Micro-data for micro- and macro-prudential purposes

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1. Introduction

The *post-mortem* of the financial crisis points, among other things, to a potential shortcoming in effective macro-prudential oversight, which could have detected, at an early stage, the building-up of the vulnerabilities that led to the eruption and propagation of the turmoil, as well as prompted actions to prevent or mitigate the crisis.

Macro-prudential oversight in the form of monitoring the stability of the financial system as a whole was mainly performed by central banks. The findings on potential risks were disseminated in financial stability reviews in order to raise the awareness of both policy-makers and market participants. However, the analysis relied mostly on market intelligence and central banking statistics, and seldom benefited from bottom-up supervisory inputs. Moreover, the findings had for the most part an analytical nature and often stopped short of putting forward hard-hitting policy messages or recommendations for specific supervisory measures, particularly since central banks had no institutional mandate to encroach on supervisory matters.

There was thus consensus at the global level on elevating macro-prudential supervision as a pillar of the financial stability framework and to empower the bodies entrusted with this policy with new and effective tools. In the EU, there was a strong commitment to change gear and move towards a new institutional setting that would address the weaknesses found in the conduct of financial supervision. The starting point was the de Larosière Report. It recommended the establishment of a European System of Financial Supervision comprising a macroprudential body – the European Systemic Risk Board (ESRB) – and three sectoral Authorities (ESAs) responsible for the banking, insurance and securities markets, respectively.

In the field of financial stability, the ESAs were entrusted with a number of tasks and instruments for dealing with systemic risk. The financial stability tasks of the ESAs are justified by the need to also consider the building-up of risks in micro-prudential supervision. The ESAs are thus requested to monitor and assess risks and vulnerabilities in their respective financial sectors. For this purpose, they must develop – in cooperation with the ESRB – a number of tools including regular stress testing and a "risk dashboard", comprising a set of indicators to identify and measure systemic risk. Moreover, the ESAs are required to identify criteria for measuring the systemic risk of financial institutions[1]. The potential for a certain degree of overlapping with the mission of the ESRB is addressed with obligations of mutual cooperation among the ESAs and the ESRB, including in the field of information sharing.

Data is a key component of these activities, and this scarce and expensive resource merits wider discussion. Risk assessment – either micro- or macro-prudential – requires a significant amount of good quality and reliable data, with different granularity and at different levels of aggregation and analytical information. Indeed, information gaps limited the ability of authorities to identify the building-up of vulnerabilities at the core of the financial crisis. Limited data on specific institutions and markets was a first shortcoming. But most gaps were mainly linked to the inadequate use of existing resources and information, hindered by the fragmentation and non-harmonisation of certain macro- and micro-financial data across jurisdictions. Therefore, the challenge is to strike the right balance between the need to improve the quantity and quality of financial data and the reluctance to over-burden financial institutions with unnecessary reporting obligations. In this paper I argue that the way forward is to make good use of the statistics we already have or that are being developed – not only monetary, but also supervisory data – and to enhance its ability to *serve* different mandates: price stability, and the mitigation of idiosyncratic and systemic risks[2].

2. Micro data for microprudential purposes

a. Harmonisation and comparability of data

In most jurisdictions, microprudential supervisory authorities require banks and other financial intermediaries to submit data in connection with their institutional responsibilities. Most data is thus collected under legal reporting requirements. In addition, intermediaries

[1] For details, see Enria and Texeira (2011).

[2] See also Davis (1999).

make some non-obligatory reports available on a voluntary basis. Supervisory reports are the most comprehensive source of information, encompassing data on risks, capital positions and profitability. This data is typically collected on a fully consolidated basis, since this is essential for a comprehensive assessment of the intermediaries' risk profiles[3].

From the micro-prudential standpoint, the comparability of data across intermediaries is an essential feature, since it is the precondition for carrying out peer analyses and benchmarking exercises. This is easier to say than to do, particularly across national borders. Accounting and reporting rules have traditionally represented a concrete way for strengthening the reliability of data and making cross-sectional comparisons meaningful. However, the definition of these standards has been, for long time, nationally driven and convergence in practices has not reached a level where consistency is possible. While international accounting and reporting standards (the IAS/IFRS) aim to deliver high quality, transparent and comparable financial reporting across firms and time, their primary objectives are relevance and faithful representation of firms' financial conditions. Since relevance may require some flexibility for reporting institutions, common templates for disclosure are not provided under the accounting standard. This reduces comparability and makes the aggregation of firm-specific data more challenging.

To enhance the comparability in the EU, in 2005 the Committee of European Banking Supervisors – the EBA's predecessor – published a standardised financial reporting framework (FINREP) for reporting the consolidated financial accounts of EU credit institutions using IFRS. The common framework (COREP) for reporting capital adequacy data for supervisory purposes was published in early 2006. FINREP and COREP are good examples of the efforts to harmonise and streamline reporting requirements in Europe. They are, however, a partial success, since they have been implemented under the Lamfalussy architecture as non-binding guidelines. In fact, the forms banks have to compile to report their position with respect to the capital requirements has remained different across jurisdictions, with some countries deciding to adopt the FINREP and COREP and others preferring to retain

[3] Full consolidation – which is acknowledged as best practice for micro-prudential supervision – makes also supervisory data better suit to serve the macroprudential goal than monetary statistics, which tend to be unconsolidated.

national reporting standards[4]. Also the remittance dates, the taxonomies and the IT platforms for submitting the information to the supervisors differ across countries.

The lack of a single rule-book has made it very difficult to organise the micro-prudential assessment and supervision of cross-border groups in a truly coordinated fashion. This is not only a limit to cross-country comparability of financial information, but it is also perceived by cross-border banks as a dead-weight cost, hampering the integration of financial markets in the EU. It is also an issue of efficiency: having exactly the same requirement implemented in a different way at the national level fragments the compliance process for cross-border groups into separate bits and pieces, thus increasing administrative costs without any obvious benefit in terms of safety and soundness. Moreover, when regular reporting is perceived as not fully reliable, there is some inclination to frequent ad-hoc data exercises, which is extremely costly in relative terms over the long run.

In addition to working on the harmonisation of reporting requirements, the EBA has liaised with the ECB on the reconciliation of supervisory and statistical reporting requirements. This is an effort for reducing the reporting burden for entities that are required to deliver data to both the Eurosystem and to supervisory authorities. More importantly, this analysis contributes to a better understanding of the links between different data sources and frameworks and highlights potential synergies between databases originally designed for different purposes.

b. The experience at the EBA

The EBA's main tasks in micro-prudential risk assessment include the identification at an early stage of trends, potential risks and vulnerabilities stemming from the banking sector; the monitoring of market developments; and the identification of potential systemic risks.

In that respect, micro-prudential information on an institution-by-institution basis is essential and – since the very first year of the EBA's existence – we devoted significant resources to the establishment of a framework for gathering such information, covering both regular and ad-hoc data collections. We defined, in close cooperation with national experts, the data needs and set up an IT infrastructure for reporting. The analysis of the data gaps has benefited from discussions at the Joint ESRB/ESAs Group on Data. The data items that the

[4] COREP has been applied in all EU-countries but to a different extent and with some national features. For FINREP most countries have implemented at least some of the templates but the extent and coverage vary significantly.

national authorities are expected to report to the EBA were agreed with the view to aligning to the maximum extent possible the EBA and ESRB's requirements and avoiding duplication of reporting obligations.

The outcome of this work has been the identification of a core set of "Key Risk Indicators" (hereafter, KRIs), which represent the first pillar of our analysis and provide early warning signs of potential risk events. The 53 KRIs are reported quarterly by national authorities and cover 57 EU banks from 20 EEA countries. In terms of coverage, the banks in the sample represent at least 50 per cent of each national banking sector and time-series have been collected, on a best effort basis, from the last quarter of 2008. The definition of the variables is consistent with the COREP and the FINREP and – for jurisdictions where these standards have not been implemented – authorities have been encouraged to map local reporting standards to the common EU frameworks. The indicators represent the minimum metrics required for effective monitoring of risks in the European banking system, providing us with an overview on solvency, profitability, balance sheet structure, credit portfolios, and asset quality of EU banks. In EU-wide stress tests, the KRIs are also used for putting the results into the historical context and used for back-testing and benchmarking. The KRIs, in aggregate form, are shared with the ESRB to inform its systemic risk analysis, demonstrating the complementarity of micro prudential and macro-prudential oversight needs.

Of course, whilst the KRIs are a "key" element for understanding risks and vulnerabilities, they are also very basic indicators, with limited breakdowns. Moreover, they suffer the same limitations of all supervisory data: they tend to be backward-looking and – notwithstanding gradually more timely remittance dates – lagging indicators. They are, therefore, the starting point for our analysis, but they are not enough. While for the medium term we plan to expand the scope of supervisory reporting to the EBA, we are currently complementing the KRIs with the qualitative information we gather from our active participation in the colleges of supervisors as well as with market data and intelligence.

Moreover, regular reporting is necessarily accompanied and supplemented by ad-hoc data collections. They allow us to gather more focused and granular information on specific risks and carry out thematic reviews of risks and forward-looking stress tests. Wide-ranging information on banks' exposures, risk parameters, funding structures has been an essential component in the EU-wide stress test as well as in the finalisation of the recapitalisation exercise. This data allowed us to deepen our understanding of EU banks and to develop

benchmarks for cross-checking banks' bottom-up results. A subset of the data collected for the bottom-up stress tests has been shared with the ECB and the ESRB – under strict confidentiality agreements – and used for performing top-down stress tests. The results of the top-down simulations have been, in turn, an input for the quality insurance process carried out by the EBA on banks' results.

Since – for obvious reasons – not all potentially interesting data can be reported, when setting up the framework for ad-hoc data collections tests, it is necessary to identify the risks and vulnerabilities that are more likely to hit the banking sector at a given juncture. The trade-off is between the authorities' willingness to receive more data and the burden for reporting institutions. The analysis of costs and benefits is an integral part of the process for introducing new statistical requirements.

Looking forward, I think that the main challenge from the micro-prudential perspective is how to merge quantitative data and "softer" supervisory information into a synthetic assessment on banks' financial conditions in order to achieve reliable early warning systems and share this aggregate analysis with the macro prudential authorities. This would be, in my view, the added value that micro-prudential supervisors can bring to the assessment of financial stability.

3. Micro data for macroprudential purposes

As I discussed above, the new institutional setting in Europe gives emphasis to the role of macroprudential analyses and policies. Strengthening the analytical tools used to gauge the build-up of systemic risks is therefore a priority for the European System of Financial Supervisors. But better analyses and models require the enhancement of the information base. As highlighted by Vitor Constancio (2010) in his speech at the 5th ECB Conference on Statistics, "*the statistical function provides a key underpinning for the effective implementation of macro-prudential policies. In particular, a comprehensive and granular information base is required to facilitate the timely detection of the build-up of vulnerabilities, such as financial imbalances. Furthermore, the accuracy and reliability of data largely determines the quality of the systemic risk assessments that inform macro-policy decisions*".

The main issue is, in my view, to what extent we can rely on existing data for macro-prudential purposes and whether micro-prudential data can be also the *servant* of macro-prudential oversight. In that respect, I tend to agree with Claudio Borio (2011) that every

crisis creates demand for more data and that this opportunity should not be missed. I also share his view that the cost/benefit analysis of new data requests tends to be biased towards inaction in good times.

However, my sense is that we should still be parsimonious in setting the new data requirements and leverage to the extent possible on the existing sources of information. What is crucial is that the quality, reliability and comparability of the existing statistics are improved. While it is true that the crisis has revealed the presence of important data gaps and serious shortcomings in the identification of system risk, my impression is that at least a significant component of this relates to the unregulated components of the financial sector (IMF-FSB, 2009). For the regulated intermediaries – and particularly for banks – the problem lies at least as much with the volume and coverage of data as with the lack of harmonisation and, thus, with the challenges in comparing and aggregating data. In fact, data consistency at the micro level is a prerequisite for meaningful aggregation and, therefore, for the macro-prudential use of micro-prudential information. I have already argued that the harmonisation of the reporting framework is the priority for microprudential purposes. However, and this is not a paradox, harmonisation is even more important for macroprudential analyses. Standardisation of data reporting allows the aggregation of bank-level data and makes macroprudential monitoring more accurate. In that respect, our experience with the KRIs is instructive. The EBA already provides the ESRB with a set of country-level aggregate KRIs, but the systemic analysis is hampered by approximations in the raw data when reporting banks do not follow common standards. For this reason, investing in maximum harmonisation should be perceived as a "win-win" game, where the advantages are widespread and involve both micro- and macro-prudential supervisors as well as reporting institutions.

The EBA is strongly committed to delivering a truly European reporting framework over the next months by developing a draft implementing technical standard (ITS) on supervisory reporting setting standards for uniform supervisory reporting. The ITS will cover reporting of capital adequacy, financial information, liquidity, large exposures and leverage ratio. This ITS will specify uniform formats, frequencies and remittance dates as well as IT solutions to be applied by credit institutions and investment firms across Europe. The draft ITS – which was

subject to a public consultation in the first quarter of 2012 – will be submitted to the European Commission next summer and will enter into force in 2013[5].

Uniform reporting requirements are necessary to ensure a level playing field for cross-border institutions. It is crucial that all credit institutions and investment firms are subject to the ITS, to ensure adequate information and coverage for both micro and macro-prudential purposes[6]. At the same time, it is important to fully implement the proportionality principle: the requirements have been developed taking into account the nature, scale and complexity of institutions' activities to reduce reporting burden for smaller and less complex players.

4. Dissemination of micro data and transparency

The harmonisation of the reporting standards should be complemented by a process for making relevant data available to the various stakeholders and, more generally, to the public, where this does not undermine banks confidentiality concerns. In many respects, authorities have a responsibility to disseminate – subject to rules on confidentiality and preserving the commercially sensitive nature of some data – financial information, as it is a public good that has the potential to reinforce market discipline (Burgi-Schmelz et al, 2011). This is what happens, for instance, in the US, where the Federal Financial Institutions Examination Council is empowered to prescribe uniform principles, standards, and reporting forms for the federal examination of financial institutions by – among others – the Federal Reserve System, the Federal Deposit Insurance Corporation, the Office of the Comptroller of the Currency. The Council's data repository provides any user with financial and structural information for most regulated entities. The EBA made significant efforts in increasing transparency. Already in 2010, we started the publication of the EU-wide stress test results. In 2011, we released a broad set of information on the banks participating in the exercise. Overall, we provided market participants with about 3,400 data points – in editable and interactive format –for each of the 90 banks that agreed to publishing the information. Transparency has been a fundamental component of the stress test and a complement to our stressed scenario analyses. Thanks to a common data structure – disclosed ahead of the publication of the results – market participants were in a position to perform their own analyses, understand the drivers of

[5] The ITSs have been developed based on the existing reporting frameworks for COREP, FINREP and large exposures given that they have been implemented already in various Members States.

[6] The ITS will cover all credit institutions and investment firms in the EU both on an individual and on a consolidated level with the exception of financial information for which the scope is currently under discussion.

the stress test results, and simulate the impact of alternative assumptions. Our effort has been appreciated both by analysts and the public at large. Some recent empirical analyses (Petrella and Resti, 2011) find evidence of significant market reactions both on various pre-release announcement dates and upon the release of the stress test results and show that disclosure provided investors with relevant information, thus contributing to reduce the uncertainty and opacity on banks' conditions. To some extent, the stress test – which is mainly a supervisory tool – has been used also for filling information gaps due to poor disclosure practices.

But let me come back to the *leit-motiv* of this paper: the need for harmonisation. Transparency and disclosure are certainly important, but they do not come without risks. They work properly only if the underlying data is consistent, of high quality, and reliable. Complete and detailed metadata can help interpret data, but the harmonisation of the form and the contents of disclosure are crucial. This is true for the authorities as well as for the single intermediaries.

Since the outbreak of the crisis, CEBS and then the EBA have published several papers presenting the results of the assessments of banks' public disclosure. In one of the most recent analyses (EBA, 2011) we noted the progress made by banks in implementing Pillar 3 requirements. However, there are still important areas where improvements are needed. First, on the contents, it is necessary to enrich the range of information released to the market (for instance on the composition of own funds, back testing information on credit risk, and remuneration). Second, on the form, the presentation of the data is still very diverse, raising comparability issues for users. As the result of this stock-take, we issued a set of principles which are intended to further improve the quality of disclosure – particularly in crisis times – in terms of substance, presentation and consistency. These principles are a starting point: they encourage enhanced quality of disclosure without amending, duplicating or adding to existing disclosure requirements.

Improving transparency is always a challenge. We had lively discussions on the level of disclosure regarding the stress test results and we expect the disputes on this issue to continue. The EBA stands ready to actively participate to this debate, leveraging on the very positive feedback we have received so far. The assessment of banks' risk disclosure is already included in our work programme as a regular task. In 2011, we explored the level of interaction between Pillar 3 and IFRS disclosure, while in 2012 we plan to run an assessment

of disclosure on Basel III implementation. These thematic reviews help us identify and promote best practices.

The final outcome of the debate is uncertain at this stage, but I look forward to a steady-state in which banks themselves will disclose financial information based on common definitions and according to fully harmonised templates. A strengthened Pillar 3 is crucial, but disclosure of banking data should go well beyond Pillar 3, including – for instance – detailed information on asset quality. In that respect, the EBA may play a role in setting a pan-European data-hub, centralising in a common database the reports of the top EU banks. At that point, also stress tests may return to being mainly an assessment tool for supervisors rather than a public event.

5. Conclusions

In this paper, I made a case for an effective use of all the available information for pursuing micro- and macro-prudential objectives. In particular, I argued that micro-prudential data can be the servant of two mandates to the extent they are based on common definitions and harmonised reporting standards. However, standardisation of the reporting framework is a necessary but not sufficient condition for full comparability and aggregation of data: if the prudential and accounting rules remain different, no reporting framework can make the job. The most vivid example is the implementation of COREP and FINREP. The former has a solid basis in the Capital Requirements Directive and Regulation, which provide a common regulatory backing for all reporting institutions. The latter is still based on different accounting standards and the ITS needs to take into account that definitions and formats can vary across jurisdictions[7]. Even if harmonisation of the underlying valuation methods is still to come and goes beyond the EBA mandate, it is very important that we agree on harmonised formats for financial reporting.

I would like to conclude with an encouragement to be ambitious in planning ahead. The mandate of the EBA covers the development of the single rule-book as well as microprudential-risk assessment. I see these two tasks are interlinked, with the single rule-book ensuring that banks in different Member States are subject to the same requirements, apply them in virtually identical ways, report to their national supervisors according to

[7] All publicly listed institutions are required to apply the IFRS standards on their consolidated accounts. In addition, 21 Member States require non-listed credit institutions to apply the IFRS or national GAAPs which are similar to the IFRS on consolidated statements, and 18 Member States also for solo statements.

common frameworks. Once the single rule-book is in place, no significant differences will distort the assessment of risks: micro-prudential supervision will leverage on highly comparable data and macroprudential surveillance will benefit from data that can be consistently aggregated across the piece. They will both become more reliable and timely.

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