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*Reinhard Petschnigg<sup>1</sup>*  
*Oesterreichische Nationalbank*  
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***The “Small and Medium Sized Enterprises (SME)-attribute” in the business register of the Austrian central bank (Oesterreichische Nationalbank) – objectives and challenges of implementation***

## **Introduction**

In the European Union more than 99% of the enterprises are considered to be SMEs, more than 90% of which are so-called micro-enterprises.<sup>2</sup> Given the importance of Small and Medium Sized Enterprises (SMEs) for growth and job creation, SMEs are of crucial interest to economic policy makers virtually all over the world. Statistical production therefore must respond to the need to define and to identify these entities.

Why does a central bank care about SMEs? Central banks have to know how the so-called transmission mechanism from the monetary and financial side of the economy to the so-called “real economy” works. Do the monetary impulses emanating from the central bank have the intended consequences? Do SMEs react differently from other actors to these impulses? Furthermore, financial regulation specifically differentiates between SMEs and non-SMEs with capital requirements aiming primarily at supporting the credit extension to SMEs.<sup>3</sup>

The Oesterreichische Nationalbank (which is the central bank of Austria and as such part of the Eurosystem) – in its ongoing efforts to improve the quality of its business register – has implemented an SME-attribute in its master data management system (“OBServ – OeNB Basisstammdatenservice”).

In the following sections it will be described which definition for SMEs has been chosen and why, how the SME-attribute is embedded in the overall master data management system, what issues have arisen during implementation and what challenges are further down the road.

## **The choice of the SME-definition according to the European Commission**

In many countries specific SME definitions have been around in different areas of legislation: tax law, corporate law (financial reporting), capital markets or - more general - financial markets regulation. These definitions vary according to size thresholds, input parameter, computing methods and granularity of resulting classifications.

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<sup>1</sup> The paper benefitted from valuable input from users of the SME-attribute, primarily within the OeNB. The views expressed here are exclusively those of the author and thus do not necessarily represent the official view of the OeNB.

<sup>2</sup> ) In 2014, SMEs accounted for 99.8 % of all enterprises in the non-financial business sector in the EU28; 93% of SMEs are micro-SMEs employing less than 10 people. See Muller et al, Annual Report on European SMEs 2014/2015, Report for the European Commission, p. 3.

<sup>3</sup> ) For an evaluation of the so-called SME supporting factor see “EBA Report on SMEs and SME Supporting Factor”, EBA/OP/2016/04, 23 March 2016.

These definitions exist alongside each other and serve their specific purpose and their legal foundation sometimes rests at the national level, sometimes at the international/European level. A common feature of these definitions is that the input parameters are basically similar albeit not exactly the same, given the fact that also for these input parameters – employment, turnover, balance sheet total – different definitions exist. These input parameters are used to apply user-specific algorithms to arrive at user-specific classification outcomes. In the context of the calculation of capital requirements for credit institutions, for instance, the European legislation uses an SME-definition that takes into account annual turnover, while the number of employees and balance sheet total are not taken into account.<sup>4</sup>

In Austria, support measures by the government during the financial crisis<sup>5</sup> required a differentiation between SMEs and non-SMEs, it was in this context that the SME-attribute was introduced in the OeNB master data management system in 2009.

For this purpose, the OeNB used the “*Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (2003/361/EC)*” as the basis for implementation of the SME-attribute. The attractiveness of the definition lies in the fact that it encompasses both real and financial variables, that it furthermore takes into account linkages to other enterprises and that it finally provides a European standard and not a purely national one.

### **The elements of the EC-SME-definition**

#### **First element: What is an enterprise?**

“An enterprise is considered to be any entity engaged in an economic activity, irrespective of its legal form. This includes, in particular, self-employed persons and family businesses engaged in craft or other activities, and partnerships or associations regularly engaged in economic activity.” (Art 1)

#### **Second element: What is an SME?**

An enterprise is to be considered an SME if it employs less than 250 persons and if it has an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million. Within the SME category, there is a differentiation between medium-sized enterprises, small enterprises and micro-enterprises (see table 1)

**Table 1**

<b>Enterprise category</b>	<b>Headcount</b>	<b>Annual turnover</b>	<b>Annual balance sheet total</b>
Medium-sized enterprise	< 250	≤ 50 Mio EUR	or ≤ 43 Mio EUR
Small enterprise	< 50	≤ 10 Mio EUR	or ≤ 10 Mio EUR
Micro-enterprise	< 10	≤ 2 Mio EUR	or ≤ 2 Mio EUR

Thresholds according to 2003/361/EC, Art 2

4 ) See REGULATION (EU) No 575/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 June 2013 on prudential requirements for credit institutions and investment firms

5 ) Financial Stability Act („Finanzmarktstabilitätsgesetz – FinStaG“) of 2008; Strengthening of the Liquidity of Enterprises Act („Unternehmensliquiditätsstärkungsgesetz – ULSG“) of 2009.

### **Third element: Applying the basic data to arrive at the enterprise category**

#### **Staff Headcount**

The headcount corresponds to the number of annual working units (AWU), i.e. the number of persons who worked full-time within the enterprise or on its behalf during the entire reference year under consideration. The work of persons who have not worked the full year, the work of those who have worked part-time, regardless of duration, and the work of seasonal workers are counted as fractions of AWU. Apprentices or students engaged in vocational training with an apprenticeship or vocational training contract are not included as staff. The duration of maternity or parental leaves is not counted. The staff consists of: Employees; persons working for the enterprise being subordinated to it and deemed to be employees under national law; owner-managers; partners engaging in a regular activity in the enterprise and benefitting from financial advantages from the enterprise.<sup>6</sup>

#### **Annual turnover**

Annual turnover is determined by calculating the income that an enterprise received during the year in question from the sale of products and provision of services falling within the company's ordinary activities, after deducting any rebates. Turnover should not include VAT or other indirect taxes.<sup>7</sup>

#### **Annual balance sheet total**

The annual balance sheet total refers to the value of a company's main assets.<sup>8</sup>

### **Fourth element: Taking into account relationships to derive types of enterprises<sup>9</sup>**

The SME definition distinguishes between three different types of enterprises. Each type corresponds to a certain relationship that an enterprise could have with another. This distinction is necessary in order to find out which enterprise can be truly considered an SME.

The types of enterprises are:

- “autonomous”: if the enterprise is either completely independent or has one or more minority partnerships (each less than 25%) with other enterprises;
- “partner”: if holdings with other enterprises rise to at least 25% but no more than 50%, the relationship is deemed to be between partner enterprises;
- “linked enterprise”: if holdings with other enterprises exceed the 50% threshold, these are considered linked enterprises.

### **The master data management system of OeNB – OBServ (OeNB-Basisstammdatenservice)**

On the basis of the chosen SME-definition the OeNB implemented the so-called SME-attribute in its master data management system OBServ. OBServ is a databank (with a graphical user interface) based on UNIX-

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<sup>6</sup>) See Art 5 of the Recommendation

<sup>7</sup>) See European Commission, User guide to the SME Definition, 2015, p. 13, referring to the Council Directive 78/660/EEC of 25 July 1978 on the annual accounts of certain types of companies

<sup>8</sup>) See European Commission, User guide to the SME Definition, 2015, p. 13, referring to the Council Directive 78/660/EEC of 25 July 1978 on the annual accounts of certain types of companies

<sup>9</sup>) See European Commission, User guide to the SME Definition, 2015, p. 7

Oracle-Java-technology which encompasses master data of both financial and non-financial enterprises, public entities, associations, funds, natural persons and also of securities. It covers basic reference data and also relationship data. It enables to draw up master data reports on individual entities and on groups of entities.

The data sources are regular and/or ad-hoc data imports from official sources (e.g. the official business register, the statistical office), external data providers and reporting agents (financial institutions). For each data field these sources are prioritized so that the source with the highest priority is integrated into the overall view of the the entity's master data.

The SME-attribute is included in OBServ as an additional classification attribute alongside other classification attributes such as NACE and institutional sector (according to the European System of Accounts). More recently – in the context of the so-called “standardized master data” (“standardisierte Stammdaten –SSD), the SME-attribute is being distributed to reporting agents to allow them to use common classifications as far as their clients are objects of their reporting obligations.

Translating the EC-SME-definition to an algorithm and feeding it with data led to the following results: From the universe of the entities registered in the official Austrian business registry - all in all about 235.000 entities - more than 86 % could not be attributed an enterprise category due to insufficient data. The remaining entities could be categorized among the following categories: “not an SME” (4.5%), “medium-sized enterprise” (0.8%), “small enterprise” (3.5%), “micro-enterprise” (3.6%) and “not relevant/excluded” (1.6%). It will be shown below what conclusions can be drawn from these results.

### **Challenges during implementation**

OeNB tried to implement the EC-SME-definition as rigorously as possible. As will be shown, this is, however, not a trivial task. Moreover, the data required to “feed” this definition are potentially incomplete. The issues which needed to be solved – some of them still constitute challenges – were the following:

#### **Firstly, the perimeter of enterprises to be classified – the role of financial entities and holding companies**

The EC recommendation defines as an enterprise “any entity engaged in an economic activity, irrespective of its legal form ... An economic activity is usually seen as the ‘sale of products or services at a given price, on a given/direct market’”.<sup>10</sup>

Basically, every entity (domestic and foreign) engaging in an economic activity and registered in OBServ is eligible to get the SME-attribute, thus private persons or public entities which do not engage in an economic activity are not eligible. Given the wording of the recommendation financial enterprises would – in principle - be eligible as an SME, as there is no explicit statement in the recommendation that financial enterprises are to be excluded from the definition. The overall context of the SME discussion (and the phrasing in the recommendation), however, clearly suggest that only enterprises from the non-financial sector of the economy are of interest. The attribution of an SME-attribute to financial entities thus needs to be excluded from the outset or alternatively such entities can be attributed a value “not relevant/excluded”. Input data from financial entities are, however, to be taken into account in their capacity as a “partner” or a “linked enterprise” for the definition of the enterprise category.<sup>11</sup>

Another issue is holding companies which like financial institutions are – in principle – encompassed by the EC-SME-definition. If they are not excluded in the algorithm and if relationship data are missing holding companies potentially are wrongly considered as SMEs because they often only have very few staff (sometimes zero) and moreover only a small turnover (but a big balance sheet total).

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<sup>10</sup>) See European Commission, User guide to the SME Definition, 2015, p. 9

<sup>11</sup>) This required a decision what – at a bank - corresponds to annual turnover. What was chosen was the financial revenue (with at its core the net interest income).

## **Secondly, the lack of sufficient basic data leading to the need to broaden the value range of the SME-attribute**

In implementing the SME-attribute it was useful to extend the range of values from the three values stated in the SME-definition “medium-sized enterprise”, “small enterprise” and “micro-enterprise” by three more values. The following additional values were included: “not relevant/excluded”, “insufficient data” and “not an SME”. Ironically, as will be shown later, the last value is the most reliable one.

The value “*not relevant/excluded*” was introduced to accommodate all cases where in principle an SME-attribute would be attributable but where such an attribution would not make sense (the case of financial enterprises) or where the EC-recommendation explicitly rules out the attribution. This is the case for enterprises “... if 25% or more of its capital or voting rights are directly or indirectly owned or controlled, jointly or individually, by one or more public bodies.”<sup>12</sup> In implementing this rule, central and regional governments as well as local authorities and public entities have been taken into account in the algorithm. The exceptions for public investment corporations, public universities, regional development funds and autonomous local authorities with an annual budget of less than EUR 10 million and fewer than 5.000 inhabitants could, however, not be implemented in the algorithm (simply due to a lack of data). Thus, it could well be that a company receives the SME-attribute “not relevant/excluded” instead of being categorized as an SME despite the fact that it is owned by a small municipality with e.g. 3.000 inhabitants (simply because in OBServ there is no information on the number of inhabitants of the municipality available). A cautious approach when interpreting the results is thus justified.

The value “*insufficient data*” refers to situations where a classification cannot be made because relevant basic data (headcount, turnover, balance sheet total) are not available. Given the basic algorithm (see table 1) in some instances two out of the three data categories are enough (e.g. an enterprise with 100 employees and an annual turnover of 40 million EUR qualifies as a medium-sized enterprise), sometimes not: e.g. if for the same enterprise employment data are available plus balance sheet data, let’s assume 60 million EUR. As the 60 million are above the relevant threshold for an SME, the information on the 40 million EUR-turnover, however, is missing, no statement can be made.

The value “*not an SME*” was introduced as an additional value to express explicitly that we are dealing with a big enterprise. This value is attributed to every entity where there is enough information available to arrive at the conclusion that an entity is not an SME because the relevant thresholds have been surpassed.

In the context of insufficient basic data, one of the teething problems was that in some instances data wrongly contained the value “0” instead of “not available”. While in some sources data were available indeed, they were not used because these sources had a lower priority to another source which wrongly contained the value “0” instead of “not available”. This led to instances where enterprises which were non-SMEs would receive an SME-status. To avoid false positive statements, data sources needed to be checked as to correctly reflect the different meaning of “0” and “not available” respectively.

Another issue pertaining to insufficient data is that in cases where only two instead of three data categories are used, the delineation within the SME-categories might be less clear-cut than the delineation between SMEs and non-SMEs. If for instance there are data for the staff number and for annual turnover but not for the annual balance sheet total, the enterprise is possibly shown as a “small enterprise” while in fact it is a “micro-enterprise” (because the annual balance sheet total could be below the threshold of 2 mio EUR). The fact that only two instead of three data categories were available for the calculation of the SME-attribute is worth being highlighted to the users.

## **Thirdly, the problem of “missing links” - lack of relationship data – risk of false positives**

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<sup>12</sup>) See European Commission, User guide to the SME Definition, 2015, p. 19

A more general problem is constituted by lacking relationship data which may lead to an underestimation of the basic data used for the calculation of the SME-attribute. While OBServ takes data from numerous sources and composes them to an integrated view it is probable that a clear cut differentiation between the different values within the SME-category (i.e. between micro-enterprise, small enterprise and medium-sized enterprise) is more error-prone than the statement that an enterprise is a non-SME, simply because relationship information on partner enterprises or linked enterprises is missing. The OBServ-algorithm can take missing data only in so far into account as we are aware of the fact that data are missing (i.e. when we have the linked entity registered in our system, but there are no basic data available, for whatever reason). In this case the value “insufficient data” is attributed. If, however, the information on a relevant capital link between two enterprises is missing, the enterprises might be wrongly attributed an SME-status. This is the worst outcome, i.e. the making of a false positive statement on the enterprise category. Unfortunately, these cases can never be completely excluded, which is why any statement on the enterprise category “micro”, “small” and “medium” is less robust than the statement “not an SME”.

The spotting of linkages between enterprises needs to be based – inter alia – on information on voting rights and on “dominant influence”. Because this information is not readily available and not prone to automatic processing, capital shares are used instead. This again is only an approximation to reality (as good as it gets).

#### **Fourthly, the issue of timeliness**

The basic data as well as the relationship information have different degrees of timeliness ranging from daily to yearly updates from data sources. With data flowing in at different points in time over the course of a year, it was decided to run the calculation of the SME-attribute once a year using the data which pertain to one and the same specific year.

It is worth pointing out that the timeliness of basic data will be increased to a considerable extent as of 2018 as reporting agents will be required to report the basic data for the calculation of the SME-attribute as well as their assessment of the enterprise category in the context of European credit reporting.<sup>13</sup> The transmission of the updates of these reference data must occur no later than the monthly transmission of credit data. Given the continuous monitoring of debtors during a credit relationship the quality of the basic data is expected to increase.

Moreover, it may then be useful to increase the frequency of the calculation of the SME-attribute from once a year to perhaps 4 times a year.

#### **Conclusions**

The implementation of an SME-attribute in a master data management is all the more challenging the more elaborate the definition of an SME is (such is the case of the definition in the recommendation by the European Commission). The complexity of definition needs to be mirrored by the algorithm, and data sources which very often are insufficient as to their coverage and to their timeliness have to be managed.

There is a clear trade-off: the more complex a definition/an algorithm is (and thus the more demanding in terms of data), the lesser is the probability that a statement regarding the enterprise category can be made. To achieve a higher “turnout” (i.e. a greater number of results) one could consider the introduction of an alternative, simplified definition, which would use only one input parameter, such as annual turnover, instead of three. This is the parameter which is used in the context of the EU capital requirements regulation<sup>14</sup>. Another option would be to increase the number and timeliness of data sources. Both options are currently considered within the OeNB.

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<sup>13</sup> ) See REGULATION (EU) 2016/867 OF THE EUROPEAN CENTRAL BANK of 18 May 2016 on the collection of granular credit and credit risk data (ECB/2016/13)

<sup>14</sup> ) See REGULATION (EU) No 575/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 June 2013 on prudential requirements for credit institutions and investment firms

Regardless of the options pursued, what seems important is that statistical users are helped in their awareness that results are only an approximation to reality and that they should take care in interpreting the data. Analysts must thus be assisted in the use of data and made aware of shortcomings. Providers of master data products must give an assessment of the algorithm and the data and their respective limitations and qualifications. For instance, the value “micro-enterprise” (which potentially is a “small enterprise”) is not as robust as the value “not an SME”. In particular, providers must make clear in what respect the algorithm deviates from the official definition; transparency is crucial also as far as the data used are concerned, in particular with regard to timeliness. Due to resource constraints, however, shortcomings of basic data will never be eliminated completely, but they can be managed in an adequate way.