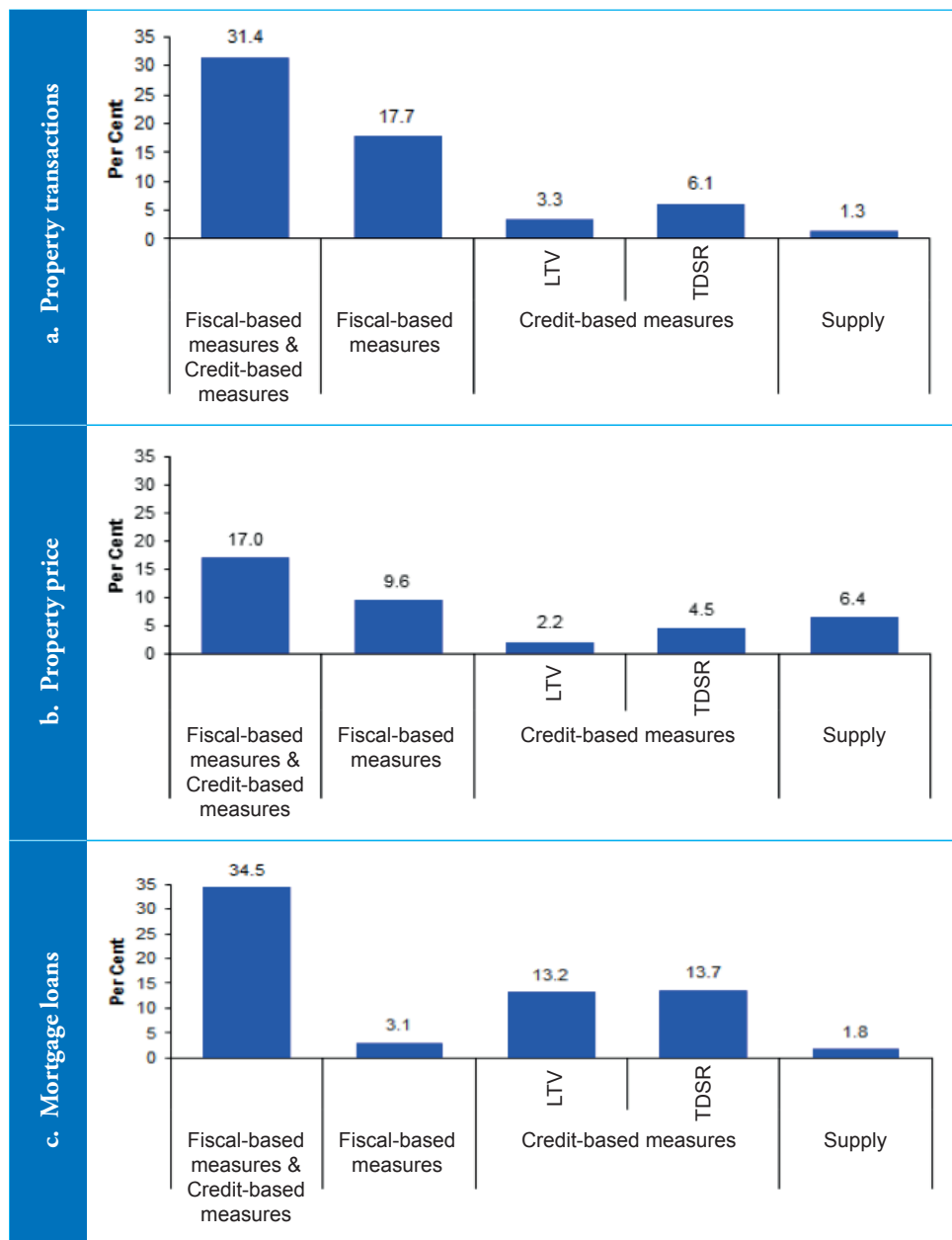
## 5. Assessment of Policy Effectiveness

This section assesses the effectiveness of the property market measures. We do this in two ways. First, we used the model developed in Section 4 to compare the values of the key variables of property transactions, property prices and mortgage loans under the observed baseline scenario against counterfactual scenarios in which different combinations of policy measures were not implemented.<sup>18</sup> Second, we examine changes in the risk profile of borrowers following the introduction of the credit-based measures.

Our analysis shows that the property market measures helped dampen momentum in the market (Chart 1). Property transactions, property prices and mortgage loans would have been significantly higher (by up to 35%) had the various measures not been implemented. Fiscal-based measures had a larger impact on property transactions and property prices than credit-based measures, which operated largely by constraining mortgage loans. Supply-side measures had an empirically significant impact on house prices, even though these measures took the form of announcements of land supply for housing units which would be completed only much later.

In addition, micro-level data on the number of borrowers with multiple housing loans and on the LTVs of new mortgage loans indicate that the risk profile of borrowers has improved.

**Chart 1**  
**Estimated Impact of Policy Measures<sup>19</sup> (%)**



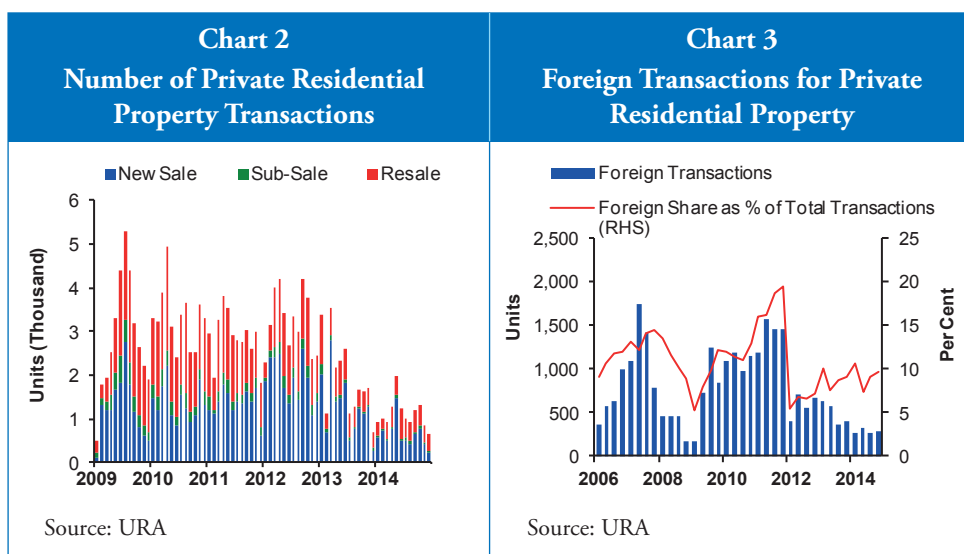
Note: Charts 1a and 1c indicate how much higher property transactions and mortgage loans would have been cumulatively, between Q1 2010 and Q2 2014, under different counterfactual scenarios in which the specified policy measures were not implemented compared with the observed baseline scenario. Chart 1b shows how much higher prices would have been as at Q2 2014 under the different counterfactual scenarios compared with the observed baseline scenario.



## 5.1 Impact on Property Transactions

Following the implementation of the property market measures, average monthly transaction activity fell from 2,840 units in 2009 to 1,100 units in 2014 (Chart 2).

Our counterfactual simulation suggests that property transactions would have been about 31% higher between Q1 2010 and Q2 2014 had the property market measures not been implemented (Chart 1a). Fiscal-based measures appear to have a larger impact on property transactions than credit-based and land supply measures. The SSD reduced sub-sales significantly, whereas the ABSD raised the hurdle rate of return for foreign buyers and property investors. The share of private residential purchases by foreigners, which peaked at close to 20% of total transactions in Q4 2011, fell sharply after the implementation of the ABSD (Chart 3).

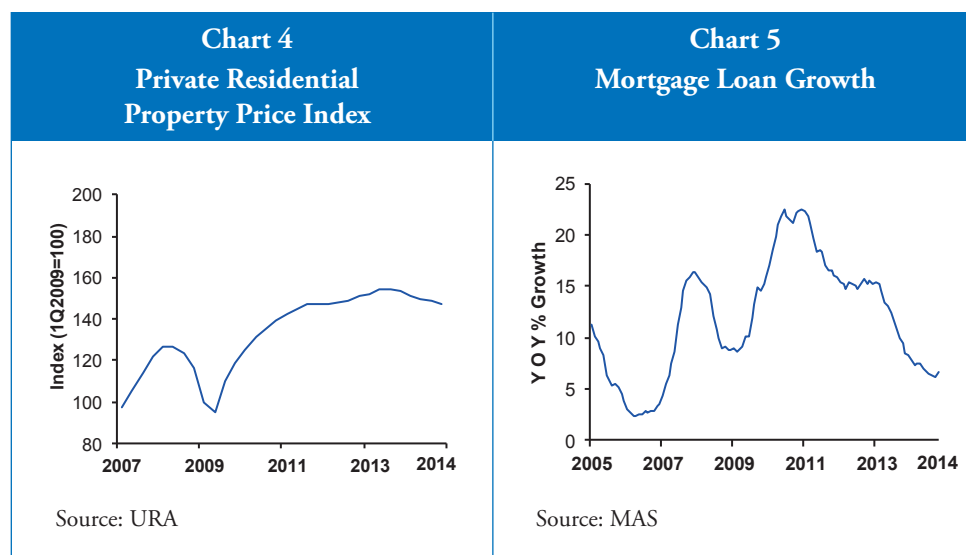


## 5.2 Impact on Property Prices

Following the implementation of the property market measures, the increase in private residential property prices moderated from 16% in Q3 2009 to a quarterly average of 0.7% in 2012. Property prices started to decline in Q4 2013 after the introduction of the TDSR in June 2013, and had fallen by a cumulative 6% by Q1 2015 (Chart 4).

The counterfactual simulation shows that private residential property prices would have been about 17% higher in Q2 2014 in the absence of the fiscal-based and credit-based measures (Chart 1b). Fiscal-based measures have been more effective than credit-based measures in dampening property prices. Supply-side measures

appear to have an empirically significant impact on property prices. Property prices would have been about 6% higher in Q2 2014 if not for increased government land sales.



### 5.3 Impact on Mortgage Loans

The property market measures have tempered the growth of outstanding mortgage loans, with y-o-y growth moderating from a peak of 23% in August 2010 to 7% in December 2014 (*Chart 5*).

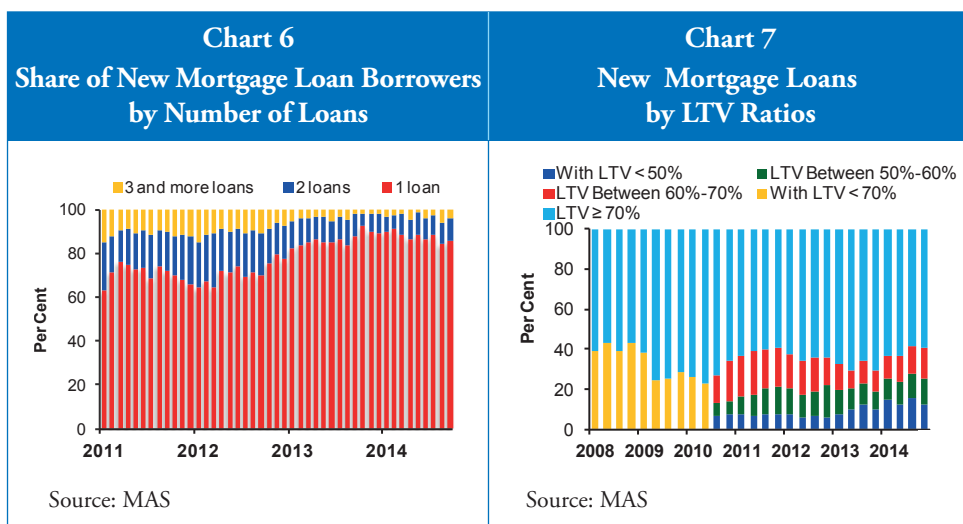
Our counterfactual simulation shows that mortgage loans would have been about 35% higher between Q1 2010 and Q2 2014 in the absence of any policy measures (*Chart 1c*). Further, credit-based measures appear to be much more effective than fiscal-based measures in constraining the increase in mortgage loans.<sup>20</sup>

### 5.4 Risk Profile of Borrowers

Using micro-level credit data and empirical analysis, we assess whether the risk profile of borrowers has improved by looking at (i) shares of borrowers with multiple housing loans; and (ii) shares of borrowers with higher LTVs. Borrowers with multiple housing loans and higher LTVs can be considered to be more risky.

The number of borrowers with multiple housing loans has been declining as the LTV limit for such borrowers was progressively tightened. By January 2013, the LTV cap for borrowers taking on a second housing loan had been reduced to 50%, compared to 80% before August 2010. Meanwhile, the share of borrowers with multiple housing loans halved from 30% in 2011 to 15% in Q4 2014 (*Chart 6*).

An event study on the most recent tightening in January 2013 of LTVs for borrowers with multiple housing loans supports the assessment that the risk profile of borrowers has improved (Table 2). Since then, the share of borrowers with multiple mortgage loans has declined by around 15 percentage points, with a corresponding increase in the share of borrowers with only one mortgage loan. This suggests that there is a shift towards borrowers with a better risk profile.



**Table 2**  
**Impact on Shares of Borrowers with Multiple Mortgage Loans**  
**Q1 2010 to Q2 2014 (%)**

Number of mortgage loans	Comparison of data			T- test results	
	Mean (Pre- Jan 2013)	Mean (Post- Jan 2013)	Difference	Unequal variance	Paired sample
1	71.9	87.1	16.2	2.02***	2.09***
2	18.5	9.5	-9.0	2.02***	2.09***
≥ 3	10.6	3.5	-7.1	2.02***	2.09***

Note: \*\*\* represents significance at the 1% level.

The property market measures have also contributed to lower LTVs for new mortgage loans. The share of new mortgage loans with LTVs above 70% has fallen from a peak of 77% in Q2 2010 to around 65% since 2012 (Chart 7).

## 6. Conclusion

The results presented in this paper suggest that the property market measures implemented in Singapore have helped to dampen property dynamics to promote a more stable and sustainable market.

The results also illustrate how a multi-pronged approach can help mitigate different risks posed by the property market. Credit-based measures work by targeting the pro-cyclical feedback loop between housing credit on the one hand and property transactions and property prices on the other. In contrast, fiscal-based measures and land supply impact property prices more directly. This suggests that having a toolkit with a wide range of tools, combined with judicious policy design, can help authorities target systemic risks more precisely. This would, in turn, reduce the risk of spillovers and unintended effects from macroprudential policy.

Supply-side measures appear to have an empirically significant impact on house prices, notwithstanding that these measures take the form of announcements of land sales for housing units which would be completed only later. This suggests that signalling effects could be significant, and should not be ignored when designing macroprudential policies. For the same reason, there may be advantage in designing a package of measures for implementation at the same time rather than announce individual measures on a piecemeal basis.

## Endnotes

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1. The authors wish to thank Lam San Ling, Lily Chan, Kenneth Gay, Ng Heng Tiong, John Sequeira, Angeline Qiu and Denise Yeo for their invaluable assistance in the preparation of this article. The views expressed in this article are the authors' and do not necessarily represent the views of the Monetary Authority of Singapore (MAS).
2. Property-related loans make up about 26% of total non-bank loans as of Q4 2014.
3. Housing costs, represented by imputed rentals on owner-occupied housing, makes up a significant share of close to one-fifth of Singapore's consumer price index.
4. An interested buyer can pay 1% of the price of a property for the exclusive right to decide within 14 days whether or not to buy the property. This is called an Option-to-Purchase (OTP).
5. Using cross-country panel regressions for 40 countries that adopted macroprudential measures, they found that tools such as LTV and debt-to-income (DTI) caps, ceilings on credit growth, reserve requirement and dynamic provisioning rules can mitigate the pro-cyclicality of credit.
6. The study covered 36 economies that experienced real estate booms and found that 24 had taken some policy measures. The study used a dynamic stochastic general equilibrium model that includes the housing sector and credit markets.
7. The HKMA has introduced six rounds of counter-cyclical prudential measures on banks' property mortgage business since October 2009 to prevent bank credit from fuelling property market imbalances and ensure that banks and their customers will have sufficient cushions on their balance sheets to ride out volatilities in housing prices.
8. The study used data from 57 countries for more than three decades and investigated the effectiveness of nine non-interest rate policy tools, including macroprudential measures in stabilizing house prices and housing credit.
9. The data used in the analysis were primarily from the Monetary Authority of Singapore (MAS), the Urban Redevelopment Authority (URA) of Singapore, Singapore Department of Statistics (DOS) and various databases such as Bloomberg and CEIC.
10. Dummy variable 1 accounts for the jump in collective sales (where a single buyer purchases a group of housing units in order to redevelop the land on which the housing units are situated) between Q2 2005 and Q3 2007. The rules for collective sales were tightened in October 2007, leading to a significant decline in collective sales thereafter.

11. Dummy variable 2 accounts for an increase in mortgage equity withdrawal loans between Q2 2010 and Q2 2011. The rules for mortgage equity withdrawal loans were tightened in July 2011, leading to a significant decline in mortgage equity withdrawal loans thereafter.
12. Higher property prices could also discourage further property investments as properties become less affordable. However, our research indicates that the wealth effect dominates this price effect.
13. The LTV limit was tightened in several rounds since 2010. LTV limits are currently 80% for a borrower's first housing loan, 50% for second housing loan and 40% for third and subsequent housing loan. For loans where the loan tenure exceeds 30 years or the loan period extends beyond the borrower's retirement age (65 years), the LTV limits are 20% lower (e.g. 60% instead of 80% for first housing loan).
14. The TDSR framework was implemented in June 2013. It requires financial institutions to standardize the computation of borrower's debt servicing ability for property loans, and regards loans in excess of 60% TDSR to be imprudent.
15. The SSD imposed higher tax rates for sales within a shorter period after purchase. SSD rates are 16% for buyers selling their residential property within the first year after purchase; 12% within the second year; 8% within the third year; and 4% within the fourth year.
16. The ABSD was implemented in December 2011 and tiered tax rates by the number of residential property purchases and nationality of the purchaser. The ABSDs on the following categories of residential property purchases are as follows: (i) 15% for foreigners and non-individuals; (ii) 5% for Singapore Permanent Residents (PRs) buying their first property and 10% for PRs buying a second and subsequent property; and (iii) 7% for Singapore citizens buying their second property and 10% for Singapore citizens buying their third and subsequent property.
17. Higher equity prices could also reduce the attractiveness of equity as an alternative asset to property, in turn driving up property demand.
18. For counterfactual simulations on land supply, we excluded the increase in the pipeline supply of private housing units arising from the increase in the Government Land Sales (GLS) program since Q3 2010.
19. Please note that the model is subject to further refinement, which may affect the estimated impact of the policy variables.
20. Counterfactual simulations show that mortgage loans would have been 27% higher in the absence of the credit-based measures, compared to 3% higher without the fiscal-based measures.

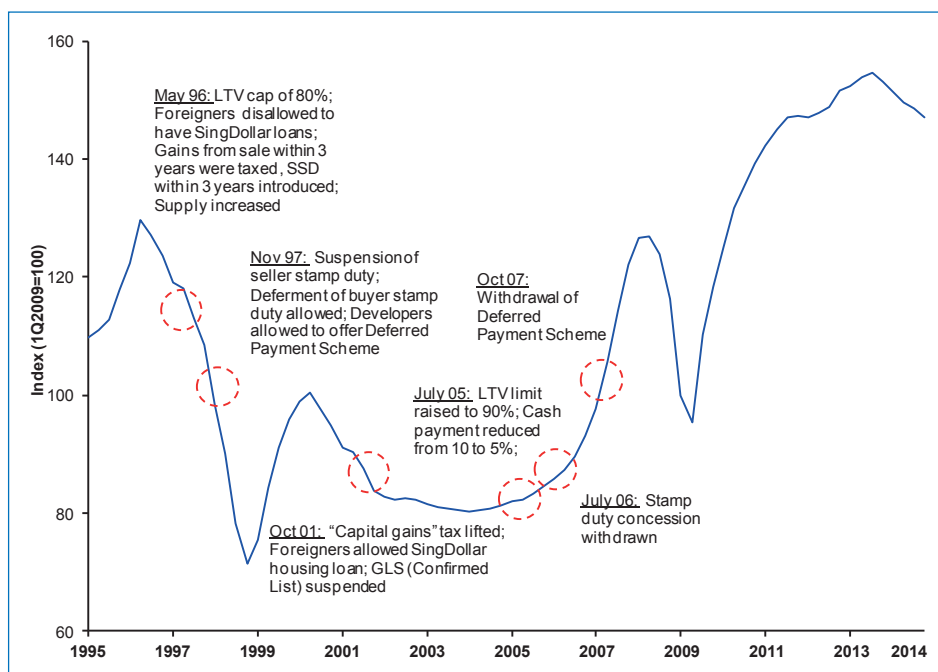
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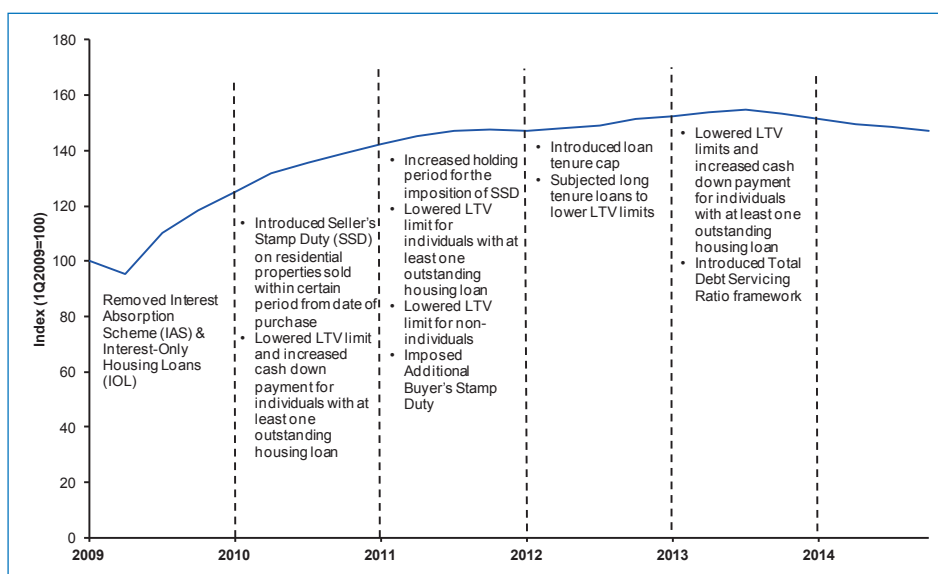
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**Chart A1**  
**Private Residential Property Price Index and Key Policy Measures**  
**Introduced between 1996 and 2008**



**Chart A2**  
**Private Residential Property Price Index and Key Policy Measures**  
**Introduced between 2009 And 2014**





# Controlling Banks' and Financial Systems' Exposure to Money Laundering and Terrorist Financing Risks

By Ralph Fatigate, Craig D. Stone, Thomas J. Dujenski and Mike Burkhalter

## 1. Background and Introduction

All banks' financial soundness depends primarily on their ability to effectively identify measure, monitor and control risk. Most financial risks, such as credit, market and interest rate risk, can be measured directly or estimated with reasonable certainty. Industry control measures for these risks are well-developed. However, some risks, such as operational risk,<sup>1</sup> can be more difficult to measure. Nevertheless, these risks can have a materially adverse impact on a bank's financial performance and reputation if not properly controlled.

Bank systems and control weaknesses and failures can cause sizeable losses and impose other costs, such as litigation settlements, damage awards, and regulatory fines; not to mention the direct and indirect cost of a regulatory enforcement action. These occurrences can induce adverse customer reactions, such as abnormal deposit outflows, and negative investor reactions, such as a sustained decline in a bank's stock price, adversely impacting a bank's reputation and franchise value.

Preventing banks from being used to facilitate financial crimes, especially money laundering (ML) and terrorist financing (TF),<sup>2</sup> is a critical operational risk control priority. Adverse publicity from involvement in illicit activities, even unwittingly, can severely erode public trust and confidence in individual banks, and have spillover effects that can impact public perceptions of financial system integrity more generally. ML- and TF-related control failures can even call into question the competency of a jurisdiction's regulatory oversight. The importance of preventing ML and TF is also evident by the close attention it receives from multiple international standard-setting and assessment bodies, and domestic authorities.

Concerns for effective measures for anti-money laundering (AML) and combating terrorist financing (CTF) and their linkage to financial stability are well-articulated in a 27 March 2015 Factsheet issued by the International Monetary Fund (IMF):<sup>3</sup>

The international community has made the fight against money laundering and terrorist financing a priority. The IMF is especially concerned about the possible consequences money laundering, terrorist financing, and related crimes have on the integrity and stability of the financial sector and the broader economy. These activities can undermine the integrity and stability of financial institutions and systems, discourage foreign investment, and distort international capital flows. They may have negative consequences for a country's financial stability

and macroeconomic performance, resulting in welfare losses, draining resources from more productive economic activities, and even have destabilizing spillover effects on the economies of other countries. In an increasingly interconnected world, the negative effects of these activities are global, and their impact on the financial integrity and stability of countries is widely recognized. Money launderers and terrorist financiers exploit both the complexity inherent in the global financial system as well as differences between national AML/CFT laws and systems, and they are especially attracted to jurisdictions with weak or ineffective controls where they can more easily move their funds without detection. Moreover, problems in one country can quickly spread to other countries in the region or in other parts of the world.

The Financial Action Task Force,<sup>4</sup> an independent inter-governmental body charged with developing and promoting policies to protect the global financial system against money laundering and other financial crimes, has summarized sovereign AML/CTF obligations:<sup>5</sup>

Countries should identify, assess, and understand the money laundering and terrorist financing risks for the country, and should take action, including designating an authority or mechanism to coordinate actions to assess risks, and apply resources, aimed at ensuring the risks are mitigated effectively.

Some jurisdictions are also subject to additional domestic laws and regulations, such as the U.S. Bank Secrecy Act, or regional requirements such as those imposed by the European Parliament and the Council of Europe.

This article provides an overview of international standards and assessment processes related to AML/CTF activities of financial institutions and their regulators. Based on our experiences and findings in publicly available regulatory AML/CTF evaluation reports, we also highlight some common AML/CTF program weaknesses where banks may need to place additional focus and resources. We also identify some actions banks and national authorities can take to enhance their AML/CTF oversight activities.

## 2. International Standards Related to AML and CTF

There are multiple international standards-setters and evaluation bodies covering AML/CTF and related financial crimes prevention, with varying mandates:

- ♦ Financial Action Task Force (FATF)
- ♦ FATF-Style Regional Bodies (FSRBs)
- ♦ The International Monetary Fund and World Bank
- ♦ United Nations

## 2.1 Financial Action Task Force

FATF, established by the Group of Seven nations in July 1989, serves as the lead organization in providing anti-money laundering guidance to governmental bodies throughout the world. FATF's mandate is "to set standards and to promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and the financing of proliferation, and other related threats to the integrity of the international financial system."<sup>6</sup> FATF's membership includes 34 countries and two regional organizations. Also, the eight FSRBs<sup>7</sup> are associate members. The FATF Plenary, the FATF's decision-making body, meets three times per year.

In April 1990, FATF published "The Forty Recommendations of the Financial Action Task Force on Money Laundering" (known as the *40 Recommendations*), which provided a comprehensive plan of action to combat money laundering. The *40 Recommendations* were revised in 1996 and 2003.

The FATF's mandate was expanded in 2001 to combat terrorist financing, which resulted in publication of a supplemental document containing eight (later expanded to nine) Special Recommendations known as the *IX Special Recommendations* covering terrorist financing risks.

The *40 Recommendations* and the *IX Special Recommendations* were collectively known as the *40 + 9 Recommendations*. FATF completely revised the *40 + 9 Recommendations* on 15 February 2012, issuing *The FATF Recommendations* (subtitled "International Standards on Combating Money Laundering and the Financing of Terrorism & Proliferation"). The IX Special Recommendations have been subsumed into the new 40 recommendations contained in *The FATF Recommendations*. In February 2013, the FATF also published a methodology for assessing technical compliance with *The FATF Recommendations*.<sup>8</sup>

### 2.1.1 *The FATF Recommendations, February 2012: The Global Standards for AML/CTF*

The following briefly summarizes the main requirements of *The FATF Recommendations*:

#### ***Recommendations 1-2: Anti-Money Laundering and Countering the Financing of Terrorism Policies and Coordination***

Countries should understand and assess the applicable ML and TF risks they face. A key authority should be designated in every country to effectively coordinate and manage the risks involved. Countries should also ensure all authorities involved in AML/CFT policies and activities are able to effectively cooperate with one another.

***Recommendations 3-4: Money Laundering and Confiscation***

Money laundering should be criminalized, as outlined in the Vienna (1988) and Palermo (2000) Conventions. Countries should also adopt measures to ensure money laundering proceeds and other property is appropriately frozen and confiscated by the government.

***Recommendations 5-8: Terrorist Financing and Financing of the Proliferation of Weapons of Mass Destruction***

Countries should criminalize terrorist financing and proliferation of weapons of mass destruction and should implement targeted financial sanctions to comply with UNSC resolutions. Also, countries should review the effectiveness of current laws associated with entities susceptible to terrorist financing abuse, such as charities and non-profit organizations.

***Recommendations 9-23: Financial and Non-Financial Institution Preventative Measures***

Countries should ensure that domestic financial institution secrecy laws do not limit implementation of any of *The FATF Recommendations*. Guidance is also included for financial institutions in conducting adequate customer due diligence (CDD) for certain customers and transactions:

1. Verifying identity using reliable, independent documents or information.
2. Identifying beneficial owners.
3. Purpose and intent of the business relationship.
4. Conducting due diligence on the customer and scrutiny of transactions throughout the course of the relationship.

Financial institutions should be required to retain records of transactions for five years and CDD information for at least five years after the relationship has ended. Additional measures should be required for higher-risk customers and activities such as politically exposed persons, correspondent banking, money transfer services, new technologies, and wire transfers. Recommendations also address financial institutions' reliance on third parties in performing CDD requirements, foreign branches and subsidiaries, and operating in higher-risk countries.

Other recommendations include requirements for the reporting of suspicious transactions and the confidentiality of suspicious transaction reports (STRs). In addition, special CDD recommendations exist for designated non-financial businesses and professions (DNFBPs) including casinos, real estate agents, dealers in precious metals and stones, independent legal professionals, accountants, and trust and company service providers.

**Recommendations 24-25:** *Transparency and Beneficial Ownership of Legal Persons and Arrangements*

These recommendations cover transparency and beneficial ownership information for legal persons and legal arrangements. Countries should take measures to prevent the misuse of legal persons and arrangements such as bearer shares, nominee shareholders, nominee directors, and express trusts. Such measures should allow financial institution access to information regarding beneficial ownership and control, settlors, trustees, and beneficiaries.

**Recommendations 26-35:** *Powers and Responsibilities of Competent Authorities and Other Institutional Measures*

Recommendations 26-28 contain guidance concerning the regulation and supervision of financial institutions, casinos and other DNFBPs. Supervisors should have the power to impose a range of appropriate disciplinary actions. Other recommendations address the establishment of financial intelligence units (FIUs) and the responsibilities and powers of law enforcement agencies and investigation authorities. Countries should have appropriate measures in place to detect cross-border transportation of currency or negotiable instruments. Countries maintain comprehensive statistics regarding the effectiveness of their AML/CFT systems. In addition, supervisors and other authorities should establish guidelines and feedback designed to assist financial institutions and DNFBPs. Countries should ensure there are appropriate sanctions and actions applicable not only to financial institutions and DNFBPs, but also to directors and senior management of such organizations.

FIUs, required by Recommendation 29, serve as countries' central authority for receiving and analyzing suspicious transactions reports (STRs) and "...other information relevant to money laundering, associated predicate offences and terrorist financing, and for the dissemination of the results of that analysis."<sup>9</sup> "Financial institutions and their directors, officers and employees should be prohibited by law from disclosing the fact that (an STR) or related information is being filed with the FIU."<sup>10</sup>

**Recommendations 36-40:** *International Cooperation*

These recommendations contain guidance to foster international cooperation. For example, countries should take steps to become party to official international gatherings such as the Vienna Convention, the Palermo Convention and the Terrorist Financing Convention (1999). Mutual legal assistance processes should be established to promote efficient information sharing, freezing of assets and confiscation, extradition, and other methods such as a Memorandum of Understanding.



### 2.1.2 FATF Lists of “High-risk and Non-cooperative Jurisdictions”

The FATF Plenary publishes two documents twice a year identifying jurisdictions that have “strategic deficiencies with respect to AML/CTF compliance.” The most severe designation, “High-risk jurisdiction,” means that FATF believes “its members and other jurisdictions (need) to apply counter-measures to protect the international financial system from the on-going and substantial money laundering and terrorist financing...risks emanating from (these) jurisdictions.” There are two countries identified on the most recent High-risk jurisdiction list published in February 2015. “Non-cooperative jurisdictions” have “strategic AML/CFT deficiencies... (and) have not made sufficient progress in addressing the deficiencies or have not committed to an action plan developed with the FATF to address the deficiencies.” FATF identified three Non-cooperative jurisdictions in its most recent declaration in February 2015.<sup>11</sup>

## 2.2 FATF-Style Regional Bodies

The FSRBs' primary mandate is to ensure that their member states meet AML/CTF standards issued by the FATF, the United Nations and other relevant authorities.<sup>12</sup> There is no hierarchical relationship between the FSRBs and the FATF.

FSRBs' members commit to a mutual peer review system to determine the levels of compliance with international AML/CFT standards. These peer reviews are referred to as “mutual evaluations.” FSRBs' mutual evaluations utilize *The FATF Recommendations* and the related 2013 assessment methodology,<sup>13</sup> and may include desk-based reviews of jurisdictions' AML/CFT systems as well as on-site visits by a team of trained experts drawn from other members of the FSRB. Mutual evaluations assess a jurisdictions' technical compliance with *The FATF Recommendations* (i.e., legal and institutional frameworks and powers and procedures of responsible authorities) and the effectiveness of their AML/CTF regimes.

### 2.2.1 Basel Committee on Banking Supervision (BCBS)

The BCBS first expressed concerns about the need for banks and their regulators to prevent criminal use of the banking system for the purpose of money laundering in 1988.<sup>14</sup> Subsequently, the BCBS issued two publications providing more specific guidance – *Customer due diligence for banks* (October 2001) and *Consolidated KYC management* (October 2004).<sup>15</sup> Both of these have been superseded by *Sound management of risks related to money laundering and financing of terrorism* (January 2014), which is consistent with *The FATF Recommendations* and “describes how banks should include risks related to money laundering and financing of terrorism within their overall risk management framework,” cautioning that “Failure to manage these risks can expose banks to serious reputational, operational, compliance and other risks.”<sup>16</sup>

The BCBS has done extensive work identifying the essential preconditions that need to be in place to have an effective bank supervision program, articulated

in its “Core Principles for Effective Banking Supervision” (known as the Basel Core Principles or BCP).<sup>17</sup> The BCP were originally issued in 1997, and revised in 2006 and 2012, with the latest version containing 29 principles. Principle 29 of the BCP, entitled “Abuse of financial services,” states:<sup>18</sup>

The supervisor determines that banks have adequate policies and processes, including strict customer due diligence (CDD) rules to promote high ethical and professional standards in the financial sector and prevent the bank from being used, intentionally or unintentionally, for criminal activities.

Principle 29 lists thirteen “Essential Criteria” against which compliance is assessed.

### 2.3 International Monetary Fund/World Bank

The International Monetary Fund (IMF) and The World Bank conduct periodic assessments of member countries' financial sectors and overall financial stability through their Financial Stability Assessment Program (FSAP).<sup>19</sup> Countries' FSAP results are published in “Financial System Stability Assessment” reports (FSAP Reports) and subsidiary supporting documents, accessible on the IMF's website.<sup>20</sup> The FSAP reports provide assessments of countries' observance of international regulatory and supervisory standards issued by the BCBS, the International Association of Deposit Insurers, the International Association of Insurance Supervisors, the International Association of Securities Commissions, the Committee on Financial Market Infrastructures, and the FATF. Since 2000, the IMF has conducted over 70 AML/CTF assessments.<sup>21</sup> The IMF also provides technical assistance and, in some cases, financial support to assist jurisdictions in enhancing their ability to meet their AML/CTF responsibilities.<sup>22</sup>

### 2.4 United Nations

The United Nations Security Council (UNSC) has authority to issue binding resolutions to Member States.<sup>23</sup> The UNSC has passed various resolutions and has imposed various sanctions against individuals and entities related to the control of money laundering and countering terrorist financing and proliferation. UN Members must take action to uphold the sanctions and resolutions in their jurisdictions. UNSC Committees are established pursuant to each resolution to oversee their implementation.

## 3. Commonly Observed Weaknesses in Bank AML/CTF Programs

The vast majority of banks have adequate AML/CTF programs. Based on our experience in AML/CTF advisory activities and publicly-available regulatory assessments of banks' AML/CTF programs, the following are recurring areas of weakness in AML/CTF programs:

### 3.1 Customer Due Diligence (CDD)/Know Your Customer (KYC)

Surprisingly, deficiencies continue to be observed in CDD, the most fundamental AML/CTF process. Weaknesses appear to be in two areas: either the due diligence process is not sufficiently robust and/or it is not properly documented. Due diligence procedures need to be stringent and require analysis to be adequately documented. Before opening accounts or establishing other business relationships, banks should obtain, verify and record information that unquestionably establishes the identities of the new customer(s) and beneficial owner(s), and verification of the source of funds, such as wealth, income, inheritance, etc. Enhanced due diligence should be conducted on customers deemed to present elevated or high-risk.<sup>24</sup> Supporting documentation of both initial and on-going customer due diligence should be maintained. FATF Recommendation 11 requires that all records of transactions be retained for five years and any identification data, account files and business correspondence for at least five years after the business relationship has terminated. The identification data and transaction records should be readily available to domestic authorities, such as regulators or law enforcement officials.<sup>25</sup>

### 3.2 Suspicious Transactions Reporting

FATF requires that when "...a financial institution suspects or has reasonable grounds to suspect that funds are the proceeds of a criminal activity, or are related to terrorist financing, it should be required, by law, to report promptly its suspicions to the (jurisdiction's) financial intelligence unit (FIU)."<sup>26</sup> Some banks have not implemented clear internal procedures to ensure they are consistently meeting their obligations in this area. The threshold for triggering "reasonable suspicion" is a matter of judgment. Employees involved in AML/CTF screening and monitoring activities need to understand this concept. For consistency and quality control, many banks assign the final decision to file an STR to subject matter experts (SME) who are highly trained and experienced in these matters. However, there needs to be procedures, guidance and training as to what types of circumstances trigger reasonable grounds or suspicions, so potential reportable situations can be escalated for SME review and final determination as to STR filing. The filing of STRs should lead to investigations and prosecutions.

### 3.3 AML/CTF Governance and Oversight

The effectiveness of an AML/CTF program depends on many factors. Proper engagement and oversight by a bank's board of directors, board committees, and senior executive management is an important underpinning to a sound and credible program. The officer charged with primary responsibility for AML/CTF program oversight needs to have sufficient stature within the organization and proper authority. The AML/CTF oversight function needs to be adequately resourced and staffed by trained professionals. Internal audit and other quality assurance reviews should verify the adequacy of the scope, coverage and effectiveness of AML/CTF programs.

#### 4. Achieving Effective Country and Bank AML/CTF Programs

We recommend the following actions to countries and their banks to enhance the effectiveness of their AML/CTF programs:

1. National authorities should periodically conduct stringent self-assessments of compliance with FATF standards and other applicable international standards such as UNSC resolutions. Timely action should be taken to address non-compliance or partial compliance, which could involve changes to existing processes and procedures, or necessitate changes to laws and regulations.
2. National authorities should review IMF FSAP assessments and other published assessments of jurisdictions' compliance with *The FATF Recommendations* and Basel Core Principle 29. This type of benchmarking can assist countries in avoiding weaknesses found in other jurisdictions and identify best/good/sound practices and approaches that might be adopted.
3. Countries should ensure a comprehensive AML/CTF supervision program is in place for banks and other financial services firms that assesses compliance with all applicable international standards and requirements, such as those imposed by the FATF, FSRBs and the United Nations, at regular intervals. Domestic and regional requirements should also be covered.
4. Effective bank compliance depends on a supportive corporate culture that approaches AML/CTF compliance as a key business priority, and not merely a technical compliance matter. Active Board and senior executive management engagement in this area is essential. A supportive "tone from the top" is needed as well as accountability and incentive systems that reinforce the importance of AML/CTF among team members.
5. Banks and AML/CTF oversight authorities need to stay current with methods criminals may use to evade existing laws, or new ways of using banks to perpetrate ML and TF and related criminal activities, referred to as "typologies." The FATF and various other public and private sector bodies publish ML and TF typologies and case studies to alert regulators, law enforcement agencies, financial intelligence units and practitioners to new ML and TF threats.
6. National authorities charged with overseeing AML/CTF compliance and the entities they regulate need to have a strong commitment to organizational training and human capital management that results in the acquisition and retention of talent and expertise to ensure ongoing effective implementation of the preceding recommendations.

## 5. Conclusion

Countries need to ensure that AML/CTF risks are properly controlled and timely action is taken to achieve full, substantiated compliance with all applicable domestic and international standards. Banks' AML/CTF programs need to be carried out by trained, experienced professionals with sufficient authority and influence in the organization. *The FATF Recommendations* is a benchmark standard that both countries and financial institutions can use as a roadmap in developing and enhancing programs to prevent money laundering, terrorist financing, the proliferation of weapons of mass destruction, and other criminal misuse of the financial system that can undermine financial stability.

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The authors are subject matter experts in AML and CTF matters and have worked with numerous clients in establishing effective AML/CTF programs.

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## Endnotes

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1. The Basel Committee on Banking Supervision defines “operational risk...as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.” (BCBS 2011, p. 3).
2. Various international authorities have defined money laundering and terrorist financing. A concise IMF description (IMF 2015) states: “Money laundering is a process by which the illicit source of assets generated by criminal activity is concealed to obscure the link between the funds and the original criminal activity. Terrorist financing involves the raising and processing of assets to supply terrorists with resources to pursue their activities. (ML and TF) often exploit...vulnerabilities in financial systems that allow for an inappropriate level of anonymity and non-transparency in the execution of financial transactions.”
3. IMF 2015.
4. Information about the Financial Action Task Force is available at their website: [www.fatf-gafi.org](http://www.fatf-gafi.org).
5. FATF 2012, p. 11.
6. FATF 2012.
7. There are currently eight FATF-style regional bodies: The Eurasian Group (EAG), Asia/Pacific Group on Combating Money laundering (APG), Caribbean Financial Action Task Force (CFATF), Committee of Experts on the Evaluation of Anti-Money Laundering Measures and the Financing of Terrorism of the Council of Europe (MONEYVAL), Eastern and Southern Africa Anti-Money Laundering Group (ESAAMLG), Financial Action Task Force on Money Laundering in South America (GAFISUD), Intergovernmental Action Group Against Money-Laundering in West Africa (GIABA), and Middle East and North Africa Financial Action Task Force (MENAFATF).
8. FATF 2013.
9. Posted at The Egmont Group of Financial Intelligence Units' website at [www.egmontgroup.org/about/faqs](http://www.egmontgroup.org/about/faqs).
10. FATF 2012, p. 24.
11. Lists of countries that FATF has designated as “High-risk and non-cooperative jurisdictions” and related information are available at [www.fatf-gafi.org/topics/high-riskandnon-cooperativejurisdictions/](http://www.fatf-gafi.org/topics/high-riskandnon-cooperativejurisdictions/)

12. For example, in the case of MONEYVAL, an FSRB whose members are 47 European countries, mutual evaluations also assess compliance with standards issued by the European Parliament and Council of Europe.
13. FATF 2013a “sets out criterion for assessing technical compliance with each of the FATF Recommendations” and the “outcomes, indicators, data and other factors used to assess the effectiveness of (their) implementation,” p. 4.
14. BCBS 1988.
15. “KYC” stands for Know Your Customer.
16. Excerpted from the press release accompanying the issuance of BCBS 2014.
17. Basel 2012.
18. Basel 2012, pp. 64-65.
19. See the IMF’s “Financial Sector Assessment Program: Frequently Asked Questions,” updated as of August 7, 2014, available at [www.imf.org/external/np/fsap/faq](http://www.imf.org/external/np/fsap/faq)
20. The IMF’s website is [www.imf.org](http://www.imf.org).
21. IMF 2015.
22. IMF 2015. UNSC Resolutions and Sanctions
23. UNSC Resolutions and Sanctions related to AML/CTF and proliferation can be accessed at [www.un.org/sc/committees/](http://www.un.org/sc/committees/)
24. A high risk designation could result, for example, from a customer being domiciled in a higher risk jurisdiction as identified by FATF or payments received from a non-FATF member jurisdiction.
25. FATF 2012, p.15.
26. FATF 2012, p. 19.



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