

AnaCredit and the OECD Scoreboard on SMEs financing: the Luxembourg experience¹

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Abstract

Access to financing is essential for firm creation and for the growth of small and medium-sized enterprises (SMEs). For this reason, every year the SMEs and entrepreneurs financing: an OECD Scoreboard publishes key indicators for monitoring SMEs' access to finance. In Luxembourg and in many other European countries, the Scoreboard's indicators are compiled using Interest Rate Statistics (IRS). More recently, a new dataset with detailed loan-level information, AnaCredit (Analytical Credit Dataset), has become available. This study evaluates the information content of AnaCredit data compared to the IRS for compiling the indicators in the Scoreboard. Results shows that AnaCredit enhances the accuracy of the Scoreboard's figures for two reasons. Firstly, AnaCredit provides information on firm size, allowing us to identify loans to SMEs without resorting to the assumptions required by the use of IRS data. Secondly, the dataset includes information on loans from Euro-area's financial institutions, whereas IRS limits its coverage to loans from institutions in Luxembourg. The paper shows that the Scoreboard's indicators computed with AnaCredit differ considerably from those calculated using IRS data. In 2023, new business lending to SMEs in Luxembourg amounted to €14 billion according to AnaCredit data. This represents 30% of total new lending in Luxembourg, higher than the 12% resulting from IRS data. Overall, AnaCredit has a significant potential to enhance the monitoring of SMEs access to finance for both Luxembourg and the other countries participating in the OECD Scoreboard. However, establishing common guidelines is essential for ensuring accurate comparisons across OECD countries.

1 - This report does not reflect the views of the BCL or the Eurosystem or STATEC. The views expressed are those of the authors and may not be shared by other research staff or policymakers in the BCL, the Eurosystem or STATEC and funding partners.

Cesare Riillo gratefully acknowledges the support of the Observatoire de la Compétitivité, Ministère de l'Economie, DG Compétitivité, Luxembourg, and STATEC, the National Statistical Institute of Luxembourg. Cesare Riillo thanks Chiara Peroni, Francesco Sarracino, Pauline Perray, Vasja Sivec, Tom Haas and other colleagues at STATEC for their insightful comments. The authors also extend their gratitude to Maria Camila Jimenez Suarez and participants at the Annual Meeting of the Committee on SMEs and Entrepreneurship (CSMEE Informal) Steering Group on SME and Entrepreneurship Financing and Country Experts in Paris, 10-11 September 2024, as well as participants at the Séminaire Économique at STATEC, Luxembourg, on 13 November 2024, for their valuable feedback.

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1 Introduction

Small and medium-sized enterprises (SMEs) play a crucial role in Luxembourg's economy. Firms with less than 250 employees account for approximately 66% of total employment and 59% of the total value added in the national non-financial economy (OECD, 2024). Access to finance is crucial to SMEs. In turn, SMEs creation and growth contributes to firm dynamism,

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and is a source of job creation and ultimately of economic growth (e. g. Moscalu et al., 2020). For this reason, the Organisation for Economic Co-operation and Development (OECD) publishes every year the *Scoreboard on SME Financing and Entrepreneurship* for monitoring access to finance and lending conditions for those firms. The 2024 edition of the OECD Scoreboard monitors SME financing across 47 countries, including both OECD and non-OECD members.

Luxembourg joined the OECD Scoreboard exercise in 2016, compiling data on SME financing primarily based on interest rate statistics (IRS) produced by the Banque centrale du Luxembourg (BCL), in line with European Central Bank (ECB) guidelines. Many Eurozone countries, including Austria, Belgium, France, Ireland, and Spain, use IRS to compute at least some indicators of the scoreboard (OECD, 2024).

Recently, a new and comprehensive dataset, AnaCredit (Analytical Credit), has become available. AnaCredit, collected by ECB and assisted by the national central banks, provides rich information on both lenders and borrowers. For example, it provides information on lenders' location and borrowers' size by employment and balance sheets.

This study explores the information content of AnaCredit data for the purpose of monitoring SME financing, and for compiling the OECD Scoreboard. The paper presents an overview of IRS and AnaCredit datasets, and discusses respective advantages and limitations for compiling the key figures of the OECD Scoreboard. Then, it calculates and compares figures derived from AnaCredit data with those from IRS data. The analysis focuses on the period 2021 – 2023, the years covered by high quality AnaCredit data.

This work is the result of a collaboration between STATEC Research and the Banque centrale du Luxembourg, and has been drafted in preparation of the Annual Meeting of the CSMEE Informal Steering Group on SME and Entrepreneurship Financing and Country Experts held in Paris, 10-11 September 2024. The aim of this study is to summarize key insights from the Luxembourg's experience in using AnaCredit, highlighting both the advantages and challenges of using AnaCredit data for the OECD scoreboard.

The results shows that AnaCredit enhances the accuracy of the Scoreboard's figures in two ways. Firstly, the IRS does not collect information on the size of borrowing firms but only on the size of loans (above and below 1 Million Euros). Due to this data limitation, the Scoreboard identifies as SMEs those firm that borrow loans below €1 million. In contrast, AnaCredit includes information on firm size according to the European definition (i.e. employment, turnover, and balance sheet), enabling direct identification of loans to SMEs. Secondly, AnaCredit provides information on all loans granted by European financial institutions to SMEs based in Luxembourg, whereas IRS restricts reporting to loans granted by institutions based in Luxembourg to European SMEs. Thus, AnaCredit data allows greater accuracy in the identification of loans to SMEs, and extends the coverage of the loans.

The analysis focuses on the level of new loans, and applicable interest rates, to SMEs, using both IRS and AnaCredit data. These are key indicators of the OECD Scoreboard. Results reveal a considerable discrepancy between the two data sources. For instance, new business lending to SMEs amounted to approximately €14 billion, representing 30% of all new business lending in Luxembourg in 2023 according to AnaCredit. This proportion is significantly higher than the 12% estimated based on IRS. Additionally, the results indicate that Luxembourg's financial

institutions provided €32 billion to SMEs based in other Euro Area countries, highlighting the importance of international bank lending for Luxembourg.

Overall, the paper suggests that AnaCredit data have the potential to improve monitoring of SMEs financing, and as such to enhance the information content of the OECD Scoreboard. This work, however, shows that using AnaCredit introduces a break in the series and stresses the importance of common guidelines to ensure accurate comparisons across countries participating in the Scoreboard.

The paper is organized as follows. The key features of the IRS are presented in Section 2, followed by an overview of the AnaCredit dataset in Section 3. The methodology used to compute figures for the Scoreboard based on AnaCredit is detailed in Section 4. Section 5 compares IRS and AnaCredit in 2023, focusing on differences in geographical origin and SME identification. The evolution of key indicators over time is explored in Section 6, and the paper concludes with final remarks in Section 7.

2 Overview of Interest Rate Statistics (IRS)

Currently, lending data for Luxembourg's SME reported by the OECD Scoreboard (New Business Lending, SMEs) are based on IRS from 74 reporting Monetary Financial Institutions (MFIs) established in Luxembourg.² IRS include all interest rates applied by resident credit institutions to euro-denominated deposits and loans for the non-financial sectors in the euro area. For each month since 2007, the data includes new contracts, which refer to any new agreements or renegotiations specifying interest rates for deposits or loans. IRS statistics are essential for understanding the development of new lending activity, the interest rate levels at the euro area level and within each member states. One should note that these statistics are primarily collected for monetary policy purposes and not for economic analyses, such as the OECD Scoreboard.

2.1 Main Limitations of IRS for the Scoreboard

The **identification of SMEs** is the key limitation when using IRS data for the Scoreboard. The reason is that IRS does not collect information about the borrower but distinguishes only between loans above and below €1 million. For this reason, the Scoreboard categorizes loans to SMEs based solely on loan amounts rather than the actual size of the borrowing firms. Specifically, loans under €1 million are assumed to be issued to SMEs, while those exceeding

² There are 71 reporting banks out of 118 credit institutions established in Luxembourg at the end of 2023.

For the purpose of compiling the Scoreboard, STATEC Research collects and transmits the following data to the OECD: Capital markets and interest rates, Table 3.1-Luxembourg bank interest rates on euro-denominated deposits and loans by euro area residents - new business -. Available here: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.bcl.lu%2Fen%2Fstatistics%2Fseries_statistiques_luxembourg%2F03_Capital_markets%2F03_01_Table.xlsx&wdOrigin=BROWSELINK .

For more information on Interest Rate Statistics (IRS), you can refer to the ECB's manual available at https://www.ecb.europa.eu/pub/pdf/other/manualonmfiinterestratesstatistics_201701.en.pdf

€1 million are attributed to large enterprises. This approximation is widely adopted in other Scoreboard countries (OECD 2024, Table A A.3, p. 236) but may not accurately reflect the reality of borrowing patterns.

Another limitation concerns the **geographical origin** of the data. The IRS figures reflect Luxembourg bank interest rates on euro-denominated deposits and loans issued to all euro area residents. As an example, the data includes loans provided by Luxembourg's banks to German firms but excludes loans taken by Luxembourg firms from German banks. This discrepancy can lead to incomplete representation of borrowing activities (see also Table 1).

Table 1 geographical origin of lenders and borrowers

		Residence of borrowing non-financial corporation (NFC)	
		Luxembourg	Euro Area
Residence of lending monetary financial institutions (MFIs)	Luxembourg	Domestic lending market only	Monetary policy purpose (Interest Rate Statistics)
	Euro area	Scoreboard purpose (AnaCredit)	EU lending market

3 Overview of AnaCredit

What follows examines the information content of AnaCredit data for the compilation of the Scoreboard. It assesses whether these data can address the limitations of the IRS discussed above.

AnaCredit (Analytical Credit) is a comprehensive and harmonized dataset compiled by the European Central Bank (ECB) in cooperation with National Central Banks. The dataset contains detailed loan-level information across all euro area countries. Data are monthly and the first available observations is for September 2018. The quality of Luxembourg's AnaCredit data has significantly improved since 2021. Each loan is uniquely identified by instrument, contract, debtor, and creditor identifiers, allowing for detailed tracking of loan characteristics, such as outstanding amounts, maturities, interest rates, and collateral.³ What follows outlines the main advantages and limitations of using AnaCredit for the purposes of compiling the OECD Scoreboard.

3.1 Advantages of AnaCredit for the Scoreboard

AnaCredit offers several benefits for enhancing the Scoreboard's analytical capabilities. It includes the **geographical origin** of companies, enabling detailed regional or subnational analysis. The dataset also offers the possibility to **identify SMEs** at the level of the entire legal entity. This is because it provides extensive information on debtors, including the number of employees, balance sheet totals, and annual turnover. This information allows for a granular

³ For more detailed guidelines on AnaCredit, refer to [REGULATION \(EU\) 2016/867 OF THE EUROPEAN CENTRAL BANK of 18 May 2016 on the collection of granular credit and credit risk data \(ECB/2016/13\)](#) and the ECB's [AnaCredit Reporting Manuals](#).

breakdown of firm size, distinguishing between micro, small, and medium enterprises.⁴ AnaCredit also includes data on the main industry of economic activity of borrowing firms, classified according to the NACE Statistical Classification of Economic Activities in the European Community.

Furthermore, AnaCredit covers a broad range of credit instruments, incorporating off-balance-sheet items such as financial guarantees, which are particularly relevant for understanding SME financing dynamics during periods of crisis (see Karim et al., 2013; ECB, 2020).⁵

3.2 Limitations of AnaCredit for the Scoreboard

Despite the advantages reported above, AnaCredit is not free from limitations. First, only loans with a total commitment of €25,000 or more are legally required to be reported, calculated at the bank-firm relationship level rather than at the individual loan level. This is not a major limitation as loans below €25,000 are expected to have minimal impact on new business loan data in Luxembourg.⁶ Another limitation is that AnaCredit does not collect information about the gender of the principal owner. This information would be important to assess the access to finance of women entrepreneurs, a relevant topic in the public debate.⁷ Additionally, AnaCredit data is available only from September 2018 onward, limiting the ability to make long-term comparisons compared to IRS data, which has been available since 2007. Importantly, the AnaCredit data collected in the initial years is to some extent less robust than that collected in more recent years. The quality of Luxembourg's AnaCredit data has significantly improved since 2021.

In sum, despite some limitations, AnaCredit provides useful information for a comprehensive understanding of credit conditions of SMEs within the euro area.

⁴ Unincorporated bodies, such as sole traders/proprietors, that are not considered legal entities under national law are generally excluded from the scope of AnaCredit. The MIR classifies sole proprietors and unincorporated partnerships within the Household sector.

⁵ The following financial instruments are included: Overdrafts, Revolving credit, Credit lines, Reverse repurchase agreements, Term loans, Deposits (excluding reverse repurchase agreements), Credit card debt, Trade receivables, Financial leases, Other loans. Revolving credit and credit lines are accounted for in new lending indicators solely at the time of contract origination.

⁶ In June 2024, MIR data shows that new business loans to corporations amounted to 70 million euros for loans up to 0.25 million euros. In comparison, loans between 0.25 million and 1 million euros totaled 112 million euros, while loans exceeding 1 million euros reached 2,047 million euros. See <https://data.ecb.europa.eu/data-comparison/29a7bceb-b430-4314-b156-a269d22843fc>

⁷ The name and identification data of the counterpart are recorded, which can potentially be used to link to SME's beneficial owners and possible their gender.

4 AnaCredit data aggregation methodology

As guidelines to produce SME financing figures using AnaCredit are not available, the analysis adopted methodological choices reported below to compute the OECD Scoreboard indicators for Luxembourg in 2023.

The figures include loans reported by all reporting monetary financial institutions (MFIs) residing in the Euro Area to borrowing non-financial corporations (NFCs) based in Luxembourg.⁸ The definition of SMEs follows the Eurostat criteria, which classifies enterprises with fewer than 250 employees and either an annual turnover below €50 million or a total balance sheet below €43 million as SMEs.

To provide a comprehensive overview, all credit instruments, including company credit cards, are included in the analysis. Data on new business loans is collected quarterly and aggregated annually. Quarterly totals are summed to produce the annual figure. However, this approach does not account for loan repayments within the year, potentially leading to higher estimates of new lending compared to the amounts of outstanding loans.

Finally, fiduciary and intracompany loans are excluded to prevent double counting and to align with the methodological guidelines of the Banque centrale du Luxembourg (BCL). This increases consistency between the AnaCredit and IRS.⁹

5 New business lending based on AnaCredit

This section presents the main findings of using AnaCredit data to compute new business lending for SMEs, that is a key indicator of the OECD scoreboard. This is because new business lending for SMEs reflects present financing conditions, while outstanding loans are influenced by past financing conditions. The AnaCredit data improve the accuracy of SME figures in two significant ways: first, they allow to identify SMEs based on their size rather than the size of the loan; and second, they provide detailed information on the geographical origin of the funds, extending the analysis to include Euro Area lenders.

5.1 Geographical origin

Table 2 presents data on lending activities categorized by the geographical origin of both the borrowing SMEs (NFCs) and the lending MFIs, distinguishing between Luxembourg and the broader Euro Area. The table reports both absolute amounts and the (conditional) percentages.

⁸ Not all MFI are reporting institutions. *Smaller institutions can be granted derogations by the respective national central bank. In some countries this can result in several hundred banks being completely exempted from the reporting obligations.* See <https://www.ecb.europa.eu/ecb-and-you/explainers/tell-me-more/html/anacredit.en.html>

⁹ See https://www.bcl.lu/en/Regulatory-reporting/Etablissements_credit/AnaCredit/Instructions/AnaCredit_methodology_comparison_report_EN.pdf

Table 2 indicates that in 2023, Luxembourg-based SMEs received a total of €13 957 million in loans. Of this amount, 77% (€10 769 million) was provided by Luxembourg's MFIs, while the remaining 23% (€3 188 million) came from MFIs located in the other Euro Area country.¹⁰ This figure may appear surprising, as SMEs, particularly micro firms, typically face greater obstacles when seeking financing abroad than in their home country, due to language barriers and differing regulatory frameworks. However, recent study from the European Central Bank) shows that cross-border bank lending makes up a small but significant portion of Euro Area banks' total lending (ECB, 2024 Chart A, panel a). This phenomenon is particularly relevant for Luxembourg (ECB, 2024, Chart B, panel c). In 2023, direct intra-euro area cross-border lending amounted to €1.03 trillion, representing 14.1% of Euro Area bank lending to non-banks (ECB, 2024, p. 49).¹¹

Regarding the lending activities of Luxembourg-based MFIs, Table 2 shows they provided a total of €42 904 million in new business lending to SMEs, with €10 769 million lent to SMEs NFCs residing in Luxembourg (25% of the total) and €32 135 million to SMEs based in the other countries of the Euro Area (75%).

These figures highlight the importance of cross-border bank lending for Luxembourg and highlight Luxembourg's significant role as an international financial center.

Table 2 New loans to SMEs by geographical origin of lender and borrower

SMEs		Residence of borrowing non-financial corporation (NFC)			Percentage (conditional)
		Luxembourg	Euro Area	Total	
Residence of lending monetary financial institutions (MFIs)	Luxembourg	10 769 Mil.	32 135 Mil.	42 904 Mil.	77%
	Euro area	3 188 Mil.	-		23%
	Total	13 957 Mil.			
	Percentage (conditional)	25%	75%		100%

Source: AnaCredit 2023, authors' calculations. Notes: Euro Area includes Belgium, Germany, Ireland, Spain, France, Italy, the Netherlands, Austria, Portugal, Finland, Greece, Slovenia, Cyprus, Malta, Slovakia, Estonia, Latvia, and Lithuania. SMEs are defined as enterprises with fewer than 250 employees and an annual turnover below €50 million or a balance sheet total below €43 million. The figures do not include 4.7% of observations due to missing information in all dimensions for defining the size of the enterprise; Treasury centers that take loans for the whole group are excluded as they are not MFIs. Legally independent treasury centers taking loans for the group are generally large firms due to balance sheet criteria. Specific figures for Euro Area MFIs and Euro Area NFCs are not reported due to the scope of this study.

¹⁰ In annex, Table 5 shows a similar pattern for new lending to all firms in Luxembourg in 2023, categorized by geographical origin.

¹¹ The ECB figures cannot be directly compared to Table 2 due to methodological differences, but they indicate that cross-border banking activity is significant and not negligible within the Eurozone. While table reports new business loans to SMEs, the ECB study reports outstanding nominal exposures towards non-financial corporations of all sizes and other financial entities.

5.2 SMEs identification

Table 3 provides a breakdown of new business lending granted to Luxembourg's NFCs by Euro Area MFIs, categorized by the size of the loan (above and below 1 Million Euros) and the size of the borrowing entity (SMEs vs. large enterprises as defined by Eurostat). The table presents the loan amounts along with joint and marginal proportions displayed in square brackets, and conditional proportions indicated in round parentheses.

Table 3 shows that the total amount of new lending granted to Luxembourg's NFCs in 2023 was €46 802 million, with €22 871 million (49%) being loans under €1 million and €23 931 million (51%) being loans of €1 million or more (see bottom row). In the last column, Table 3 reports that SMEs, according to the Eurostat definition, received a total of €13 957 million in new business lending, which constitutes 30% of the total loans granted (see square bracket). In comparison, large enterprises received €32 845 million, accounting for 70% of the total loans.

The table indicates an interesting trend where SMEs in Luxembourg receive a proportionally higher share of large loans ($\geq$ €1 million) compared to large firms. Specifically, SMEs received €9651 million in larger loans, which constitutes 69% of the total funds received by SMEs (€13 957 million). In contrast, for large firms, larger loans represent 43% of the total loans received, amounting to €14 280 million out of a total of €32 845 million.

This trend might be surprising, as one would typically expect larger firms to secure the majority of larger loans due to their greater financial needs. However, data suggests that Luxembourg's SMEs are accessing substantial financing through large loans, possibly indicating strong financial health, high capital demand, or a supportive lending environment. This can also be attributed to the fact that large companies have access to alternative financing options compared to SMEs. For instance, private large companies can more readily attract venture capital investors in exchange for equity or choose to go public on the market.

Table 3 Volume of new loans by firm size and loan size in Luxembourg

Amount (€)		Loan size		
		< 1 Million € loan	$\geq$ 1 Million loan	Total
Firm size	SMEs	4 306 Mil. [9%] (31%)	9 651 Mil. [21%] (69%)	13 957 Mil. [30%] (100%)
	Large	18 566 Mil. [40%] (57%)	14 280 Mil. [31%] (43%)	32 845 Mil. [70%] (100%)
	Total	22 871 Mil. [49%]	23 931 Mil. [51%]	46 802 Mil. [100%]

Source: AnaCredit 2023, authors' calculations. Notes: New lending to Luxembourg's Non-Financial Corporations by Euro Area Monetary Financial Institutions; SMEs are defined as enterprises with fewer than 250 employees and an annual turnover below €50 million or a balance sheet total below €43million. The figures do not include 4.7% of observations due to missing information in all dimensions for defining the size of the enterprise. Treasury centers that take loans for the whole group are excluded as they are not MFIs. Legally independent treasury centers taking loans for the group are generally large firms due to balance sheet criteria. Joint and marginal proportions displayed in square brackets, and conditional proportions indicated in round parentheses.

Table 4 reports the differences between SMEs and large enterprises in Luxembourg regarding the cost of borrowing. Overall, the cost of financing is higher for SMEs regardless of the size of the loan. The average interest rate for SMEs is 6.13%, compared to 4.10% for large enterprises (last column). SMEs consistently face higher interest rates: 6.92% for loans under €1 million and 6.01% for loans above €1 million, compared to 5.01% and 4.09% for larger firms, respectively.

These differences highlight that, although SMEs in Luxembourg might have access to large loans, they generally face higher interest rates compared to large enterprises, confirming the financing gap report in the literature (OECD 2024). Interestingly, the interest spread SMEs vs large firm decreased in 2022 and 2023 in Luxembourg (see Figure 4 in Annex), similar to trends observed in many other OECD countries (OECD 2024).

Table 4 Interest rate of new loans by firm size and loan size in Luxembourg

Interest rate (p.p.)		Amount of loan		
		< 1 Million € loan	>= 1 Million loan	Total
Firm size	SMEs	6.92%	6.01%	6.13%
	Large	5.01%	4.09%	4.10%
	Total	6.70%	4.85%	4.96%

Source: AnaCredit 2023, authors' calculations. Notes: New business lending granted to Luxembourg's Non-Financial Corporations by Euro Area Monetary Financial Institutions.

6 Comparative evidence from AnaCredit and IRS

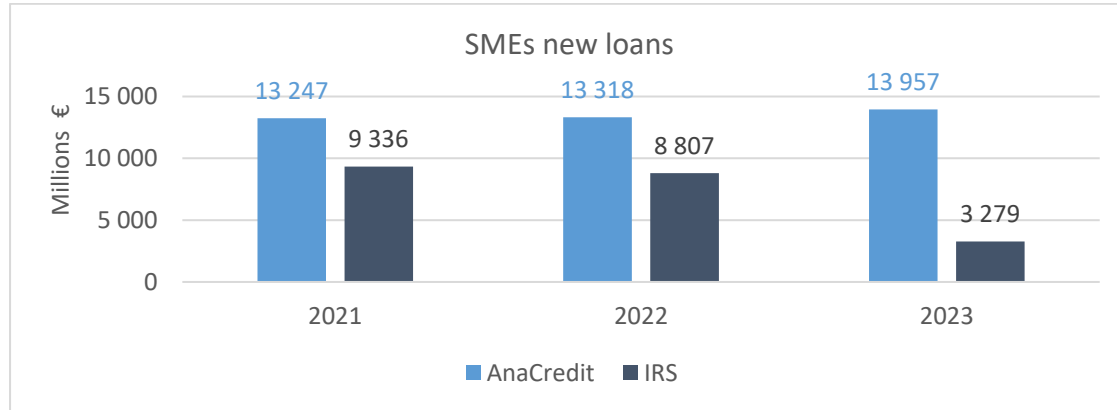
This section focuses on the differences between IRS and AnaCredit in measuring new SME lending, a key indicator of the OECD Scoreboard. It begins by briefly summarizing the main methodological differences between the two data sources and then assesses the extent whether these differences translate into empirical differences.

From a methodological perspective, there are several major differences between IRS and AnaCredit when computing, as detailed in Section 2 and Section 3. First, the geographical origin differs. AnaCredit includes loans from all Euro Area lenders to Luxembourg-resident firms, while IRS covers only monetary institutions based in Luxembourg lending to all Euro Area firms. Second, the definition of SMEs is not consistent across the two datasets. AnaCredit identifies SMEs based on firm size, whereas IRS uses loan size as a proxy. Third, the type of interest rate included varies. IRS data for Luxembourg only considers new loans with floating rates or initial fixed rates of up to one year, while AnaCredit encompasses loans with all types of interest rate structures. Finally, the coverage of financial instruments is broader in AnaCredit, as IRS excludes products such as credit cards and trade receivables.

After presenting the main methodological differences from IRS and AnaCredit, the following section presents the key findings from the empirical analysis. Figure 1 and Figure 2, examine the level of new loans to SME, while Figure 3 and Figure 4 compare interest rates on new loans to SME loans. The analysis uses AnaCredit data only for the period 2021–2023, when data quality is considered more reliable.

Figure 1 shows that AnaCredit consistently reports higher level of SMES lending than IRS in 2021 - 2023. The largest difference occurs in 2023, with AnaCredit recording €13 957 million in new SME loans, compared to €3 279 million reported by IRS.

Figure 1 Volume of new loans to SMEs in IRS and AnaCredit (2021-2023)



Sources: IRS Banque centrale du Luxembourg: Capital markets and interest rates, table 3.1. Available https://www.bcl.lu/en/statistics/series_statistiques_luxembourg/03_Capital_markets/index.html and reported in OECD (2024). AnaCredit 2023, authors' calculations according to the methodology described in Section 5.

Figure 1 shows different levels of SME financing, which can be attributed to the methodological differences between the IRS and AnaCredit datasets. However, if the methodological differences between IRS and AnaCredit affected SMEs and large firms in the same way, the ratio of SME financing to total financing should remain the same across both datasets.¹² For this reason, Figure 2 examines the ratio of SME lending to total lending in Luxembourg using both IRS and AnaCredit data. It provides additional information as it shows the evolution of the ratio in the years 2021-2023, when higher quality of AnaCredit data are available.¹³ Figure 2 also includes the OECD median ratio of SME lending among countries participating in the OECD Scoreboard, providing a benchmark for comparison.

Figure 2 shows that the SME lending ratios calculated using IRS and AnaCredit data differ, suggesting that methodological differences affect the reporting of information on large and small enterprises in several ways. In 2021-2023, Luxembourg's SME lending ratio was

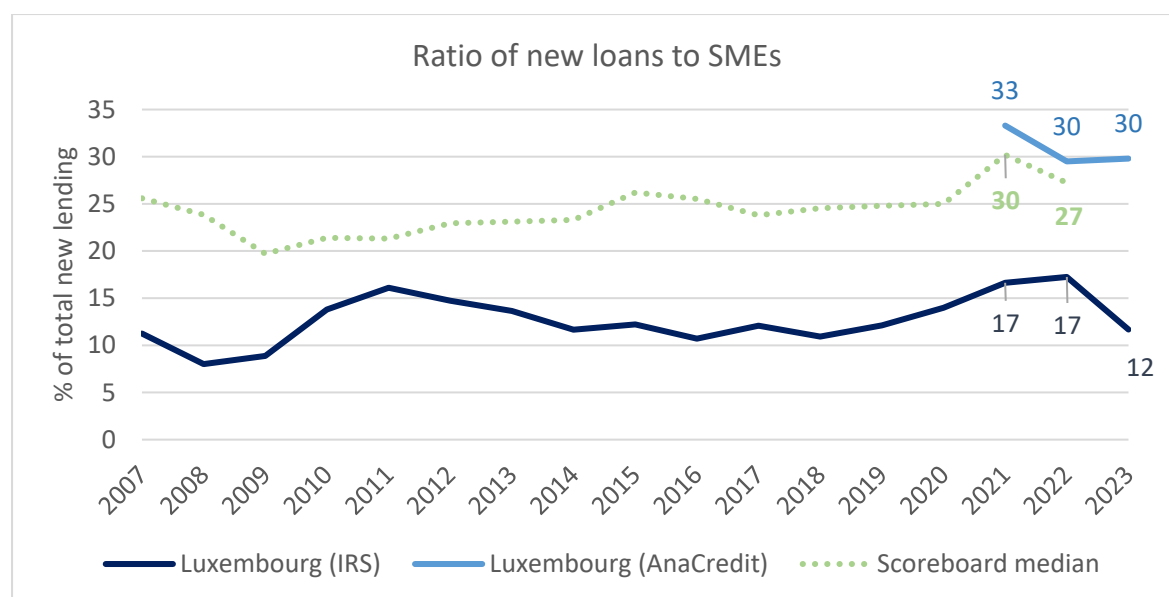
¹² Equations below illustrate that if methodological differences between IRS and AnaCredit affect SMEs and large firms proportionally (α_{IRS} and α_{Ana}), the SME financing ratio remains unchanged across datasets because the adjustment factors cancel out in both the numerator and denominator.

$$\frac{\frac{\alpha_{IRS} \cdot SMEs}{\alpha_{IRS} \cdot SMEs + \alpha_{IRS} \cdot Large}}{\frac{\alpha_{Ana} \cdot SMEs}{\alpha_{Ana} \cdot SMEs + \alpha_{Ana} \cdot Large}} = \frac{\frac{\alpha_{IRS} \cdot SMEs}{\alpha_{IRS} \cdot (SMEs + Large)}}{\frac{\alpha_{Ana} \cdot SMEs}{\alpha_{Ana} \cdot (SMEs + Large)}} = \frac{\frac{SMEs}{(SMEs + Large)}}{\frac{SMEs}{(SMEs + Large)}}$$

¹³ Figure 5 in the annex presents the evolution of the proportion of new SME loans using both IRS and AnaCredit data, with both series indexed to a value of 100 in 2021, the year of significant data quality improvement. Figure 5 shows a notable difference between the two series in 2019 and 2020, which can be at least partially attributed to lower data quality during that period.

consistently higher than the IRS records. AnaCredit reported SME ratios of 33% in 2021 and 30% in both 2022 and 2023, while IRS recorded 17% in 2021 and 2022, dropping to 12% in 2023. Additionally, the AnaCredit data aligns more closely with the OECD median, which ranged from 30% in 2021 to 27% in 2022. Instead, throughout the observed period, Luxembourg's SME lending ratio remained consistently below the OECD Scoreboard median according to IRS data (in 2022, the Luxembourg's ratio was 17%, compared to the median of 27%).¹⁴

Figure 2 Evolution of ratio of new loans to SMEs compared to new loans to all firms over time



Sources: IRS Banque centrale du Luxembourg: Capital markets and interest rates, table 3.1. Available https://www.bcl.lu/en/statistics/series_statistiques_luxembourg/03_Capital_markets/index.html and reported in OECD (2024). AnaCredit 2023, authors' calculations according to methodology described in Section 5. Notes: ratio of SME lending to total lending (SMEs and Large firms). The scoreboard median ratio is calculated based on the sample of countries participating in the OECD Scoreboard each year, with 2022 being the most recent year available. This sample includes both OECD and non-OECD members, and its composition may vary over time. The IRS represents Luxembourg bank interest rates on euro-denominated deposits and loans by euro area residents, for new business involving new loans under EUR 1 million, with a floating rate and an initial rate fixation of up to one year. It is calculated as the annual mean average interest rate weighted by monthly amounts.

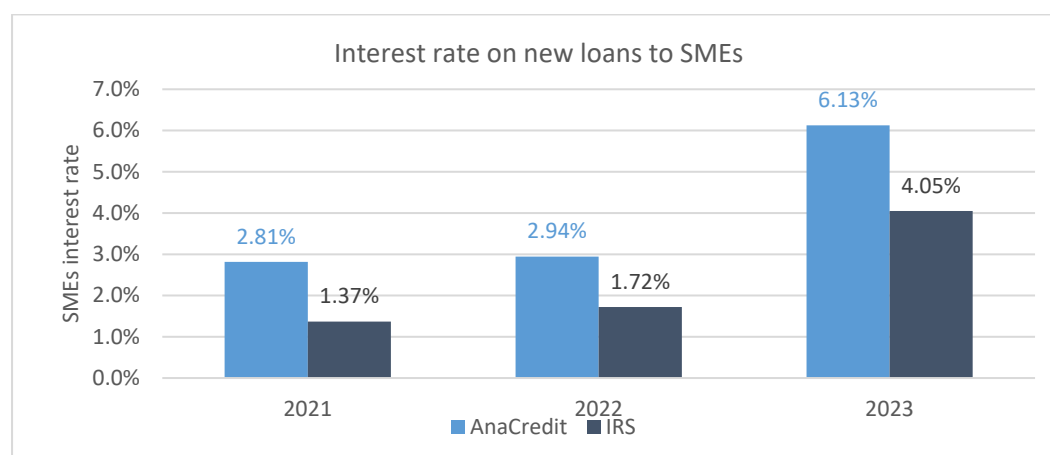
What follows first examines the absolute interest rates paid by SMEs, then the spread between rates for new SME lending and large firms.

Figure 3 shows SME loan interest rates for 2021-2023, indicating that rates calculated using AnaCredit are consistently higher than those based on IRS data (6.13% vs. 4.05% in 2023).

¹⁴ Another argument supports the view that AnaCredit can provide a more accurate representation of SME lending. If SMEs had financing needs and access to finance similar to large firms, their share of lending would mirror their economic weight in Luxembourg. Considering that SMEs account for approximately 60% of the total value added in the national non-financial economy (OECD, 2024), the 30% SME lending share reported in AnaCredit appears more plausible than the 12% figure from IRS data. However, this comparison has limitations, as SMEs and large firms often have different levels of access to alternative financing sources, such as equity and bonds, which affects the overall distribution of lending.

Additionally, when considering the interest rate spread between large firms and SMEs, Figure 4 shows that the spread is systematically higher with AnaCredit.¹⁵ It resembles more closely the OECD median in both 2021 and 2022. For instance, IRS reports a spread of 0.40 and 0.25 percentage points, compared to the OECD median of 0.93 and 0.90, and AnaCredit records 1.08 and 0.67 percentage points.

Figure 3 Interest rates on new loans to SMEs in IRS and AnaCredit (2021-2023)

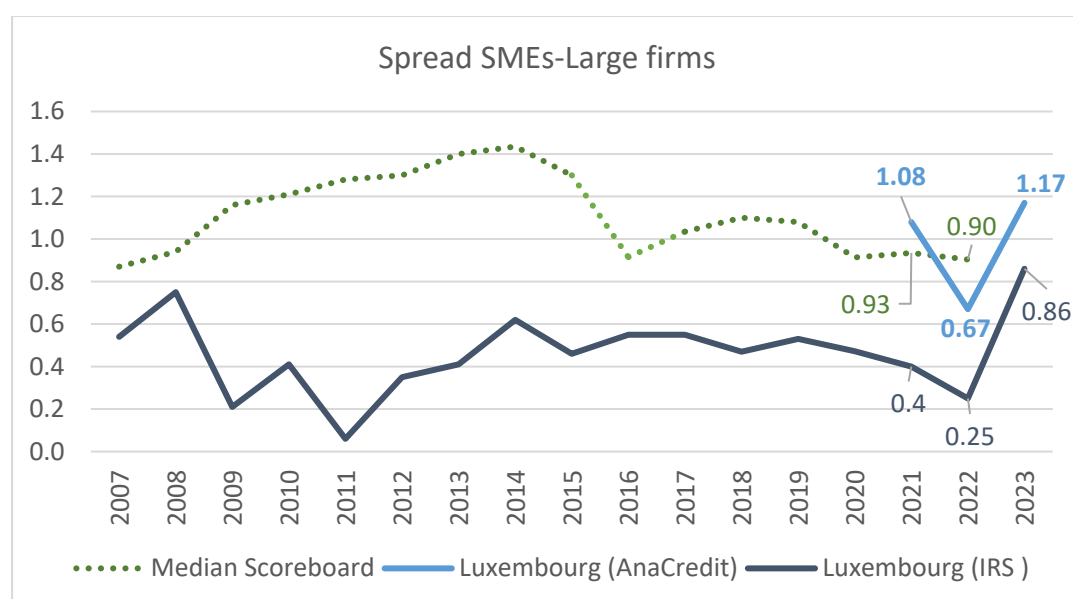


Sources: IRS Banque centrale du Luxembourg: Capital markets and interest rates, table 3.1. Available https://www.bcl.lu/en/statistics/series_statistiques_luxembourg/03_Capital_markets/index.html and reported in OECD (2024). AnaCredit 2023, authors' calculations according to the methodology described in Section 5.

Note: The IRS represents Luxembourg bank interest rates on euro-denominated deposits and loans by euro area residents, for new business involving new loans under EUR 1 million, with a floating rate and an initial rate fixation of up to one year. It is calculated as the annual mean average interest rate weighted by monthly amounts.

¹⁵ Figure 6 reports the corresponding interest rates associated with these loans over the same period. These figures allow for a comparative analysis of how the level of loans and interest rates have evolved for SMEs relative to all firms.

Figure 4 Evolution of the spread between interest rates on new loans to SMEs and to large firms



Sources: IRS Banque centrale du Luxembourg: Capital markets and interest rates, table 3.1. Available https://www.bcl.lu/en/statistics/series_statistiques_luxembourg/03_Capital_markets/index.html and reported in OECD (2024). AnaCredit 2023, authors' calculations according to the methodology described in Section 5.

Notes: The median is calculated based on the sample of countries participating in the OECD Scoreboard each year, with 2022 being the most recent year available. This sample includes both OECD and non-OECD members, and its composition may vary over time.

7 Conclusions

Access to finance is essential for firm creation and the growth of small and medium-sized enterprises (SMEs). For this reason, every year the *SMEs and entrepreneurs financing: an OECD Scoreboard* provides key indicators for monitoring firms access to finance and conditions in participating countries. In Luxembourg and the Eurozone, the indicators for the Scoreboard are typically compiled using Interest Rate Statistics (IRS). These data, however, are designed to provide information for conducting European monetary policy, rather than to monitor and analyse firms' access to finance. For the Scoreboard purposes, IRS data have two major limitations: 1) they contain only information on loans granted by financial institutions based in the country at hand; 2) they do not contain information on firm size, so that the Scoreboard identifies SMEs receiving loans based on loan size (i.e., less than €1 million) rather than the size of the borrowing firm.

Recently, a new and comprehensive dataset, AnaCredit (Analytical Credit), has become available. AnaCredit is compiled by the ECB with the assistance from national central banks. AnaCredit is a micro-level dataset that covers the Euro Area, and provides detailed information on both lenders (e.g., residence of lending financial institute) and borrowers (e.g., balance sheets of borrowing firm).

Focusing on the case of Luxembourg, this study explores the suitability of data sourced from AnaCredit for compiling the OECD Scoreboard's main indicators. The study presents the main features of the two datasets and compares aggregate figures for new business lending for SMEs,

a key Scoreboard's indicator derived from AnaCredit to those from IRS, focusing on the years from 2021 to 2023, the period covered by high quality AnaCredit data.

The analysis highlights the key differences between the two datasets. IRS data includes only loans issued by financial institutions based in Luxembourg, and identifies SMEs based on the size of the loan (i.e., it assumes that loans under €1 million are granted to SMEs), a proxy commonly used in several Scoreboard countries. In contrast, AnaCredit captures loans issued by all Euro Area lenders to firms in Luxembourg, and identifies SMEs based on firm characteristics (e.g. number of employees, turnover, and balance sheet) in line with the European definition. AnaCredit also includes data on a broader range of financial instruments and loan types, for example covering fixed and floating interest rates.

Results from the empirical analysis indicate that the trends in SME financing differ significantly in the two datasets. AnaCredit data reveals that new business lending to SMEs in Luxembourg reached approximately €14 billion in 2023, representing 30% of all new business lending. This figure is substantially higher than the 12% reported by IRS. For the observed period (2021–2023), AnaCredit consistently reports a higher proportion of new business lending compared to IRS. Additionally, interest rates paid by SME calculated using AnaCredit data are consistently higher than those resulting from IRS.

The study shows the limitations of IRS for Luxembourg. SMEs play a major role in Luxembourg's economy, as they account for approximately two-thirds of total employment and value added in the national non-financial sector. Luxembourg is also a small open economy where certain limitations in assumptions can be particularly relevant for accurately measuring SMEs access to finance. However, the analysis of this study is relevant to all countries participating in the OECD Scoreboard that rely on IRS data or similar datasets. Countries involved in the Scoreboard might consider preferring or complementing existing sources with AnaCredit to obtain a more accurate portrait of SME financing.

In summary, AnaCredit is a highly promising dataset for monitoring SMEs financing in Luxembourg and across Europe. Despite its advantages, adopting AnaCredit data for the Scoreboard poses some challenges. Using AnaCredit instead of IRS for the OECD Scoreboard would create a break in the series, limiting comparisons of indicators before and after 2021. European countries using AnaCredit for the OECD Scoreboard should adopt harmonized methodologies to aggregate the microdata into country-level estimates for ensuring accurate comparisons across countries.

8 References

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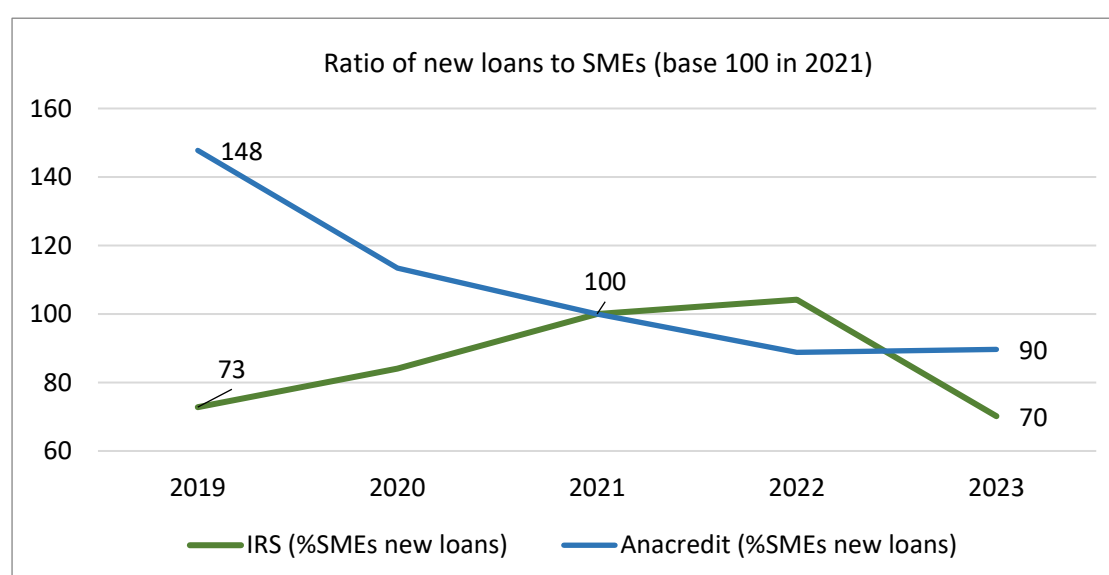
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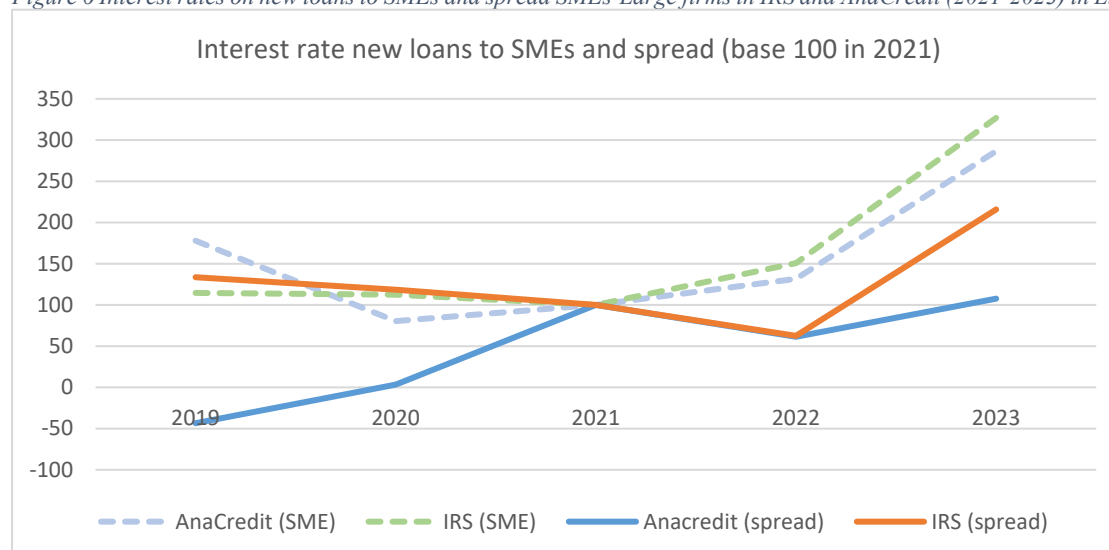
9 Annex

Figure 5 Ratio of new loans to SMEs to total new loans in AnaCredit and IRS (Interest Rate Statistics) in Luxembourg



Sources: IRS Banque centrale du Luxembourg: Capital markets and interest rates, table 3.1. Available https://www.bcl.lu/en/statistics/series_statistiques_luxembourg/03_Capital_markets/index.html and reported in OECD (2024). AnaCredit 2023, authors' calculations according to the methodology described in Section 5. Notes: ratio of SME lending to total lending (SMEs and Large firms) expressed in base 100 in 2021. The IRS represents Luxembourg bank interest rates on euro-denominated deposits and loans by euro area residents, for new business involving new loans under EUR 1 million, with a floating rate and an initial rate fixation of up to one year. It is calculated as the annual mean average interest rate weighted by monthly amounts.

Figure 6 Interest rates on new loans to SMEs and spread SMEs-Large firms in IRS and AnaCredit (2021-2023) in Luxembourg



Source: IRS Interest Rate Statistics and AnaCredit for Luxembourg, Authors' computation. Notes: The figure reports interest rates on new loans to SMEs, indexed to 100 in 2021, as well as the spread between SMEs and large firms, also indexed to 100 in 2021. The spread represents the difference between interest rates on new loans to SMEs and those to large firms. In AnaCredit, SME new loans are defined as loans to enterprises with fewer than 250 employees and either an annual turnover below €50 million or a balance sheet total below €43 million. In contrast, IRS defines SME loans as those below €1 million. The IRS represents Luxembourg bank interest rates on euro-denominated deposits and loans by euro area residents, for new business involving new loans under EUR 1 million, with a floating rate and an initial rate fixation of up to one year. It is calculated as the annual mean average interest rate weighted by monthly amounts.