De Nederlandsche Bank

On the special role of macroprudential policy in the euro area

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INTRODUCTION

I would like to thank Klaas Knot and De Nederlandsche Bank (DNB) for inviting me to this seminar. It is a pleasure to be here, and to carry on our discussions of the challenges associated with the implementation of macroprudential policy (**MAP**).

Policy-makers around the world have been engaged in recent years in a wide-ranging debate on the potential role of the new, as yet broadly untested, MAP regime and its connection with two other regimes that share similar features but have a much longer history, namely microprudential policy (**MIP**) and monetary policy (**MP**). The fact that MAP is or will soon be operational in many advanced economies does not diminish the importance of continuing this debate, especially in the euro area, which is in many ways a natural laboratory to study the challenges posed by MAP.

First, euro-area economies rely heavily on bank credit to finance the real economy. Second, their banking markets have become increasingly concentrated in recent years, and might become more so in the future as a consequence of market pressures and banking union. Third, the euro area is subject to a single MP regime, but its stance cannot take into account the heterogeneity among member states and its transmission mechanism has been weakened by financial fragmentation. Finally, major changes are taking place on the institutional side for both MIP and MAP, with an increased centralisation of functions within the ECB, but also a notable retention of responsibilities at the national level.

I will argue that this state of affairs has two main implications. The first one is that MAP is likely to be particularly important and powerful in the euro area. The second one is that its interaction with MIP and MP raises issues – opportunities as well as difficulties – that are specific to the euro area and in many ways more delicate than those faced by policy-makers elsewhere. In particular, an open dialogue between micro and macroprudential regulators is absolutely essential in this respect, especially today: our handling of the interplay between MAP and MIP is setting a precedent and shaping public expectations on how the two policies will work in the future, so any opacity on what we are doing, or why we are doing it, could be extremely damaging.

In the following paragraphs I will first recall three key factors that make the euro area's case special: high reliance on banks (Section 2); heterogeneity and fragmentation (Section 3); and concentration of the banking system (Section 4). I will then comment on 'what to do next' (Section 5) and discuss some of the practical challenges surrounding the implementation of MAP (Section 6). The thread running through the arguments, to which I will come back in my concluding remarks, is that MAP can certainly play a prominent role in the euro area, both structurally and in today's situation, and that special care must be taken in operationalising it to exploit the synergies with MIP and MP.

1. HIGH RELIANCE ON BANKS

One key common denominator of the euro-area economies is that they rely heavily on bank finance. Financial markets and non-bank intermediaries are less developed than in the US or the UK, and typically do not fully compensate for shifts in the supply of bank credit.

The MAP toolbox is generally thought to operate mainly through the banking sector; this is certainly the case for most of the instruments that we are beginning to explore following the introduction of the Basel III and CRD-IV-CRR regulation.[1] Hence, the regime could be both more powerful and more important here than in market-based economies. If a variation in MAP

[1] Countercyclical capital buffers and risk weights are obvious examples of bank-focused MAP instruments. On the market side, one could think instead of restrictions on specific transactions (e.g. short selling).

capital buffers had a broadly similar impact on the supply of bank credit in the US and in the EA, I would expect its impact on total credit to be stronger in the EA, where non-bank credit is both smaller and relatively less elastic. The linkage between capital buffers and aggregate credit gaps is also likely to be stronger in bank-centric economies. Other things being equal, this will tend to make the risks and potential gains from using countercyclical capital (or liquidity) buffers greater in the EA than elsewhere.

The structure of the financial system is endogenous (it reacts to changing regulation), so MAP policies focusing on banks may ultimately affect markets or the shadow banking sector.[2] In the medium term, however, the structure of financial markets in the EA can arguably be taken as given, so that high reliance on banks implies a more powerful transmission of MAP.

2. HETEROGENEITY AND FRAGMENTATION

The second distinctive factor of the euro area has to do with the heterogeneity among member states. The business cycles of national economies are not synchronous; real and financial markets are not completely integrated, despite significant progress since 1999. The fragmentation of European financial markets has a structural dimension: many European banks operate mostly in retail markets, which are by nature local markets. Furthermore, cross-border bank penetration has always been relatively low in Europe.[3] This has placed severe strains on the MP transmission mechanism. With macroeconomic outlooks that (in general) differ widely among member countries, and a monetary transmission mechanism that (as of today) works in a strongly asymmetric fashion – and is least effective precisely where it is most needed, namely in the periphery – the value of introducing policy tools with a national focus is considerable. In this environment, country-specific MAP regimes can be used not only to enhance financial stability but also to prevent financial and possibly real imbalances stemming from the 'one size doesn't fit any' problem that may at times be associated with MP. This point is intuitive, but it can also be formalised, showing that MAP rules can reduce macroeconomic volatility and improve aggregate welfare.[4]

We have plenty of evidence, both before and after the crisis, of discrepancies in real and financial cycles among euro-area countries. As an example, let us consider bank lending to firms and households during the last decade (Figure 1). Germany, France, Italy and Spain all started off in 2000 with ratios of corporate loans to GDP in a relatively narrow range between 35 and 45 per cent (panel A). Over the following ten years, however, the ratio declined in Germany, remained constant in France, increased in Italy, and literally ballooned in Spain. This diversity also appeared in household credit (panel B) and house prices (panel C).

Evidence suggests that a set of country- and/or sector-specific MAP measures could have been used in the run-up to the crisis to limit the emergence of imbalances. In fact, the crisis emphasised that policy-makers should be concerned with the whole distribution of future economic outcomes.[5] Some argue that MP could take an active stance in cases where inflation is on target but financial imbalances generate large upside or downside risks around its expected

[2] Panetta (2013b).

[3] From 2007 on, foreign banks accounted for 9% on average of the total number of active banks in France, Germany, Italy, Spain and held only 6.5% of total bank assets. By contrast, in the United Kingdom foreign banks accounted for 57% of the total headcount and held 14% of total bank assets. For the US, the figures are 28% and 23% (Claessens and Van Horen, 2013). Banks' foreign credit claims in euro-area countries declined significantly as a consequence of the financial crisis (see Bologna and Caccavaio, 2014).

[4] Angelini, Neri and Panetta (2014) examine the gains from coordinating MP and MAP in a closed economy. Brzoza-Brzezina et al. (2013) extend the analysis to the case of two countries facing asymmetric shocks but subject to the same MP, and find that country-specific LTVs and capital buffers have significant stabilising effects.

[5] Visco (2009).

path.[6] In any case it is clear that, in dealing with situations of the kind just illustrated, targeted MAP tools are a powerful complement – possibly an alternative – to a 'lean against the wind' MP stance.

To the extent that credit booms, or excessive concentration of exposures within specific sectors in specific countries, stem from externalities among banks, MAP clearly has the potential to usefully complement a pure MIP regime.[7] Many commentators have indeed pointed to strategic complementarities – a specific form of externality by which the pay-offs associated with a bank's decision are positively affected by the number of banks that behave in the same way – as one of the key drivers behind the financial exuberance of the early 2000s.[8] Given its focus on the solvency of individual institutions, MIP did not historically, and probably could not in general, respond to these types of behaviour. Instead, MAP could have discouraged, for instance, excessive mortgage lending through higher LTVs on real-estate loans, or a disproportionate reliance on wholesale funding through an NSFR-type instrument.[9] Crucially, these would have operated across the board, regardless of whether banks appeared individually resilient or not.

3. CONCENTRATION

The banking systems of the euro area have relatively high, and rising, levels of concentration.[10] In the medium term further impetus in this direction could stem from market pressures and from Banking Union. So far the debate on macroprudential policy has ignored the question of how the structure of the banking system itself might affect an MAP regime. Yet there are at least three reasons why structure – in particular high concentration – should matter.

First, the literature on the bank lending channel[11] and the bank capital channel[12] suggests that large banks with highly liquid and diversified assets are *less sensitive* to MP impulses (they adjust their credit supply more gradually to changes in the MP stance). A high level of concentration, with credit markets dominated by a few large players, would thus make it harder for MP to affect banking credit cycles: if the credit multiplier associated with monetary policy is low, any attempt to control credit aggregates through MP interventions would require large swings in interest rates, which in turn could cause significant distortions in relative prices outside the financial sector. While the effectiveness of MAP tools is still largely untested, a euro-area-wide MAP framework might well fill an important gap in this respect. Indeed, big, liquid, diversified banks may respond *more* to MAP impulses, as we know that right up until the onset of the crisis the capital ratios of large banks were very close to the regulatory minima. If this regularity were to be confirmed in the future despite regulatory changes, then we could conclude that large banks, with their thin capital buffers, are likely to be more sensitive to a countercyclical capital buffer (CCB) tightening.

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[6] As Stein (2014) notes, this activist approach is justified even if the monetary authority does not have an explicit financial stability objective. The point of tackling the underlying financial imbalance is to reduce the variance of inflation and unemployment around their target values.

[7] Brunnermeier et al. (2009).

[8] Acharya and Yorulmazer (2013), which builds on Rajan (1994), strategic complementarities cause herding in banks' investment strategies: banks choose to take on correlated exposures because, if they do, negative shocks are more likely to cause systemic crises where institution-specific (e.g. reputational) losses are negligible and public bail-outs very likely. One could think of similar complementarities on the liability side of the balance sheet.

[9] See Catte, Pagano and Visco (2010) on the role of MAP in the US, i.e. whether adopting it would have prevented the bubble; see also Neri (2012).

[10] Between 2005 and 2011, the market share of the three largest banks in the European Union increased from roughly 46% to over 60%; in the US, it went from 20% to 30%, while in Japan it remained stable at about 40% (Bijlsma and Zwart, 2013).

[11] Kashyap and Stein (2000).

[12] Van den Heuvel (2001); Gambacorta and Mistrulli (2004).

A second, related point is that the interaction between MP and MAP ought to be weaker and thus less problematic when the market is more concentrated. One important finding of the literature on the interaction between MP and MAP is that there can be significant overlaps between them.[13] However, insofar as concentration weakens the financial stability spillover of MP by making banks' lending decisions less dependent on the monetary policy stance, it also widens the scope for independent macroprudential decision-making.[14] This would be good news for the euro area, where the policy framework should place national MAP authorities in a good position to internalise conflicts between MAP and MP.

Finally, the concentration of the industry is also an important determinant of the extent of any overlaps, hence potential tensions, between MAP and MIP. To see why concentration matters in this context, think of two polar cases. In a *one-bank economy*, the overlap between MIP and MAP is perfect, and coordination is crucial. If there is no coordination, in a recession the MIP authority raises its requirement, the MAP authority reduces its own, and they end up neutralising one another. In an economy with *many (N) small banks*, on the other hand, the overlap must be less significant. As long as the banks' levels of capitalisation differ, the MAP authority can lower the requirement on all banks while the MIP authority can pursue its objective of preventing idiosyncratic bank failures by raising capital requirements for the *k* banks it identifies as fragile. In net terms, capital requirements will be effectively reduced only for *N-k* banks. This means that MAP is again diluted by MIP, but the dilution is targeted to the banks that need higher ratios in relation to their risk. Furthermore, the combined intervention stimulates a reallocation of credit from fragile to sound banks, which is of course a desirable outcome.[15]

MIP and MAP are clearly complementary from the operational standpoint. The synergy works in two ways: MAP analysis should inform and help focus the activity of micro supervisors; at the same time, micro supervisors will have a key role to play in implementing most macro policy interventions, because these are largely based on the use of micro tools to pursue macro objectives.[16] However, the two policies have different aims, and the example above suggests that the tension between them may be more severe in concentrated banking systems.

Compared with other systems, EA economies are in many ways closer to the polar one-bank case. This means that it is crucial to work out an explicit ranking of the policy objectives. As a consequence, clearly defining the processes that regulate the interaction between MIP and MAP authorities will be particularly important for the EA. To my mind it is clear that the overarching MAP objective of reducing systemic risk logically precedes the MIP objective of preventing idiosyncratic bank failures, for three complementary reasons. First, no individual bank can be deemed sound where significant systemic risks loom large: as we learned in 2008-9, even liquid and well-capitalised banks can be quickly cornered if funding markets seize up or asset prices plummet owing to fire sales. Second, idiosyncratic bank failures are a matter of concern almost exclusively for systemic spillovers: a bank's failure may or may not constitute a serious problem, depending on whether its counterparties can withstand its demise. Third, experience shows that big, well-diversified banks are largely sheltered from idiosyncratic shocks and can only become insolvent because of a systemic shock. On these premises, my view is that MIP should work to fine-tune regulatory requirements for individual institutions *subject to* the provision of adequate aggregate financial stability by MAP.

[13] Angelini, Nicoletti-Altimari and Visco (2013); Angelini, Neri, Panetta (2014); Collard et al. (2013).
[14] Of course, there are other channels through which MP can affect financial stability, such as via risk taking (e.g. Borio and Zhu, 2012).
[15] Heterogeneity among banks is crucial to this argument: if the *N* small banks all hold identical portfolios and capital buffers, then tension between MAP and MIP arises here exactly as in the one-bank world. This is another argument for preventing the sort of herd behaviour mentioned in Section 3, incentivising instead the diversification of business models and investment strategies between banks.
[16] Bank of England (2011).

The governance structure we set up in the euro area might strike external observers as overcomplicated. Yet its design is conceptually appealing, because it puts us in a good position to insure coordination between MIP and MAP at both European and national level. What is crucial is that the ECB retains both MIP responsibilities (through the Single Supervisory Mechanism) and, in coordination with the European Systemic Risk Board, direct MAP powers to adjust the policy stance of individual national authorities (through CRR/CRD IV). The Governing Council should thus be able to internalise any tensions between MIP and MAP and establish a well-defined hierarchy between them.

4. CAVEATS: GETTING MAP TO WORK

There are, of course, risks and uncertainties attached to the implementation of MAP in the euro area. A first challenge – and one that is clearly not confined to the euro area only – is that financial cycles, like most economic phenomena, are notoriously difficult to identify ex ante. Assessing in real time the causes behind any divergence among countries or markets, and establishing to what extent they reflect fundamentals, is not easy. One should guard against the temptation to look at a handful of indicators in isolation. MAP should ideally be grounded in the analysis of a broad set of risk indicators and rely on a joined up, holistic view of how these are related to economic fundamentals, domestically and abroad. Structural economic models can certainly help, but they are plainly not rich enough to capture all the dimensions of the problem. Hence, MAP policy-making is largely judgmental, and will remain so for some time to come.

To operationalise MAP it is also crucial to identify how far banks (that is, leveraged financial intermediaries) are involved in any hypothetical build-up of risks. The amount of systemic risk generated by a bubble depends on a number of factors, including who is financing it and whether the funding comes in the form of equity or debt. Typically, it is the direct participation of banks in a bubbly market that can turn a local problem into a systemic event.[17] Real-estate markets are an interesting example of this problem, so allow me to return briefly to the credit and house price data I used earlier. Preliminary statistical evidence suggests that in several EU countries bank lending predicts house prices (Table 1). This is consistent with credit being an important determinant of the demand for housing. An inverse causation, with higher prices driving more real-estate financing by banks, is potentially more problematic because it may signal that asset prices are distorting banks' choices: prices might be growing for exogenous and possibly non-fundamental reasons (a 'bubble' or a wave of optimism), and banks might be piling in to reap capital gains on the housing stock. In this case the probability of a sharp correction in prices is higher. Such a correction is also more likely to translate into a banking crisis unless macroprudential measures are appropriately tightened beforehand. Interestingly, the only country for which house prices predict credit among those listed in Table 1 is Spain.[18]

Even when the diagnosis is reasonably clear (as was apparently the case for the Spanish mortgage market in the early 2000s), political economy may get in the way of MAP: in practice, it is difficult to 'take the punch bowl away'. Furthermore, there is a risk that national authorities may design and manage national MAP regimes in a way which, although rational from a domestic perspective, could have undesired consequences. For example, national authorities may relax constraints on lending in order to stimulate the expansion of the domestic banking sector, with potential adverse spillovers for financial stability in other markets.

[17] Aoke and Nikolov (2012); Reinhart and Rogoff (2008).

[18] An alternative explanation for this predictive relation is that rising house prices relax households' borrowing constraints, allowing them to take on more debt. The two hypotheses cannot be disentangled by looking at plain correlations. Miles and Pillonca (2008) suggest that expectations of capital gains played a significant role in driving housing credit in Spain, Sweden, Belgium and the UK before the crisis.

The controls at the ESRB and SSM level mitigate the risk of these negative spillovers, but other risks are more subtle and harder to address. When faced with an increase in a specific sectoral risk, relating for instance to real-estate loans, a national MAP authority could force banks to hold more capital by a) raising the overall capital requirement, b) creating an ad hoc buffer on real-estate exposures (although presently this is not allowed under the CRD-IV/CRR), or c) increasing the risk weights. These seemingly identical measures actually differ in important ways. One of them is the degree to which regulators wish to be transparent about what their concerns are: the nature of the vulnerability may not be fully disclosed in case a). Another is the impact on market perceptions: compared with their foreign peers, domestic banks would look relatively better capitalised in cases a) and b), while they would be perceived as relatively undercapitalised in c).

The euro-area configuration, with the ECB-SSM in a position to top up national measures, goes in the direction of assuaging political economy concerns of this kind. The punch bowl may be taken away by someone other than the host, namely a supranational authority. Furthermore, the fact that all individual initiatives must pass the collective examination of the ESRB and/or the Governing Council limits the scope for strategic choices by individual countries. MAP is certainly going to be 'an adventure more than a job', and it will entail a lot of adaptation and learning by doing. Here practice must necessarily come before theory. But since MAP can play a crucial role in resolving current economic difficulties, and the euro area has a sound institutional framework in place to handle it, our practice should begin in earnest, and sooner rather than later.

5. WHAT COULD MAP DO TODAY, AND HOW?

These reflections suggest that MAP could make a considerable difference in the euro area. It is likely to be a powerful instrument; it reintroduces a degree of flexibility that could compensate for the lack of national monetary policy frameworks; and it can relieve monetary policy of some of its burden. The question is how to relate this structural discourse to our current impasse. As we know, the euro area is not in good shape: inflation is too low, growth is weak, MP is stretched and affected by financial segmentation, banks' balance sheets are still strained, credit is scarce. Credit growth is weak across the area, although the underlying causes might differ across countries, and the need to stimulate credit supply accordingly ranks high on policy-makers' agenda.[19] Thus, the dilemma faced by MAP today is how to improve the financing conditions without further undermining banks' resilience.

How should this dilemma be resolved? The set of recent policy initiatives taken and discussed within the ESRB suggests that decision-makers have reached a consensus. In the Netherlands the central bank has announced the introduction of a systemic risk buffer for banks starting in January 2016, and similar initiatives have been taken in Belgium, Croatia and Estonia.[20] The core of the consensus thus appears to be (a) that the key MAP instruments in these circumstances are bank capital ratios and (b) that a conservative policy stance is called for. In short, all we need is 'more bank capital'. This consensus has emerged without an explicit debate on the underlying policy trade-offs, and it has implicitly reduced the broad question of "what MAP should do" to a narrow debate on "whether capital requirements should go up or down". This state of affairs is dangerous and potentially harmful, regardless of one's conclusions on the pros and cons of raising capital requirements. This for three reasons.

[19] Draghi (2014) clarifies that the ultimate objective of the comprehensive assessment is to address capital constraints on credit supply.

[20] Slovenia is moving in the opposite direction, and at the end of June will introduce a minimum loan-to-deposit ratio, in order to slow banks' deleveraging.

First, we are not paying enough attention to the relation between MAP and MIP. I argued earlier (i) that the interplay between the two is delicate, (ii) that coordination is important, particularly in the euro area, and (iii) that MAP should take priority over MIP when their objectives appear to clash. From this point of view, our conduct seems an example of how *not* to run MAP. Interactions and coordination have indeed been largely absent from the policy discussion. For example, given the great heterogeneity in banks' conditions, one could ask whether resilience could be improved by a set of selective MIP interventions on weak institutions, rather than a non-discriminatory increase in MAP capital requirements. This option, however, is not being discussed. We are glossing over the issue of coordination between MAP and MIP. The absence of discussion is bad per se, and it also carries a subtler but equally negative implication: the observed alignment between MAP and MIP authorities (both of which push for banks to hold more capital) could be interpreted as a sign that we are simply placing MIP objectives above MAP. As I remarked above, I consider this approach to be deeply problematic.

The second pitfall is that we seem to have accepted that bank capital ratios are practically the only weapon in the MAP toolbox. A behavioural economist would view this focus on capital as an example of *ambiguity aversion*. That is, we might be acting mainly through capital ratios for the same reason stock market investors over-buy domestic stocks – simply because we know them better.[21] Like a home bias in investment, such a "capital bias" can obviously be suboptimal: we could gain by greater 'diversification' of our intervention 'portfolio. Furthermore, if we determine that tighter capital requirements are necessary but believe they have a negative spillover effect on credit supply, we should combine the tightening with initiatives to mitigate pro-cyclicality. A useful analogy can be drawn with MP, where interventions aimed at controlling the exchange rate can be sterilized in order not to affect the domestic money supply. In our case, we should be looking for ways to sterilize the impact of stiffer requirements on aggregate credit and economic activity. Admittedly, this is not easy, but it is possible. For example, it could be done by incentivising banks to build up their capital ratios through cost rather than credit cuts (I will shortly provide an example of this, based on our recent experience at the Bank of Italy). It could also be done by facilitating firms' recourse to non-bank intermediaries (such as insurance companies) or by stimulating bond and stock issuance, in particular by SMEs.[22]

The third problem is that the consensus does not seem to rest on a clear, shared understanding of the cause of the credit crunch. It should, because there is no ready-made, cookbook-style answer to the question of what MAP should do in a recession with weak credit (or in any other situation for that matter), as the policy measures to mitigate the crunch will differ with the causes. We should be wary of recipes that simply suggest more capital because "risk is high", or less capital because "credit is weak", without further analysis of the fundamental factors that drive the data.

For example, if the credit crunch is caused by high credit risk, then higher capital requirements would certainly be the right choice. But if instead it depends on high funding costs for banks regardless of their individual situation (say, the poor condition of the domestic sovereign), raising capital charges might work (well-capitalised banks also obtain funds at lower rates) but it would clearly be second-best (central banks have a range of alternative tools that affect banks' funding more directly). Finally, consider a crunch caused by a problem of coordination among banks. When an economy with a concentrated banking system is at a turning

[21] Following the ambiguity aversion analogy, the bias may stem because we are able to characterise, in probabilistic terms, the implications of a shift in bank capital requirements, which have a long history of regulation, while we lack this ability for other, new or relatively untested MAP policy instruments (see e.g. Barberis and Thaler, 2003).

[22] The Italian insurance supervisor (IVASS, which is under the control of the Bank of Italy) has now broadened the possibility for insurance companies to buy corporate bonds. The Italian government is introducing tax benefits for IPOs and new equity issuance, as well as non-pecuniary incentives to stimulate issuance of bonds and equities by non-financial companies.

point, large lenders certainly have a notion that the speed of the recovery depends on their lending strategies, and they might well realise that lending more, or on softer terms, is the optimal strategy because it would stimulate growth and generate higher returns. Even in that case, however, it could well be that nobody is willing to bear the risk of expanding their balance sheet *unless everybody else does likewise*. The reason is that without coordination the recovery will not start and the lender who took the solitary initiative will pay all the costs of running a large balance sheet in a still recessionary environment: a credit crunch could emerge as a suboptimal Nash equilibrium. In this case, MAP policy could facilitate coordination among lenders to bring the crunch to an end and make the banking sector sounder.[23] These stories are all possible and credible. Any policy prescription should be based on a discussion of which of them we believe to be most plausible. It seems to me that so far this discussion – like those on MAP-MIP interactions and MAP tools mentioned above – has been largely bypassed.

The current conjuncture obviously puts pressure on policy makers to act decisively and narrows the room for wide-ranging discussion of governance and general principles. The MAP mechanism is now operating in conditions that are very different, and probably more complex, than those that will prevail in the future: in the pre-crisis period banks did not build up sufficient macroprudential capital buffers, greatly complicating the policy dilemma. After all, increasing prudential capital requirements might well be the right policy choice given the uncertain prospects of our economies. My main contention is that, even if that is so, we cannot afford to restrict ourselves to this strategy, or stick to it in a way that the public may see as a-critical.

The decisions we take today set an important precedent for how MAP will work and how it will be expected to work in the future. Accordingly, I submit that being transparent on the logic behind MAP initiatives and making sure that that logic is consistent with our agreed principles, is at least as important as getting the details of any specific intervention right. The costs of setting a bad precedent or weakening the credibility of MAP, and particularly of its countercyclical nature, are hardly quantifiable, but I suspect that they would be very high indeed. The only way to contain them is to make sure that our decisions – whatever they are – derive from first principles, rest on sound economic analysis, and represent the outcome of a transparent, open dialogue among the authorities.

6. FROM THEORY TO PRACTICE

Speculating on the interactions between MP, MAP and MIP in abstract is one thing. Bridging the gap between theory and practice, and setting up mechanisms that run reasonably smoothly, is another. Like many other central banks in the euro area (and beyond), the Bank of Italy has a micro (MIP) supervisory function that coexists with its macro (MP) function.[24] This coexistence requires two elements. The first one is a protocol that regulates the bottom-up flow of information and allows the Board to form a consistent view of the state of affairs and of the related risks. The second one is a mechanism that defines the top-down transmission of decisions, assigning clear responsibilities to all the sub-structures involved in implementing any policy interventions agreed by the Board.

Seen through a financial stability-MAP lens, the information flow within the Bank of Italy can be divided into three phases. First, risks are examined separately by the areas with the relevant expertise. Micro risks relating to banks' balance sheets are examined by the supervisory

[23] A similar story is formalised by Bebchuk and Goldstein (2011). Note that in this case MAP can have a role to play *ex post*, after the burst of a credit bubble, for exactly the same reason why it has one *ex ante*, in the build-up phase: it corrects externalities (a strategic complementarity) that could otherwise bring about suboptimal equilibria.

[24] The law that introduced capital requirements and assigned the Bank of Italy supervisory powers dates back to 1926 (see https://www.bancaditalia.it/bancaditalia/storia/1936/il_dopoguerra).

directorates; risks relating to money markets are monitored by the markets and payment systems directorate; macro conditions of any other kind are looked at by the economics and statistics directorate. This information is shared and debated within the Financial Stability Coordination Committee. Meetings are ordinarily held twice a year, but can be called at any time by the committee members – the heads of the key directorates – or by its chair – a deputy governor. The third and last phase involves a discussion with the Board on the key conclusions, which includes a critical assessment of the evidence, a ranking of the risks and, if necessary, a list of suggestions for potential policy actions.

A supervisory initiative launched by the Bank of Italy in 2012 provides an example of the workings of this mechanism. In that case, a prolonged fall in non-performing loan coverage ratios (a micro signal) was deemed to be a potential threat for market confidence, particularly in a recessionary scenario (a macro issue). The Bank therefore launched a targeted but broad on-site review of positions with low coverage ratios to ensure that accounting practices were correct.[25] In order to avoid pro-cyclical effects, in parallel with this wave of inspections the Bank of Italy asked banks to increase internally-generated resources by cutting costs, selling non-strategic assets, adopting sustainable dividend policies, and revising the criteria for the remuneration of directors and executives. These actions, the results of which have been published, have improved banks' practices and standards; they have helped to reverse the declining trend in coverage ratios, increase transparency and assuage investors' concerns. Thus, they relied on micro tools but were macro in spirit.

These processes will have to be adapted in the light of the radical institutional changes being introduced both at the national level (establishing a new MAP authority) and at the international level (MIP and MAP coordination and burden-sharing between national authorities and ESRB, EBA, SSM). Often, the devil is in the detail, and admittedly many details need to be sorted out for this architecture to work well. Therefore, it would be sensible to divide our time between speculation on the conceptual challenges posed by the interaction between MP, MAP and MIP and a less exciting but equally crucial effort to create a sound and effective governance structure.

7. CONCLUSIONS

Bold policy initiatives are rarely preceded by long periods of careful reflection. On the contrary, they are often taken in response to dramatic and unforeseen changes in the economic environment and (or hence) often at times when little is known about what the future holds in store. The situation we find ourselves in today is no exception to this rule. The financial turmoil created a strong rationale to introduce MAP, but our knowledge of the potential of this new tool is less than perfect. It will take a while to acquire that knowledge, to understand how MAP interacts with MP and MIP, and to explore ways to get the best out of all three. Operating the system in the meantime will surely be challenging.

The spirit of my remarks today is that, besides being inevitable, this challenge is very much worth meeting. MAP can deliver great benefits to the euro area in terms of macroeconomic and financial stability. Furthermore, the area has an institutional framework that favours coordination and places us in a good position to observe and exploit the complementarities between this and other, more traditional policy frameworks. We knew from the start that learning by doing would be central to MAP. Given these two preconditions, we should start doing, and learning, as soon as possible.

[25] It was judged necessary to preserve a satisfactory level of provisioning in order to maintain investor confidence and low funding costs, particularly given the market tensions stemming from Italy's fiscal imbalances. (Panetta, 2013a).

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Table 1. Test of Granger causality between lending for house purchase and housing prices in selected EU countries (1)

(2003Q2-2013Q3, annual growth rates)

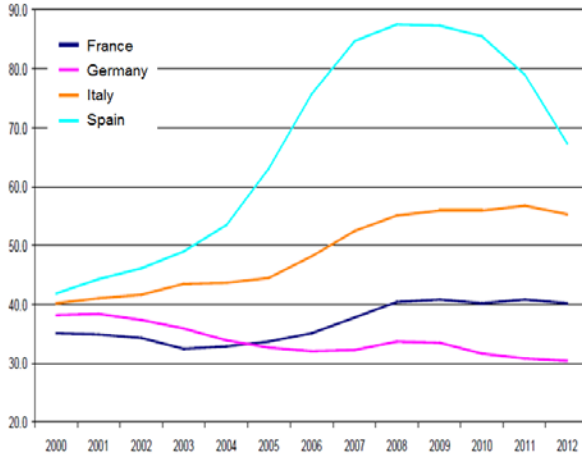
Country	F-Statistic	Prob.	Significance level	Causality (2)	2007 LTV ratio	Banking crisis	Real-estate crisis
Belgium	5.071	0.006	***	C→P	80		
France	4.928	0.006	***	C→P	91	x	
Italy	4.638	0.016	**	C→P	65		
Netherlands	2.866	0.099	*	C→P	101	x	x
Spain	4.030	0.027	**	P→C	73	x	x
UK	4.583	0.009	***	C→P		x	x
Germany			Not significant		70		

(1) The null hypothesis is no Granger causality. Lending for house purchase is measured as domestic credit to households for house purchase as a share of GDP.

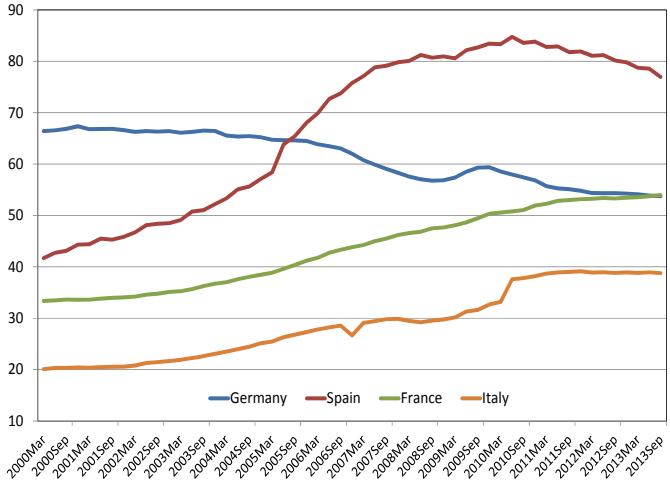
(2) C→P = credit causes house prices; P→C= house prices cause credit.

Figure 1: Heterogeneity across Europe

(A) Bank loans to firms in selected euro-area countries (per cent of GDP)

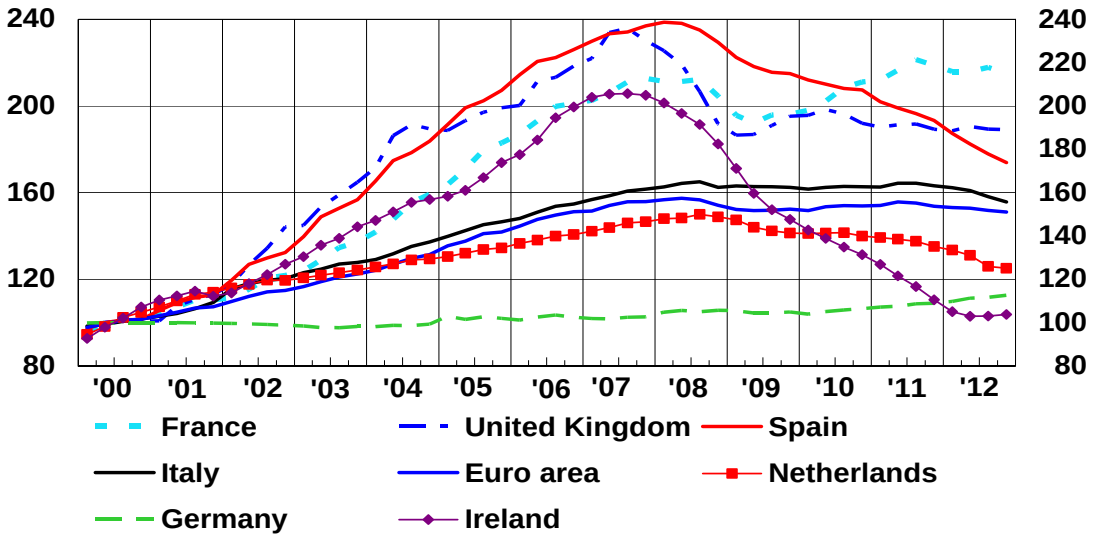


(B) Domestic bank lending to the household sector (per cent of GDP)



Source: ECB and Eurostat

(C) House prices in selected European countries



Source: Bank of Italy, *Financial Stability Report*.