Integrating reference data for monetary policy and supervisory purposes - The European System of Central Banks (ESCB) experience

Sara Thijs and Sandrine Corvoisier[1]

Abstract

After implementing the Single Supervisory Mechanism (SSM), the integration of high quality reference data for both monetary policy and supervisory purposes in one platform at the European Central Bank (ECB) became eminent. To this end the "Register of Institutions and Affiliates Database" (RIAD) is used for jointly identifying and storing the respective reference data [enabling harmonisation of statistical tools to support policy making]. This paper first describes the integration of ESCB relevant reference data employing RIAD as a repository. Next it sheds light on the needs and general requirements of the SSM with regard to the SSM population and reference data. Finally it describes some ongoing challenges of preparing RIAD as a repository to fulfil the SSM requirements.

Keywords: Reference data – Data integration – RIAD – Monetary policy – SSM – Banking supervision – Supervisory data – Prudential scope - ESCB – Financial Institutions – Data provision – Data governance

Contents

1. Introduction

After implementing the Single Supervisory Mechanism (SSM), the European Central Bank (ECB) – so far mainly responsible for monetary policy – together with the National Competent Authorities (NCAs) started carrying out supervisory tasks on the basis of the SSM regulatory framework[2] in order to safeguard the safety and soundness of the European banking System. Subsequently the integration of high quality reference data for both monetary policy and supervisory purposes in one platform at the ECB became eminent. Most prominent benefits entail avoiding a disconnected view on information, increasing transparency, efficiency and effectiveness by reviewing and aligning current data provision and validation processes, and reducing operational as well as reputational risk. To this end the "Register of Institutions and Affiliates Database" (RIAD) is used for jointly identifying and storing the respective reference[3] data enabling harmonisation of statistical tools to support policy making.

This paper first describes the integration of ESCB relevant reference data employing RIAD as a repository. Next it sheds light on the needs of the SSM with regard to the SSM population and reference data. Finally it describes some ongoing challenges of preparing RIAD as a repository to fulfil the SSM requirements.

2. The integration of ESCB relevant reference data

With respect to the collection, management and dissemination of reference data describing organisational units that appear as counterparties in various business contexts, the European System of Central Banks (ESCB) has set up a central repository. RIAD is a system operated by the ECB and jointly maintained by all members of the European National Central Banks and/or National Competent Authorities. It integrates and comprises the collection, dissemination and publication of several sets of reference data on (financial) institutional units that are essential for statistical departments and other user areas, predominantly market operations.

Based on RIAD the ECB publishes on its website[4] various lists of financial institutions such as Monetary Financial Institutions[5] (MFIs), Investment Funds (IFs), Financial Vehicle Corporations (FVCs), Insurance Corporations (ICs), etc., and holds information on holding companies and head offices. These lists represent the

---

[2] SSM Regulation and SSM Framework Regulation

[3] In the context of RIAD reference data refers to characteristics of financial institutions that are deemed to be stable over time, for example identification and address related characteristics, type, size and economic activities of the institution etc.

[4] List of Financial Institutions on the ECB's website

[5] As defined by ESA Sectors S.121, S.122 and S.123. The European System of National and Regional Accounts (ESA 2010) is an internationally compatible EU accounting framework for a systematic and detailed description of an economy (ESA website including a reference to the regulation).

authoritative and complete definition and description of several relevant reporting populations. In addition, RIAD allows monitoring demographic developments in these different populations. Further as RIAD processes information on (ownership) relationships between entities, it has become a pivotal tool for the analysis of various types of banking groups and financial conglomerates.

2.1.   Data model

RIAD covers an extensive set of reference data that can be classified into four categories:

1.   Identification variables that provide different types of information to identify a unit, covering 'identifier' codes as well as other descriptive variables such as name or address;

2.   Stratification variables such as industry activity, institutional sector or size, usually employed for selecting or shaping fields of enquiry or reports and taking samples;

3.   Demographic variables, describing the lifespan of a unit, essentially 'date of creation' and 'date of closure' and information on mergers or splits;

4.   Variables describing the relationships between units (such as 'ownership' or 'control') which serve as building blocks to construct group structures.

For each value of an attribute a validity range needs to be provided. This allows for full historisation of data and retrieving snapshots of freely chosen points of reference dates.

2.2.   Data provision and governance framework

The RIAD application allows different stakeholders to provide data on all or subsets of entities, covering all or a subset of attributes to perform data quality management, and subsequently make up-to-date information available to end-users. To ensure the successful operation of the RIAD application on an ESCB-wide scale, the rules on the provision and management of the data stored and processed were defined. This framework defines the actors, roles and responsibilities of each involved stakeholder and interaction(s) of RIAD with other datasets.

Currently National Central Banks (NCBs) act as the main gateway to RIAD for data on financial institutions. However, RIAD also allows for other organisations to take over the responsibility for subsets of data e.g. NCAs are technically able to link up to RIAD. To ensure a local coordination of updates and overall consistency regarding the sourcing and management of reference data, each NCB has set up a national 'hub'.

Within the national hubs data providers and data quality managers are the pivotal actors to set-up and maintain RIAD. Each national hub is supposed to have the most correct view on which data sources should be used for the various sectors and attributes, which means that statisticians are not necessarily the only actors responsible for the availability and quality of data. National arrangements may be based on combining or merging information from different business areas (e.g. statistics, supervision, market operations, or payments and market infrastructure, etc.).

To cater for this RIAD is designed in such a way that it can process input from multiple 'candidate contributions'. For each attribute national data quality managers can specify a hierarchy of these candidate contributions. Eventually all input will be condensed into a single 'authoritative' set of reference data[6].

3. New features introduced by the Banking Supervision domain

Since the start of the operation of the ECB Banking Supervision in November 2014, the SSM is responsible for the supervision of around 4,700 entities within participating Member States[7]. The respective supervisory roles and responsibilities of the ECB and the NCAs are allocated on the basis of the significance of the supervised entities. The ECB directly supervises all institutions that are classified as a 'significant institution' (SI) with the assistance of the NCAs. The day-to-day supervision is conducted by Joint Supervisory Teams (JSTs), which comprise staff from both NCAs and ECB. 'Less significant institutions (LSI)' are directly supervised by the NCAs[8].

To serve stakeholders within this new function various data sets have been developed in different business areas throughout the ECB. As a basic principle, supervisory data, including reference data, is collected by NCAs and validated by several teams within the ECB.

As the ECB Banking Supervision needed to be operational very fast, the respective data collection processes had to be rapidly implemented, most of the time via short-term solutions. Reference data for example was compiled via various tools spread over different teams (i.e. through an intensive use of MS Excel sheets). There was urgency to alleviate the burden on supervisors (both at ECB and NCAs) from cumbersome processes, and to on-board all involved stakeholders in a holistic way to ensure coordinated data sourcing and reliability of data. The backbone in ensuring coherence among all systems and processes is a comprehensive repository for reference data.

Consequently, as RIAD was an existing ESCB wide reference data platform serving user needs beyond the statistical domain, it was the logical candidate to be used as a single repository of supervised institutions containing a comprehensive set of SSM related reference data.

---

[6] For example, for the 'address' attribute the NCB typically assigns the input from the statistical domain as the highest in rank among all potential contributions from various stakeholders. In case a value is entered by both the statistical domain and the marketing operation domain, the value from the statistical domain will prevail and the authoritative value of the 'address' attribute will be the one from the statistical domain.

[7] A Member State is a country that is part of the European Union

[8] More information can be found on the ECB Banking Supervision website.

## 3.1.   New attributes for supervisory purposes

Several reference data attributes that are required for supervisory purposes were already collected for statistical purposes e.g. name, start date of an entity, close date of an entity. These attributes needed to be fine-tuned in their definition so as to be properly used by all involved stakeholders.

Further a new set of attributes needed to be added. To identify main characteristics of the supervised entities attributes describing the significance, position and type of the institution according to the SSM regulation were collected. Further attributes describing the reporting requirements including waivers granted to the institution were added. The latter serve as the metadata for supervisory reporting data collection and provide information on what data the institution is obliged to report for COREP and FINREP (Common Reporting and Financial Reporting).

3.2.   The supervisory relevant population

RIAD started in 1999 with a focus on the list of MFIs[9]. This is why the SSM relevant population substantially overlaps with the institutions already recorded in RIAD, especially when it comes to financial institutions within the Euro Area. With a few exceptions, the credit institutions of relevance for supervisory information, SI or LSI, constitute therefore a sub-set of the financial institutions relevant for monetary statistics.

In the SSM Framework Regulation, the types of supervised entities are referred to as (1) credit institutions established in a participating Member State, (2) branches established in a participating Member State by credit institutions which are established in non-participating Member States, (3) financial holding companies established in a participating Member State and (4) mixed financial holding companies established in a participating Member State. The graph below provides an indication of how the 1,203 SIs and 3,336 LSIs[10] are divided over the four types. In fact the majority of the population are credit institutions (78% in case of SIs and 88% in case of LSIs). With only a few cases the mixed financial holding companies comprise a minority.

Types of supervised entities

legend: ■ (1) Credit Institution   ■ (2) Branches   ■ (3) Financial Holdings   ■ (4) Mixed Financial Holdings

---
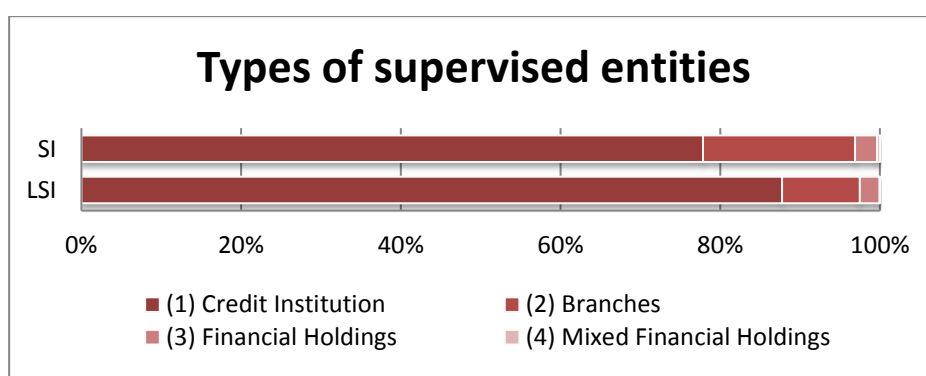
[9] In accordance with the Regulation (EU) No 1073/2013 of the ECB of 24 September 2013 concerning the balance sheet of the monetary financial institutions sector (recast ECB/2013/33) completed with the latest Guideline of the ECB of 4 April 2014 on monetary and financial statistics (recast ECB/2014/15)

[10] As of 31/03/2016

The following table shows how the supervisory population is mapped against the ESA 2010 sectors[11] classification in RIAD. Generally one can spot a large correspondence between the two classifications (implying both categorizations classify the institutions similarly), yet some discrepancies exist between how the entity is classified for statistical purposes (according to ESA 2010) and how the entity is classified according to the SSM framework. These discrepancies are challenged and subject to clarifications where necessary i.e. potential inconsistencies in either of the two classifications are analysed.

ESA 2010 Sector classification versus Type of supervised entities

Table 1

ESA Classification	Deposit taking corp. except the Central Bank (S.122)	Other Financial Intermediaries except Pension Funds and Insurance Corp. (S.125)	Financial Auxiliaries (S.126)	Captive Financial Institutions and Money Lenders (S.127)	Other
Type of supervised entity					
1. Credit Institution	84.47%	0.53%	0.11%	0.02%	
2. Branches	12.06%	0.09%	0.02%		0.02%
3. Financial Holdings		0.11%	0.89%	1.31%	0.24%
4. Mixed Financial Holdings			0.04%	0.04%	0.02%

3.3.   The supervisory group perimeter

In the context of the SSM it is necessary to identify 'group structures' of supervised entities based on the prudential scope. Compared to the accounting consolidation scope (originally chosen for RIAD) the prudential consolidation scope differs in several ways. Whether an entity is subject to consolidated supervision depends on its activities or licences, the type and the location of the entity. Further, while the accounting consolidation usually only takes relationships based on capital control into account, group structures for supervisory purposes also include voting rights or management agreements.

Within the prudential consolidation scope, different levels of consolidation might apply, implying that different group structures need to be modelled in a repository used for managing the respective reference data. For instance the group perimeter of the supervised entities might differ from the group perimeter of the entities subject to prudential reporting because of a different treatment of the highest level of consolidation. Also, group structures for feeing purposes entail a different treatment of financial holdings. Additionally, group perimeters including

---

[11] More information on ESA can be found in footnote 3

non-supervised entities are also of interest and several sub-consolidation levels exist[12].

For SSM purposes RIAD currently collects for all supervised entities the <u>direct supervised parents</u>, the <u>ultimate supervised parent</u> *within the SSM* and the ultimate supervised parent *outside the SSM*, also referred to as the 'SSM relationships'. Additionally, information on the position of the supervised entity in comparison to other supervised entities of the same group is collected. However, these SSM relationships do not hold any further information on the respective relationships (e.g. the share percentage in case of a capital ownership and whether the relationship is direct or indirect).

The graph below exemplifies how the conceptual 'SSM relationships' map to normal 'capital ownership relationships' (possibly provided to RIAD in the context of other business purposes). It demonstrates the gap between the two views and how combining them can be insightful and allows for grasping ownership structures between entities in the prudential scope.
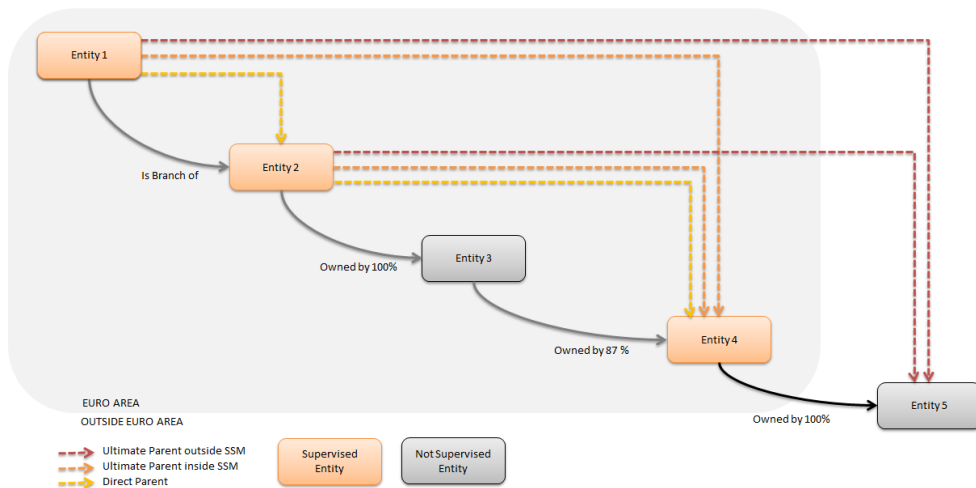
While the direct parent in supervisory context may reflect one direct capital ownership relationship (Entity 1 versus Entity 2), it may also represent a chain of direct ownership links (Entity 2 versus Entity 4). In case Entity 3 is a corporate subsidiary, it is relevant for accounting consolidation because it controls Entity 2 and is controlled by Entity 4, however, as it is not a supervised entity it is not included in the prudential perimeter.

Further, as the ultimate parent according to the concept of control is not necessary subject to consolidated supervision – when the institution is not residing in an SSM member state (Entity 5) – the SSM relationships distinguish between an ultimate parent inside and outside the SSM perimeter. In the example of the graph, the highest prudential scope of consolidation is based on Entity 4.

---

[12] For instance liquidity sub-consolidation: as defined by the <u>Capital requirements regulation and directive (CRR/CRD IV)</u> liquidity specific sub-consolidation is triggered by a granted waiver (CRR 8.2 and CRR 8.3) and waives the solo liquidity application on those entities. Upon granting the waiver, several institutions within the European Economic Area (EEA) or within the same Member State, form a single liquidity sub-group for the purpose of meeting CRR liquidity requirements.

4. Challenges triggered by supervisory data needs

This section zooms further in some pending challenges related to integrating the SSM reference data in RIAD.

4.1. Host versus home approach

As a basic rule the data provision on reference data in RIAD follows the **host principle** i.e. all hubs are responsible for correct data provision on entities that reside or are registered within their country, including resident branches of foreign headquarters. More specifically, it is even technically not possible for users to edit entities outside their jurisdiction, for example, an Italian user (either from NCB or NCA) can only edit reference data of entities residing in Italy and cannot upload reference data for a Belgian entity. A link exists between the host part in the RIAD Code[13] and the institution of the acting user.

NCAs, however, collect and manage supervisory data based on the **home principle** i.e. they are responsible for data of the institutions they supervise. The supervising NCA, residing in the country of supervision, can be different from the NCA residing in the country of residence of the entity[14]. Technically the NCA can today not update reference data for these non-resident institutions in RIAD. As a short-term solution, the ECB intervenes in these cases and uploads the supervisory reference data in RIAD on behalf of the country of supervision. As a long-term solution, RIAD would need to adapt its data provision principles in such a way that in case the country of supervision differs from the country of residence, a user in the country of supervision would be able to view and edit a set of supervisory reference attributes. Since this solution goes against one of the basic principles of RIAD, technical implications on accessibility, combining data from various sources and confidentiality, as well as implications on the governance and data provision framework are being studied carefully.

4.2. Confirmation and approval of data

One of the main purposes of maintaining the 'significant' and 'less significant' institutions and their reference data in one repository is the publication of the list of SIs and LSIs on the ECB's website. All amendments to the respective SSM reference data (including joiners or leavers of SIs and LSIs) have to pass several steps of formal confirmation before they are recognised as being publishable in the official lists. Amendments initiated by NCAs must be confirmed by the responsible person(s) at the ECB and most of them must also be approved by the Supervisory Board (SB) and or Governing Council (GovC). Depending on the type of amendment several pre-approval or pre-publishing stages are excluded.

---

[13] Every entity in RIAD needs to be identified with a unique RIAD Code. The first two digits of this RIAD code represent the two digit ISO country code, i.e. the host. The second part of the RIAD Code is a freely chosen string code that is owned by the national hub. For instance IT546389, BE0009AB2674.

[14] For instance subsidiaries of significant supervised groups established in a non-participating Member State or a third country are required to report supervisory financial information as of 30 June 2016.

While currently data recorded in RIAD is viewed as 'final' to be used in reports or for publishing, the procedures for updating reference data on SIs and LSIs bring in a new concept of approval or confirmation of data. Different approval or confirmation procedures apply within the various ECB business areas and this should be reflected in the governance framework. When describing data provision of SSM reference data, processes for data input and processes for confirmation or approval of amendments should be separated. Further the repository should technically be prepared to allow for indicating whether an amendment in data is approved or not.

4.3. Start and end date of reporting requirements

To every value of an attribute in RIAD a 'validity range' is assigned, marking a start and an end date of a specific value. The current philosophy in RIAD is that there can be no values for attributes before the 'birth date' of the entity and after the 'close date' of the entity. Traditionally for statistical purposes this birth date and close date represent the timespan of legal incorporation of the entity.

In practice it appeared that the validity range of supervisory reporting requirements does not always fall within the lifespan of the entity for statistical purposes. A typical example relates to corporate actions. Institutions might be allowed/are required to report supervisory data for an entity after it has been merged into another entity[15]. Legally the merged entity should already be deregistered and thus closed in RIAD, but, for supervisory purposes the reporting requirements metadata need to be recorded in the repository after the legal close date of the merged entity.

Because the two views on the lifespan of an institution cannot always be reconciled, a proposed solution currently under review is to add in addition to the current birth and close date (referred to as the *administrative* birth and close date), an *operational* birth and close date that might lie outside the legal lifespan of an entity. This will allow for specific sets of attributes to be attached to an entity in this additional timespan.

4.4. Confidentiality of SSM related information

Due to the sensitivity of SSM related information, the SSM stakeholder required the reference data specific for supervisory purposes to be hidden from users outside the supervisory domain. To this end a more granular approach towards access rights and confidentiality in RIAD was needed.

The existing user roles define the access rights to information on entity level, implying a limitation on the viewing and editing rights to a specific set of entities. For instance NCBs can only edit entities within their jurisdiction. Complementary to the existing user roles, a new set of 'SSM' user roles specifying viewing and editing rights on attribute level was created. Consequently only users granted an SSM user role can view and/or edit the set of reference data specifically recorded for supervisory purposes.

---

[15] For example two entities A and B closed and merged into a new entity C. Entity A and entity B are allowed to report separately for a few months.

The limitation of viewing rights for specific sets of attributes increases the complexity of governance. Traditionally the statistical departments within NCBs are responsible for creating and closing down entities, registering corporate actions, etc. In case these users are not granted an SSM role, they would not be aware of the presence of reference data for supervisory purposes while performing data quality management tasks. (In the worst case they might for instance close an entity that is still relevant from a supervisory perspective, hereby unknowingly removing metadata for reporting requirements.) To deal with this extra complexity users should be made aware in case of an event impacting reference data not visible to the respective user. Technically one could think of means such as automatic warnings to cater for this.

5. Conclusions and way forward

This paper illustrated the urgency of integrating reference data for monetary and supervisory purposes. It described the specific characteristics of supervisory reference data and exposed various challenges intrinsic to integrating this reference data in an existing repository.

It was demonstrated that next to technical enhancements, a sound governance framework is the backbone of successful integration. Therefore, the process of integrating reference data entailed shedding light on the various data provision processes of supervisory reference data. To this end a collaboration between all involved stakeholders was set up to (1) identify and describe current processes, (2) detect inconsistencies in data and redundancy of procedures, (3) discover opportunities for improvement and (4) employ this knowledge to consent on a coordinated and integrated approach that can be incorporated in the governance framework of the repository.

Expectations are that RIAD will continue to on-board new stakeholders. For instance RIAD will host the reference data of several millions Non-Financial Corporations (NFCs) reported to the forthcoming Analytical Credit Dataset (AnaCredit)[16]. In this context incorporating SSM reference data was a valuable learning opportunity on how to efficiently cope with challenges intrinsic to integrating reference data for divergent purposes, serving numerous systems. It allowed for continuing the work towards building a holistic repository serving as a data integrator between various datasets and data sources within the ESCB.

---

[16] More information on AnaCredit can be found on the ECB's website (also containing a reference to the AnaCredit Regulation)

References

ECB Banking Supervision website (2016), Guide to Banking Supervision, available at https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssmguidebankingsupervision201411.en.pdf.

European Central Bank (2014), Guideline (EU) No 810/2014 on monetary and financial statistics (recast) (ECB/2014/15).

European Central Bank (2014), Regulation (EU) No 468/2014 of the European Central Bank of 16 April 2014 establishing the framework for cooperation within the Single Supervisory Mechanism between the European Central Bank and national competent authorities and with national designated authorities (SSM Framework Regulation) (ECB/2014/17), ECB, Frankfurt.

European Council (2013), Council Regulation (EC) No 549/2013 on the European system of national and regional accounts in the European Union (ESA 2010), EC, Brussels.

European Parliament and Council (2013), Regulation (EU) no 575/2013 of the European parliament and of the council on prudential requirements for credit institutions and investment firms and amending Regulation ((EU) No 648/2012), EC, Brussels.

European Parliament and Council (2013), Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC, EC, Brussels.

European Council (2013), Council Regulation (EU) No 1024/2013 of 15 October 2013 conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions, EC, Luxembourg.

Inter-Agency Group (2015), IAG reference document - Consolidation and corporate groups: an overview of methodological and practical issues, AG, October.

Neudorfer, Peter (2010), "The role of administrative sources in the ECB's 'Register of Institutions and Assets Database' (RIAD)", 22nd Meeting of the Wiesbaden Group on Business Registers, Wiesbaden, September.