

Micro-data – the Austrian concept with more granularity as a lesson learned from the financial crises

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1. Introduction

Experts from the Statistics Department of the Austrian central bank (Oesterreichische Nationalbank – OeNB) and experts from commercial banks are currently working on a joint project to improve the system of data collection. One of the key elements of this project is the collection of granular securities and loan data which can be used for different purposes in a harmonised way. This paper gives an overview about the background, the expected advantages and use as well as the state of play and next steps regarding the planned micro data reports.

2. Background

In earlier times different divisions and departments at the OeNB designed tailor-made reporting forms and processes to enable the collection of data for producing statistics for different purposes such as monetary policy, financial stability, research, supervision and establishing a credit register. These data collection procedures were not harmonised, leading to a lack of data consistency as well as inefficient data quality procedures. Furthermore, the financial crisis has shown that these tailor-made – mainly aggregated – reporting forms are not very flexible concerning new data requirements, so that each change of the collection system led to substantial costs and thus could not be implemented as quick as required by data analysts. All that motivated the OeNB to start a joint project with the reporting banks to build up a flexible and harmonised data collection system.

3. Expected advantages and use of micro data

A key element of the future data collection system is the so-called basic cube:

- The basic cube provides an exact, standardised, unique and hence unambiguous definition of individual business transactions and their attributes.

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- As the core banking systems of different institutions are in most cases not comparable, the basic cube establishes a harmonised database model at a very granular level within the banks.
- Consistency, the absence of redundancy and ease of expandability are key features of the basic cube.
- As suggested by its name, the basic cube comprises the primary data for all kinds of statistics, both supervisory and monetary.
- The basic cube could be used only as a means of data description without being physically realised.
- The basic cube has been developed jointly by banks and the OeNB, but OeNB staff will not be allowed to access the basic cube.
- The OeNB is strongly interested that banks will introduce the basic cube but it will not be a legal obligation.

Based on this basic cube, banks aggregate or calculate and report (most of them with a jointly developed software) the second key element of the new system, the – legally obligated – multi-dimensional smart cubes. These cubes allow the compilers and analysts in the OeNB to use the collected data in a consistent and flexible way. Both elements of the system should also guarantee a quicker implementation of new data requirements and reaction to ad hoc requests.

Two of these multi dimensional smart cubes are designed as “micro smart cubes”: the “ISIN cube” and the “loan cube”. In the first phase of the development of these micro data cubes the focus lies basically on unconsolidated data, whereas in a second phase it would make sense to investigate the feasibility of collecting such granular data on a consolidated basis.

ISIN cube

Within the ISIN cube assets and liabilities of credit institutions related to securities are collected on a security-by-security basis without any thresholds. The OeNB has already gained positive experience with its security-by-security data collection system, which was originally developed in the nineties for external statistics purposes. Since the financial crisis this system has become more and more relevant for financial stability and micro-prudential supervision, although the focus of the current security-by-security system still lies on external statistics – partially justified by legal constraints for using these data for other purposes than external statistics.

The future ISIN cube is designed – as an enhancement of the current system – to meet additionally the user needs regarding monetary and financial, securities holdings and supervisory statistics. Thus the cube will substitute some existing reporting templates in the field of monetary and financial statistics as well as supervisory statistics. For this reason legal acts and the reporting templates have to be changed.

The main difference to the current security-by-security system is that some additional securities'/issuers' attributes which are mainly not available from commercial data providers will be collected from banks, e.g. indicators for

- Amount below 100% of repayment of nominal capital
- Trading book / banking book
- Intangible fixed asset / working capital

as well as some detailed information about credit linked notes (underlying information) and asset backed securities (e.g. type of securitisation, type of assets, attachment and detachment point). Furthermore, different categories of valuation are required, e.g. book value, market value, specific provisions, new issues and redemptions. Basic characteristics of issuers and securities, like issuer country and sector, nominal currency, interest rate and maturity information, will be derived from e.g. the Centralised Securities Database of the ECB.

Loan cube

The loan cube is principally based on the current central credit register (CCR) data collection where credit data are collected on a borrower-by-borrower basis with a threshold. At the moment CCR data are mainly used for financial market supervision purposes and for requests of lenders about the existing obligations of potential borrowers (determination of an obligor's degree of indebtedness). The planned loan cube has more dimensions than the CCR reporting template and could thus substitute – similar to the ISIN cube – some other existing reporting templates in the field of monetary and financial statistics as well as supervisory statistics. Additional loan dimensions currently not collected by borrower are for instance:

- Residual and original maturity
- Currency or interest related attributes
- Purpose of the loan
- Repayment attributes

Risk information, e.g. non performing loans, ratings and risk weighted assets, as well as collateral information will be collected on the assets side on a borrower-by-borrower basis similar to the current CCR templates.

4. Next steps

Whereas the design and future use of the ISIN cube is already in a stable phase, some topics regarding the loan cube and the related risk information have still to be clarified. However, there is a common understanding between banks and the OeNB that the final development stage should be a loan cube with integrated risk information on a loan-by-loan basis (where meaningful). But still some necessary questions regarding the timeliness, use, quality management and international environment regarding this loan-by-loan cube have to be answered before a final decision for such a cube can be taken. This will be a main task during the next phase of development.

References

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