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The term "macroprudential": origins and evolution[1]

In the wake of the recent financial crisis, the term "macroprudential" has become a true buzzword. A core element of international efforts to strengthen the financial system is to enhance the macroprudential orientation of regulatory and supervisory frameworks. Yet the term was little used before the crisis, and its meaning remains obscure. This special feature traces the term's origins to the late 1970s, in the context of work on international bank lending carried out under the aegis of the Euro-currency Standing Committee at the BIS. It then describes its changing fortunes until its recent rise to prominence.

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The term "macroprudential" has become a true buzzword in the wake of the recent financial crisis, surging to prominence from virtual obscurity in the space of a few months. A quick internet search reveals no fewer than 123,000 references since January 2008. By contrast, there are only around 5,000 hits for the period between 2000 and the end of 2007. The popularity of the term is not surprising: a core element of the international policy response to the crisis is to strengthen the macroprudential orientation of financial regulation and supervision, ie an enhanced focus on the financial system as a whole and its link to the macroeconomy.[2] Yet the term's origins and its exact meaning remain obscure. Against that background, this article traces its origins and evolution to the present day.

The origins: concerns over international lending in the late 1970s

Early use of the term "macroprudential"…

It is not easy to pinpoint exactly when the term "macroprudential" was first used. BIS records suggest that its first appearance in an international context dates back to 1979, at a meeting of the Cooke Committee (the forerunner of the present Basel Committee on Banking Supervision, BCBS). The meeting, which took place on 28–29 June 1979, discussed the potential collection of

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2 See, for instance, FSF (2009), De Larosière (2009), Group of Twenty (2009) and, among the more academic references, Brunnermeier et al (2009).

data on maturity transformation in international bank lending. The minutes read as follows:

> "*The Chairman [W P Cooke, Bank of England] said that micro-economic problems (which were of concern to the Committee) began to merge into macro-economic problems (which were not) at the point where micro-prudential problems became what could be called* ***macro-prudential*** *ones. The Committee had a justifiable concern with macro-prudential problems and it was the link between those and macro-economic ones which formed the boundary of the Committee's interest.*"[3] [emphasis added]

Although the term was in all probability new,[4] the underlying concerns were not. The authorities were increasingly worried about the implications for macroeconomic and financial stability of the rapid pace of lending to developing countries and were examining policy options to address them.

… in the context of the rapid growth in international bank lending in the 1970s

In fact, already in March 1978, echoing worries expressed in its *47th Annual Report*, the BIS had prepared a paper on the implications of rising oil prices for international bank lending and the stability of the international banking system for discussion by the Euro-currency Standing Committee (ECSC).[5] The outcome of that discussion had been an ECSC report, finalised in July 1978, that highlighted precisely this link between prudential regulation and macroeconomic concerns, and thus anticipated the statement by Cooke without actually using the term "macroprudential".[6]

The second appearance of the term "macroprudential" is in a background document, produced by the Bank of England, for a working party chaired by Alexandre Lamfalussy, BIS Economic Adviser and Chairman of the ECSC.[7] The document, dated October 1979, examines the use of prudential

[3] "Informal Record of the 16th meeting of the Committee on Banking Regulations and Supervisory Practices held in Basle on 28 and 29 June 1979" (BS/79/42), BIS Archives [henceforth BISA] – *Banking Supervision, Informal Record*, file 2.

[4] While the initial draft report on banks' maturity transformation discussed at this meeting did not use the term "macroprudential", the final version of this report (BS/79/44, dated November 1979) did. It now had a subsection entitled "The 'macro-prudential' risks inherent in maturity transformation in banks' international business", with the use of quotation marks suggesting that the term was considered something of a novelty. That section notes: "*In addition to the risk of liquidity difficulties for individual banks there is the possibility of strains arising in the international banking system as a whole that cannot necessarily be perceived from the perspective of an individual bank and the maturity structure of its balance sheet. This type of 'macro-prudential' risk is in part related to the nature of the international banking market itself where the original suppliers of funds are linked to the end-user through an elaborate network of interbank transactions*" (p 3).

[5] Renamed the Committee on the Global Financial System (CGFS) in 1999.

[6] Specifically, the July 1978 ECSC report reads: "*The Committee considers that between the purely macro-economic issues and the purely prudential questions, which are the business of national supervisory authorities and of the Cooke Committee, there are a range of issues where the two fields overlap.*" See Euro-currency Standing Committee, "Chairman's report on policy problems related to the growth of the Euro-currency market and international bank lending since the oil price increase", p 12, in BISA 7.18(15) – *Papers Lamfalussy*, LAM20/F56.

[7] "The use of prudential measures in the international banking markets", 24 October 1979, pp 1–2, in BISA 7.18(15) – *Papers Lamfalussy*, LAM25/F67. The document was signed by

measures as one of several alternative ways to constrain lending. It contrasts the microprudential approach typical of the regulation and supervision of individual banks with a macroprudential one. Specifically:

> "*Prudential measures are primarily concerned with sound banking practice and the protection of depositors at the level of the individual bank. Much work has been done in this area – which could be described as the 'micro-prudential' aspect of banking supervision. […] However, this micro-prudential aspect may need to be matched by prudential considerations with a wider perspective. This* ***'macro-prudential'*** *approach considers* ***problems that bear upon the market as a whole as distinct from an individual bank, and which may not be obvious at the micro-prudential level.***" [emphasis added]

Calls for a market-wide perspective

The document notes three examples of how the microprudential perspective may fail to take full account of larger macroprudential concerns. First, while the growth of each individual bank may look sustainable, that of aggregate lending may not be. Second, perceptions of risk may be inadequate, narrowly focusing on the (past) performance of individual sovereign loans rather than on the broader risk of sovereign borrowers. Third, individual banks tend to regard interest rate risk as critical and underestimate the importance of liquidity (funding) risk, which necessarily calls for a market-wide perspective.[8]

The term "macroprudential" appeared no fewer than seven times in the 14-page final report of the Lamfalussy Working Party to the G10 Governors.[9] The report also stressed the "*importance of effective supervision of the international banking system, from both the micro-prudential and the macro-prudential points of view*". However, the term did not survive in the press communiqué that followed the G10 Governors' meeting in April 1980; as a result, it did not emerge in the public domain.[10] Nor did the communiqué make any reference to measures to constrain the growth of international bank lending per se. Rather, it stressed "*the importance of maintaining the soundness and stability of the international banking system*" and the intention "*to strengthen regular and systematic monitoring of international banking developments*", including through improvements in international banking statistics. One factor

David Holland, Deputy Chief of the Bank of England Overseas Department. For a more detailed discussion of this part of the story, see Maes (2009).

[8] Possible prudential measures to constrain lending included restrictions on banks' foreign exchange and country exposures, on capital (capital ratios), on maturity transformation and on entry. It was argued that these restrictions "could be a useful approach to ensure that the growth of international lending markets is soundly based", with "some, albeit modest" constraining influence on lending growth.

[9] "Report of the Working Party on possible approaches to constraining the growth of banks' international lending", 29 February 1980, in BISA 1.3a(3)J – *Working Party on constraining growth of international bank lending*, vol 2.

[10] In fact, the first draft of this communiqué did mention the "need for supervisors to take the macro-prudential view into account". This statement, however, was dropped as some felt it might give the impression that the work of the supervisory authorities had been inadequate.

supporting this outcome was the reluctance of the Cooke Committee to use prudential measures with a macroprudential focus.[11]

The first public references: concerns over financial innovations

Macroprudential concerns related to financial innovation in the 1980s–90s

The first appearance of the term in a public document seems to date back to 1986. The ECSC report on *Recent innovations in international banking* (Cross Report) devotes a few paragraphs to the discussion of the concept of "macro-prudential policy". The report defines it as a policy that promotes "*the safety and soundness of the broad financial system and payments mechanism*" (BIS (1986, p 2)).

Under this heading, the report considers how financial innovation may raise risks for the financial system as a whole. The main focus is on derivatives markets and securitisation, seen as driving the growth of capital market activities. The report highlights several vulnerabilities: regulatory arbitrage; the underpricing of risk on new instruments; the overestimation of their liquidity; the opaqueness of risk resulting from interconnections in the financial system; the danger of risk concentrations; the overloading of payment and settlement systems, reflecting a sharply higher volume of transactions; the potential for increased market volatility; and stronger growth in overall debt.

The report is at pains to draw a distinction between the concerns of the ECSC and those of banking supervisors, which focused on individual institutions and were being addressed separately by the Basel Committee.[12] Its main policy conclusions include the desirability of functional, as opposed to institutional, supervision, and the need to avoid gaps in the scope of regulation. The report goes on to explore the consequences of financial innovation for monetary policy.

In the following years, the term "macroprudential" largely disappeared from view. To be sure, it continued to be used with some regularity in internal BIS documents, primarily by the ECSC. But public documents rarely contained it. Its next appearance is in the 1992 ECSC report on *Recent developments in international bank relations* (Promisel Report, BIS (1992)). This report was prepared by a working group that had been charged by the G10 Governors to "*focus on the role and interaction of banks in non-traditional markets, notably the markets for derivative instruments, to examine the linkages among various segments of the interbank markets and among the players active in them, and to consider the macro-prudential concerns to which these aspects might give rise*".

[11] See Committee on Banking Regulations and Supervisory Practices, "Report on the use of certain prudential measures to constrain the growth of banks' international lending", February 1980, in BISA 7.18 (15) – *Papers Lamfalussy*, LAM25/F67.

[12] "*[...] the innovations considered in this Report have important implications for supervisors – not least in ensuring that individual institutions recognise, report and control the various risks they are undertaking. However, insofar as these issues relate to the supervision of banks, they are being considered separately by the Basle Supervisors' Committee*" (BIS (1986, p 233)).

A subsequent ECSC working group chose to include the term in the very title of its report, *Issues related to the measurement of market size and macroprudential risks in derivatives markets* (Brockmeijer Report, BIS (1995)). The main policy concerns identified in the Brockmeijer Report relate to the lack of transparency in derivatives markets and the concentration of market-making functions in a few institutions, which could undermine the robustness of market liquidity. The follow-up policy efforts led to the collection of better statistics on derivatives markets.[13] The term also appears in a special chapter on the evolution of central banking in the BIS's *67th Annual Report* (BIS (1997)). In both cases, it is used to capture policies to improve the stability of the financial system as a whole, primarily by focusing "on the linkages across institutions and markets".

The IMF macroprudential analysis in the wake of the 1997 Asian crises

By the late 1990s, the term "macroprudential" is beginning to be used also outside central banking circles, with the 1997 Asian financial crisis acting as the main trigger. Thus, in January 1998 the IMF report *Toward a framework for a sound financial system* notes:

> "*Effective bank supervision must be seen by banks as a continuous presence. This is mainly achieved through off-site monitoring, both micro- and macro-prudential in scope. […] Macro-prudential analysis is based on market intelligence and macroeconomic information, and focuses on developments in important asset markets, other financial intermediaries, and macroeconomic developments and potential imbalances*" (p 13).

The main policy follow-up included the development of better statistics to evaluate financial system vulnerabilities, so-called "macroprudential indicators" (MPIs) (IMF (2000)).[14] These were subsequently integrated into the Financial Sector Assessment Programs (FSAPs), aimed at performing thorough assessments of such vulnerabilities.

Renewed prominence: concerns over procyclicality and beyond

BIS work on formalising the macroprudential approach to regulation and supervision

Another milestone in the rise to prominence of the term "macroprudential" was reached in 2000. In October of that year, the General Manager of the BIS, Andrew Crockett, delivered a speech at the International Conference of Banking Supervisors contrasting the microprudential and macroprudential approaches to regulation and supervision. The thesis was that achieving financial stability called for a strengthening of the macroprudential perspective. The speech was an attempt to provide a more precise analytical definition of the two perspectives, seen as inevitably coexisting in prudential frameworks (Crockett (2000)).

The speech singled out two distinguishing features of the macroprudential approach. First, a focus on the financial system as a whole, with the objective

[13] See BIS (1996). This report (Yoshikuni Report), prepared by an ECSC working group and presented in July 1996, also uses the term "macroprudential".

[14] These indicators were later renamed "financial soundness indicators", following a suggestion of the IMF Board. See IMF (2001).

of limiting the costs of financial distress in terms of output (the macroeconomy). Second, the recognition that aggregate risk was dependent on the collective behaviour of financial institutions ("endogenous"). By contrast, the objective of the microprudential approach was defined as limiting the risk of failure of individual institutions – best justified in terms of depositor/investor protection. And the approach was seen as treating aggregate risk as independent of the collective behaviour of institutions ("exogenous"). Crucially, this excluded the possibility that actions could appear individually rational but, in the aggregate, result in undesirable outcomes, owing to the externalities involved. A common example was that retrenchment by individual banks at times of stress could induce firesales and a credit crunch, possibly increasing risk in the system as a whole.

The two dimensions of the macroprudential approach and their policy implications

In turn, the macroprudential approach was seen as having two dimensions, pointing to distinct policy implications. One was how risk evolved over time, with special reference to the financial cycle, ie the mutually amplifying processes between the financial system and the real economy (later termed the "time dimension"). This came to be known also as the "procyclicality" of the financial system.[15] Addressing this issue called for the prudential framework to induce a build-up of cushions in good times so that they could be drawn down in bad times, thereby acting as stabilisers. The other dimension was how risk was distributed within the financial system at any point in time (later termed the "cross-sectional dimension"). The focus here was on institutions having similar exposures within the financial system and the interconnections between those institutions. This called for the calibration of prudential tools with respect to the systemic significance of individual institutions, ie their contribution to overall risk. For example, institutions whose failure was more disruptive for the system as a whole would be subject to tighter standards.

The definition put forward in the speech to the banking supervisors was more precise and narrower than previous ones. In particular, it focused squarely on the supervision and regulation of individual institutions and the tools at its disposal. As such, it excluded general policies designed to improve the financial infrastructure; these commanded a broad consensus and were not seen as calling for any strategic adjustments. As underlined in the speech:

> "*The distinction between the micro- and macro-prudential dimensions of financial stability is best drawn in terms of the **objective** of the tasks and the **conception** of the mechanisms influencing economic outcomes. It has less to do with the **instruments** used in the pursuit of those objectives.*" [emphasis in the original].

In the years that followed, this specific definition of the macroprudential approach resurfaced regularly in BIS work and publications.[16] Subsequent

[15] See, in particular, Borio et al (2001) and, more recently, BIS (2009a).

[16] See, for instance, BIS (2001, 2002, 2008 and 2009b), speeches of senior management (eg Knight (2006), White (2006) and Caruana (2009)) and research (eg, for summaries, Borio (2003, 2009)).

research sought to refine it and to further draw out its policy implications. Until the recent financial crisis, the policy debate had focused largely on the time dimension. Accordingly, the main concerns had centred on the implications of bank capital standards for the procyclicality of the financial system and on the monitoring of financial system vulnerabilities linked to the macroeconomy. Following the crisis, however, the cross-sectional dimension also came to the fore, mainly as a result of concerns over systemically significant institutions and the associated "too big to fail" problem.

At the same time, the usage of the term in the public sphere has on occasion been loose. It is not uncommon for it to be employed almost interchangeably with policies designed to address systemic risk or concerns that lie at the intersection between the macroeconomy and financial stability, regardless of the specific tools used.

Conclusion

The term "macroprudential" has risen from virtual obscurity to extraordinary prominence following the recent financial crisis. Since its origins in the late 1970s, the term has always denoted concerns over the financial system's stability and its link with the macroeconomy. At the same time, the specific focus of those concerns has changed over time. Concerns have related successively to excessive lending to developing countries, the impact of financial innovation and the development of capital markets, the influence of regulation on the procyclicality of the financial system, and the implications of the failure of systemically significant institutions.

Over time, especially at the BIS, efforts have been made to clarify the meaning of the term and to define it with reference to its antonym, "microprudential". In this narrower sense, closer to its origin, the term refers to the use of *prudential* tools with the explicit objective of promoting the stability of the *financial system as a whole*, not necessarily of the individual institutions within it. Naturally, most of the tools lie with the regulation and supervision of individual institutions. The main challenge is to achieve a better balance in their use, with the aim of successfully marrying the two perspectives (Crockett (2000)). This is precisely the objective of efforts now under way in the international community (eg BCBS (2009)).

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