



Exchange and analysis of reporting data

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1. Introduction

This document presents the possibilities of the use of axSIS system, especially the possibility of exchanging data in the XBRL format between the banks and their application in the analysis of their mutual transactions (e.g., limits of loans, etc.).

2. The axSIS system appliances

The axSIS system has been originally developed to support the collection, analysis and storage of XBRL reports coming from multiple entities.

The system enables importing the XBRL instances and visual display of contained data in tabular form and thus gives the possibility to review and analyze all reports including both the internal ones and those received from other entities.

axSIS enables many variants of data analysis and may be applied to facilitate a variety of processes, including the following:

- one-by-one review of the reports
- analysis of a single report structure
- cross sectional concurrent analysis of values from many reports
- analysis of changing values dynamics
- composition of statistics based on data sets
- score comparison of the reports – the possibility of complex analysis of the variables

All of the methods described above are executed with the use of generated analytical reports.

Creation of analytical reports

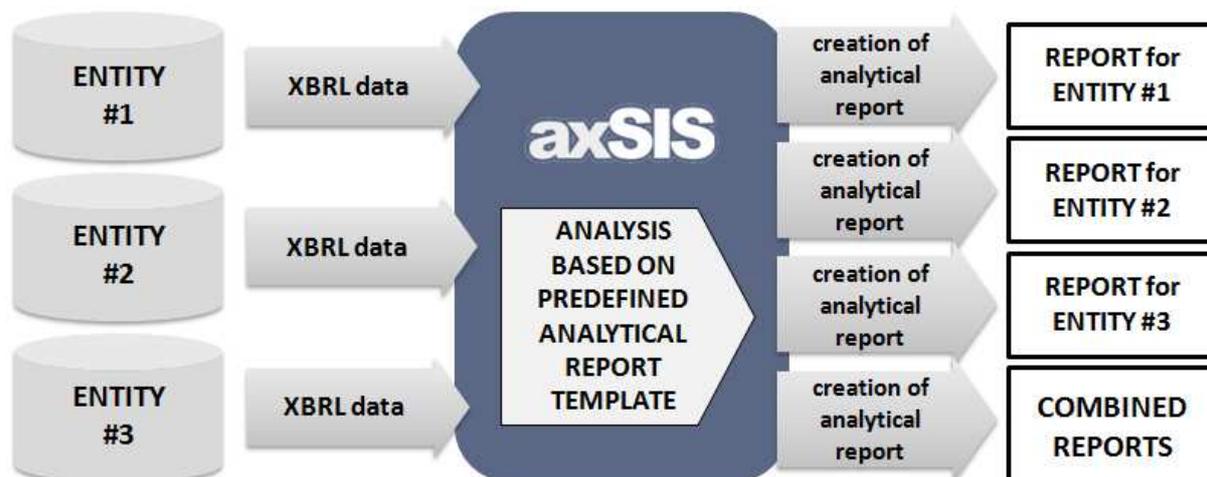
The automation of data analysis based on predefined analytical reports is one of the undoubted advantages of the system.

axSIS enables the application of predefined templates of analytical reports to any set of data containing the analyzed variables. The analytical reports may be based on any ratio or index required by the user. Defining of the templates takes only several easy steps:

- selection (in visual form) of “facts” from the scope of reports data (carried out by clicking the desired cells on the table of a report),
- definition of the expression based on the facts (e.g., sum or any other function of algebraic expression),

- saving of defined analytical report template – from that moment on the template is always available to the user and thus enables him to generate an analysis based on the template and any required set of data.

Basing on a predefined template, it is possible to generate analytical report for a single statement or an aggregated report containing data from few statements.



Picture 1. Creation of analytical reports in axSIS system

axSIS gives the possibility to adjust the generated analytical reports to preferences of the user and the needs and standards required in a specific situation.

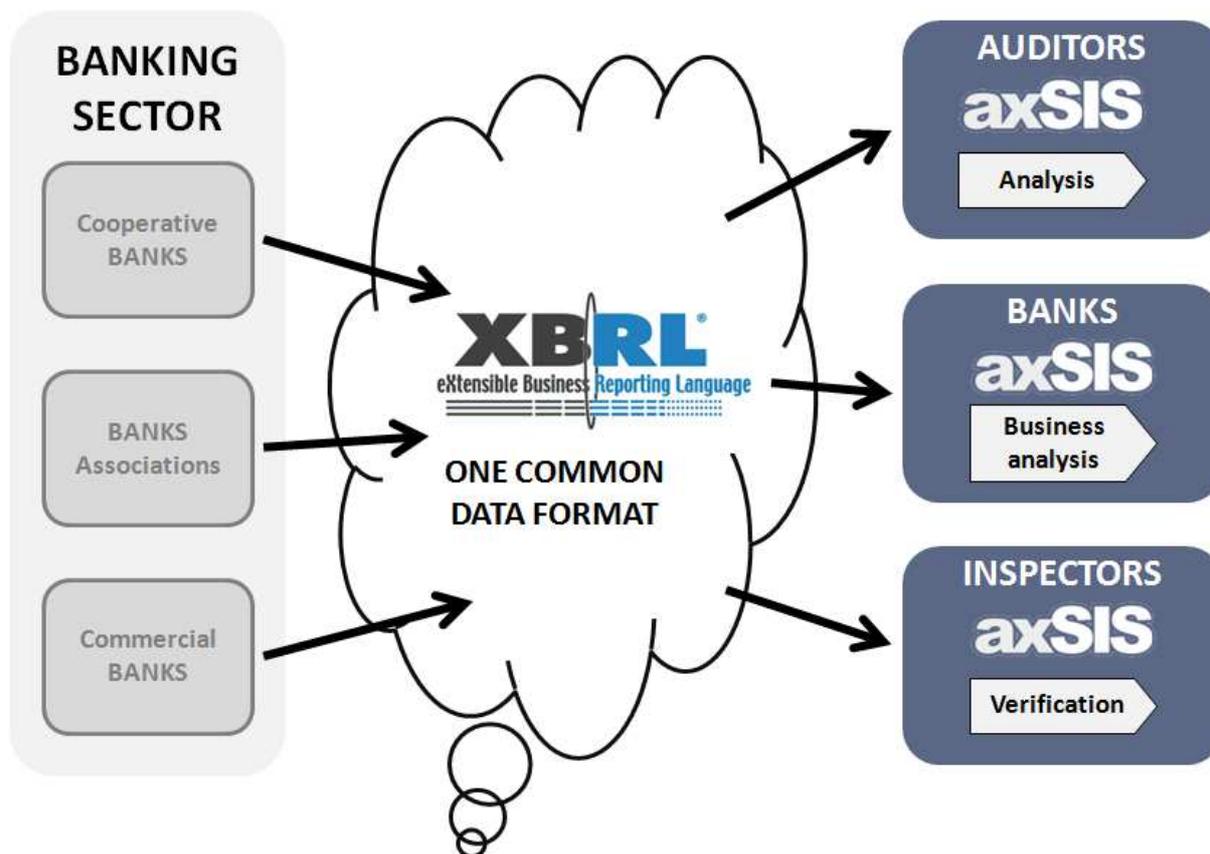
The report adjustment is carried out through:

- selection of types of labels (columns and rows of the data)
- adjustment of the chart (bar chart, line graph)
- possibility of changing the report layout (transposition of columns and rows)

Moreover, any report can be exported to one of most popular formats (.csv, .xls – Excel file) or printed out directly from axSIS (the printout parameters may also be adjusted).

Application of axSIS by different users

According to its functionality and data formats available, the axSIS system is a perfect tool for banking data analysis, including especially the full range of obligatory COREP and FINREP reports. Thus, it is an ideal solution for auditors, inspectors and also for the banks themselves.



Pictures 2. The possible usage/application of axSIS by different entities

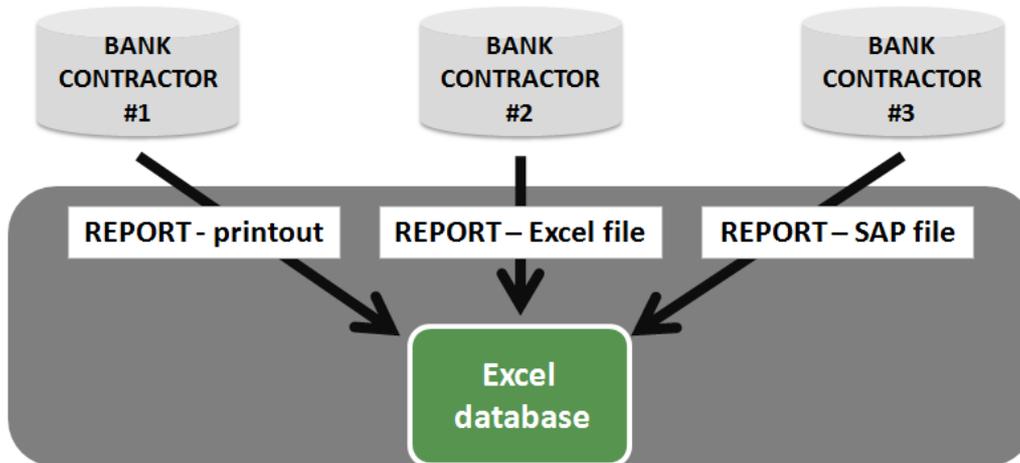
With respect to its outset, the axSIS system is dedicated especially to banks, which are in demand of both the internal and external data analysis. It means they need to carry out certain internal control processes and also need to watch the market and their business partners.

The important issue is that the banks have already implemented reporting systems which generate the data instances in XBRL format. These are modern reporting systems, developed in accordance with European directives and national legislations concerning generating XBRL statements for the banking sector supervisors.

3. Data exchange between banking sector entities

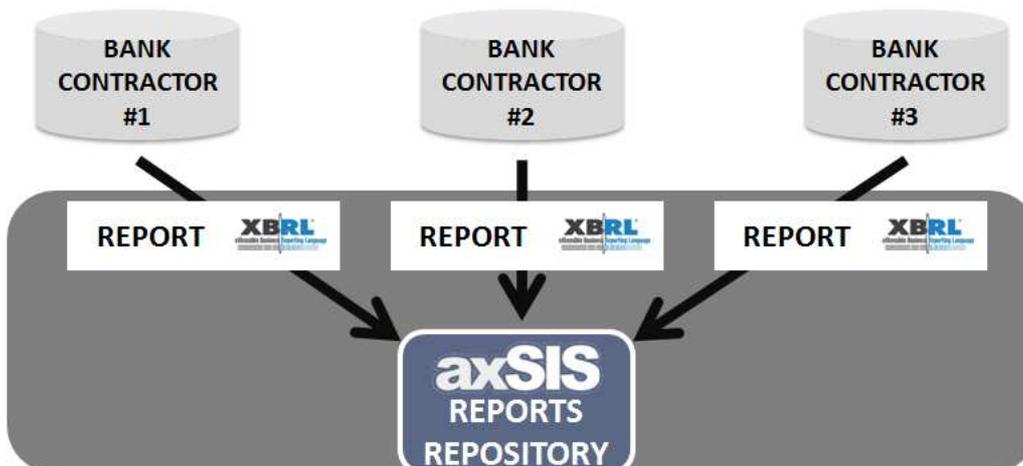
Most of the banks cooperate with other banks by providing or obtaining interbank loans, etc. This type of transactions requires specific knowledge of the contractors obtained from one another. The best solution seems to be using the standard and already prepared statements, generated anyway for banking sector regulators. This solution guarantees the use of common conceptual basis necessary to build one coherent model.

At present, banks still exchange information via many different channels and use many different formats. This makes it very inconvenient to collect and store different file formats and it is much more difficult to find a sensible method of analysis and assessment of data.



Picture 3. Current system of data exchange which requires extra work for data unification

There is no reason why the XBRL reporting systems should not be reused for other purpose. The same systems with small additional component can be applied to review and analyze data received from other banks. The banks' effort to prepare, implement and use the reporting system remains the same but the result is multiplied.



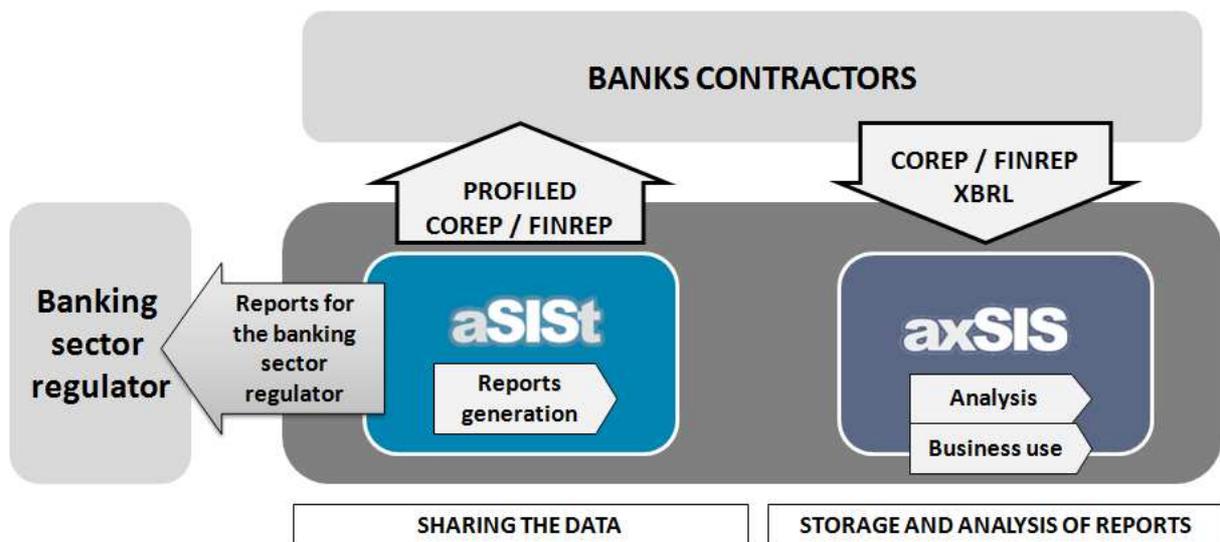
Picture 4. Possible system of data exchange with the use of XBRL based axSIS analysis module

Exchange of obligatory reports data

The exchange of FINREP and COREP reports requires one to (fulfill basic assumptions):

1. Making one's own reports available to other banks/contractors.
Sharing all information included in the reports is not recommendable due to the confidentiality of some data. Thus it is necessary to profile the XBRL report what is possible in aSIS reporting system.
2. Receiving and storage of the reports coming from other entities.
The reports need to be stored in one common database. This is possible thanks to axSIS built-in repository designed for this purpose.
3. Creating the analysis model.
The analysis should be easily generated based on data contained in the reports stored in axSIS repository.

The picture below presents the possible solution which fulfills all described above requirements.



Picture 5. The system which allows the Bank to carry out an analysis of the contractors based on standard XBRL reports

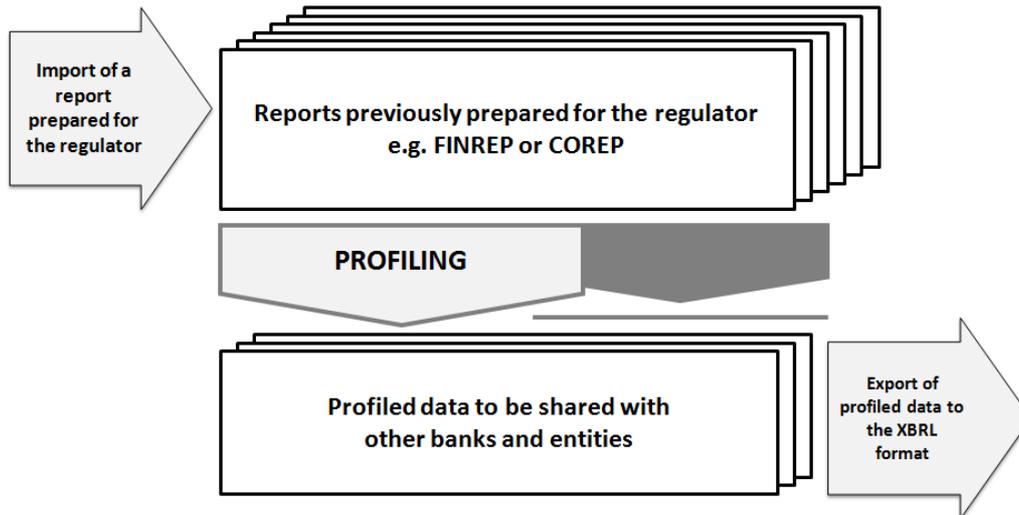
The solution is based on 2 applications. First one is a system used for generation of obligatory reports for the banking sector regulator. It includes all features necessary to process the reports – viewing, verification and the support of XBRL format. The second component is the axSIS system which enables collection of entire or profiled statements from many entities and provides many possibilities of the analysis of data contained in the reports.

Own XBRL reports sharing

The reports shared with other banks might be exactly the same as these generated for and sent to the banking sector regulator. If a Bank wishes to limit the shared data to a part needed by the contractor, it would be necessary to use an additional mechanism.

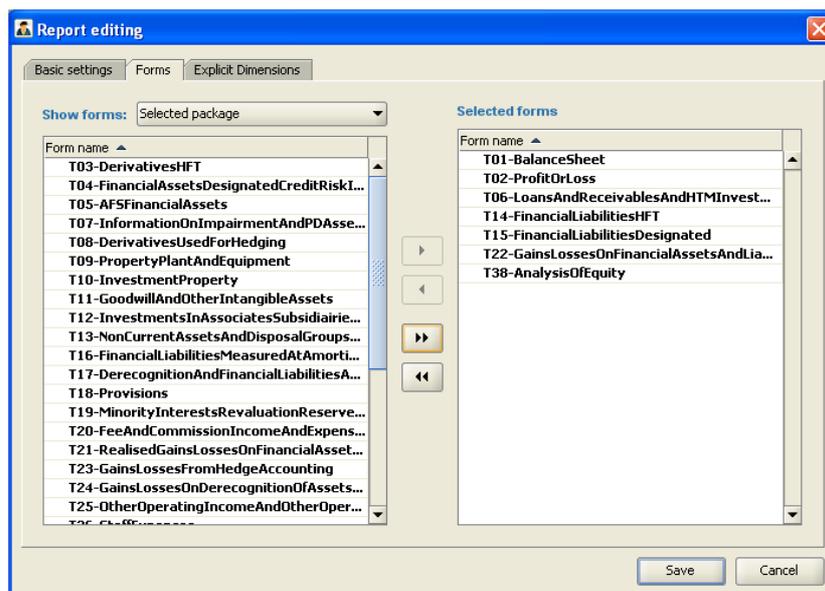
Perfect solution for this purpose is the profiling mechanism enabled by aSIS.

The profile determines which tables and dimensions are to be included in the report. In this case the report profiling mechanisms works as a filter.



Picture 6. Process of profiling previously generated XBRL statements

aSIS enables the statement profiling and generation of XBRL instance in accordance with the defined profile. Picture 7 presents an exemplary profile defined in aSIS application.



Picture 7. XBRL statement profiling in aSIS system

The list of all forms available within a taxonomy is in left window and the list of forms to be shared within profiled statement is selected in right window. In the presented example, the list of profiled reports contains seven FINREP forms.

Storage of XBRL reports

XBRL reports received from other banks are imported automatically to the reports repository. Together they create a structure set built on two main dimensions: the reporting period and the entity (code, name etc.). Thanks to this scheme it is possible to analyze the data by the series of time or entities.

Bank name	Bank code	Taxonomy	Validation results	Created
bank name 01	1001 - solo	CF.0.1		2011-09-15 10:51:17
bank name 02	1002 - solo	CF.0.1		2011-09-15 10:57:24
bank name 03	1003 - solo	CF.0.1		2011-09-15 10:57:46
bank name 04	1004 - solo	CF.0.1		2011-09-15 10:58:15
bank name 05	1005 - solo	CF.0.1		2011-09-15 10:58:38

Picture 8. Exemplary list of reports in axSIS repository

Any statement can be revised individually by viewing or printing the entire report or its selected part. The example of report display is presented on the picture below.

	Value
ifrs-qp IntangibleAssetsNet\ Intangible Assets, Net	
ifrs-qp GoodwillNet\ Goodwill, Net	
ifrs-qp IdentifiableIntangibleAssetsNet\ Identifiable Intangible Assets, Net	
ifrs-qp EquityMethodAccountedInvestmentsTotal\ Equity Method Accounted Investments, Total	
ifrs-qp TaxAssetsTotal\ Tax Assets, Total	
ifrs-qp CurrentTaxReceivables\ Current Tax Receivables	
ifrs-qp DeferredTaxAssets\ Deferred Tax Assets	
ifrs-qp OtherAssets\ Other Assets	
ifrs-qp NonCurrentAssetsAndDisposalGroupsHeldForSale\ Non-Current Assets and Disposal	
ifrs-qp AssetsTotal\ Assets, Total	88,257,866,200
ifrs-qp LiabilitiesPresentation\ Liabilities (Presentation)	
ifrs-qp AdvancesFromCentralBanks\ Advances from Central Banks	
ifrs-qp FinancialLiabilitiesHeldForTradingTotal\ Financial Liabilities Held for Trading, Total	
ifrs-qp FinancialLiabilitiesHeldForTradingTradingDerivatives\ Financial Liabilities Held for	
ifrs-qp FinancialLiabilitiesHeldForTradingShortPositions\ Financial Liabilities Held for	
ifrs-qp FinancialLiabilitiesHeldForTradingDepositsWithOtherBanks\ Financial	
ifrs-qp FinancialLiabilitiesHeldForTradingAmountsOwedToOtherDepositors\ Financial	
ifrs-qp FinancialLiabilitiesHeldForTradingDebtInstrumentsThatAreNotShortPositions\	
ifrs-qp FinancialLiabilitiesHeldForTradingOtherLiabilities\ Financial Liabilities Held for	
ifrs-qp FinancialLiabilitiesEstimatedAsFairValueThroughProfitOrLossTotal\ Financial	
ifrs-qp FinancialLiabilitiesEstimatedAsFairValueThroughProfitOrLossTotal\ Financial	

Picture 9. An exemplary single report displayed in axSIS system

Creation of analytical indexes and ratios

There are many models of managerial analysis. Which ratios or indexes are used is naturally a decision of business needs so any pre-imposed solutions are not a good response for the demand. The axSIS system provides a number of possibilities of creating one's own analysis.

The analysis can be built on the basis of the following components:

1. Analysis of nominal values drawn directly from the statement (so-called FACTS)

e.g.

$$\text{EXPOSURE LIMIT} = \dots * \text{TOTAL_ASSETS}$$

(index) (rate) (fact)

where: TOTAL_ASSETS is a variable drawn directly from FINREP report

2. Analysis of ratios built on nominal values and arithmetical expressions

e.g.

$$\text{RETURN_ON_EQUITY} = \text{EQUITY} / \text{PROFIT(LOSS)}$$

(ratio) (fact) (fact)

$$\text{XXXXXXX} = \dots * \text{ROE}$$

(index) (ratio)

3. Score analysis

e.g.

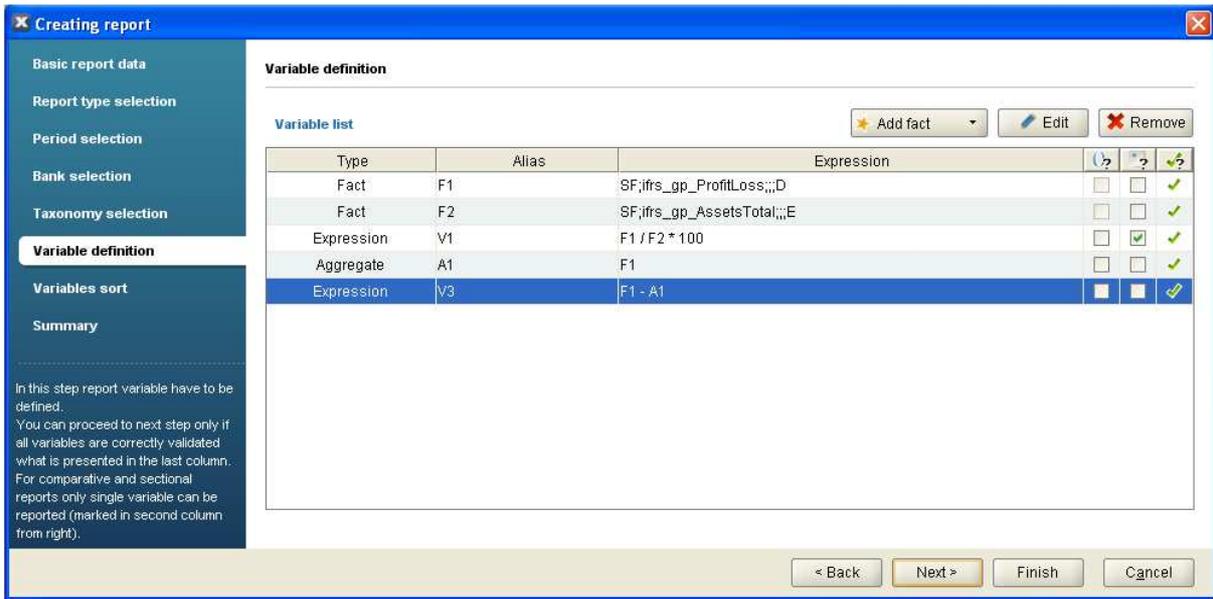
$$\text{RISK_ASSESSMENT} = \begin{cases} 0 & \text{(if ROA > 5\%)} \\ 1 & \text{(if 1\% < ROA < 5\%)} \\ 2 & \text{(if ROA < 1\%)} \end{cases}$$

4. Statistical analyses of series on time or on entities:

e.g. average Assets for 3 years

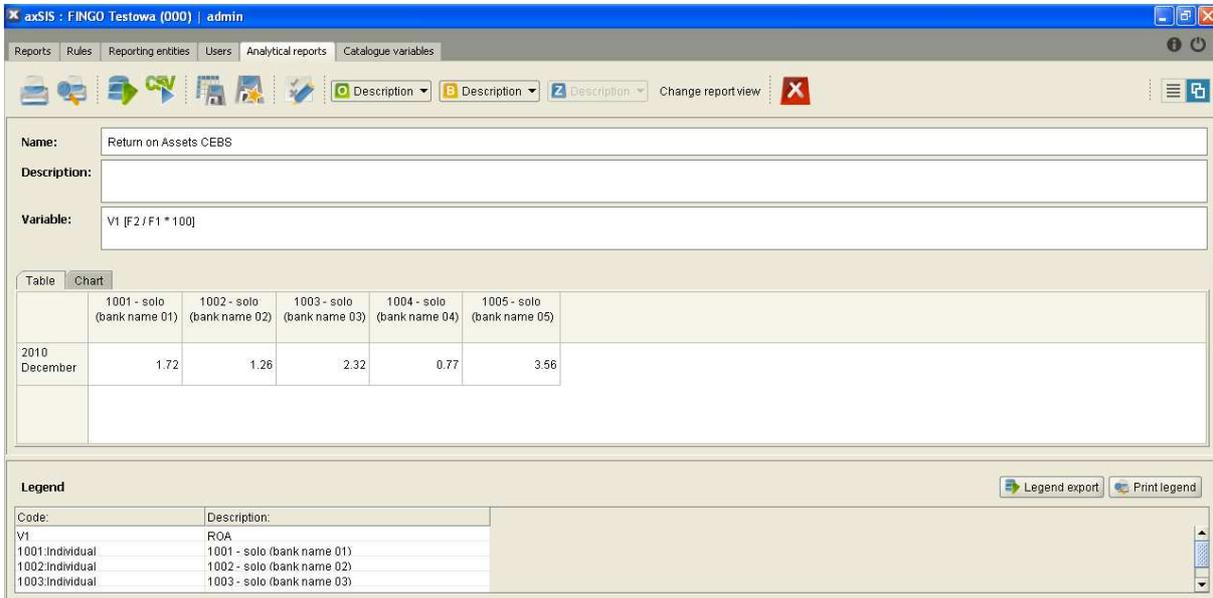
average Liabilities/Assets in banking sector or group of selected banks

The pictures below present the steps of defining observed values and exemplary results.



Picture 10. Defining the analytical report in axSIS system

Observed values are, in other words, the values drawn from the statement or their variations leading to the final summary. Defining of the variables is performed visually. The example of final summary is presented below on the picture.



Picture 11. The analytical report created in axSIS on the basis of calculation of selected values

4. Profits of using axSIS system

1. Significant reduction of work and time needed to prepare the data thanks to the application of one unified data format used by all entities – XBRL – also commonly required by the banking sector supervisors.
2. Use of existing systems to process the report generation.
3. Use of ready to use (off-the-shelf) application – implementation process reduced to installation and staff training.
4. Possibility of free trial before purchase.
5. Possibility to apply the axSIS system in many data analysis, including internal managerial analysis, audits etc.

For more information on business or technical matters, please contact directly:

Piotr Malczak

mob. +48 515 128 933

email: Piotr.Malczak@gpm-systemy



GPM SYSTEMY sp. z o.o.

ul. Kiemliczów 9/4
54-513 Wrocław

tel. +48 504 207 613 / +48 515 128 933
adres email: info@gpm-systemy.com

www.gpm-systemy.com