# The evolution of loan level data in Ireland

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## Introduction

In recent years developing a granular credit database has been a key part of the Central Bank of Ireland's (CBI) strategy to tackle the issues faced by the domestic financial sector. The initial motivation for this development was the need for detailed and extensive data on the loan-books of Irish-headquartered banks for prudential purposes. This has since broadened to the establishment of an official granular credit database for wider use by the CBI, industry and consumers. This paper discusses the progress to date in this area, the main challenges faced, and the lessons learned for the future.

In early 2011 the CBI first received detailed loan level data from the Irish-headquartered banks. The initial dataset was developed in a relatively short timeframe by external consultants; primarily for the purpose of loan-loss forecasting as part of a capital requirements assessment. The Central Bank has since taken complete control of the process, and is currently focusing on developing the necessary infrastructure and improving the data quality. A secondary outcome of the dataset has been a rich stream of policy relevant research at the CBI. The flexibility of the granular data allowed analysts at the CBI to gain a previously inaccessible picture of the state of the Irish loan books. The many publicly available papers provide only a sample of the extensive research being undertaken within the CBI.

However, this success is not the end of the road, with the existing dataset having only partial coverage of the banking population. Work is ongoing to establish a Central Credit Register (CCR), aimed at encouraging a more informed credit market for all participants. Legislation to facilitate this is currently before the national parliament and the CBI will have a key responsibility in operationalizing the system. The register will expand the coverage from a limited number of institutions to the full banking population and into the non-bank financial sector. It is hoped the CCR will be fully operational by 2016.

## First Steps

On 28 November 2010, the Irish Government agreed to a €67.5bn EU-IMF financial support programme, with accompanying conditional targets. One such target was related to bank recapitalisation, including a capital assessment review to be completed by the CBI by end-March 2011. This review, the Financial Measures

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Program Report (FMP), included a bottom up analysis of the banks' loan portfolios and required detailed loan level data. External consultants were retained to complete the capital assessment review, including the data sourcing. Progress was exceptionally quick, given the conditionality of the process as part of the EU-IMF programme and the potential negative impact that poor quality data may have had on the results for individual banks. The review, including the collection, quality remediation work, and analysis, was completed just over four months after the signing of the EU-IMF programme.

As outlined in the FMP, the Central Bank conducted a data integrity and verification exercise to ensure robust outputs. The validation activities included:

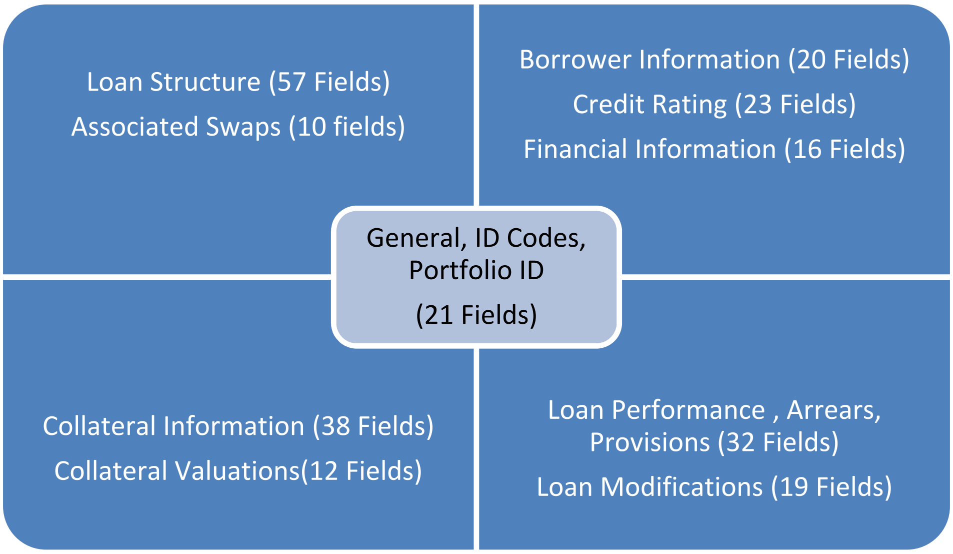
1. Data tape to balance sheet reconciliation: The review found that data tapes for all banks reconciled to unaudited financial accounts within 0.02% of notional value.
2. Loan file sampling and testing: the data provided by the banks were compared to their source systems and the results provided a more detailed understanding of the strengths and weaknesses of the data.
3. Review of bank IT systems: this highlighted that several banks had multiple and fragmented systems, but had procedures in place to address data quality issues or passed comprehensive testing.
4. Assessments of loan portfolios: in-depth assessments of loan portfolios were conducted by reviewing and re-underwriting individual loan files: For example, the banks' existing internal ratings were risk assessed and benchmarked to a common external scale.

The results of the validation activities highlighted some areas of concern including significant error rates for certain portfolios. In addition, significant portions of data were missing from the individual loan files (particularly for Commercial Real Estate and SME loans).

## Moving the process in-house

While the approach outlined above was successful and extremely quick, it also came at a substantial financial cost. A more sustainable solution was required for the medium to long term and the CBI initiated a project to develop the internal capabilities to collect and process the loan level data. A granular data request was sent to three pillar banks (Bank of Ireland, Allied Irish Banks (including EBS) and Irish Life and Permanent) in Q1 2012 for loan level data over the following asset types: Retail Mortgages, Retail Non-Mortgages, Micro-SME, Corporate/SME and Commercial Real estate. In total, 248 fields were requested for each loan, with some relevant only to certain portfolios or loans. The fields covered include information on the original loan contract, borrower details, loan performance (see Figure 1). Coverage levels of these fields by individual Banks range from 56%-67%. To date, three data drops have occurred with reference to December 2011, June 2012 and December 2012.

Information Collected on a Loan Level Basis  Figure 1




## The importance of policy application

Analysts within the CBI quickly embraced the new dataset because of the richness of micro level data. As a result, highly policy relevant research emerged that supplied a previously inaccessible picture of the state of the Irish loan books (e.g. Kennedy et al, 2011, Lawless et al, 2012, McGuinness, 2011). More recent work has concentrated on improving the understanding and predication of potential losses within the portfolio (Kelly, 2012) and testing the interaction between certain macroeconomic policies and the loan portfolio (Kelly et al, 2013). These papers represent only the tip of the iceberg on the analysis being conducted within the CBI addressing the policy issues such the large overhang of mortgage arrears in Ireland. The adoption of these loan level datasets by researchers is vitally important for the future of the loan level data initiative. Not only do the policy outputs justify the investment to date, but the flexibility of such datasets emphasises to senior policy makers the importance of having such data available. It is important that this buy-in by senior management is maintained. These early analytical papers help maintain the initial momentum and support the business case to further develop the project.

Example of output from loan level data Figure 2

| Arrears 90+ days | | | Negative Equity: No | Negative Equity: Yes |
|---|---|---|---|---|
| No | | Number of properties | 242360 | 134007 |
| | | Negative equity (€ Mn) | - | 9081 |
| | | Total arrears (€ Mn) | - | - |
| | | Average balance (€) | 120501 | 258761 |
| | | Total balance (€ Mn) | 29200 | 34676 |
| Yes | | Number of properties | 9598 | 9515 |
| | | Negative equity (€ Mn) | - | 798 |
| | | Total arrears (€ Mn) | 113 | 160 |
| | | Average balance (€) | 130783 | 272991 |
| | | Total balance (€ Mn) | 1255 | 2598 |

*Source: McGuinness (2011), based on 31 Dec 2010 data.*

## Progress towards a full Central Credit Register

Ireland has committed under the EU-IMF programme to develop a Central Credit Register. The legislation underpinning the creation of a national credit register is currently before the national parliament. At the time of writing (late-April 2013), it is expected that enactment may occur either before the summer recess or in the autumn. Once the Bill is passed into law, the CBI will be charged with establishing and maintaining the register. It is also envisaged that the CBI will have access to the CCR database for the performance of all its functions, thereby maximising the wider use of the CCR data in an appropriate manner. There is uncertainty around the go-live date but a conservative estimate is no later than 2016. Under the latest Memorandum of Understanding the Irish authorities must ensure that the Register is at an advanced stage of development by end-2013 subject to passing of the necessary legislation. A number of key issues are outstanding at this stage:

- Unique identifier: The CBI is pushing for the inclusion of personal public service number (PPSN) to assist in creating a single borrower view across various banks and finance companies. The Data Protection Commissioner has concerns about collecting such a unique identifier. Such concerns are valid but from the, admittedly narrow, view of an end user, the usefulness and accuracy of the end database will be much reduced by the absence of a widely used unique identifier. Ireland does not currently use postcodes, so in the absence of PPSN, matching people becomes even more difficult;
- Access: The extent of access for several key groups is not yet finalised. Open issues are the frequency of access that lenders should have, level of access for

other groups such as new market entrants, European public registers, overseas lenders etc.;

– Scope of Register: what groups of borrowers and lenders will be captured;

– Management of day-to-day operations: the most appropriate operational structure for the CCR within the CBI (or potentially outsourced) given the CBI rights and responsibilities as owners of the database.

There are still considerable operational obstacles to be overcome and practical decisions and scoping out of the required IT systems, information security arrangements, charging structures etc. Critical data definition issues are also on-going, with input from CBI Economist/Statisticians. Only when this is further developed can industry begin to actively position itself to meet its obligations.

## Some lessons to date

Statisticians have been actively involved in assisting design of the credit register but this will not be a credit register designed for statisticians. As with other CCRs, the primary objectives will be to have a dataset for prudential and credit reporting purposes. Many of the principles outlined in various reports such as harmonisation of definitions across borders, international sharing of data etc. (World Bank, 2011), are unlikely to be fully incorporated at inception. To maximise the usability of the CCR data, the ongoing involvement of statisticians is important in the data definitions and mapping, where applicable, CCR data back to other standard classifications (ESA, etc.). This also promises to speed up the delivery of new statistics to meet user requirements in a way which minimises the cost to industry. In establishing/manipulating granular credit data, the CBI has faced a new challenge in developing staff skill sets to manage and integrate micro-databases. These challenges will continue to be significant as the possibility for linking the CCR data with other micro-databases for policy/research uses are explored. The need for commonly used identifiers is key to the success of such initiatives.

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