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Monitoring of non-financial companies at the Central Bank of Morocco[1]

Walid Bakrim,
Bank Al-Maghrib (Central Bank of Morocco)

[1] This contribution was prepared for the conference. The views expressed in this publication are those of the authors and do not necessarily represent the official views of the Committee, its members, or the BIS.

MONITORING OF NON-FINANCIAL COMPANIES AT THE CENTRAL BANK OF MOROCCO

Walid BAKRIM

ABSTRACT

Why do Central Banks conduct financial analysis of firms and how do they it? This paper aims to address the question while describing the approach adopted by Bank Al Maghrib, for the monitoring of macroprudential risks and improving the analytical framework for monetary policy. At the Bank, this analysis is mainly based on annual balance sheets data and Data from Credit Register (Centrale de Crédit), but also uses various other data available regarding non-financial companies (NFCs), such as monetary statistics, private debt and interest rates. The current assessment of the companies focuses on two major topics: indebtedness and customer payment period. Before being able to analyse the financial situation of companies, this monitoring system provides an study the structure of the NFCs sector, by branches of activity and by size, using mainly data from the Trade Register (location, date of creation, sector of activity, Size, etc.) but also financial balance sheet data, in particular the revenues of the company, that allows size classification.

Keywords: Monetary policy, Financial Stability, Balance sheet Data, NFCs

INTRODUCTION

The analysis of the non-financial companies is one of the major challenges for a Central Bank, primarily during monitoring macroprudential risks and secondly to develop the analytical framework of its monetary policy. Bank Al-Maghrib assesses the economic and financial situation of Moroccan companies using accounting data, particularly balance sheets and P&L statements. The Bank also relies on the various data available related to companies, such as monetary statistics, private debt, interest rates and the balance of payments, with the particularity in Morocco that the latter is drawn up by an entity external to the Central Bank, known as the Office des Changes.

Today, Bank Al-Maghrib's approach continues to focus on analysing three main areas, namely the structure of the economic fabric, sources of financing and indebtedness of companies and their customer and supplier payment practices. The first domain analysis of the structure is based on descriptive data from the central trade Register, enables the fabric to be broken down by region, sector of activity, company size, etc... The second aspect concerns indicators linked to indebtedness and remains the subject of most interest for a Central Bank, whose mission is to ensure adequate financing of the economy, particularly SMES. This analysis of corporate debt and financing methods is generally based on balance sheet data to highlight the financing structure and monitor debt and liquidity levels. It is completed by data from monetary statistics, in particular NFCs loans and deposits, market data on securities information and equity. These analyses are also used to identify the largest issuers and assess major risks associated with private debt. In addition, these analyses are enriched by data from the Central Credit Register, making it possible to examine the number and profile of borrowers, new loans distributed and debt repayment habits. The last axis relates to the question of payment periods, considering the large share of trade credit as a source of financing but also the long payment periods that characterise Moroccan companies.

In this paper, we will begin by situating this approach for monitoring the financial situation of companies within the framework of the missions of a central bank, before describing the stages in setting up this system. Secondly, we will attempt to identify the main findings of these analyses over the recent period, and, in conclusion, we will try to identify possible future work to enhance this system and these analyses.

1. RELEVANCE TO THE CENTRAL BANK

During carrying out their fundamental tasks, central banks (CBs) also produce so-called ‘business’ data, as defined by the statuses, such as monetary and financial statistics (on money, credit, exchange interest rates, means of payment, etc.). They are also required to produce other economic indicators, which facilitates an assessment of the country's economic situation and a better understanding of the financial situation of economic agents.

It is in this context that Bank Al Maghrib pays particular attention to data on NFCs and produces a range of economic and financial indicators to carry out its financial stability and monetary policy missions. Indeed, close monitoring of the health of companies is essential when valuing the assets of financial institutions, and the level of inter-company indebtedness can be a channel for contagion of payment defaults or even insolvencies. In addition, analysis of companies' cash flow levels and their capacity to invest or create jobs is also important in the work underlying the analytical framework for formulating monetary policy.

Furthermore, the Moroccan productive fabric presents numerous factors of vulnerability, which not only slow down its development but also require rigorous economic analyses, based on high quality statistical data. Bank al Maghrib, which has access to individual data (banks and NFCs in particular), can produce statistics based on reliable and transparent methodologies. Compiling these statistics and indicators relating to non-financial companies is the main task of Bank Al Maghrib's Central Balance Sheet Office.

2. BANK AL MAGHRIB'S CENTRAL BALANCE SHEET OFFICE - CIFEN

Background and milestones

As early as 2005, Bank Al Maghrib launched the project to set up a database of information on non-financial companies to strengthen its financial and statistical analysis capabilities, in order to monitor developments in the national economy and trends in the main productive sectors. The Bank has signed a contract with the Moroccan Office for Industrial and Commercial Property (OMPIC) to retrieve annually the financial statements (balance sheet, income and expenditure account and management balance sheet) filed by companies with all the courts in Morocco.

In addition, the Bank regularly retrieves the Trade Register (RC) registration file, which contains a range of legal and descriptive information about companies, such as their legal form, sector of activity, date of creation, etc. Since 2010, this information has been organised and integrated into a database known as the Centrale d'Information Financières des Entreprises Non Financières (CIFEN-F), and has undergone a number of qualification and reliability processes. Most of the work carried out since CIFEN was set up has involved improving the quality of the data before using it and making it available to users. This involves making direct contact with companies to verify their existence and make certain information on their location, turnover and workforce more reliable. It is also used to obtain information on the main sector of activity for allocation purposes.

Importance of sharing experiences between Central Banks

The problem of the quality of financial data relating to companies is not unique to Morocco; it also remains a concern for several central banks, including those of the most developed countries. These are the conclusions that have emerged from the various seminars organised on the subject, and from the assistance missions in which the Bank has taken part in recent years. In addition, shared experience suggests that central banks should undertake a lengthy internal process to ensure the reliability of their data, either through direct contact with companies or by approaching other data providers (national statistical institutes, tax authorities, etc.).

Proximity with companies and other data providers

As part of its process of improving the quality of the data stored in CIFEN, the Bank has undertaken an initiative to improve the reliability of the main activities of companies, as declared in the Trade Register. This reliability work, which began in 2012, covered the activities of a sample of around 23,000 companies, and was distributed by the Bank's regional head office, according to the proximity of the company's trade register. The results made it possible to establish the reliability of the main sector of activity for the entire sample, which was then used as a reference sample when reconciling with other data sources, such as the CNSS and DGI databases.

Launch of the OTPME

Among the other initiatives that demonstrate Bank Al-Maghrib's determination to promote the exchange of information between public sector institutions, in 2013 the Bank took the initiative of creating the Observatoire Marocain de la TPME (OMTPME). It is the result of collaboration between various partners such as the Directorate General of Taxes (DGI), the National Social Security Fund (CNSS) and the Moroccan Industrial and Commercial Property Office (OMPIC), with the aim of making available to public and private sector players a series of key indicators relating to the demographics and economic and financial health of businesses. BAM has often been asked by the Observatoire to provide both its database and its expertise, to support its consolidation and reconciliation work between the various data sources.

Case study of the use of CIFEN - Covid crisis

One of the concrete cases in which CIFEN data was used was during the Covid-19 pandemic, when an Economic Watch Committee (CVE) was set up to support economic players and take measures to preserve the productive fabric as much as possible.Bank Al-Maghrib took part in the CVE's actions, firstly by promoting access to bank credit for businesses, by lowering its key rate, by increasing its refinancing capacity for banks and by strengthening its specific refinancing programme for SMEs.

The Bank also provided analyses and indicators to monitor changes in financial health, particularly cash flow problems. Based on balance sheet data, studies were carried out to estimate the financing needs of certain sectors, particularly those most affected by the health restrictions, such as accommodation, transport, catering and travel agencies. In addition, analyses were carried out on invoice payment times, unpaid bank bills and payment incidents on cheques and bills of exchange. These figures have been cross-checked with data from the incident centres and the Risk Centre to ensure overall consistency.
A number of measures had been taken to ease these cash flow pressures, including the suspension of social security payments, the introduction of a moratorium on bank loan repayments and the activation of a state-guaranteed credit line (Caisse de Garantie).

3. THE CURRENT SYSTEM AND THE DIFFERENT METHODOLOGIES ADOPTED

Today, the Bank has approximately 2,195,765 company declarations received since 2005, i.e. just over 120,000 declarations per year (balance sheets, CPCs and ESGs). The last data relating to the year 2022 were transmitted from the end of 2023 and a process of data qualification has begun. This process involves a number of arithmetical and plausibility checks to ensure that the annual accounts are reliable and that all the information appears consistent. On average, the annual rejection rate is around 25%. In addition, given the importance of listed companies in terms of value added, turnover and outstanding bank loans, a project has been set up to manually reintegrate missing companies, based on published data available, in particular, on the websites of stock market companies and the Autorité des Marchés.

n the course of its financial analysis of companies, Bank Al-Maghrib calculates a certain number of ratios on the entire population that has satisfied the control and reliability processes, and is divided into strata that take into account the size of the company and its sector of activity, making it possible to define groups with homogeneous behaviour. In terms of statistical methods, the majority of financial ratios are calculated using a macroeconomic approach, except for payment times, where a microeconomic approach is adopted. In fact, by calculating the average of the individual payment period ratios for each stratum, this provides better information on the individual behaviour of companies.

Bank Al Maghrib defines company size based solely on the criterion of turnover and is based on the ‘provisions relating to company segmentation criteria’ appended to circular no. 8/G/2010. This classification distinguishes between VSEs, which include companies with a turnover of less than or equal to MAD 10 million, SMEs, which include companies with a turnover of between MAD 10 million and MAD 175 million, and EGs, which include companies with a turnover of more than MAD 175 million.

The breakdown by sector of activity is based on the 2010 Moroccan Nomenclature of Activities (NMA 2010). To ensure that the information and analysis are relevant, companies in non-market, financial or social sectors (such as health and education) are excluded from the analysis population. This work is reported internally, in the form of analysis notes and reports for the Bank's various committees, and externally, in the form of publications in the Bank's institutional reports.

4. MAIN FINDINGS AND CHARACTERISTICS OF MOROCCAN COMPANIES

Demographics and structure

Before examining the financial information from the CIFEN, the data from the Trade Register is used to analyse the characteristics of businesses by category, firstly to get an idea of the structure of the economy as a whole, and then to adopt the appropriate aggregation methods. According to the latest figures for the end of 2023, the national productive fabric comprises around 800,000 businesses, including the non-agricultural and financial sectors. The breakdown by size shows a preponderance of Very Small Enterprises or businesses (VSEs), at 94%, compared with 5.8% of Small and Medium-sized Enterprises (SMEs) and less than 2% of Large Enterprises (LEs).

The predominance of VSEs means that the performance of the productive fabric in terms of investment, employment and added value remains more or less limited. An examination of these results in terms of sales also shows that almost a third of businesses report zero annual sales, and that half of them have reported zero sales for two consecutive financial years, on average over the period 2012-2022.

When classified by sector of activity, half of Moroccan companies are concentrated in two sectors: Commerce and Construction, with 29% and 23% of all companies respectively. Services account for 15.2% of the total, with the remainder operating in sectors such as manufacturing (around 8%), transport and distribution (7%) and hotels and restaurants (5%).

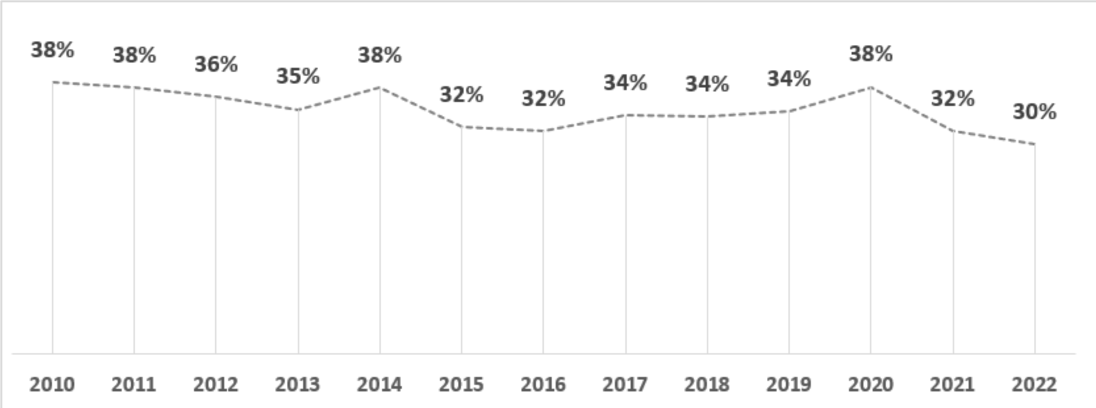
While this breakdown has remained broadly stable over the years, some sectors have seen significant changes from 2021 onwards, notably agriculture and service activities, and are thought to be linked to the launch of government stimulus and funding aid programmes, such as INTELAKA, or support programmes for farmers. On the other hand, a slowdown in the creation of new businesses was observed in the aftermath of the health crisis among hotel and restaurant operators.

Corporate financing and debt

This area in particular is of major importance to the Bank, which follows the issue of financing and support for businesses with great interest. The various analyses carried out during the recent period seem to indicate that companies make little use of the banking system to finance themselves and, more generally, that they make little use of external financing. In fact, data from the CIFEN Central Balance Sheet Office shows that the proportion of companies declaring that they have balance sheet debt with the financial system has averaged 32% over the last ten years.

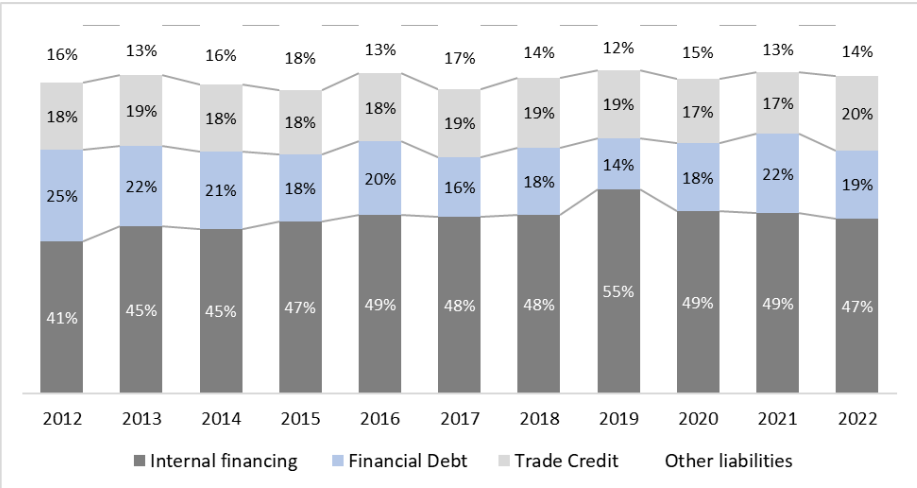
However, this share masks a number of disparities by company size. In fact, the average figure mainly reflects the situation of very small businesses, with the proportion rising to 61% among SMEs and 82% among large companies. This overall disconnection of businesses from the financial system does not necessarily reflect difficulties in accessing finance, but is linked above all to the financing methods adopted by Moroccan businesses.

Evolution in the proportion of companies with financial debt as a liability 2010-2022



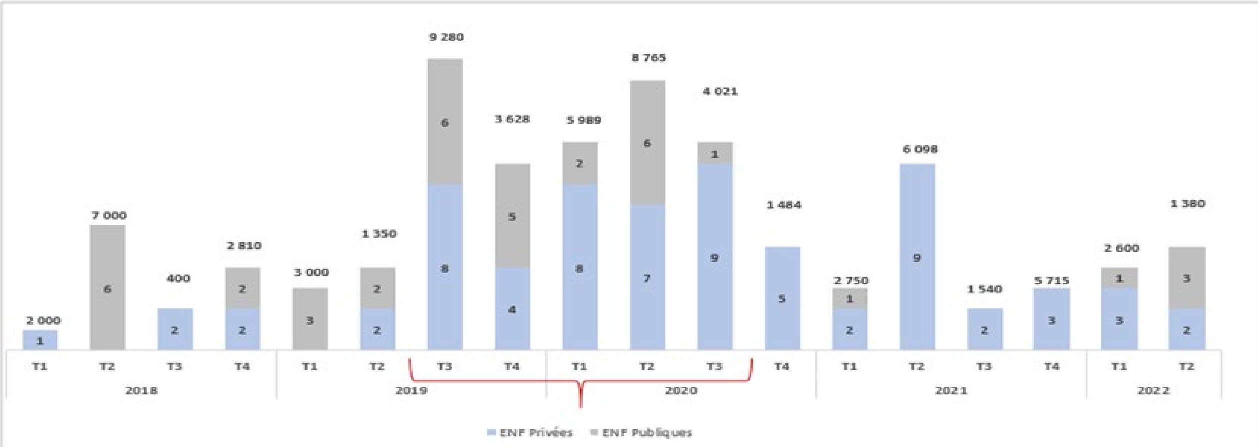
A closer look at the liabilities side of companies 'balance sheets shows that Moroccan companies rely mainly on internal financing, with a share of 47% of the balance sheet in 2022, made up mainly of shareholders' equity (66%) and a proportion of shareholders' current accounts (34%). This finding is corroborated by the results of surveys carried out by the World Bank and the HCP, which show that self-financing predominates among businesses, with limited recourse to external financing. An EIB study on the private sector in the MENA region also showed that almost 6 out of 10 businesses in Morocco do not approach banks for a loan because they have sufficient funds. It also explained that this phenomenon could be partly explained by the nature of shareholding, since a large part of the productive fabric is made up of SMEs organised as family or individual businesses.

Evolution of the NFC liabilities between 2012 and 2022



Although on a downward trend, the proportion of companies with financial debt peaked twice during the 2012-2022 period, first in 2014 and then especially during the covid crisis (2020-2021), when it reached a rate of 38% of all companies. These increases coincided initially with the period when lending rates had fallen significantly, with a relaxation of lending conditions from the end of 2019, but above all during the covid crisis, which saw two successive cuts in the key rate. This surge in corporate recourse to financial debt also stems from financing on the financial markets. In fact, from the second half of 2019, an analysis of market data from MaroClear shows a significant increase in the number and volume of transactions on the bond market. Between 2019 and 2020, corporate fundraising rebounded by 55%, against a backdrop of favourable refinancing conditions and a sharp fall in the volume of equity transactions.

Number and volume of issues on the NFCs bond market 2018-2022

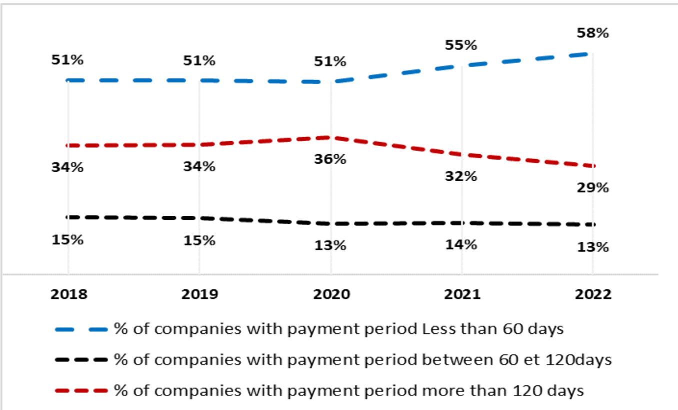


Trade credit, which will account for almost 20% of companies' balance sheets by 2022, also emerges as an important financing alternative for Moroccan companies. The volumes recorded in recent years have given this issue of inter-company payment periods particular importance, and it stands out as a feature of the national economic fabric.

Average Customer Payment Period

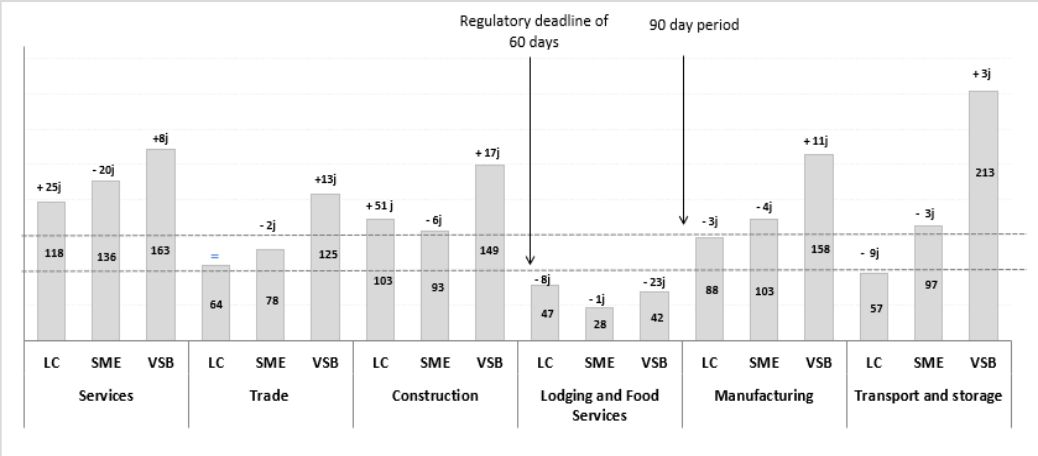
Considered to be a relevant indicator of the financial health of companies, particularly their liquidity, payment times are now one of the ratios monitored with interest by Bank Al Maghrib. In addition, and given the growing problem of payment times in Morocco and the resulting cash flow tensions, the Bank set up a system to monitor the issue in 2013. The Bank also sits on the Central Committee of the Payment Delays Observatory, whose work was officially launched on 10 July 2018, with the aim of gaining a better understanding of the causes of late payment and formulating recommendations.

Average Customer Payment Period In % of companies by payment period



In terms of trends, business-to-business payment periods had been steadily deteriorating since 2012, with overall averages in excess of 150 days, well above the regulatory limit of 90 days. However, the latest figures for the 2022 financial year show that the trend is improving, with an overall reduction in average payment times for both suppliers and customers. An analysis of the ratios for 2022 shows that debt collection times have fallen by 17 days of sales compared with 2020, to 137 days of sales, while supplier times have fallen by 12 days of purchases, to 86 days of sales. This improvement trend has resulted in an increase in the proportion of businesses paid within the statutory timeframe, reaching 58% in 2022 compared with 55% in 2021 and 51% in 2020. At the same time, the proportion of companies that are significantly late in paying their invoices and exceed the regulatory deadlines has fallen to 20% in 2022, compared with 24% in 2021 and 26% in 2020.

Average Customer Payment Period by sector and size 21-22



5. ONGOING PROJECTS

In addition to the traditional uses of the CIFEN, either for financial and economic analysis purposes or for assessing risks to financial stability, Bank Al-Maghrib has launched a number of projects based on the CIFEN, to enhance its statistical offering in order to respond to various questions and needs for data required to guide public policies. These projects can be grouped as follows:

- Extending and enriching analyses: CIFEN can play a central role in reconciling and cross-checking with other databases, in particular with securities and/or credit databases. An integrated database that would provide a panoramic view of all company-related data.

- Work is also in progress to examine the financial links between companies, in particular domestic intra-group loans, or the performance of foreign-owned companies (FDI, repatriation of dividends, contribution to national
- The calculation and production of new statistics to provide the Bank with reliable and comparable data on climate change (NGFS). In particular, these data will cover the related risks and enable the financial system to take advantage of the opportunities arising from the transition to sustainable finance. Projects are underway to identify the data elements needed by the financial sector - including information on companies exposed to risks.
- Improvement of the analysis from a macroeconomic point of view: Also, the central balance sheets will be used to estimate economic aggregates, such as inter-company transactions (commercial credits, capital increase, holding of securities, etc.) Current work has been launched to identify methods of aggregation and extrapolation of data calculated from CIFEN. This data could be used as part of financial accounts. 1.
- Use of new technologies to have qualitative or quantitative information on the activity of certain companies or sectors such as card payments, road traffic, satellite images, developments in remote product orders.

[1] Tissot B IFC Working Papers no. 15

6. REFERENCES

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Monitoring of the non-financial companies by central banks

BAKRIM WALID

12th biennial IFC Conference on **"Statistics and beyond: new data for decision making in central banks"**

BASEL, August 22-23

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Motivation for the central bank

To achieve their missions, central banks (CBs) are required to produce various economic indicators, to facilitates the assessment of the country's economic situation and have a better understanding of the financial situation of its economic agents, including Non-Financial Companies (NFCs). Bank Al Maghrib pays particular attention to data on NFCs and produces a range of economic and financial ratios to carry out its missions.

- **Financial stability :** Close monitoring of the financial situation of companies is essential when valuing the assets of financial institutions and the level trade credit can be a channel for contagion of payment defaults or even insolvencies.

- **Monetary policy :** In addition, analysis of companies' cash flow levels and their capacity to invest or create jobs is also important during the underlying analytical framework for formulating monetary policy.

Furthermore, the companies in Morocco present numerous factors of vulnerability, which not only slow down its development but also require rigorous economic analyses that requires high quality data. Bank al Maghrib, which has access to individual data related to NFCs can produce these statistics, **<u>it is the main task of Bank Al Maghrib's Central Balance Sheet Office : CIFEN.</u>**

Bank Al maghrib’s Central Balance Sheet Office - CIFEN Database

Background and milestones

- **2005 :** Bank Al Maghrib launched the project to set up a database of information on non-financial companies to strengthen its financial and statistical analysis capabilities.
- **2007 :** The Bank has signed a contract with the Moroccan Office for Industrial and Commercial Property to retrieve annually the financial statements (balance sheet, P&L statement.

➢ **regular meetings are held to incorporate more requirements in terms of data quality, company coverage and data availability time.**

Database description

DATA COLLECTION | **DATA PRODUCTION** | **ANALYSIS AND VARIOUS DELIVERABLES**

Data Reception

- **legal information**
- **Balance sheet Data**
- **P&L data**

Receipt of preliminary data around the end of the following year

Data Integration

An integrated database containing all the financial and legal data

CIFEN have around :
- 800 000 companies registered
- and 2 195 765 financial statement.

Data Quality Control

Various arithmetic and consistency checks are carried out

Calculation

Calculation of financial ratios

microeconomic and macroeconomic approaches to estimating aggregates

Analysis

Internal notes

Annual Reports

Aggregates & data sharing

- **Case study of the use of CIFEN - Covid crisis**

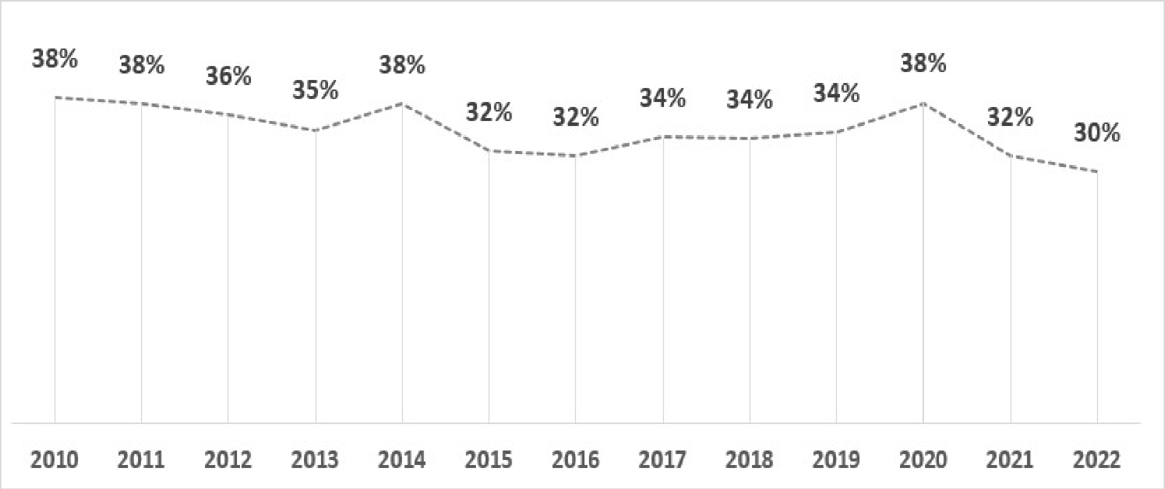
Bank Al-Maghrib took part in the committee actions, firstly by promoting access to bank credit for businesses, **by lowering its key rate, by increasing its refinancing capacity for banks and by strengthening its specific refinancing programme for SMEs.** The Bank also provided :

- Analyses and indicators to monitor evolutions in NFCS financial health, particularly cash flow levels
- Studies were carried out to estimate the financing needs of certain sectors, particularly the most affected by the health restrictions, such as accommodation, transport, catering and travel agencies.
- Analyses were carried out on invoice payment times, unpaid bank bills and payment incidents on cheques. These figures have been cross-checked with data from the incident database and the Credit risk database to ensure overall consistency.

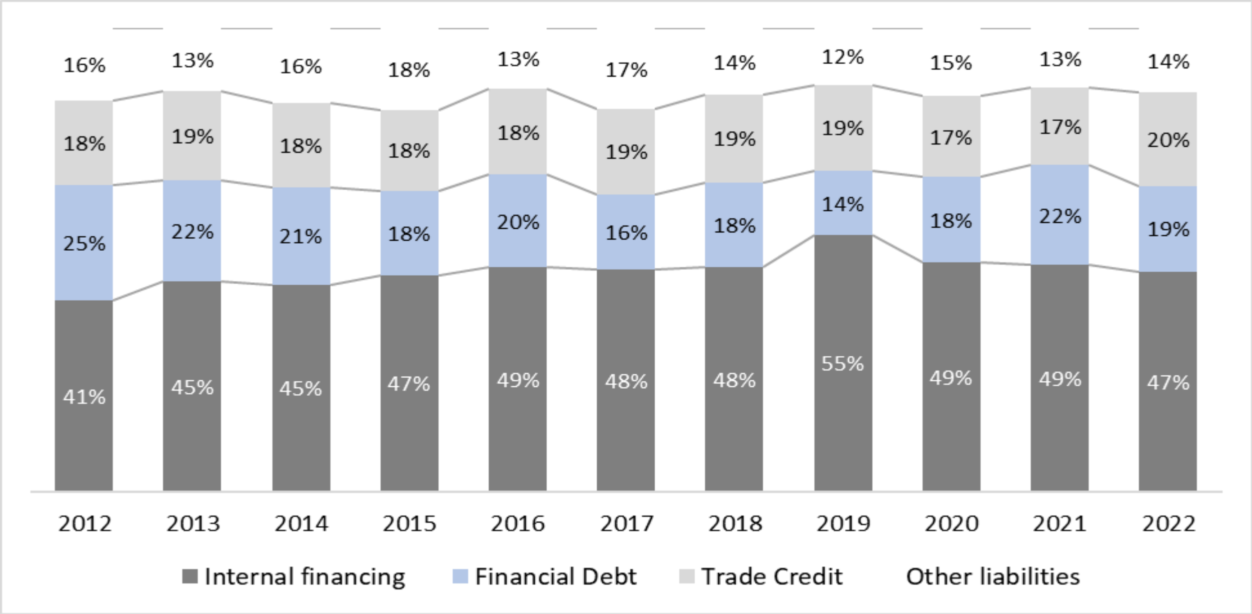
A number of measures had been taken to ease these cash flow pressures, including the suspension of social security payments, the introduction of a moratorium on bank loan repayments and the activation of a state-guaranteed credit line (Caisse de Garantie).

Main Findings and characteristics of the Moroccan companies

Evolution in the proportion of companies with financial debt as a liability between 2010-2022



Evolution of the NFCs liability's structure between 2012 and 2022

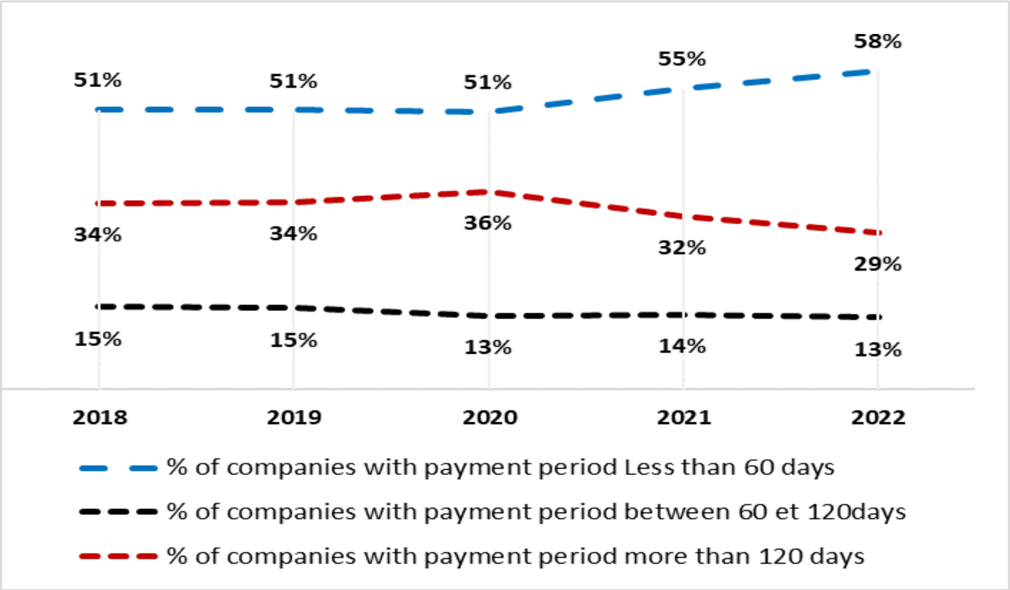


Corporate financing and debt levels

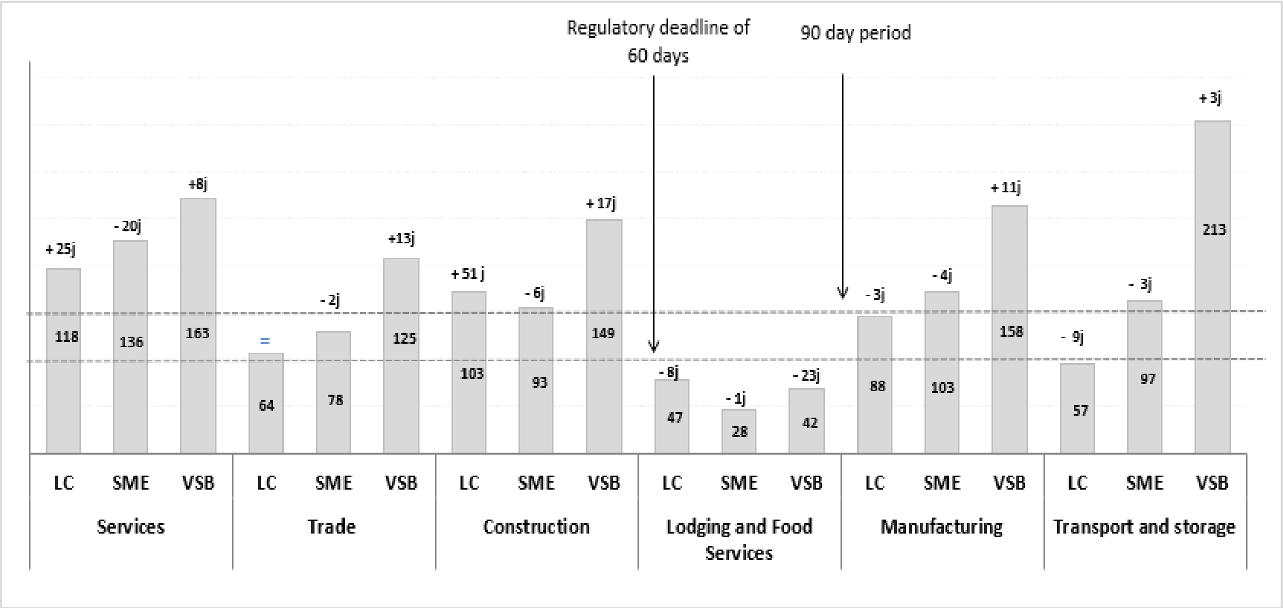
- **Companies disconnected from the financial system and do not complain,** with Internal financing remaining as the main source of financing;
- During the covid crisis, especially in 2021, the share of bank credit in the balance sheet increased to 22% **mostly cash credit lines only to get past the crisis.**
- **A large proportion of Moroccan companies are financed by trade credit, especially Large Corporations.**

Main Findings and characteristics of the Moroccan companies

Average Customer Payment Period In % of companies by payment period



Average Customer Payment Period by sector and size 21-22



Corporate financing and debt levels

- Major changes have been made to the legal framework (Between 2016 and 2023) to reduce delays, **including the introduction of penalties for late payers**.
- However, some sectors still suffer from long customer payment periods, such as construction and transport, with average periods around fives months.
- The very small business are the units who have hard time collect customer payments. On the other hand, Large companies seems to have shorter periods

Ongoing projects and work in progress

The bank also has launched a number of projects to enhance its data & statistics production in order to respond to various and new challenges and needs for data :

- **Extending and enriching analyses :** the CIFEN can play a central role in reconciling and cross-checking with other databases, in particular with securities and/or credit databases. An integrated database that would provide a panoramic view of all company-related data.

- **Improvement of the analysis from a macroeconomic point of view:** Also, the central balance sheets will be used to estimate economic aggregates, such as inter-company transactions (commercial credits, capital increase, holding of securities, etc.) Current work has been launched to identify methods of aggregation and extrapolation of data calculated from CIFEN. This data could be used as part of financial accounts. .

- **Climate change Data :** calculation and production of statistics to provide the Bank with reliable and comparable data on climate change **(NGFS).** These data will enable the financial system to take advantage of the opportunities arising from the transition to sustainable finance. Projects are underway to identify the data elements needed by the financial sector - including information on NFCs exposed to risks.

- **Use of new technologies and Advanced Analytics :** In order to have qualitative or quantitative information on the economic activity of certain companies or sectors such as card payments, road traffic, satellite images, developments in remote product orders.

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