ROYAUME DU MAROC

acaps

هيئة مراقبة التأمينات والاحتياط الاجتماعي

Autorité de Contrôle des Assurances et de la Prévoyance Sociale

بنك المغرب

BANK AL-MAGHRIB

الهيئة المغربية لسوق الرساميل

AUTORITÉ MAROCAINE DU MARCHÉ DES CAPITAUX

Annual financial stability report

Year

2021

ISSUE NO. 9

Annual financial stability report

Year
2021
ISSUE NO. 9

Foreword

Marked by the continued health crisis, the year 2021 was punctuated by the appearance of new variants of the virus and the restrictions that issued. In spite of this, economic activity at both global and national levels has recovered overall, thanks in particular to the support policies and stimulus packages adopted by almost all countries, including Morocco.

In the light of these developments, representatives of the Coordination and Systemic Risk Monitoring Committee (CCSRS), composed of Bank Al-Maghrib, the Insurance and Social Security Supervisory Authority (ACAPS), the Moroccan Capital Market Authority (AMMC) and the Department of Treasury and External Finance (DTFE) continued to hold their monthly sub-committee meetings in 2021 to assess the evolution of risk indicators for each component of the financial sector (banks, insurance, capital market and financial market infrastructures).

For its part, the CCSRS reviewed the summary of the sub-committee's monthly work at its half-yearly meetings, approved the eighth Financial Stability Report and examined the map of systemic risks and the results of stress tests on banks, insurance companies and management companies. In addition, it assessed the achievements of the Financial Stability Roadmap for 2019-2021 and validated the roadmap for the 2022-2024 period.

Despite severe disruptions due to the unprecedented fallouts of the health crisis, the assessment of the 2019-2021 roadmap is overall satisfactory with significant progress in both legal and regulatory framework, as well as in terms of analytical mechanisms and the development of macroprudential policy and instruments. These advances benefited from intense and fruitful coordination between authorities and with the DTFE with the aim of preserving the stability of the national financial system.

The year 2021 was marked, in particular, by the formalisation and disclosure of the strategic framework of macroprudential policy, the effective implementation of the monitoring of macroprudential indicators relating to the real-estate and household sectors as well as the tailoring of the banking sector's stress test mechanisms to the specificities of the health crisis. Stress test tools specific to Financial Market Infrastructures (FMIs) were also developed, tested and implemented.

In parallel, Bank Al-Maghrib continued its rolling-out of specific instruments for systemically important banks and financial conglomerates (FCs). On this last point, Law N°51-20 modifying and completing the Banking Law promulgated in July 2021 introduced a provision allowing the publication in the Official Gazette of the joint circular of the financial sector supervisory authorities relating to the supervision of FCs, after its approval by order of the minister in charge of finance. This provision aims at strengthening the regulatory power of the said circular.

As regards the insurance sector, the ACAPS continues the roll-out of the risk-based solvency system (SBR). Impact studies have been finalised and analysed with the sector to agree on the terms for the gradual implementation of this new prudential framework.

On its side, the AMMC continued its work on the regulation of the secondary market for private debt. It also carried out the scoping/framing work for the study phase of the project to set up a financial sector nomenclature, with the contribution of Bank Al-Maghrib and the ACAPS.

Regarding emerging risks and paradigm shifts induced or accelerated by the health crisis, the financial authorities continue their work to support Fintechs and to monitor risks related to crypto-assets and cyber-threats targeting the financial sector. On this last point, they have carried out a diagnosis of the current cybersecurity situation in banks, insurance companies and management companies, taking into account the impact of the entry into force of Law No. 05-20 on cybersecurity and the relevant decree. Financial regulators are working on another equally important aspect, which is the implementation of specific mechanisms for the management of financial risks related to climate change and the environment. Bank Al-Maghrib published a directive in this regard in March 2021 and the ACAPS is working on the drawing up of an instruction adapted to the insurance sector.

In terms of crisis resolution and management, work on the implementation of a mechanism for granting emergency liquidity is continuing in accordance with the Bank's statutory provisions. The relevant draft texts have been finalised and would come into force in 2022.

This report is structured around four chapters, outlining respectively:

1. The main risks arising from developments in the macroeconomic situation at the international and national levels and their impact on the Moroccan financial system;
2. Developments in the financial position of non-financial units and the ability to meet their obligations with respect to the financial system;
3. Assessing the soundness of financial institutions and their resilience, through the analysis of the main indicators and risks related to the banking, insurance and pension sectors;
4. Developments in capital markets and market infrastructures, with a focus on the assessment of the major risks to the stability of systemically important markets and infrastructures.

These chapters are preceded by a general summary that provides an overview on the assessment of the situation of the financial sector and its associated risks.

Contents

General overview

Mitigation of short-term risk following the economic rebound in 2021 at both the global and national levels. However, vulnerabilities are expected to increase over the medium term, in a context of high uncertainties.

After an unprecedented recession due to the health crisis, the global economy rebounded in 2021, albeit unevenly from one region to another, thanks to the fiscal and monetary support policies adopted by the various countries to mitigate the effects of the crisis and revive economic activity.

In Morocco, economic growth recovered significantly in 2021 to 7.9 percent after a sharp contraction of 7.2 percent in 2020, driven mainly by the progress in vaccination against Covid-19, continued fiscal and monetary stimulus combined with a very good agricultural season. The value added of agricultural and non-agricultural activities thus increased in 2021 by 17.8 percent and 6.6 percent, respectively.

In terms of outlook, however, geopolitical tensions in Ukraine and rising inflationary pressures have significantly darkened the outlook for the global economy and would likely intensify medium-term financial vulnerabilities. Under these conditions and due also to the persistent disruptions of the health crisis and the expected underperformance of the agricultural sector, domestic economic growth would slow down to 1 percent in 2022 before accelerating to 4 percent in 2023 according to Bank Al-Maghrib projections.

Widening current account deficit, due in particular to trade balance trends. The budget deficit and the Treasury's debt remain high in 2021, with uncertain prospects for their recovery.

As regards external accounts, the year 2021 ended with a wider current account deficit at 2.3 percent of the national GDP against 1.2 percent in 2020, mainly due to the deterioration of the trade deficit owing to a higher increase in imports compared to exports, both in volume and in value. For their part, although the official reserve assets improved to 330.8 billion dirhams, their coverage rate regressed in 2021 to 5 months and 29 days of imports of goods and services against 7 months and 4 days in 2020.

With regard to public finances, the budget deficit excluding proceeds from the sale of State holdings fell to 5.9 percent of GDP in 2021 after 7.1 percent in 2020, thanks in particular to an increase in ordinary revenues greater than that of overall expenditure, while the Treasury's indebtedness fell slightly to 68.9 percent of GDP in 2021 against 72.2 percent in 2020, thanks to the rebound in GDP following the change of the base year introduced by the HCP[1]. In view of the current situation, fiscal deficit would reach 6.3 percent of GDP in 2022 before decreasing to 5.6 percent in 2023. At the same time, the Treasury's debt-to-GDP ratio would increase to 70.1 percent in 2022 and 70.7 percent in 2023.

1 The HCP has in fact changed the base year of the national accounts from 2007 to 2014, thus generating revisions to the national accounts' aggregates and their increases. GDP in value, for example, increased by 81.4 billion dirhams on average between 2014 and 2020.

Deceleration of bank loans to the non-financial sector, mainly in connection with the end of the granting phase of the state-guaranteed loans initiated in response to the health crisis. The default ratio slowed down in 2021 but remains significant.

The financial debt of non-financial companies continued to slow down to 1.3 percent in 2021 compared to 2.7 percent in 2020 in a context marked by the completion of the granting phase of State-guaranteed loans distributed in response to the pandemic. This trend covers a 2 percent drop in the financial debt of public companies and a deceleration of private companies to 3.1 percent in 2021 against 3.9 percent in 2020, in connection with the slowdown of its banking component.

in view of the After-effects of the Covid-19 crisis, the default rate of non-financial companies continues to grow, albeit at a slower pace. Credit institutions' nonperforming loans to non-financial companies increased by 6.6 percent, after 11.5 percent in 2020, keeping their default rate at a significant level of 11.3 percent.

As regards households, their financial situation improved overall, with a steady growth in their financial assets and an increase of 4.8 percent in their debt after 2.7 percent in 2020, returning to its pre-crisis level. Their default rate increased to 9.4 percent compared to 21 percent a year earlier, with a default rate of 10.1 percent compared to 9.7 percent in 2020 and 7.6 percent on average over the 2015-2019 period.

Despite a risky environment, the financial sector remains resilient.

The banking sector, the main source of financing for the economy, has managed to keep its solid fundamentals in a difficult and uncertain environment, considering the main indicators of activity, profitability, liquidity and capital adequacy.

In addition to a generally sustained activity, the profitability of banks recovered significantly after the underperformance recorded in 2020. The aggregate net result on A corporate basis increased by 76.4 percent, benefiting mainly from the significant drop in the cost of risk and the base effect induced by the banking sector's contribution to the Covid-19 fund in 2020. In terms of capitalisation, banks posted an average solvency ratio of 15.8 percent on an individual basis and an average Tier 1 capital ratio of 12 percent compared to regulatory minimal levels of 12 percent and 9 percent, respectively, against 15.7 percent and 11.4 percent in 2020. On a consolidated basis, these ratios will reach 13.9 percent and 11.2 percent respectively in 2021. Under these conditions, the macro-stress solvency exercise based on Bank Al-Maghrib's projections of June 2022 continues to indicate, at this date, the ability of banks to face the scenarios simulating the deterioration of macroeconomic conditions and to continuously respect the regulatory requirements. In terms of liquidity, banks posted, at year-end, a short-term liquidity ratio of 187 percent, well beyond the regulatory threshold of 100 percent, amid stronger foreign exchange reserves and mitigated liquidity needs of banks.

Concerning the insurance sector, its key indicators show, overall, a return to the pre-crisis situation. Thus, it was able to regain good momentum and reach a growth level of 9.9 percent in 2021 in its turnover, compared to 1 percent a year earlier. The financial result rebounded by 64.7 percent, thanks to the good performance of the stock market, while the operating margin fell back, due in particular to the increase in the default rate, which returned to its pre-crisis level.

The net profit of the sector thus increased by 35 percent and its return on equity (ROE) rose to 9.5 percent. For its part, the ratio of unrealised capital gains on investments improved from 13 percent in 2020 to 15.5 percent in 2021. On the prudential level, the sector continues to generate a comfortable solvency margin compared to the regulatory minimum. This margin, which to date only covers the underwriting risk, could fall down with the entry into force of the Risk-Based Solvency framework. Furthermore, the stress test exercises carried out show that insurance companies are well resilient to shocks on the equity and property portfolio and to unfavourable macroeconomic and technical conditions.

Concerning pension schemes, the integration of contractual teachers of the Regional Academies of Education and Training (AREF) into the civil pension scheme managed by the Moroccan Pension Fund (CMR)) would, in the long run, mitigate the accumulated deficits. However, due to the very short viability horizon of this scheme, the integration of these teachers will not have a significant impact on its sustainability in the short term. The parametric reform of the general RCAR scheme has improved its sustainability horizons without providing a balanced pricing of future rights. The shrinking margins of manoeuvre from one year to the next require the acceleration of the implementation of the systemic reform of pension schemes.

The capital market was broadly stable in 2021 against a background of economic recovery, after 2020, a year marked by the negative effects of the health crisis.

Outstanding private debt increased slightly to 244.2 billion dirhams at the end of December 2021 against 236.5 billion dirhams a year earlier, while the overall volume of issuances declined by 20.9 percent. This drop is mainly driven by bond issuances which fell by 45 percent to 17.2 billion dirhams, both in the segment of issuances by way of private placement reserved for qualified investors (-42 percent), and in that of issuances by public offering (-49 percent). For their part, the issuances of negotiable debt securities, carried out mainly by banks, were down by 4 percent to 42.8 billion dirhams. The credit risk relating to the issuers of private debt through public offering remains limited, in the absence of the debt instalment repayments. The indebtedness of non-financial issuers remains overall under control at 80 percent of equity on average and is down after a two-year rise.

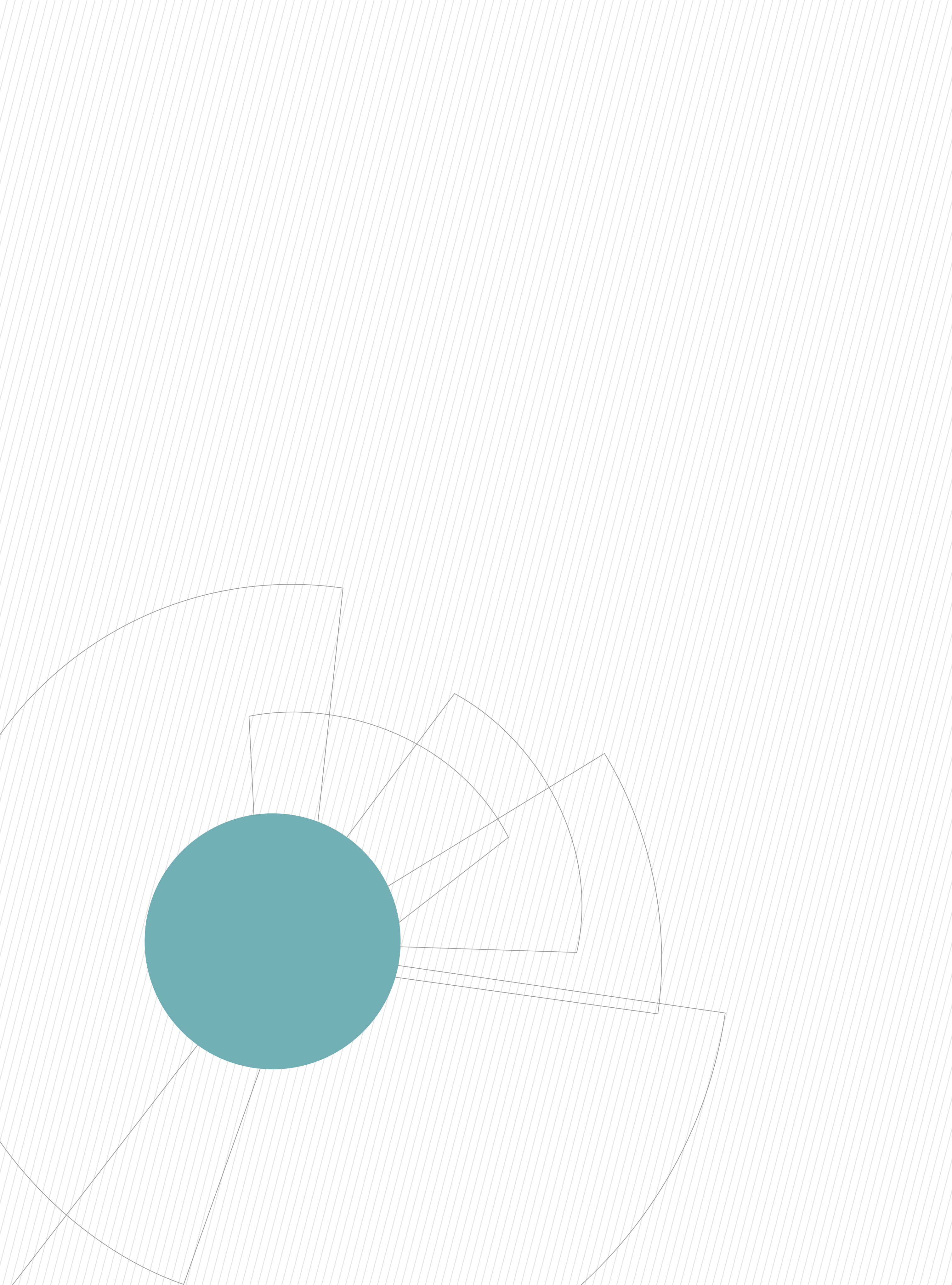
The MASI index, the benchmark of the stock market, posted a significant increase of 18.35 percent at the end of 2021, exceeding its pre-crisis maximum level. The average volatility of the index was moderate in 2021 at 7.1 percent, compared to 15.12 percent in 2020. The overall market valuation at the end of 2021 is clearly down compared to last year, while remaining high with a PER of 23.9x. The market's liquidity ratio, while still low, improved slightly in 2021 to 9.9 percent from 8.8 percent in 2020. As for the issuances of equity securities on the stock market, they remain limited with a volume of 3 billion dirhams, or the same level as that observed in 2020.

The activity of mutual funds (UCITS) is still resilient with a total net asset of 593 billion dirhams, up 13 percent, mainly invested in state-issued or guaranteed debt securities. This resilience is reinforced by the regulatory obligations governing, in particular, indebtedness, valuation and the division of risks within mutual funds. The market of real estate investment trusts (OPCI) also trended in a favourable way with net assets worth 21.6 billion, up 254 percent compared to the previous year. These assets are held by 21 OPCIs whose investment strategies mainly target administrative buildings, headquarters of financial institutions and educational institutions. As for other asset management segments, their outstanding assets remained limited, despite a strong growth. The securitisation market recovered with an issue of 3.5 billion dirhams in volume and total assets worth 11.6 billion dirhams. The private equity business recorded issuances worth 1.9 billion dirhams in volume.

The volume of security lending operations amounted to 185 billion dirhams in 2021, in a steady decline since 2018, and mainly concerns Treasury bonds at nearly 89 percent. Mutual funds remain the main lenders on the market with a share of 81 percent, while non-financial companies and banks represent the largest proportion of borrowers with shares of 34 percent and 33 percent, respectively. It should be recalled that following the amendment to the Securities Lending Law in August 2021, collateralization is now required for all securities lending transactions with the exception of intra-group transactions or transactions carried out by liquidity providers or market makers.

Confirmation of the resilience of financial market infrastructures, especially systemically important ones

In 2021, financial market infrastructures (FMIs) maintained a high level of resilience, both financially and operationally. The FMIs, especially the systemic ones, showed satisfactory reliability and availability levels, allowing participants to give their payment instructions and to settle them under the best possible security conditions. Moreover, the assessment of the resilience of FMIs according to the 24 Principles for Financial Market Infrastructures (PFMIs) issued by the Bank for International Settlements, continues to show a low risk level for financial stability.



Macroeconomic developments

Chapter 1

Overview

After a contraction of the world economy in 2020 as a result of the health crisis, the year 2021 has been marked by a recovery of economic activity in various countries, backed, in particular, by the macroeconomic policies undertaken earlier, but which remains, however, incomplete and uneven between the different regions.

At the domestic level, economic growth has recorded a remarkable recovery, rebounding to 7.9 percent at the end of 2021, after a contraction of 7.2 percent in 2020[2]. This rebound was supported by (i) the progress made in vaccination against Covid-19, (ii) the roll-out of the fiscal stimulus, (iii) the maintenance of the accommodating monetary policy stance and (iv) the good national agricultural campaign. As for the economic outlook, it is still surrounded by a high level of uncertainty, linked to geopolitical tensions in Ukraine and the expected underperformance of the agricultural sector. Against this background, growth is projected to decelerate to 1 percent in 2022, before accelerating to 4 percent in 2023.

As regards external accounts, the current account deficit widened to 2.3 percent of GDP at the end of 2021 from 1.2 percent in 2020. This development is due in particular to the trade balance which was marked by a more marked increase in imports compared to exports.

Concerning public finances, the budget deficit excluding proceeds from the sale of State holdings fell to 5.9 percent of GDP in 2021, down more than one percentage point compared to 2020. This drop is due in particular to a greater increase in ordinary revenues compared to overall expenditure. Under these conditions, the ratio of the Treasury's debt-to-GDP fell slightly from 72.2 percent at the end of 2020 to 68.9 percent in 2021, thanks to the rebound of GDP following the change in the base year operated by the HCP. In view of the emerging situation, the budget deficit would reach 6.3 percent of GDP in 2022 before decreasing to 5.6 percent in 2023. At the same time, the Treasury's debt-to-GDP ratio would reach 70.1 percent in 2022 and 70.7 percent in 2023.

In the real-estate market, asset prices fell by 3.2 percent compared to 2020. On the other hand, the number of transactions increased by 32.8 percent in 2021, after having dropped by 13.6 percent in 2020 due to the health crisis impact.

2 Under the combined effect of the health crisis and drought.

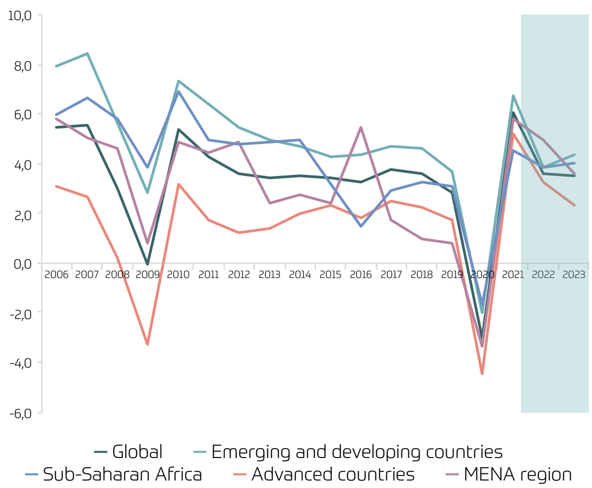
I.1. Analysis of the international environment

An uneven and incomplete recovery

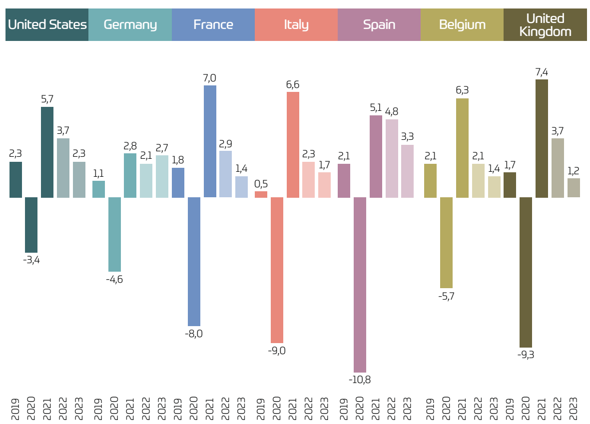
Following the contraction induced by the Covid-19 pandemic, global economic activity achieved an outstanding growth of 6.1 percent in 2021. This recovery was mainly driven by rapid and vigorous macroeconomic policy responses in various countries to limit the impact of the systemic shock on the real economy and, hence, on the financial sector.

The advanced economies started the fastest recovery in 2021, supported by massive population vaccination, the lifting of restrictions and recovery plans. Against a backdrop of rising private consumption and investment, GDP grew by 5.7 percent in the United States, 5.3 percent in the euro area and 7.4 percent in the United Kingdom. For its part, Japan recorded a slow return to growth (+1.6 percent) caused by the weakness of business investment.

Global Growth (in %)



Growth in the USA and in Morocco's main European partners (in %)



Source: IMF

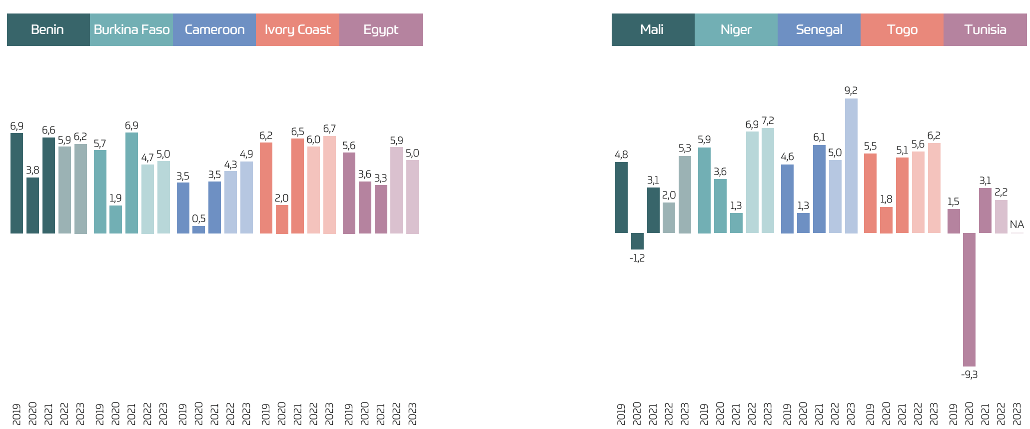
In emerging and developing countries, although GDP grew by 6.8 percent in 2021, the pace of recovery varied across regions. Several countries have been penalised by limited access to vaccines, notably in Europe and Asia, while others have suffered from the consequences of the pandemic on the main drivers of their economies (tourism, exports, etc.). On the other hand, the recovery in Latin America and the Caribbean was stronger than expected (+6.7 percent) due to the easing of restrictions decided following the pandemic and the improvement in external conditions.

For their part, the countries of the Middle East and North Africa benefited from the dynamism of domestic consumption and the continued transfer of remittances, hence the improvement of regional growth from -3.3 percent to +5.8 percent. However, the extent of the recovery remains uneven across economies, as evidenced by the strong rebound in Kuwait (-8.9 percent to

+1.3 percent), Tunisia (-9.3 percent to +3.1 percent) and the United Arab Emirates (-6.1 percent to +2.3 percent) and the limited, or even negative, growth in countries with persistent political and humanitarian challenges (Iraq, Sudan and Yemen).

The rebound in growth in Sub-Saharan Africa (from -1.7 percent to +4.5 percent) is the result of the marked improvement in world trade and the rise in commodity prices. By country grouping, GDP growth rose from 0.9 percent to 6.2 percent in the East African Community[3], from 1.8 percent to 5.6 percent in the West African Monetary Union[4] and from -1.6 percent to +1.4 percent in the Economic and Monetary Community of Central Africa (CAEMC) region[5]. Among the countries that posted marked growth rates compared with the previous year were South Africa (from -6.4 percent to +4.9 percent), Rwanda (from -3.4 percent to +10.2 percent) and Botswana (from -8.7 percent to +12.5 percent). As regards the main countries hosting Moroccan financial institutions, economic activity grew from 1.3 percent to 6.1 percent in Senegal, from 2 percent to 6.5 percent in Ivory Coast and from 0.5 percent to 3.5 percent in Cameroon.

Growth in the main countries hosting Moroccan financial institutions in Africa (in %)



Source: IMF

In terms of prospects, the consolidation of growth in the various countries could hardly begin in 2022. The economic projections have indeed darkened, following the Russian-Ukrainian conflict, which has led to a humanitarian crisis in Eastern Europe, financial stress and a rise in inflationary pressures (higher commodity prices and production disruptions). As a result, global growth is expected to be limited to 3.6 percent in 2022 and 2023, held back mainly by the slowdown of activity in emerging and developing countries.

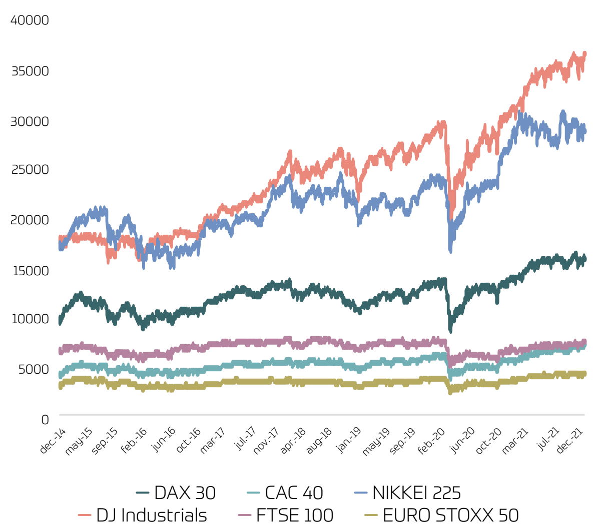
3 The East African Community is composed of five countries: Burundi, Kenya, Rwanda, Tanzania and Uganda.
4 The West African Monetary Union is a monetary zone comprising eight West African countries: Benin, Burkina Faso, Ivory Coast, Guinea-Bissau, Mali, Niger, Senegal and Togo.
5 The Central African Economic and Monetary Community is composed of six countries: Cameroon, the Central African Republic, the Republic of Congo, Gabon, Equatorial Guinea and Chad.

Gradual adjustment of financial markets after the pandemic crisis

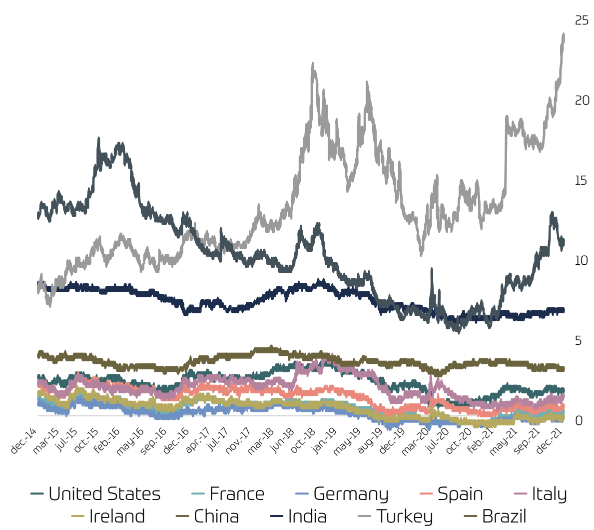
The stock markets ended the year 2021 at a high level, benefiting from the economic recovery. The Dow Jones Industrial, the Eurostoxx 50, the CAC40 and the DAX 30 rose by more than 15 percent, while the Nikkei 225 increased by 4.9 percent. This good performance was accompanied by high volatility, albeit at a lower level compared to 2020, caused by fears about the evolution of new virus variants, rising inflation and uncertainties about monetary policy decisions. In 2021, the VIX declined from 21.91 in January to 17.96 in December and the VSTOXX from 21.32 to 19.04. The MSCI EM fell slightly by 4.6 percent, mainly due to weak vaccination in several emerging countries.

Uncertainty also affected the bond markets, as evidenced by the rise in 10-year Treasury bond yields in both the major advanced economies and emerging and developing economies.

Change in stock market indexes



Change in sovereign rates



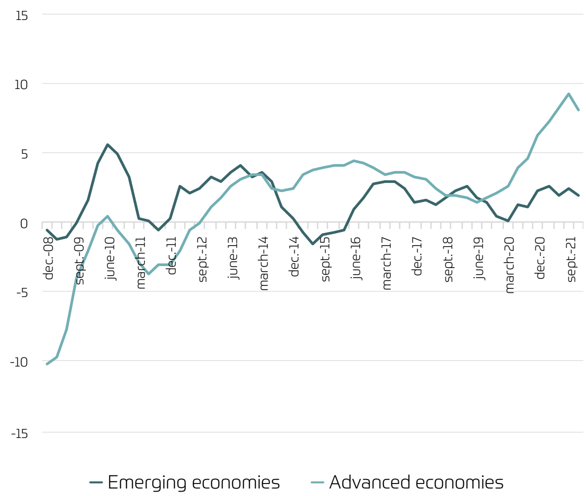
Source: Datastream

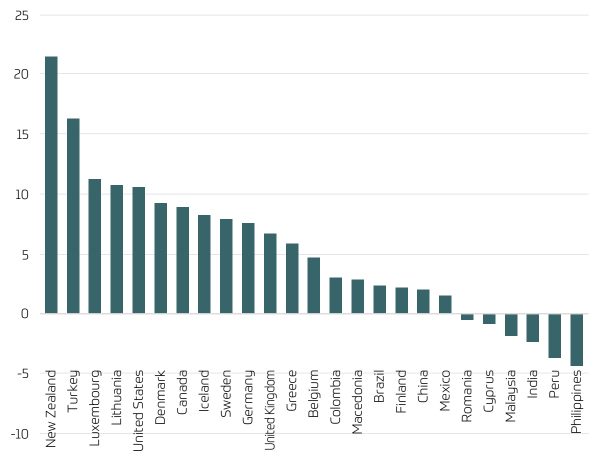
On the foreign exchange markets, renewed optimism about a stronger economic recovery in the United States compared to other countries, combined with the expected monetary tightening, supported the dollar against the euro, whose parity ended the year 2021 at 1.14 dollars against 1.23 dollars at the end of 2020. The currencies of the emerging countries depreciated overall against the dollar, with the exception of the Chinese yuan, which appreciated slightly during 2021.

Gradual recovery in housing markets

A nearly generalized increase in the value of residential property was observed in 2021, particularly in the advanced countries, where prices rose by 8.2 percent after 4.3 percent in 2020. This increase in the value of houses is explained by strong demand, which in turn was stimulated by the relatively low interest rates and the search for more spacious houses. The strongest changes were in New Zealand (21.5 percent after 8.3 percent), the Netherlands (11.9 percent after 6.3 percent) and the United States (10.6 percent after 5.1 percent). Yet, price growth was limited to 2.2 percent in the emerging countries, covering contrasting developments across countries, ranging from a decline in Malaysia (-1.8 percent) and the Philippines (-4.3 percent) to strong growth in Chile (7.1 percent) and Turkey (16.3 percent).

Growth rate of the housing property price index (in %)





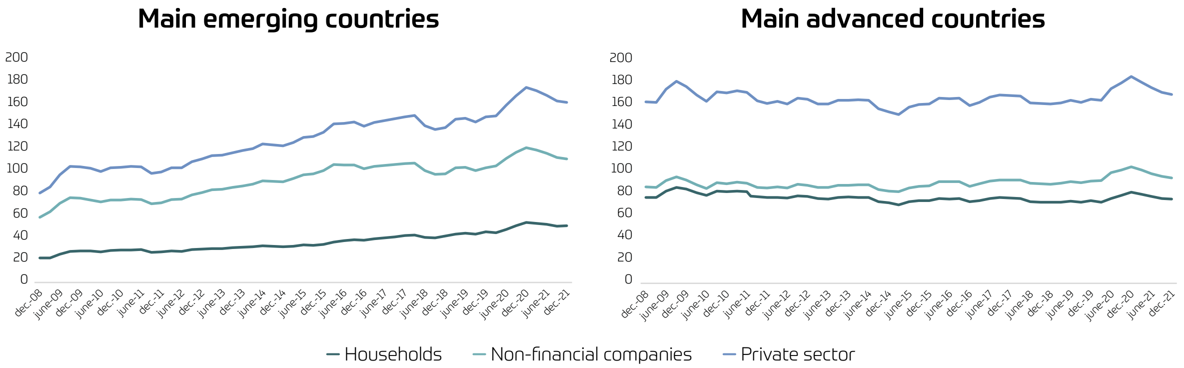
Source: BIS

Business properties have begun to recover from the impact of the pandemic, benefiting from the gradual recovery of economic activity. Therefore, several countries have registered a slowdown in price declines and even an increase in the value of business property.

Public and private debt levels remain high

The repercussions of the crisis continued to exacerbate the financing requirements of non-financial agents in 2021, keeping the volume of their debts at worrying levels, despite the slowdown in the pace of credit growth in several countries. Thus, household's debt-to-GDP ratio stood at 51 percent (after 54.2 percent) in emerging countries and at 75 percent (after 81.2 percent) in developed countries. As to the debt-to-GDP ratio of non-financial companies, it decreased by about 10 percentage points from 2020, to 111 percent in emerging countries and 94 percent in advanced countries.

Change in the debt-to-GDP ratio (in %)



Source: BIS

Public debt remained high in most countries, reflecting the major efforts of governments to counter the spread of Covid-19, combined with generally accommodating financing conditions. Public debt as a percentage of GDP indeed declined in advanced countries, falling from 123 percent to 120 percent as a result of the GDP rebound, but remains at levels above 100 percent of GDP, particularly in some euro area countries, Canada, Japan and the United States. The group of emerging and developing countries recorded an increase of 1.2 percentage points in public debt-to-GDP ratio, to 65 percent. This mainly reflects the increase in the debt of Asian countries, such as Thailand, the Philippines and Indonesia.

Growing financial vulnerabilities affecting medium-term financial stability

The mitigation of the effects of the crisis resulting from the health shock and the maintenance of international financial stability are likely to be disrupted in 2022 as a result of the Russian-Ukrainian war. In particular, the intensification of the conflict and its repercussions could exacerbate the financial vulnerabilities accumulated during the pandemic, including:

- Higher commodity prices, which would inevitably increase inflationary pressures in various countries, prompting a faster-than-expected normalisation of monetary policies;
- Direct and indirect exposure of financial institutions to Russia would damage the soundness of the financial sector in some European countries;
- Increased economic difficulties for non-financial companies that may be exacerbated by disruptions in supply chains and rising energy costs.

Furthermore, the Covid-19 pandemic has accelerated the use of digital financial services, increasing the related technological risks. Indeed, the materialisation of cyber-risks (cyber-attack) against, for example, a systemic institution or a technology company providing services to financial institutions could have negative repercussions on the financial sector as a whole. At the same time, the rapid development of the crypto-asset markets and their increased use by institutional investors would create new risks to financial stability.

In addition, the financial sector is likely to face, in the medium term, the consequences of rising (physical and transition) climate risks. Climate-related events could, indeed, lead to marked changes in asset prices and be concentrated in certain sectors and/or regions.

In order to mitigate financial vulnerabilities and reduce the likelihood of the above risks occurring, the IMF recommends that countries:

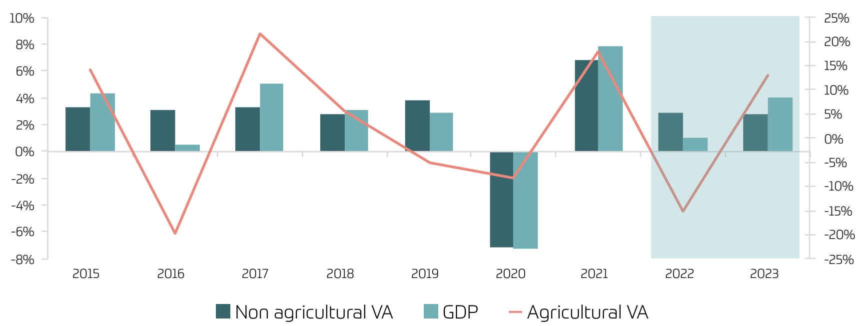
- Provide clear guidance on the normalisation process in order to avoid a disorderly tightening of financial conditions;
- Establish appropriate and flexible fiscal policies, especially for countries that have been hard hit by war and those that have experienced commodity price increases;
- Adopt targeted measures, including the tightening of the macroprudential framework, to contain the build-up of financial vulnerabilities during the policy normalisation process;
- Intensify efforts aiming to implement the COP26 roadmap in order to achieve carbo-neutrality targets;
- Integrate cyber risks into financial stability analysis.

I.2. Domestic macroeconomic developments

After an unprecedented recessionary shock in 2020, the Moroccan economy recorded a strong rebound in 2021

Following the example of the economic growth recovery observed internationally, the Moroccan economic activity rebounded in 2021, benefiting in particular from (i) the significant progress in vaccination against Covid-19, (ii) the roll-out of the fiscal stimulus, (iii) the maintenance of the accommodating monetary policy stance and (iv) the good national agricultural campaign. Under these conditions, growth rebounded sharply to 7.9 percent, after a contraction of 7.2 percent in 2020. This change covers an increase of 6.6 percent in non-agricultural value added and 17.8 percent in the value added of agricultural activities, after a decline of 6.9 percent and 8.1 percent, respectively, a year earlier.

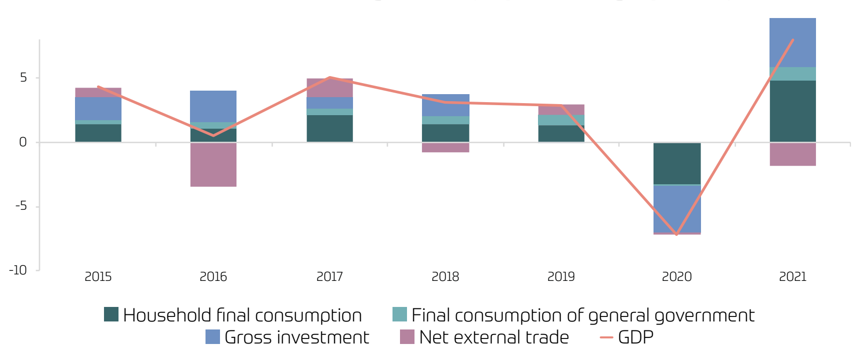
Change in GDP components (in %)



Source: HCP

Unlike the previous year, domestic demand made a positive contribution of +9.8 percentage points to economic growth, compared to -7 percent a year earlier, mainly due to the improvement in household final consumption and the recovery in investment. In contrast, net foreign trade made a negative contribution of 1.8 percentage points to economic growth, due to a more pronounced increase in imports of goods and services than in exports.

Contribution to GDP growth (in percentage points)



Source: HCP

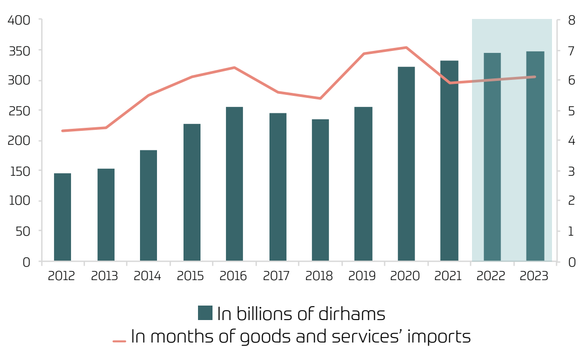
The economic outlook for the years 2022 and 2023 is considerably affected by the repercussions of the Russian-Ukrainian conflict, which comes at a time when the Moroccan economy is still weakened by the persistent disturbances due to the health crisis and the expected poor performance of the agricultural sector. Against this background, growth should decelerate to 1 percent in 2022, before accelerating to 4 percent in 2023, leading mainly to an expected recovery of agricultural activities. Inflation is projected to rise from 1.4 percent in 2021 to 5.3 percent in 2022, owing to the increase in its underlying component and the surge in energy and commodity prices on world markets in the wake of the Russian-Ukrainian crisis. Inflation is then expected to decelerate to 2 percent in 2023.

Recovering trade and widening current account deficit in 2021

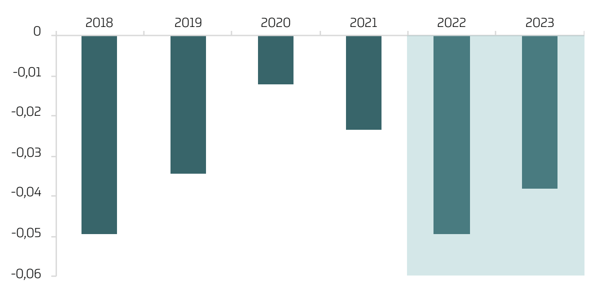
The year 2021 ended with a widening of the current account deficit to 2.3 percent of GDP, compared to 1.2 percent in 2020. This change is attributed to the deterioration of the trade deficit by 38.8 billion dirhams in the wake of the remarkable recovery of imports compared to exports. Remittances from Moroccan expatriates recorded an outstanding increase of 37.5 percent to 93.7 billion dirhams in 2021, while travel receipts showed a further decline of 5.9 percent to 34.3 billion dirhams after a decline of 53.7 percent in 2020, due to the persistent effects of the pandemic and continued travel restrictions. In addition, the net flow of foreign direct investments in Morocco (FDI) increased by 43.6 percent to reach 19.4 billion dirhams. As for the net flow of direct investments of Moroccans abroad, it slightly increased by 4.5 percent, to 4.6 billion dirhams.

Given these developments, official reserve assets rose by 10.2 billion dirhams to 330.8 billion dirhams at the end of 2021, against 320.6 billion dirhams a year earlier. However, in terms of months of imports of goods and services, the coverage rate dropped from 7 months and 4 days in 2020 to 5 months and 29 days of imports of goods and services, due in particular to the significant increase in imports both in volume and in value.

Official reserve assets



Current account deficit (in % of GDP)



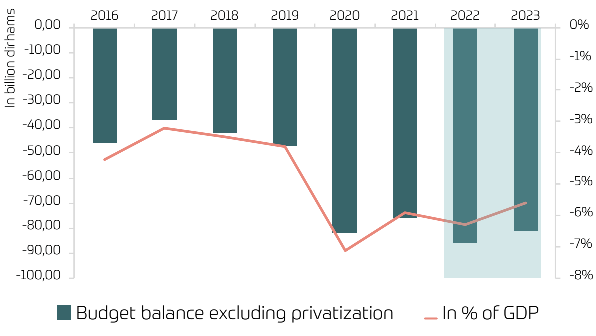
Source: BAM

Under the assumptions of incoming inflows and the Treasury's planned borrowings on the international markets, the official reserve assets would reach 342.5 billion dirhams in 2022 and 346.4 billion dirhams at the end of 2023, i.e. the equivalent of approximately 6 months of imports of goods and services.

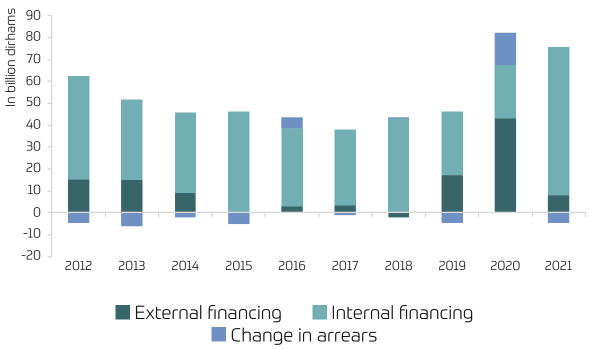
Drop in the budget deficit and decrease in the Treasury's debt-to-GDP ratio

The execution of the finance law at the end of 2021 showed a budget deficit excluding privatization of 5.9 percent of GDP, down from the previous year (7.1 percent in 2020). This fall reflects, in particular, a more significant increase in ordinary revenues (+10 percent) compared to overall expenditure (+4.7 percent).

Budget balance excluding privatization



Treasury financing

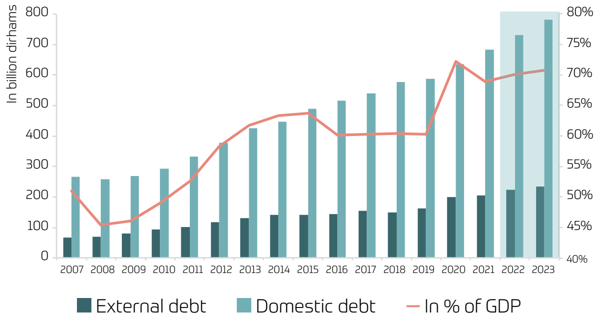


Source: BAM and MEF

In view of a drop in the stock of pending operations by 4.7 billion, the cash deficit reached 81 billion in 2021. Under these conditions, the Treasury's financing requirements were covered by domestic financing with a net flow of 67.5 billion dirhams and to the external market with a net flow of 8.1 billion dirhams, and by receipts from the sale of State holdings for 5.4 billion dirhams, resulting in particular from the sale of 35 percent of the capital of Marsa Maroc. As a result, the Treasury's debt ratio recorded a slight decrease of 3.3 percentage points, from 72.2 percent of GDP at the end of 2020 to 68.9 percent of GDP in 2021 following the rebound of GDP resulting from the change of the base year operated by the HCP[6]. This situation of the Treasury's debt is characterised by a predominance of the domestic debt constituting 53.1 percent of GDP against 15.9 percent of GDP for t external debt. The outstanding Treasury's domestic debt reached 681.5 billion dirhams at the end of 2021, up 7.7 percent compared to 2020. As for its external component, its outstanding amount reached the equivalent of 203.8 billion dirhams, up 2 percent compared to 2020.

6 The HCP has changed, at the level of national accounts, the base year from 2007 to 2014, thus generating revisions of the aggregates of the national accounts and their increases.

The Treasury's outstanding debt



Source: MEF

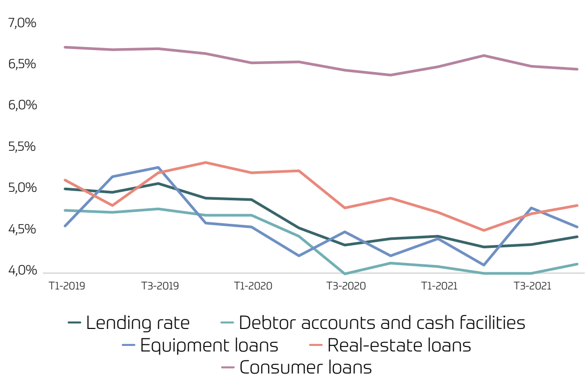
In terms of outlook, the budget deficit is expected to reach 6.3 percent of GDP in 2022, assuming the mobilisation of resources from the specific financing mechanisms and monopoly revenues. In 2023, it would narrow to 5.6 percent of GDP, due to the projected improvement in tax revenues.

For its part, the Treasury's debt-to-GDP ratio should increase to 70.1 percent in 2022 and 70.7 percent in 2023. The rising dynamics of the debt ratio could reduce the room for manoeuvre at the fiscal level and further accentuate the vulnerabilities that weigh on financial stability.

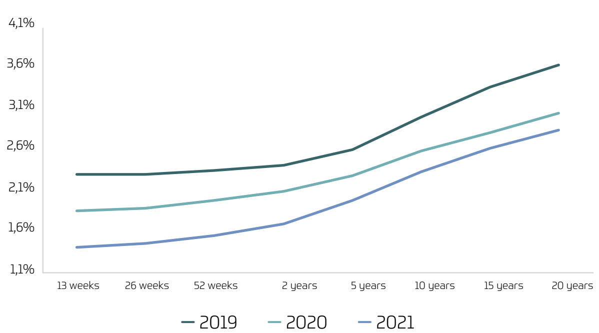
Easing of banks' liquidity needs and further slowdown in credit despite the downtrend in lending rates

Monetary conditions at the end of 2021 were marked by a decline in the overall borrowing rate, which averaged 4.39 percent compared to 4.55 percent a year earlier, thus continuing the downward trend observed over the past four years. This decline mainly concerns the rates on real-estate loans, debit accounts and cash loans. Similarly, interest rates on the secondary market for Treasury bills for the year 2021 continued their downtrend, particularly for short maturities.

Lending rate by economic purpose (in %)



Average Treasury bill rates on the secondary market



Source: BAM

Banks's liquidity requirement has decreased to 64.4 billion dirhams on average in the fourth quarter of 2021, reflecting the improvement of foreign exchange reserves and the maintenance of an accommodating monetary policy stance. It should increase to 78.2 billion dirhams at the end of 2022 and 91.9 billion at the end of 2023.

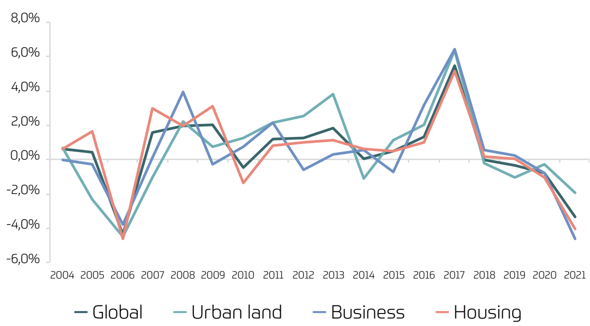
As regards the growth of loans to non-financial agents, it decelerated to 3.1 percent after 4 percent in 2020, in connection with the fall of loans granted to private and public enterprises. Over the forecast horizon, it should maintain a moderate pace of around 4 percent.

A drop in real estate prices and a remarkable rebound in the volume of property transactions

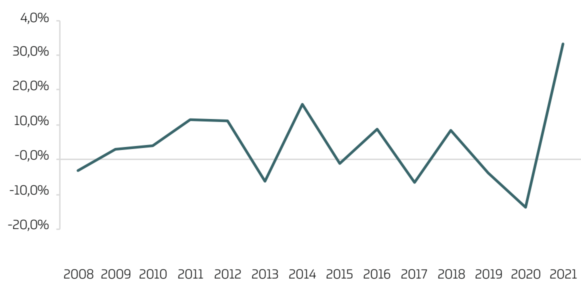
For the year 2021 as a whole, real-estate prices were down by 3.3 percent compared to the previous year's level. This depreciation includes decreases of 4 percent in the prices of residential assets, 1.9 percent in the prices of urban land and 4.6 percent in the prices of business property.

For its part, the number of transactions recorded a strong rise of 33.1 percent in 2021, after having fallen by 13.6 percent in 2020 following the impact of the Covid-19 crisis. This rebound concerned all categories of properties, with growth rates of 26.4 percent for residential property, 50.3 percent for urban land and 46.3 percent for business property.

REPI yearly change (in %)



Change in the number of transactions (in %)

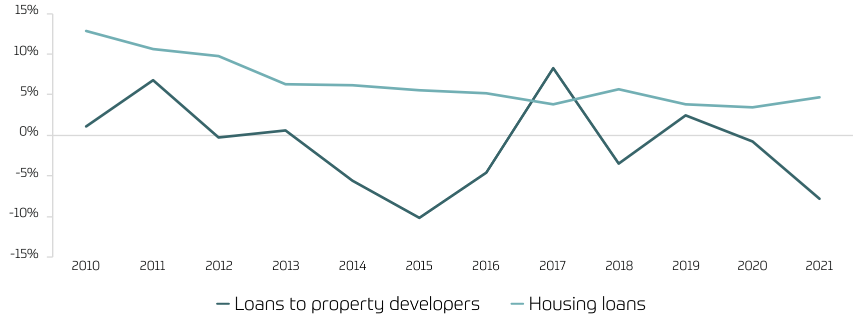


Source: BAM

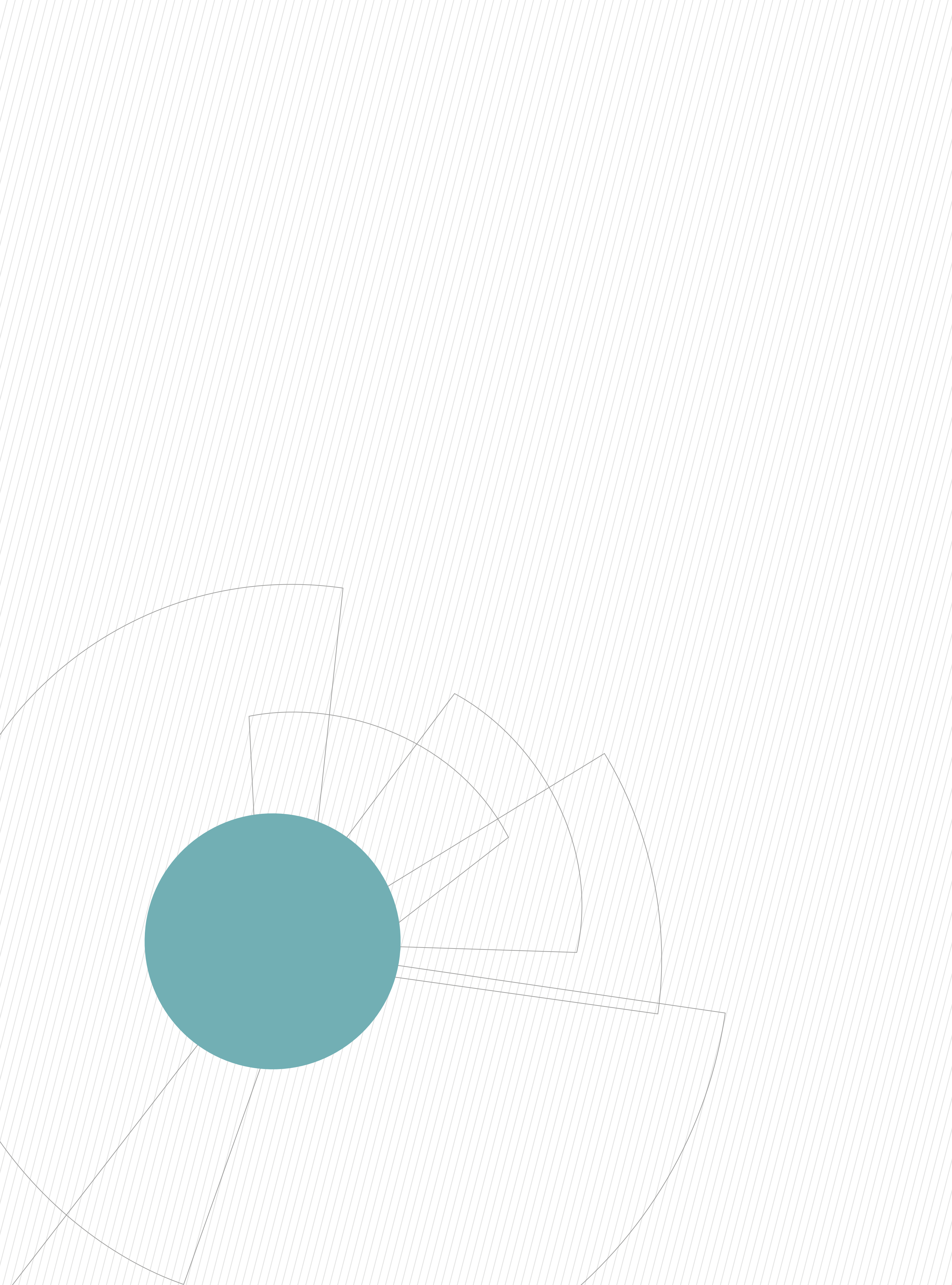
As to the outstanding real-estate loans, they increased by 2.4 percent to 291.1 billion dirhams at the end of 2021. This change is due in particular to the rise of housing loans (+4.7 percent), encouraged by the decrease in real-estate interest rates and the maintenance of certain tax advantages[7] for registration fees in the first half of the year 2021. On the other hand, the outstanding loans to real-estate development showed a fall of 8 percent at the end of 2021, reflecting in particular the continued disposal of unsold stocks leading the developers to limit their indebtedness.

7 The extension, until 30 June 2021, of the reduction of registration fees for property purchases which was introduced in the Amended Finance Law for the year 2020.

Growth of loans to property developers and housing loans (in %)



Source: BAM



Financial situation of non-financial agents

Chapter 2

Overview

In 2021, households' financial assets continued to grow at the same rate as last year, posting a growth of 5 percent after 5.1 percent in 2020 and 5.5 percent on average over the period 2015-2019. Its total amount reached 919.5 billion dirhams, including 754 billion dirhams in the form of bank deposits.

As to households' debt, it reached 386 billion dirhams, up by 4.8 percent against 2.7 percent in 2020, resuming its pre-crisis growth pace. Their outstanding debts totalled 38.8 billion dirhams, up by 9.3 percent against 20.9 percent a year earlier and representing 10.1 percent of the total loans granted to households against 9.6 percent in 2020 and 7.6 percent on average over the period 2015-2019.

Concerning public and private non-financial companies (NFC), their financial debt (bank, bond and external) decelerated again to 1.6 percent in 2021 against 2.4 percent in 2020, thus representing 69.3 percent of GDP. This slowdown covers a 2 percent decline in the debt of public enterprises, whose financial debt has been falling since 2015, and a deceleration of the financial debt of private companies to 3.2 percent in 2021, linked in particular to the slowdown of its banking component.

Moreover, the nonperforming loans of non-financial companies increased by 6.6 percent in 2021 to 61 billion dirhams, after a rise of 11.3 percent in 2020, thus maintaining their default rate at 11.3 percent.

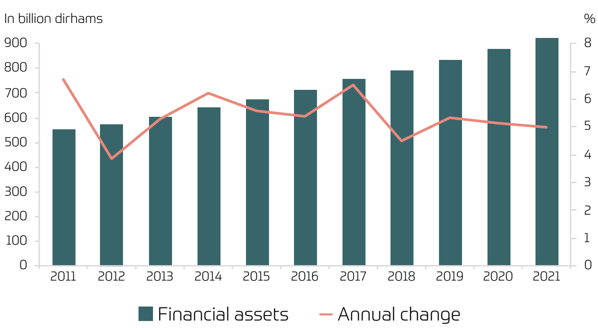
The study of the indebtedness of a sample comprising 74,238 public and private non-financial companies cumulating, at the end of 2020, a turnover of 584 billion dirhams, shows an amount of nearly 350 billion dirhams in medium and long term financing debts, or 48 percent of their permanent capital and short-term debts nearing 50 billion dirhams, or 9 percent of the turnover. This study also reveals the persistence of longer payment periods exceeding 200 days of sales for the VSE segment, with nearly 50 days more compared to the previous year. At sectoral level, the activity branches most affected by the increase in payment periods are the «Manufacturing industry», «Transport and warehousing» and «Real-estate activities» sectors.

II.1. Households

Households' assets grew at the same rate as in 2020

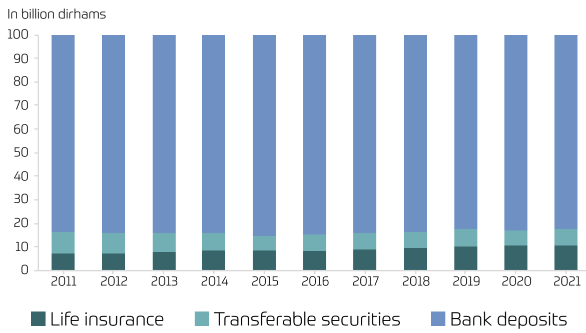
Households' financial assets[8] continued to grow at a similar pace to last year, at 5 percent against 5.1 percent in 2020 and 5.5 percent on average over the period 2015-2019. Their overall amount stands at 919.5 billion dirhams,82 percent of which is in bank deposits[9], 11 percent in life insurance investments and 7 percent in securities. This structure remains virtually unchanged from one year to another.

Change in households' financial assets (billion Dirhams)



Source: BAM

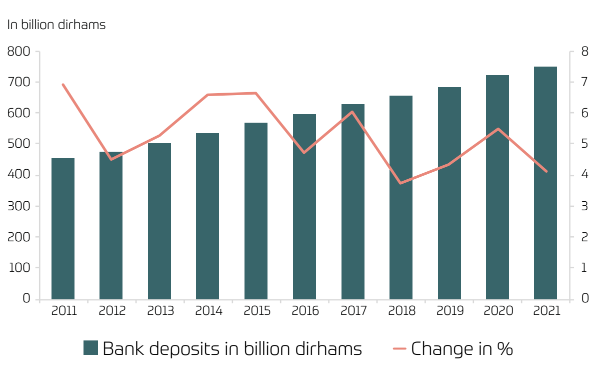
Structure of households' financial assets (in %)



Source: ACAPS and BAM

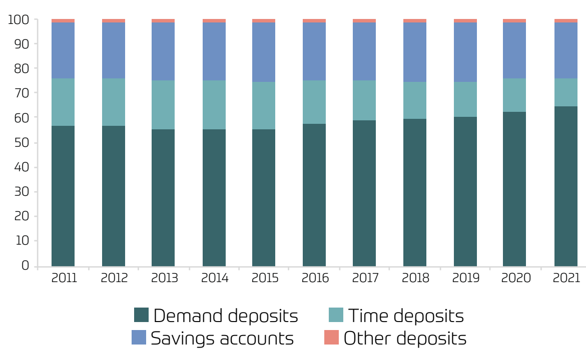
Households' bank deposits grew by 4.1 percent in 2021 against 5.5 percent in 2020, to 754 billion dirhams. Broken down by category, the share of sight deposits in total deposits increased to 65 percent after 63 percent a year earlier, while the share of time deposits decreased by 1.4 points to 12 percent. The share of savings accounts remained stable at around 23 percent.

Change in bank deposits



Source: BAM

Structure and change of households' deposits, in %



Source: BAM

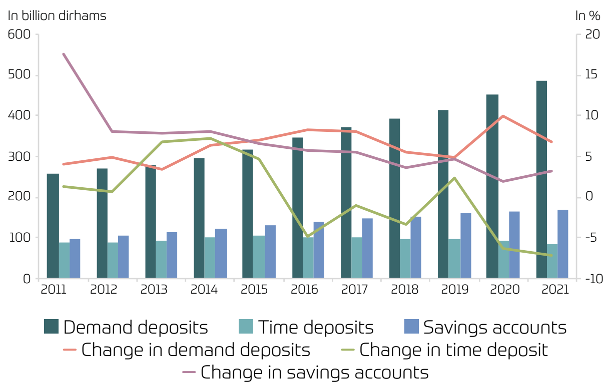
8 Excluding cash.
9 ??????

Demand deposits hence totalled 487 billion dirhams, with a surplus of 31 billion dirhams, reflecting an increase of 6.8 percent after 10 percent a year earlier.

The contraction of time deposits was further confirmed at the end of 2021, reaching 7.1 percent after 6.4 percent in 2020. The lack of interest in this product stems from the downtrend in interest rates observed since 2015. Year-on-year, interest rates on 6-month deposits have fallen from 2.51 percent to 2.19 percent and from 2.80 percent to 2.53 percent for 12-month deposits.

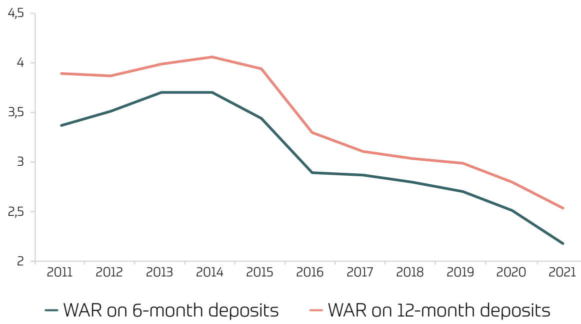
Savings accounts, for their part, increased by 3.1 percent to 172 billion dirhams, against 1.9 percent a year earlier. This growth remains below the average growth rate (5.2 percent) observed over the period 2015-2019.

Change in the components of bank deposits



Source: BAM

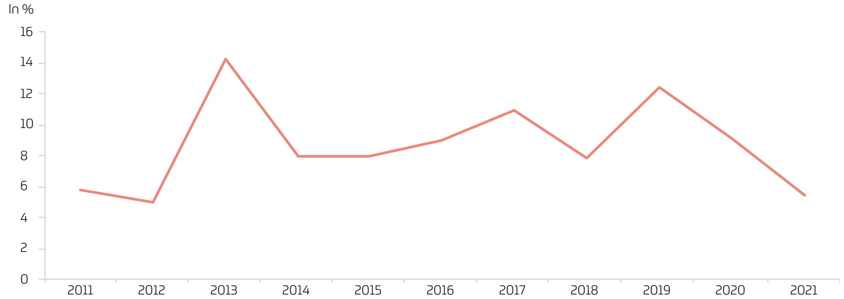
Change in interest rates on time deposits, in %



Source: BAM

Households' investments in life insurance contracts increased by more than 5 billion dirhams from one year to the next, to a total of 99.4 billion dirhams in 2021, with an increase of 5.4 percent compared to 9.1 percent a year earlier. Despite their sustained pace, subscriptions to this type of investment have trended downward since 2015, with the exception of the year 2019 when their growth reached to 12.4 percent.

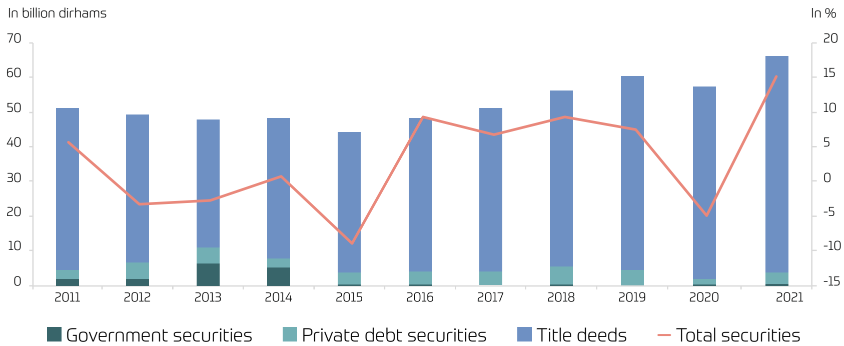
Change in households' investments in life insurance



Source: ACAPS, BAM calculations

Concerning securities, investments of individuals grew significantly in 2021 by 15.2 percent after a decrease of 5 percent in 2020, thus accumulating a total amount of 66 billion dirhams. This increase is due, in particular, to the 12 percent rise in title deeds, which amounted to 62.3 billion dirhams, followed by private debt securities which doubled compared to 2020, from 1.7 billion dirhams to 3.4 billion dirhams. For their part, households' investments in government securities increased slightly in 2021, after a remarkable decline since 2016. Their outstanding amount stood at 0.3 billion dirhams, representing 0.5 percent of total households' security holdings.

Change in households' security holdings



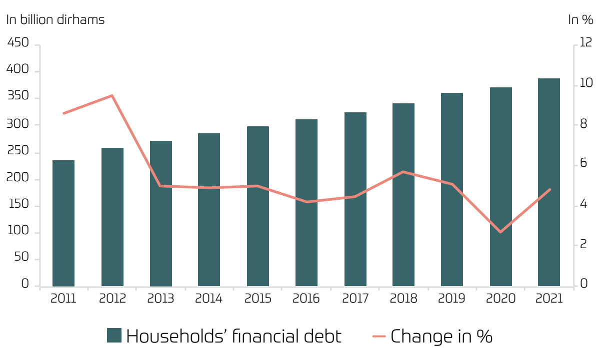
Source: BAM

Overall households' debt has resumed its pre-2020 growth

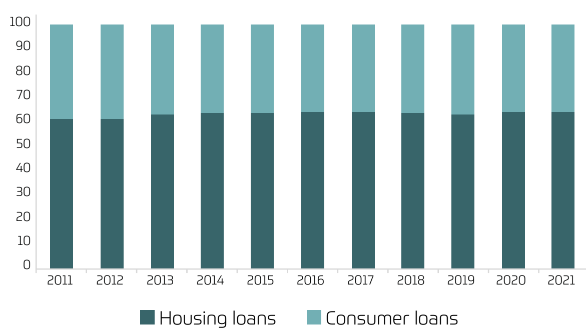
The overall debt of households reached 386 billion dirhams, 13.3 billion dirhams of which stemmed from participatory financing. It increased by 4.8 percent against 2.7 percent in 2020, thus approaching its average growth level of 4.9 percent observed over the period 2013-2019.

Composed of housing loans for 65 percent and consumer loans granted by banks and finance companies for 35 percent, households' overall debt continued to represent more than a third of these institutions' loan portfolio.

Change in households' financial debt



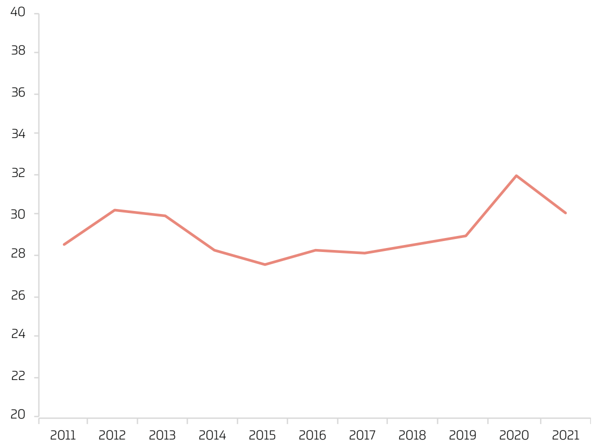
Structure of households' financial debt, in %



Source: BAM

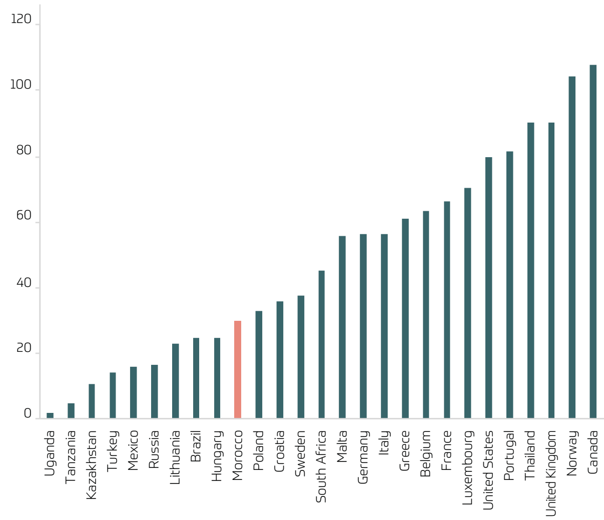
Overall households' debt-to-GDP ratio declined from 32 percent to 30 percent at the end of 2021, in connection with the recovery of GDP from its sharp contraction in 2020. Compared to other economies, this ratio remains well below that observed in several countries, notably developed economies.

Moroccan households' financial debt, as a percentage of GDP



Source: BAM

Households' debt as a percentage of GDP



Source: IMF

Residents' indebtedness, representing a dominant share in the overall debt of households[10], reached 366 billion dirhams with an annual growth rate of 4.7 percent against 3.2 percent one year earlier. As a ratio to GDP, it fell from 30 percent to 28 percent.

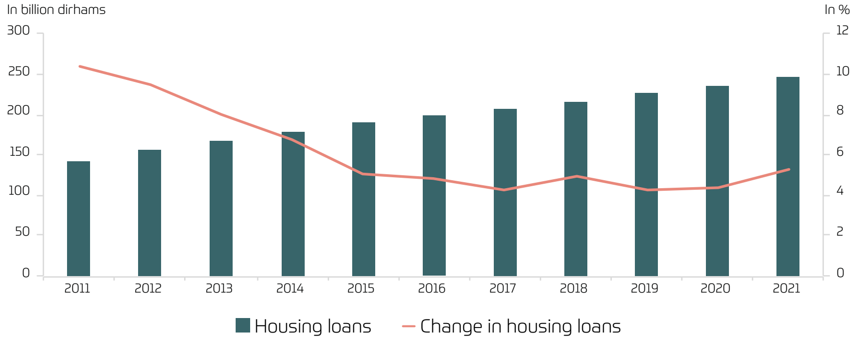
The indebtedness of Moroccan expatriates accumulated nearly 20 billion dirhams, with an increase of 6.7 percent after the decline of 5.1 percent recorded in 2020. This debt represented 28.9 percent of their transfers against 27.5 percent a year earlier.

Housing loans are mostly granted at a fixed rate, which represents an interest rate risk for banks

The outstanding housing loans at the end of 2021 reached 248.4 billion dirhams, with an increase of 4.5 percent against 4.6 percent in 2020 and 4.7 percent on average over the period 2015-2019. Compared to the last decade, its growth rate has largely decelerated particularly in connection with the sluggishness observed in recent years in the real-estate market.

10 An average of 93 percent since 2005.

Change in housing loans

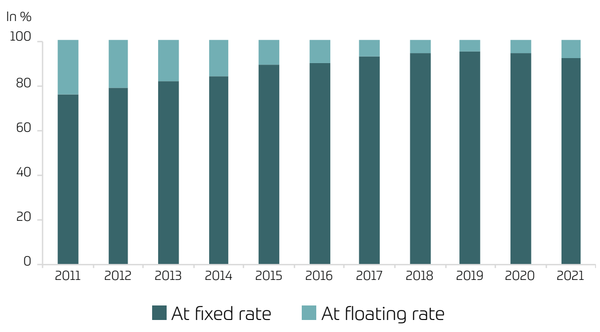


Source: BAM

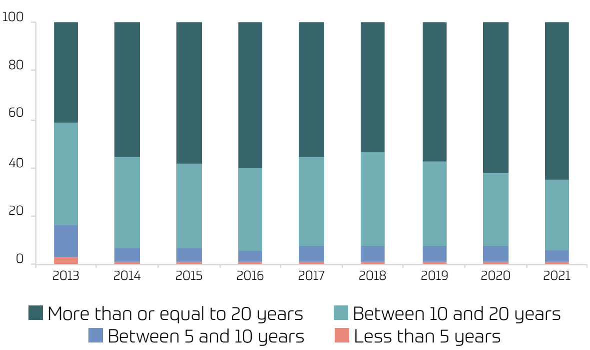
Almost all housing loans, or 92 percent of the total outstanding loans distributed, are granted at a fixed interest rate. The maturity of this type of loans has become increasingly longer in recent years, with the 20-year or more maturity currently accounting for more than half.

The extension of the maturities of housing loans increases the debt capacity of the beneficiaries, but the predominance of loans granted at fixed interest rates constitutes a risk for the banks, particularly in the event of a rise in interest rates in the future.

Breakdown of housing loans by type of interest rate



Breakdown of housing loans by maturity in percentage of total loans



Source: BAM

Box 1: Change in state-guaranteed housing loans

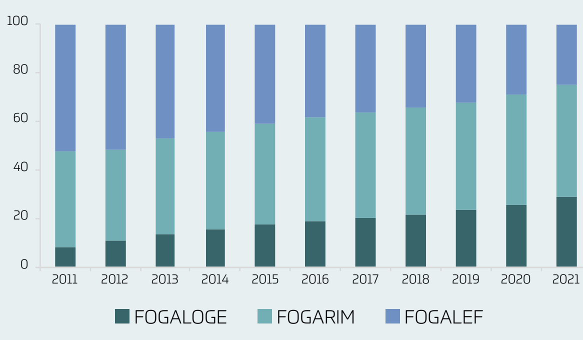
By the end of 2021, state-sponsored loans accounted for almost 18 percent of total housing loans.

Those granted within the framework of «Damane Assakane» increased from 31 billion dirhams to 33 billion dirhams, with a 6.7 percent increase against 4.8 percent in 2020. This change covers a 13 percent rise in FOGALOGE[11] loans, followed by 3 percent for FOGARIM[12] loans, to 13 billion and 20 billion dirhams, respectively.

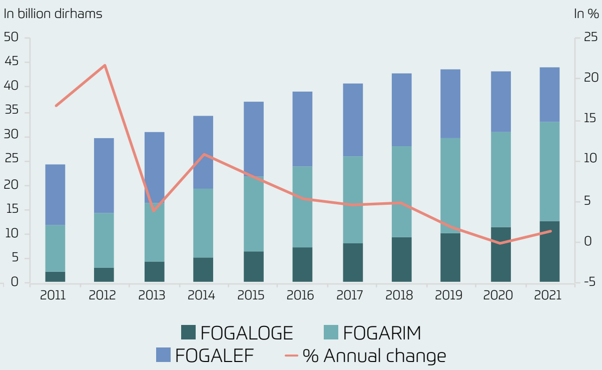
On the other hand, FOGALEF[13] loans fell by 12 percent, reaching an amount of 11 billion dirhams. The decline in these loans specifically intended for members of the Mohammed VI Foundation for Social Works in Education, has been observed since 2014.

The breakdown shows that FOGARIM loans make up 46.2 percent of the total State-backed loans, followed by FOGALOGE and FOGALEF loans with respective shares of 28.9 percent and 25 percent. This breakdown has gradually changed over the last ten years, where FOGALEF loans account for more than half of the loan portfolio.

Breakdown of guaranteed loans, in %



Change in loans encouraged by the State

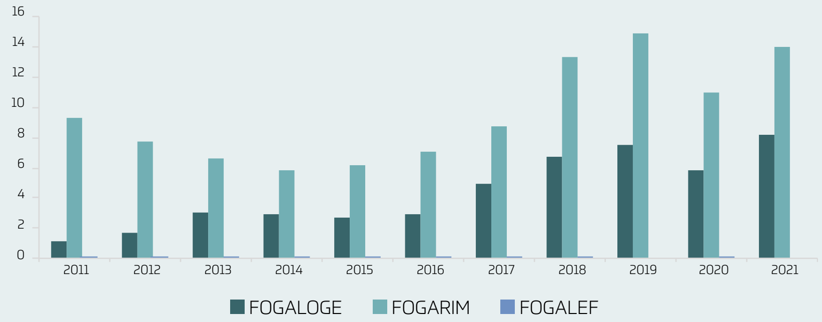


Source: TAMWILCOM

The default rate on FOGARIM loans increased by almost 3 percentage points to 13.8 percent from 10.9 percent in 2020. FOGALOGE and FOGALEF loans recorded default rates of 8.1 percent and 0 percent, respectively.

11 Guarantee Fund for Housing Loans to Public Sector Staff
12 Guarantee fund for households with irregular and small-incomes
13 Guarantee fund for housing loans intended for members of the Mohammed VI Foundation for the Promotion of Social Works for Education Training staff.

Change in the rate of nonperforming loans, in %

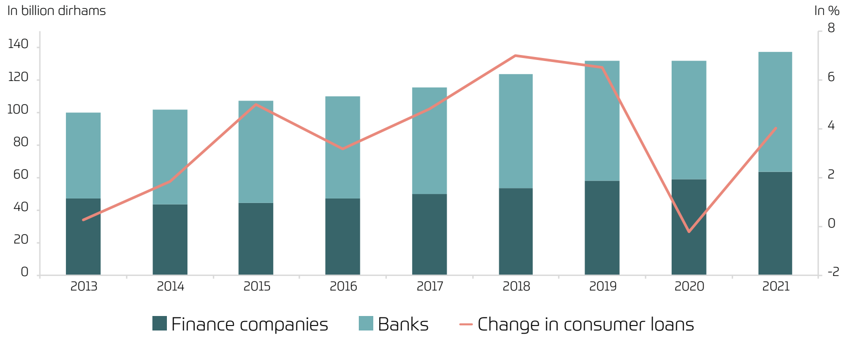


Source: TAMWILCOM

Outstanding consumer loans regained momentum after contracting in 2020

After a contraction of 0.7 percent in 2020 due in particular to the decline in demand and the deterioration of the financial conditions of households, following the repercussions of the health crisis, the outstanding consumer loans increased by 5.3 percent in 2021, totalling 136 billion dirhams, 54 percent of which were granted by banks.

Change in consumer loans

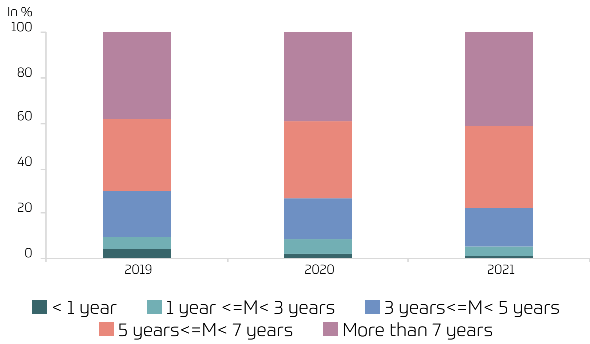


Source: BAM

According to the annual survey of Bank Al-Maghrib on household loans, personal loans represent the predominant share of the loans granted with 70 percent, followed by car loans (14 percent), household equipment loans (11 percent) and cards (4 percent).

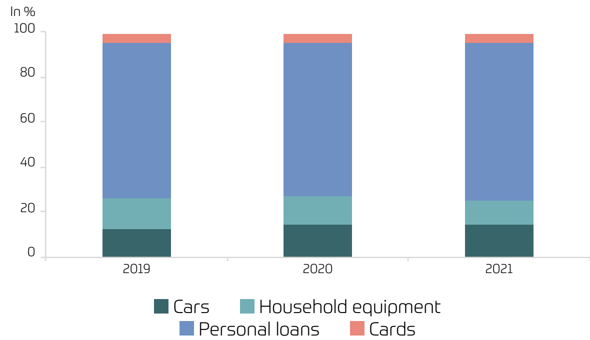
The repayment period for consumer loans has become increasingly longer in recent years. Loans granted for a period of more than 5 years represented 78 percent in 2021, compared to 74 percent in 2020 and 71 percent in 2019.

Structure of consumer loans by maturity



Source: BAM survey

Structure of consumer loans by purpose



Source: BAM survey

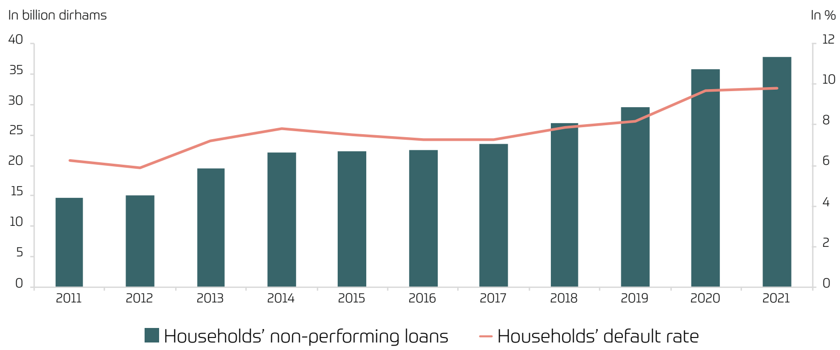
Households' default rate continued to rise in 2021

The outstanding non-performing loans of households' increased by 9.4 percent against 20.9 percent in 2020, to 38.9 billion dirhams. The default rate thus stood at 10.1 percent against 9.6 percent before and an average of 7.6 percent over the period 2015-2019.

Residents' non-performing loans totalled 37.1 billion dirhams, with an increase of 10.2 percent against 20.8 percent in 2020. Their default rate reached 10.1 percent against 9.6 percent in 2020 and an average of 7.6 percent over the period 2015-2019.

The non-performing loans of Moroccan expatriates fell by 8 percent to 1.7 billion dirhams, after having recorded a 23 percent increase in 2020.

Change in households' non-performing loans and default rate



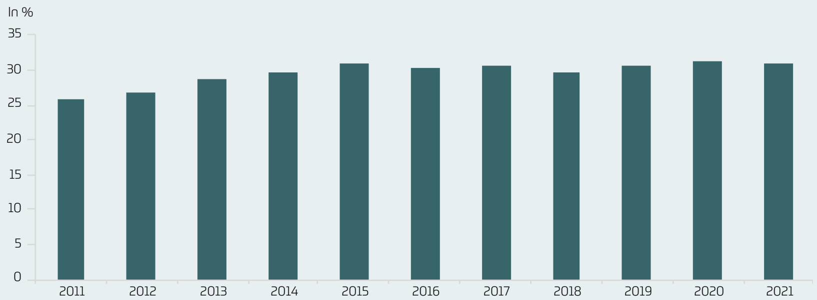
Source: BAM

Box 2: Analysis of the indebtedness of individuals and their socio-professional characteristics

An analysis of the characteristics of the beneficiaries of loans granted in 2021 (new or renewed loans) is presented below, according to their socio-professional category, their age group and their income bracket, with a focus on individuals with a debt burden exceeding 40 percent of their income. This analysis is based on data collected from credit institutions*, covering nearly 400,000 credit files in total.

The average debt ratio calculated from this data set reached 31 percent, a level comparable to previous years.

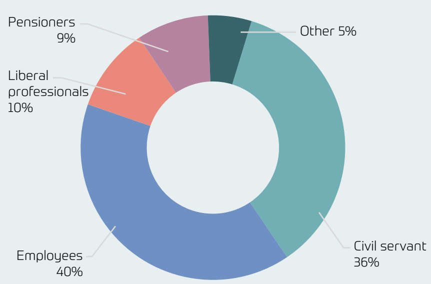
Average debt ratio



(*) Main consumer credit companies and some banks

Broken down by socio-professional category, the average debt ratio varies. Employees make up 40 percent of beneficiaries, with an average debt ratio of 27.4 percent. Civil servants account for 36 percent and their average debt ratio is 36.6 percent. Those exercising liberal professions and pensioners account for 10 percent and 9 percent respectively, with average debt ratios of 26 percent and 28.9 percent.

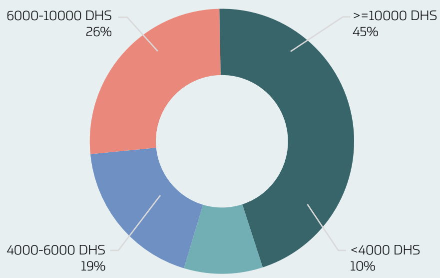
Breakdown of beneficiaries by socio-professional category**



(**) Beneficiaries of new loans from credit institutions in 2021

By income bracket, the total amount of loans granted in 2021 is held up to 71 percent by beneficiaries whose income exceeds 6,000 dirhams, with an average debt ratio of 31.6 percent. Beneficiaries with income ranging between 4,000 and 6,000 dirhams and those whose income is less than 4,000 dirhams benefited respectively from 19 percent and 10 percent of the total amount of granted loans and their average debt burden amounted, respectively, to 32 percent and 28.4 percent.

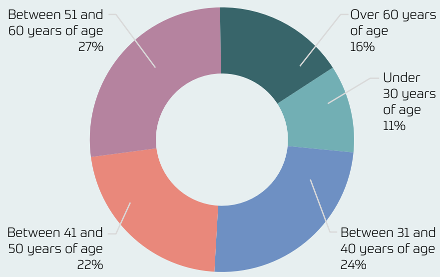
Breakdown of beneficiaries by income group**



(**) Beneficiaries of new loans from credit institutions in 2021

By age group, beneficiaries aged between 31 and 40 make up 24 percent of all the files examined and their debt burden as a ratio of their income stands at 28.3 percent on average. This burden stands at 32.4 percent for the 41-50 age group and 36.6 percent for the 51-60 age group, which account for 22 percent and 27 percent, respectively. Borrowers under 30 years of age account for 11 percent of the files analysed and their level of indebtedness stands at 24.5 percent. People over 60 years of age account for 16 percent and their average debt burden stands at 29.5 percent.

Breakdown of beneficiaries by age group**

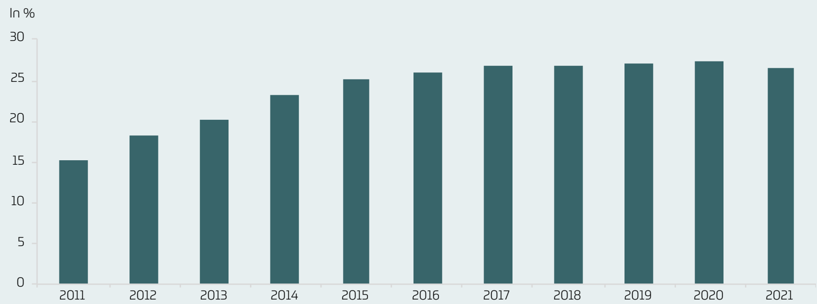


(**) Beneficiaries of new loans with credit institutions in 2021

Analysis of the profile of individuals whose debt ratio exceeds 40 percent

Based on the analysed files, the proportion of beneficiaries with debt levels exceeding 40 percent of their income reached 26.4 percent compared to 27.3 percent a year earlier.

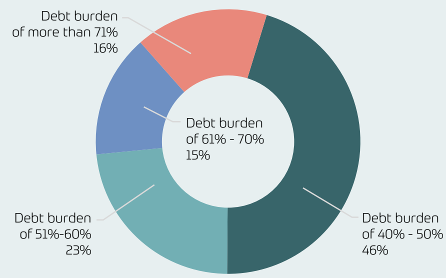
Share of beneficiaries ** whose debt ratio exceeds 40%



(**) Beneficiaries of new loans from credit institutions in 2021

An analysis of the distribution of beneficiaries with a debt ratio above 40 percent shows a 46 percent share for those with a debt burden standing between 40 percent and 50 percent of their income, followed by those with a debt ratio between 51 percent and 60 percent with a 23 percent share. Individuals with a debt burden of between 61 percent and 70 percent and those with a debt burden of more than 71 percent have a share of 15 percent and 16 percent, respectively.

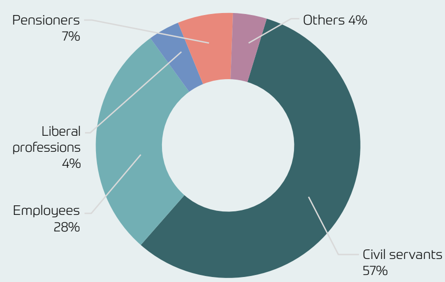
Breakdown of beneficiaries ** whose debt ratio exceeds 40 percent, by debt level



(**) Beneficiaries of new loans from credit institutions in 2021

Civil servants and employees represent almost all of the most indebted individuals, with a proportion of 85.3 percent, and concentrate more than 80 percent of the total amount of loans granted to this category of borrowers. The average debt ratio stands at 58.5 percent for civil servants and 51.2 percent for employees. Those carrying out a liberal profession and pensioners have shares of 4 percent and 7 percent, respectively, with average debt ratios of 52.7 percent and 54.6 percent.

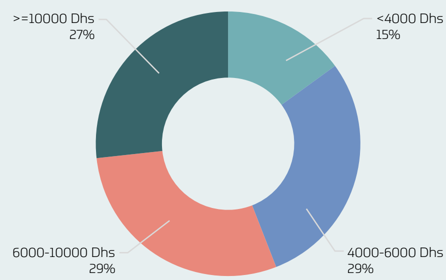
Breakdown of beneficiaries ** whose debt ratio exceeds 40 percent, by socio-professional category



(**) Beneficiaries of new loans from credit institutions in 2021

Persons with an income of more than 6,000 dirhams make up 56 percent of individuals indebted at a rate exceeding 40 percent of their income and benefited from 68.6 percent of the total loans granted to this category. Their average debt ratio stands at 56.1 percent. Individuals with an income ranging between 4,000 and 6,000 dirhams and those with an income of less than 4,000 dirhams represent, respectively, 29 percent and 15 percent and benefited from 22.2 percent and 9.1 percent of the total amount of loans with average debt ratios of 56 percent and 54 percent.

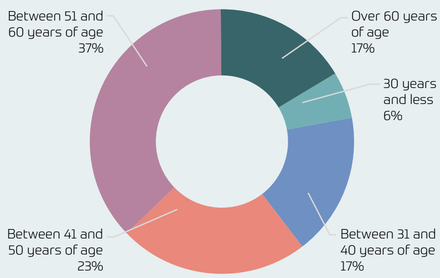
Breakdown of beneficiaries whose debt ratio exceeds 40 percent, by income bracket**



(**) Beneficiaries of new loans from credit institutions in 2021

By age bracket, the largest proportion is represented by people aged between 51 and 60 (37 percent), with an average debt ratio of 58.8 percent. Those aged between 41 and 50 come second with a share of 23 percent and an average debt ratio of 55.4 percent, followed by those aged between 31 and 40 and those over 60, both with a share of 17 percent and average debt ratios of 52.2 percent and 54 percent, respectively. Those under 30 years of age represent a limited proportion of 6 percent and their average debt ratio stands at 49.4 percent

Breakdown of beneficiaries whose debt ratio exceeds 40 percent, by age bracket**



(**) Beneficiaries of new loans from credit institutions in 2021

II.2. Non-financial companies

Almost all Moroccan companies were strongly impacted in 2020 by the fallouts of the health crisis, which led to a significant drop in their activity and turnover. Despite the strong rebound of economic activity in 2021, the future viability of some companies remains uncertain due to the persistent supply problems and high commodity prices, potentially slowing down their activities. The economic outlook is clouded by the consequences of the crisis in Ukraine, rising inflationary pressures and bad weather conditions.

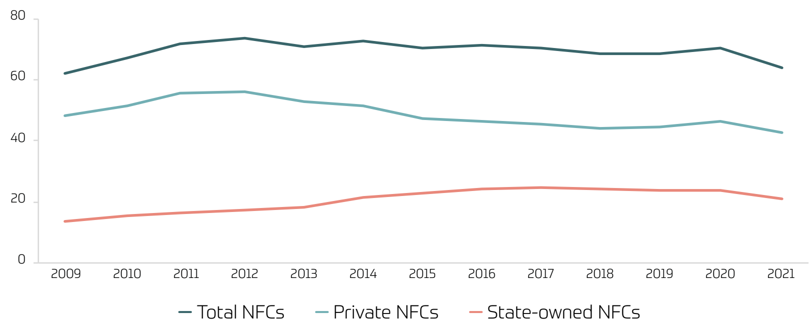
After the completion of the granting phase of the guaranteed loan programmes set up in response to the health crisis, the financial debt of non-financial companies (NFCs) grew moderately, driven mainly by the loans of private NFCs

After increasing by 3.9 percent in 2019 and 2.7 percent in 2020, the annual growth rate of the financial debt of non-financial companies increased by 1.3 percent, to a total of nearly 821 billion dirhams.

This change covers mainly a decrease, from one year to the next, of the debt of state-owned companies by 2 percent to 271 billion dirhams against 277 billion dirhams in 2020, and an increase in the debt of private non-financial companies by 3.1 percent to 550 billion dirhams.

Considering the strong growth of GDP in 2021 (7.9 percent), the financial debt of non-financial companies as a percentage of GDP fell to 63.9 percent at the end of 2021 after rising sharply to 70.3 percent, thus returning to its pre-crisis level.

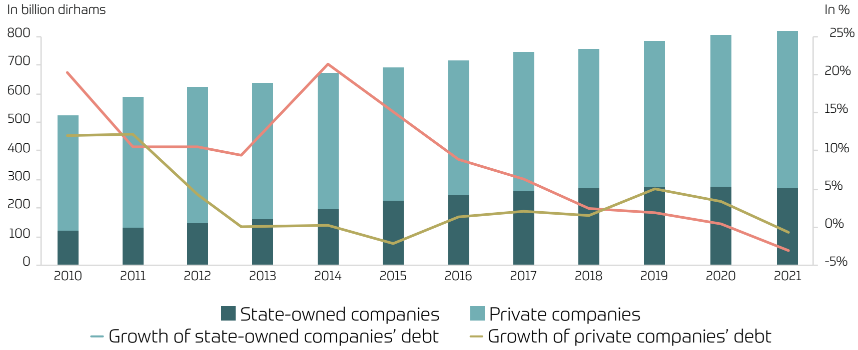
Change in the financial debt of non-financial companies, in % GDP



Source: BAM

The financial debt of private companies, making up two thirds of the overall financial debt of non-financial companies, rose by 3.1 percent against 3.9 percent in 2020, to more than 550 billion dirhams at the end of 2021, or 42.9 percent of GDP. This change is mainly explained by the slowdown, from 3.8 percent to 3.6 percent year-on-year, of their bank debt which still represents their main source of financing (90 percent).

Change in the financial debt of state-owned and private non-financial companies



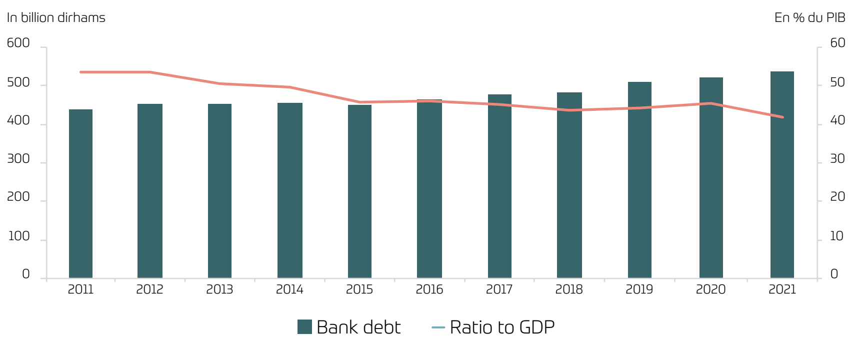
Source: BAM

As regards the financial debt of state-owned companies, its growth rate continues its downward trend started since 2015, with a decline of 2 percent in 2021 to 270.7 billion dirhams, or 21.1 percent of GDP after 24 percent at the end of 2020. This decrease is mainly attributable to the 13 percent drop in the banking component of their financial debt (after a 1 percent fall in 2020).

Deceleration in non-financial companies' bank debt, their main source of financing, combined with a further decline in their external debt

Bank loans of non-financial companies increased by 1.9 percent to 540 billion dirhams, against a rise of 3.6 percent in 2020. The share of these companies' bank debt remained at around 66 percent of their overall financial debt.

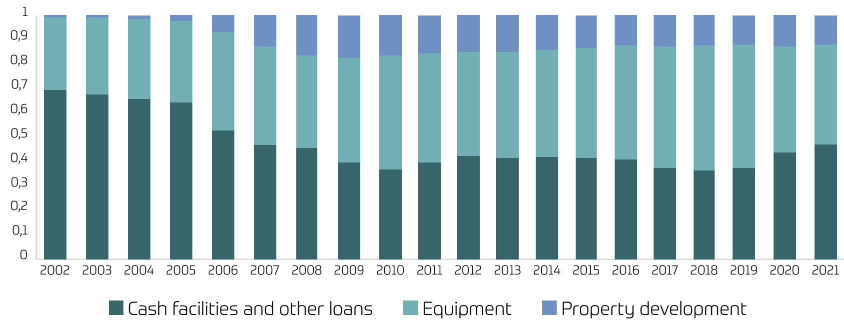
Change in the bank debt of nonfinancial companies



Source: BAM

Bank debt granted to finance capital goods (representing 47 percent of overall bank indebtedness at the end of 2021) as well as that intended to finance real-estate development marked a notable decline of 4.4 percent and 5.6 percent respectively, after falling by 2.6 percent and 0.5 percent, in 2020.

Change in the composition of non-financial companies' bank debt, in %



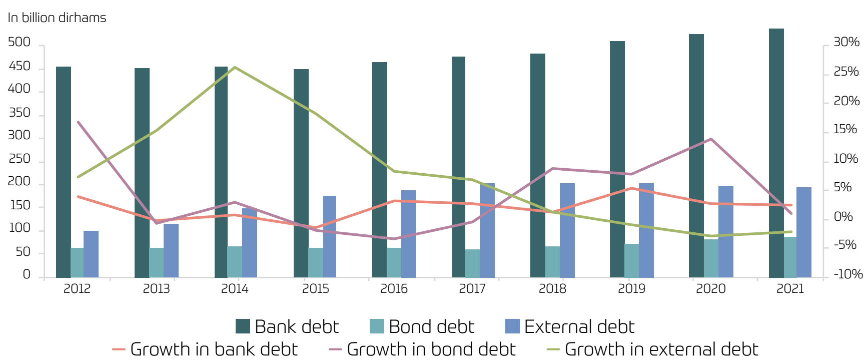
Source: BAM

The significant rise in cash loans (+9.3 percent) combined with the drop in the capital loans of non-financial companies reflects in particular their cash flow difficulties in the wake of the health crisis and the foreseeable tendency to postpone development and investment projects amid strong uncertainties.

As regards the external component of non-financial companies' debt, representing a share of 24 percent of their overall financial debt, it continued its downward trend with a contraction of 2.1 percent in 2021, compared to 2.8 percent one year earlier, to 194 billion dirhams. As a percentage of GDP, external debt, which is mainly contracted by state-owned non-financial companies, reached 15 percent, against 17 percent in 2020.

In addition, the recourse of non-financial companies to bond debt decelerated by 5 percent to nearly 88.1 billion dirhams at the end of 2021, after posting a significant increase of 13.9 percent the year before. However, this debt represents only 11 percent of the financial debt of companies, with a share of 63 percent intended for the financing of state-owned companies.

Change in the components of non-financial companies' financial debt



Source: BAM

Box 3: Analysis of the change in the vulnerability level of a sample of state-owned and private NFCs following the «Debt At Risk» approach

1. METHODOLOGICAL APPROACH

In addition to the traditional assessment of corporate debt[14], international financial institutions (FSB, IMF, World Bank...) and central banks have started to use a new approach called «Debt at Risk - DaR» to assess the vulnerability degree of corporate debt within the framework of the risk-based approach.

The Debt at Risk (DaR) approach consists of analysing one or more of the following four criteria:

- **Solvency criterion:** measured by the financial leverage ratio, this indicator, which corresponds to the ratio of financial debt to total assets, makes it possible to assess a company's indebtedness level and its capacity to source other financing.
- **Liquidity criterion:** captured by the quick ratio (current assets to current liabilities), it determines the company's ability to meet its short-term liabilities using its most liquid assets.
- **ROA (Return On Assets) profitability criterion:** this corresponds to the ratio of net income to total assets and assesses the company's ability to generate sufficient profitability.
- **Criterion relating to the capacity to cover the debt service:** it is captured through the ratio of interest coverage by the company's operating income (before interest and taxes) «Interest Coverage Ratio: ICR».

Based on the assessment of these criteria, a Corporate Vulnerability Index (CVI) is thus determined. A debt is considered risky or vulnerable when the financial criterion studied is above the 90th percentile for the leverage ratio and below the 10th percentile for the other three ratios. Thus, after determining the DaR of vulnerable companies according to the above-mentioned four criteria, the CVI is calculated as follows:

$$CVI=(\Sigma DaR(i))/\ \text{Total Debt} \qquad i = 1 \text{ to } 4$$

The closer the index gets to 1, the more it depreciates and the debt at risk becomes significant.

14 Assessment of the LMT financial debt as a ratio of permanent capital and of cash loans as a ratio of turnover.

2. ROLL-OUT OF THE APPROACH ON A SAMPLE OF STATE-OWNED AND PRIVATE COMPANIES

The roll-out of the DaR approach covered a non-cylindrical panel of 334,675 private and state-owned Moroccan non-financial companies[15], over a period extending from 2006 to 2020. The main findings are as follows:

- A tendency to financial deleveraging by private companies[16] was observed during the period 2014-2018, with a decline in the volume of debt, particularly for the real estate sector. A significant proportion of this debt was, however, replaced by commercial debt, particularly among large companies.
- This tendency was interrupted in 2019 and 2020 (the year of the health crisis). The recovery in the financial debt of private and state-owned NFCs was driven mainly by the anti-Covid 19 support measures:
  - As regards **private NFCs in the sample,** their debt increased by 40 billion dirhams in 2020 to 185 billion dirhams compared to 2019. This increase was supplemented by a decline in the profitability of assets to 3 percent (compared to 4 percent in 2019 and 5 percent in 2018) and a decline in these companies' ability to cover their interest charges by their operating income. The latter covered on average 5 times the interest charges compared to 8 times in 2019.
  - As regards **state-owned companies,** their debt in 2020 only increased year-on- year by 4 billion dirhams to 274 billion dirhams and their profitability fell back in 2020 to levels close to zero, or was even negative, due to the repercussions of the health crisis altering their capacity to pay their interest charges.
- In terms of the above-mentioned Corporate vulnerability index (CVI), it depreciated from 26 percent to 30 percent between 2019 and 2020 for private NFCs and from 24 percent to 28 percent for state-owned companies. The analysis by source of vulnerability reveals that around 61 percent of private NFCs (compared with 23 percent of state-owned companies) are vulnerable to at least one vulnerability criterion in 2020. This criterion relates in particular to the difficulties of private or public NFCs to cover their interest charges by their operating result.

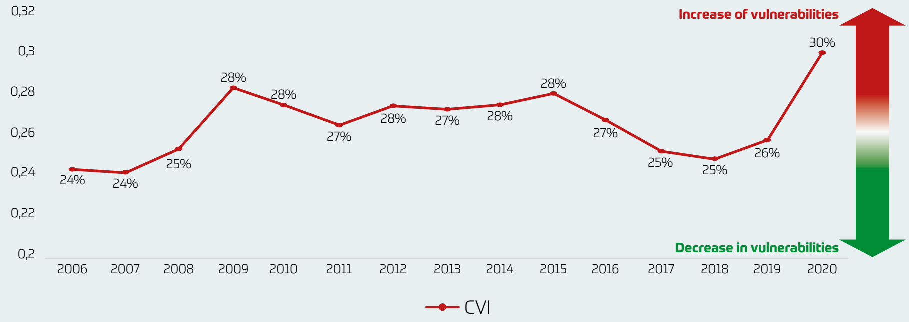
The analysis by category of company and by business segment shows, on the one hand, that the increase in vulnerability has concerned the three segments (LEs, SMEs and VSEs) and, on the other hand, that private companies operating in the «Hotels and catering», «Real-estate activites» and «Construction» sectors are the most vulnerable, particularly in 2020, while the transport sector (RAM, ONDA and ONCF) remains the most vulnerable for state-owned companies[17].

15 This means a total of 1,380,438 balance sheets and 92,000 companies on average per year. For state-owned companies, the data concern 39 companies whose data are available as of 2018.

16 Debt reduction mainly means a decrease in the ratio of debt to total assets.

17 The debt at risk of public companies in the transport sector (RAM, ONDA and ONCF) has reached very high levels, i.e. 41 billion dirhams (almost 4% of the national GDP).

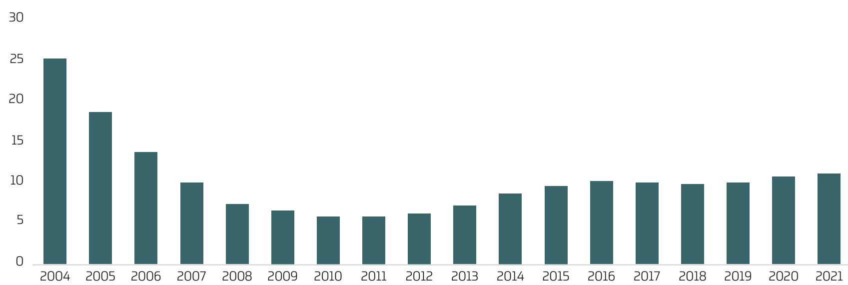
Corporate vulnerability index (CVI) of private companies between 2006-2020



In a difficult context (repercussions of the health crisis, end of the granting phase of State-guaranteed loans, ...), the outstanding nonperforming loans of non-financial companies rose to 61 billion dirhams against 57.3 at the end of 2020, i.e an increase of 6.6 percent after a growth of 11.5 percent in 2020

The default rate of non-financial companies, corresponding to the share of non-performing loans in total corporate bank debt, rose by 50 basis points to 11.3 percent.

Change in the rate of non-performing loans of non-financial companies (in %)



Source: BAM

This high loss ratio affects most activity sectors, but unevenly. Thus, companies operating in the «Tourism and hotels» sector have, on average, the highest rate of non-performing loans, at 23.9 percent, followed by those in the manufacturing and trade sectors with default rates of 15.7 percent and 12.8 percent, respectively.

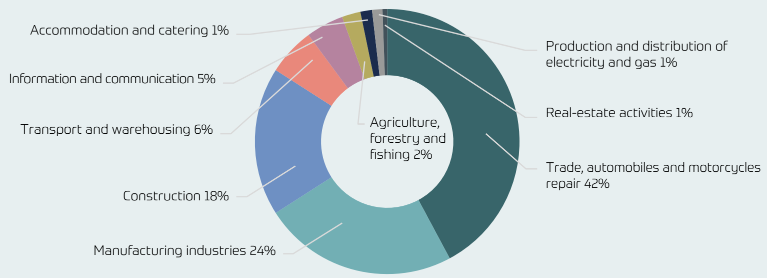
Box 4: Indebtedness analysis of a sample of non-financial companies

This study analyses the indebtedness of a sample of nearly 74,238 non-financial companies cumulating, as at the end of 2020, a combined turnover of 584 billion dirhams, a financial debt of 400 billion dirhams (i.e. 43 percent of the overall debt of NFCs[18]) and a commercial debt of 179 billion dirhams.

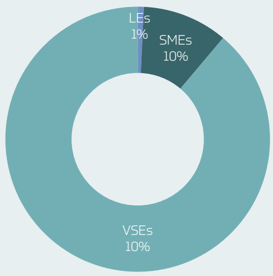
The analysis of the financial situation of the sampled companies through the assessment of the change in their financial and commercial debt spans over a period of 5 years from 2016 to 2020, the most recent date of the available financial statements.

The sample covers the different business segments and activity sectors as follows:

Breakdown of sampled companies, by activity sector, based on their turnover



Breakdown of the number of sampled companies by size



The detailed analysis of the change in the main indicators of financial indebtedness and inter-company payment periods is given below, by company size and business segment.

18 Excluding leasing liabilities

Financial debt of non-financial companies:

The study of the sample shows that only about one third of the companies have a financial debt.

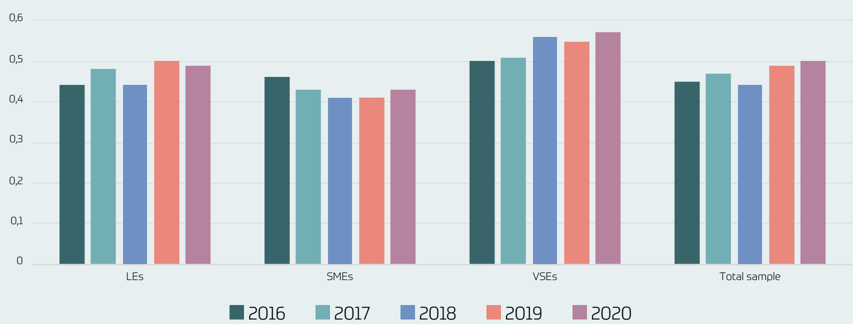
Medium and long-term financial debt (MLT):

The total amount of MLT corporate financing debts amounted at the end of 2020 to nearly 350 billion dirhams, which represents a MLT debt ratio of 42 percent, up 5 percent compared to the previous year. This ratio stands at 48 percent for indebted companies.

By business type, the large enterprises (LEs) of the sample with a cumulated MLT debt of more than 302 billion dirhams, or 86 percent of the total sample, have a debt ratio of 48 percent on average, up 2 percent compared to last year. Small and medium-sized enterprises (SMEs), on the other hand, have a financial debt worth 36 billion dirhams, or 10 percent of the financing debt of the sample, representing overall 26 percent of their permanent capital, with an increase of 4 percentage points (36 percent if non-indebted companies are excluded). On the other hand, very small enterprises (VSEs), with a total financing debt of MAD 11 billion, posted an overall debt level of 23 percent at the end of 2020 against 17 percent in 2019 and 20 percent in 2018. For VSEs benefiting from bank loans, their debt rate is nearly 59 percent against 55 percent in 2019, with an increase of 4 percent mainly due to the support policies adopted by the public authorities and the central bank to mitigate the repercussions of the health crisis.

The following chart shows the change in the MLT debt ratio of sampled indebted companies, by size:

Change in the average MLT debt ratio of sampled enterprises with a non-zero financing debt - by size



Source: OMPIC, MEF and BAM calculations

The analysis by activity sector reveals differentiated trends. The highest levels of debt (financial debt as a ratio to permanent capital) are observed among companies operating in the sectors of «Production and distribution of electricity, gas, steam and air conditioning «, «Extractive industries» and «Real estate activities», with average rates of 86 percent, 80 percent and 63 percent, respectively, at the end of 2020. On the other hand, companies operating in the «Agriculture, forestry and fishing» and «Information and communication» sectors recorded low levels, at 10 percent and 23 percent, respectively.

Change in the average MLT debt ratio of sampled enterprises with a non-zero financing debt -by activity sector

Source: OMPIC, MEF and BAM calculations

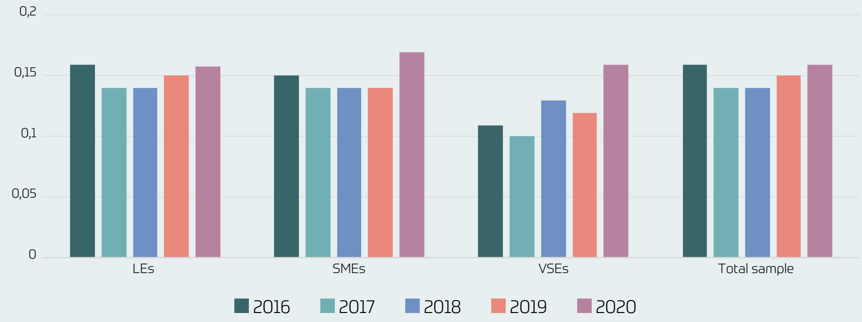
As regard changes, the «accommodation and catering» sector recorded a significant increase in the medium and long-term debt ratio, from 38 percent in 2019 to 46 percent at the end of 2020, followed by the «Real estate activities» sector (55 percent against 63 percent).

Short-term financial debt:

In addition to medium and long-term financial debt, the sampled companies have resorted to cash loans, for a total outstanding amount of nearly 50 billion dirhams, or 9 percent overall of their turnover at the end of 2020 (16 percent on average excluding the non-indebted companies). The short-term debt ratio[19] recorded an increase which concerned the three segments of companies, with 16 percent, 17 percent and 16 percent respectively for LEs, SMEs and VSEs against 15 percent, 14 percent and 12 percent in 2019.

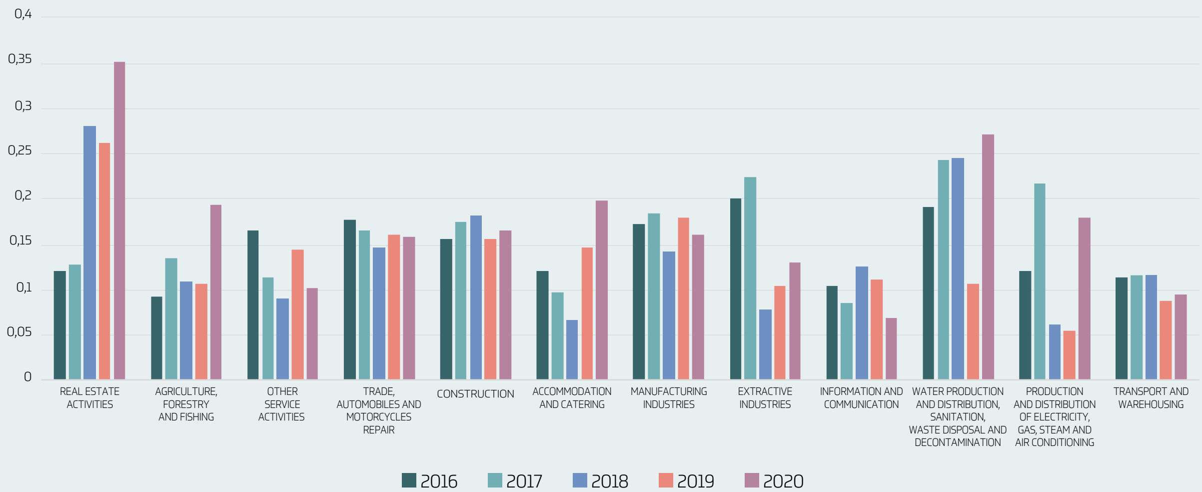
19 The short-term debt ratio is the ratio of a company's cash loans to its turnover.

Change in the cash debt/turnover ratio of sampled companies with cash loans - by size, in %



Source: OMPIC, MEF and BAM calculations

Change in the cash loan/turnover ratio of sampled companies - by activity sector, in %



Source: OMPIC, MEF and BAM calculations

In 2020 and in connection with the crisis context, companies operating in the «Accommodation and catering» sector recorded a significant increase in their cash loans, which rose by 13 percentage points to 20 percent in 2020. In contrast, the largest decrease in cash loans was observed among companies operating in the «Information and Communication» sector, with a drop of 7 percentage points to 13 percent at the end of 2020.

Over the 2016-2020 period, large enterprises (LEs) continued to post the highest levels of cash loans with, on average, 15 percent of their turnover compared to 14 percent for SMEs and 12 percent for VSEs.

Inter-company indebtedness of non-financial companies

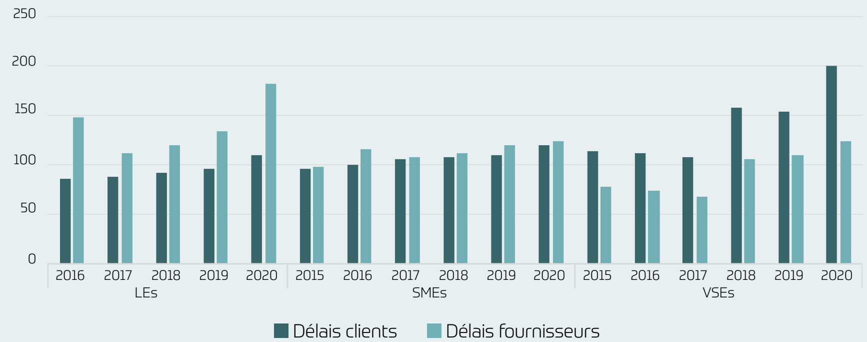
Inter-company payment periods by size:

Against the background of the crisis, payment deadlines have increased to worrying levels. Thus, the average payment deadlines for customers and suppliers reached, at the end of 2020, 193 days of sales (DS) and 123 days of purchases, respectively.

By company size, the study of payment deadlines in 2020 shows that, despite longer customer payment deadlines (109 DS in 2020 instead of 95 DS), LEs continued to grant short payment deadlines compared to other segments (SMEs, VSEs), while benefiting from longer payment deadlines from their suppliers, reaching 181 DS in 2020, with an increase of 48 DS compared to 2019.

By contrast, the average payment periods for very small enterprises (VSEs) reached a worrying level of 201 DS, with an increase of almost 50 days. In the same vein, small and medium-sized enterprises (SMEs) continued to experience high payment deadlines from their customers, maintaining their upward trend to reach 120 DS from 108 DS in 2019.

Change in payment deadlines by size



Source: OMPIC, MEF and BAM calculations

With regard to supplier deadlines, the year 2020 recorded a deterioration that affected the different categories of companies. Suppliers' debt is at its lowest levels for VSEs, representing 123 DP in 2020 compared to 108 DP a year earlier, followed by SMEs with a supplier payment deadline of 124 DP after 120 DP in 2019, while the LE has the longest suppliers' payment deadlines with 181 DP, which increased by 48 days in 2020 due to the repercussions of the health crisis.

By company size, the distribution of payments broken down by time range highlights the balance of power in favour of large enterprises in their relations with their commercial partners, especially smaller ones.

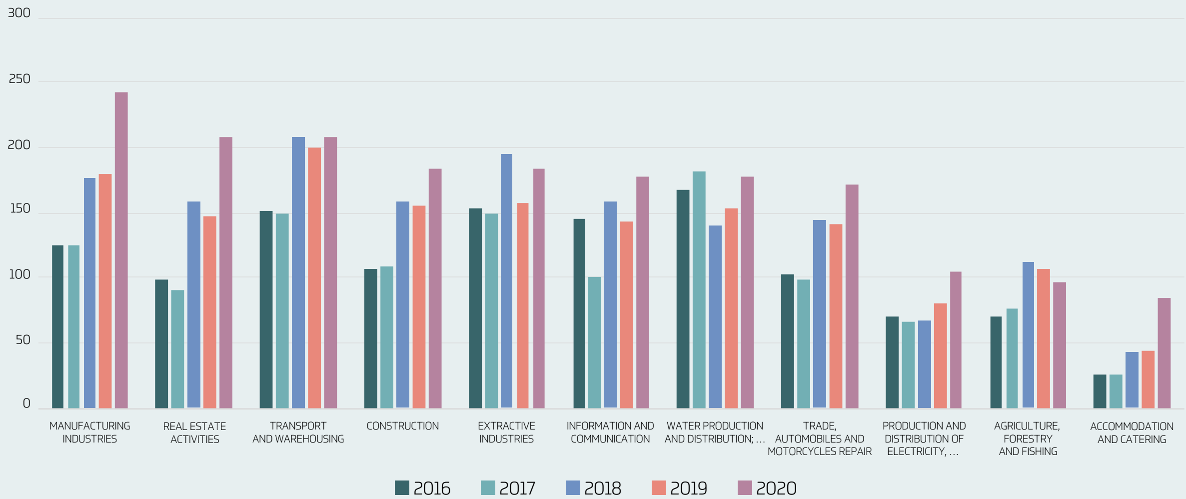
Overall, large enterprises delay payment to their suppliers, especially the smaller ones. More than two out of three large enterprises (74 percent) pay their suppliers late overall (beyond the regulatory maximum deadline of 60 days), and 38 percent of them pay their suppliers within more than 120 DP, which represents a delay of more than 60 days.

In the VSE segment, almost two out of three companies (61 percent) respect the regulatory 60-day payment period with their suppliers. Nevertheless, nearly 25 percent of them are more than two months late in paying their suppliers.

Payment deadlines by activity sector:

As for customer payment deadlines, the most significant increases concerned companies operating in the «Manufacturing industry» sector, which suffered the longest payment deadlines, with 243 DS on average, followed by those in the «Transport and storage» and «Real estate activities» sectors, with an average customer payment deadline of 209 DS. Similarly, for the «Accommodation and catering» sector, which was characterised by shorter customer payment deadlines (44 DS) in 2019, this deadline doubled to 86 DS in 2020.

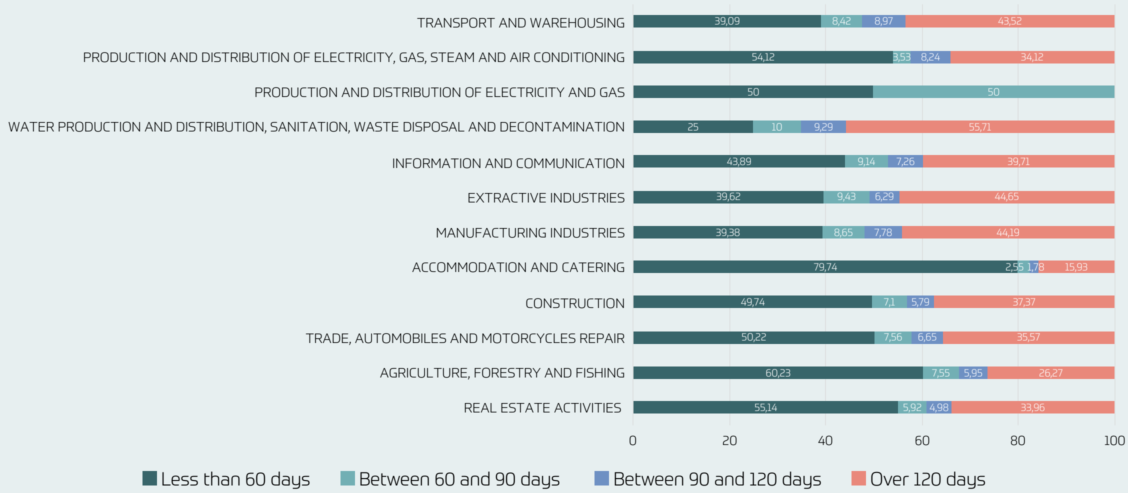
Change in customer debt in DS for sampled companies - by industry sector



Source: OMPIC, MEF and BAM calculations

In the other sectors, the payment periods increased by almost one month for some of them. These are mainly the sectors of construction (185 DS), extractive industries (184 DS), information and communication (179 DS) and trade (173 DS).

Breakdown of customer payment deadlines by range and activity sector in 2020, in %

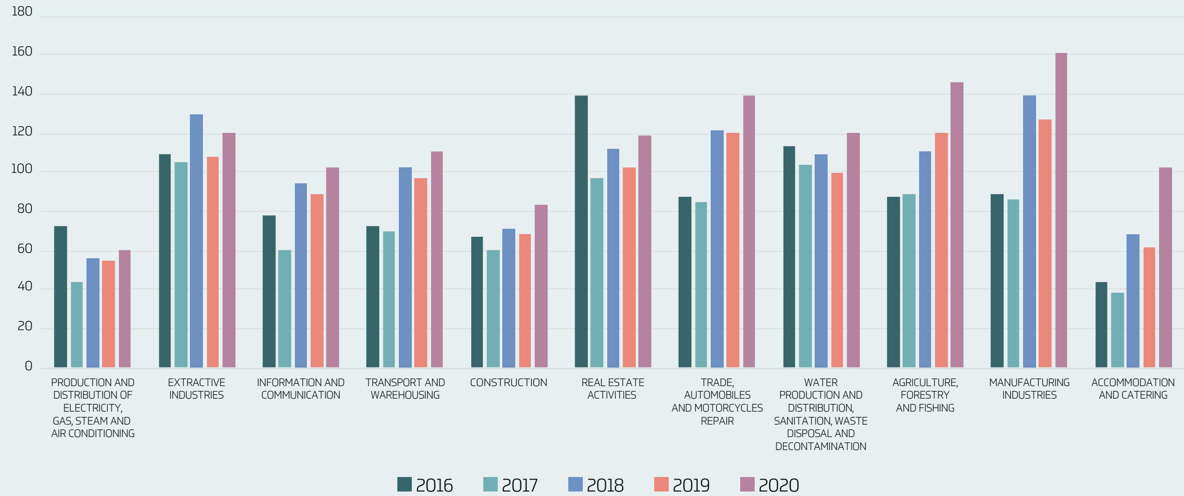


Source: OMPIC, MEF and BAM calculations

Moreover, companies in the «Transport and warehousing» sector continue to suffer the greatest delays in payment from their customers, with more than 61 percent of payments exceeding the regulatory deadline (60 DS). In the same vein, the greatest delays in customer payments, exceeding 2 months, affect 44 percent of companies belonging to the «Transport and warehousing» sector and also affect companies in the «Water production and distribution, sanitation, waste disposal and decontamination» sector for up to 56 percent. For its part, the «Accommodation and catering» sector, which has a structural advantage linked to the nature of its customers, benefits from a very low probability of late payment, with 80 percent of businesses not suffering from payment delays and only 16 percent of businesses receiving late payments beyond 2 months.

As for supplier payment terms, the companies that delay the payment of their suppliers the most are those belonging to the «Manufacturing industries» sector with a high level of 161 DS, followed by those operating in the «Agriculture, forestry and fishing» sector with a payment deadline of 146 DS and «Trade, automobiles and motorcycles repair « with an average payment deadline of 140 DS.

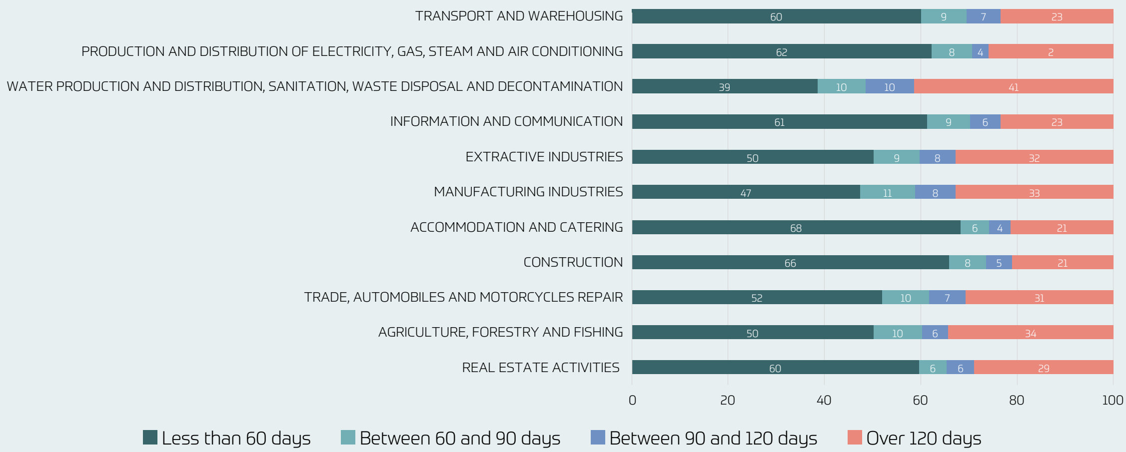
Change in the supplier debt in DP for sampled companies - by activity sector



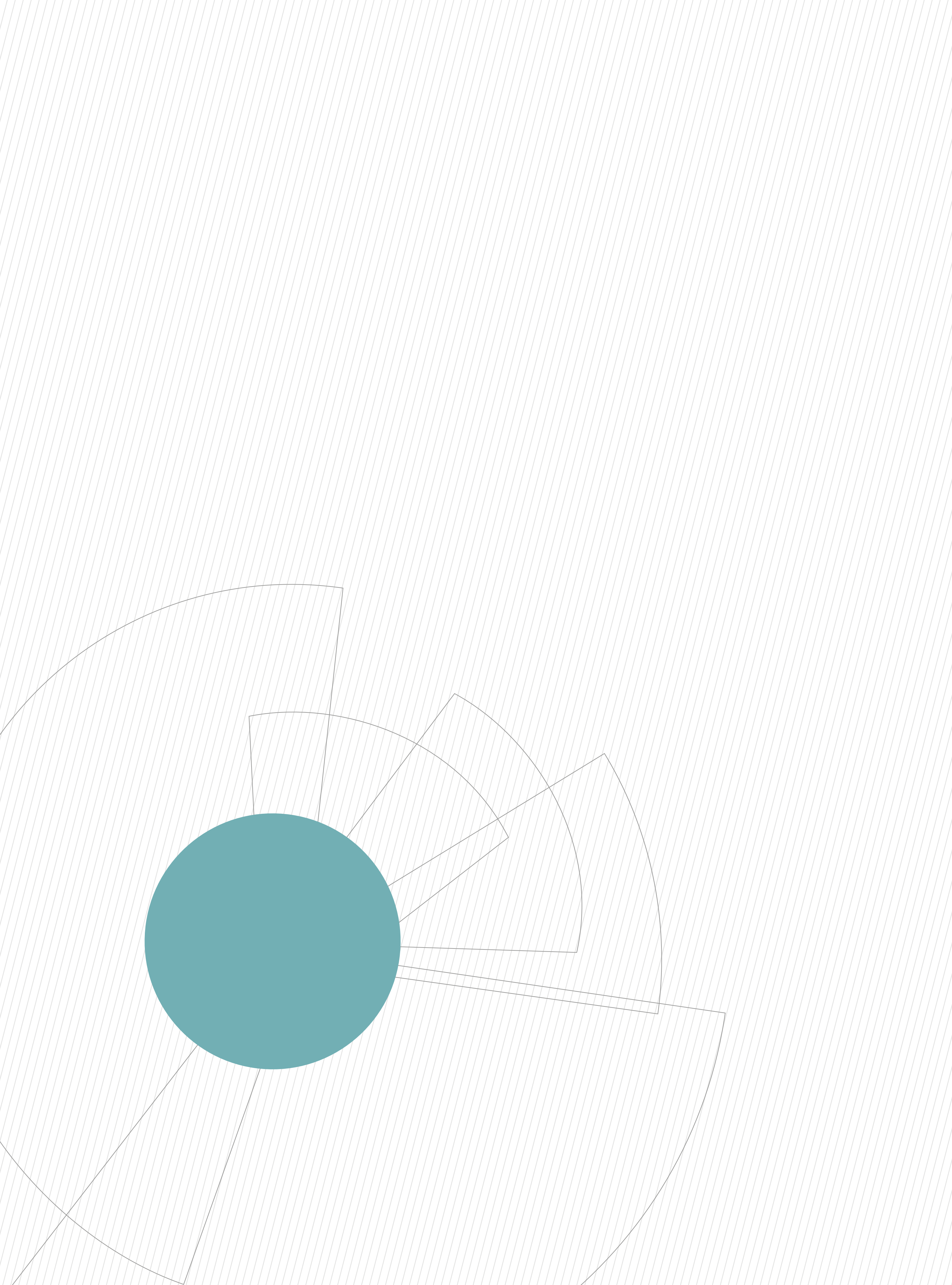
Source: OMPIC, MEF and BAM calculations

The analysis of late payments by activity sector shows that companies in the «Accommodation and catering» sector have the lowest rate of late payments by their suppliers, with 31 percent (payments beyond the regulatory deadline of 60 DS). On the contrary, companies in the «Water production and distribution, sanitation, waste disposal and decontamination» sector have the highest rate of late payments, with 61 percent of their suppliers being paid after the regulatory deadline.

Breakdown of supplier payment deadlines by range and activity sector, in 2020



Source: OMPIC, MEF and BAM calculations



Soundness of financial institutions

3

Chapter

Overview

In 2021, the banking sector managed to consolidate its financial situation and demonstrated resilience. Its main indicators showed an overall sustained activity, a marked improvement in profitability, a slow increase of the loss ratio and resilience to shocks, as evidenced by the results of stress tests carried out, particularly those simulating the deterioration of the macroeconomic conditions.

In terms of profitability, amid a rebound in economic activity in 2021, the banks registered a net growth of 76.4 percent in cumulative net income, after the 43.2 percent contraction recorded in 2020. This strong change is mainly due to the significant decrease in the cost of risk by 17 percent and the base effect induced by the contribution of the banking sector to the Covid-19 funds in 2020.

The banks' non-performing loans accumulated an amount of 85 billion dirhams. Its growth rate slowed down compared to 2020, falling back to 6.7 percent after 14 percent. This slowdown in the loss ratio concerned both loans granted to households and those directed to non-financial companies. Overall, the average default rate for the banking sector stood at 8.5 percent after 8.2 percent a year earlier.Given these conditions, banks increased their specific provisions, ensuring an average coverage rate of around 67 percent. They also set up general provisions to cover latent risks, amounting to 13.5 billion dirhams.

Banks remain vulnerable to default shocks from their largest counterparties. Their gross on- and off-balance sheet exposures to large debtors increased by 1.9 percent at the end of 2021, reaching 375.8 billion dirhams, of which 37 percent concerns the 10 largest non-financial groups.

In terms of capitalization, banks' solvency and Tier 1 capital ratios stood, at the end of 2021, at 15.8 percent and 12 percent, on a corporate basis (against 15.7 percent and 11.4 respectively in 2020) compared to regulatory minimum levels of 12 percent and 9 percent.

Pressure on banks' liquidity eased overall in 2021, mainly as a result of higher foreign exchange reserves. Thus, banks' recourse to the advances of the Central Bank totaled a daily average of 83 billion dirhams, down by nearly 14 billion dirhams compared to 2020.

As for the insurance sector, it managed to regain a good momentum to achieve a growth level of 9.9 percent compared to 1 percent in 2020, against a background of general improvement of the national economy, supported by the vaccination campaigns. Overall, the key indicators showed a return to a pre-pandemic situation. The financial result rebounded by 64.7 percent, benefiting from the good performance of the stock market, while the operating margin fell, due in particular to a higher loss ratio, which returned to its pre-crisis level.

These developments resulted in a 35 percent increase in net income and a return on equity (ROE) of 9.5 percent, close to the level recorded before the outbreak of the health crisis. Finally, the ratio of unrealized gains on investments improved from 13 percent in 2020 to 15.5 percent in 2021.

From a prudential point of view, the sector continues to generate a comfortable solvency margin compared to the regulatory minimum level. This margin which, to date, only covers the underwriting risk, is likely to decrease with the entry into force of the risk-based solvency prudential framework.

On a different level, the stress test exercises carried out show that insurance companies are quite resilient to shocks on the equity and property portfolio and to unfavorable macroeconomic and technical conditions.

Concerning pension schemes, the integration of contractual teachers from the Regional Academies of Education and Training (AREF) into the Civil Pension Scheme managed by the Moroccan Retirement Fund (CMR) should mitigate, in the long term, the accumulated deficits. However, due to the very short viability horizon of this scheme, the integration of these teachers will not have a significant impact on its short-term sustainability. The parametric reform of the general RCAR scheme has improved its sustainability horizons without providing a balanced pricing of future rights. The shrinking of margins of maneuver from one year to the next requires the acceleration of the implementation of the systemic reform of pension schemes.

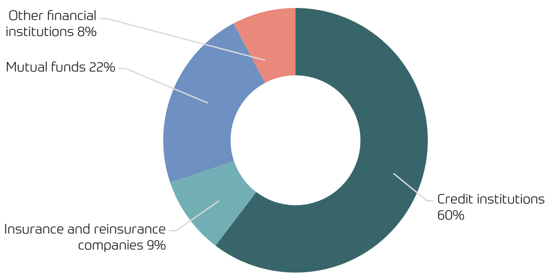
The Moroccan financial system is made up of seven categories of financial institutions, namely 52 credit institutions (including 19 conventional banks and 5 participatory ones), 37 similar organizations[20], 23 insurance and reinsurance companies[21], 22 social security institutions, 17 securities firms, 584 mutual funds[22], 48 management companies and 5 market infrastructures.

In 2021, the total assets of these financial institution[23] amounted to 2 836 billion dirhams against 2 620 billion dirhams in 2020, representing 221 percent of the national GDP after 227 percent. Its growth thus reached 8.3 percent instead of 5.5 percent a year earlier.

Among these institutions, thirteen are listed on the stock exchange, including six banks, four finance companies and three insurance companies, representing almost 38 percent of the market capitalization, compared to 41 percent in 2020.

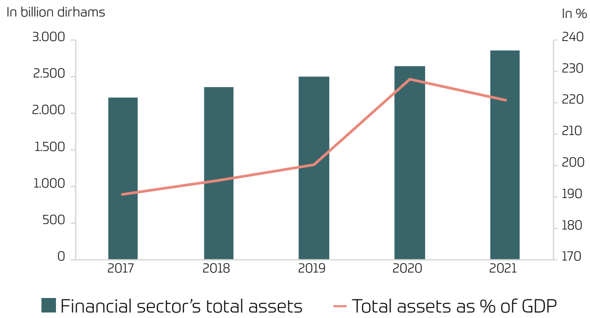
Credit institutions represent the main component of the financial system and account for nearly 60 percent of its total balance sheet, with the majority of their activities focused on traditional financial intermediation.

Structure of the Moroccan financial system in 2021 in terms of total assets



Source: BAM, AMMC and ACAPS

Change in the financial sector's total assets



Source: BAM and HCP

20 6 offshore banks, 12 micro-credit associations, 18 payment institutions, theMoroccan Deposit and Management Fund (CDG) and the Central Guarantee Fund (CCG) (now the Société Nationale de Garantie et de Financement de l'Entreprise called «TAMWILCOM»).

21 Excluding insurance intermediaries (agents and brokers), of which there are 2,114.

22 537 Mutual funds (UCITS), 10 Undertakings for Collective Investment in capital (OPCC), 16 Securitization Collective Investment Funds (FPCT), and 21 Real Estate Investment Trusts (OPCI).

23 Excluding social security institutions

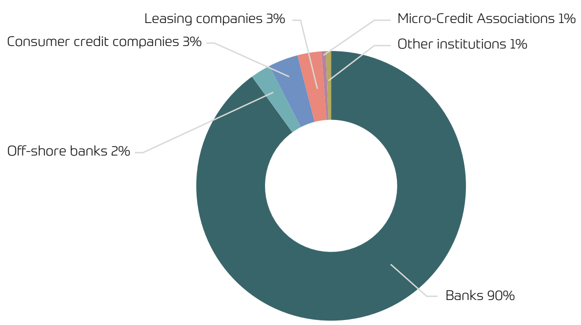
III.1. Banking sector[24]

In 2021, the banking sector remained solid and resilient with overall sustained activity, improved positive profitability, a slowing default rate and resilience to shocks, as evidenced by the results of stress tests conducted, including the macro stress test.

Structure of the banking sector without major changes

The banking sector is dominated by three large systemically important banks with privately and predominantly Moroccan-owned[25] banks. Changes affecting these banks may have implications for the financial system as a whole due to their size and interdependencies, with other institutions in the financial system and with the economy. At the end of 2021, these banks together contributed 62.4 percent of the total aggregate assets of the banking sector against 62.9 percent in 2020. As regards the credit and deposit activities in Morocco, these three banks also play a notable role and distributed 60.7 percent of the total loans and collected 63.4 percent of the total deposits in 2021 against 61.5 percent and 63.7 percent, respectively, in 2020. They have 3 134 branches at the national level, representing 53.3 percent[26] of the total number of counters as well as 51 subsidiaries and 22 branches abroad, including 45 subsidiaries and 4 branches in Africa.

Composition of the banking sector - Share in total assets

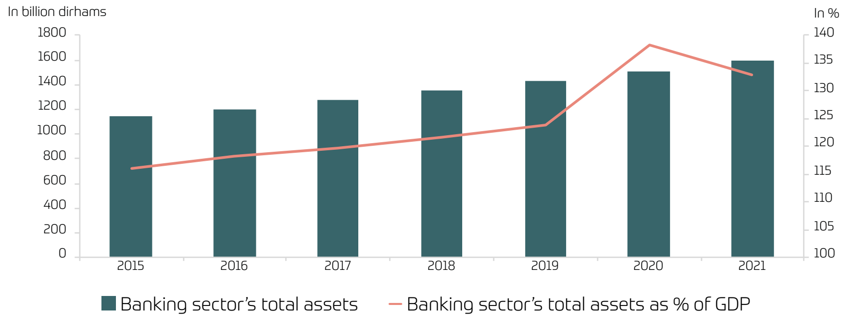


Continued growth in banks' activity, with total assets representing 124 percent of GDP

In 2021, the aggregate total assets of conventional and participatory banks reached 1 587 billion dirhams against 1508 billion dirhams in 2020, up 5.2 percent and 5.7 percent in 2020, representing 124 percent of GDP against 131 percent a year earlier. This ratio is decreasing under the effect of the revival of national growth.

24 This section highlights the main indicators of the banking sector's soundness on a corporate basis.
25 Attijariwafa Bank, Banque Populaire and Bank of Africa.
26 53.3 percent considering only the branches of conventional banks.

Change in the size of banks



Source: BAM

Customers' debts, the main component of bank assets, continued to decline for the third year in a row

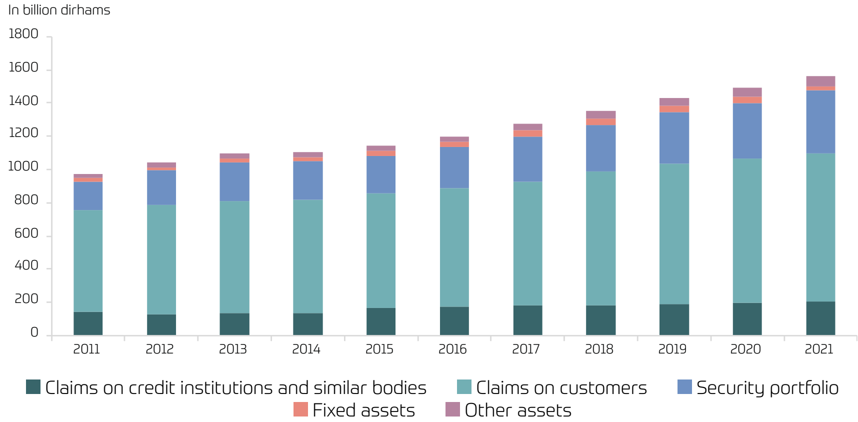
The structure of the assets demonstrates that loans to customers continue to represent a considerable share of it with 57.7 percent in 2021, thus accumulating 916.4 billion dirhams against 887 billion dirhams in 2020. These loans continue to decelerate to 3.3 percent in 2021 after 4.4 percent in 2020 and 5.9 percent in 2019. They include the loans granted by participatory banks to their customers, amounting to 19.3 billion dirhams, up 42.9 percent, or an increase of 5.8 billion dirhams compared to the previous year.

Claims on credit institutions increased by 6.1 percent in 2021 against 4.9 percent in 2020, to 207.6 billion dirhams. They represented in 2021 a share of 13.1 percent, almost unchanged compared to 2020 (13 percent). As regards participatory banks, the same claims amounted to 1.5 billion dirhams against 1.7 billion dirhams in 2020.

As for the banks' securities portfolio, it represented 23.5 percent of the total assets against 22.2 percent in 2020, rising by 11.3 percent for a total of 373.4 billion dirhams. It is composed up to 53.9 percent of Treasury bills whose growth rate amounted to 11.9 percent in 2021 against 11.6 percent in 2020.

Banking assets in foreign currencies increased by 2.6 percent compared to 2020, totalling 131.3 billion dirhams, or 8.3 percent of the sector's total assets.

Change in the structure of banks' assets



Source: BAM

Banks' liabilities still mainly consist of customer deposits

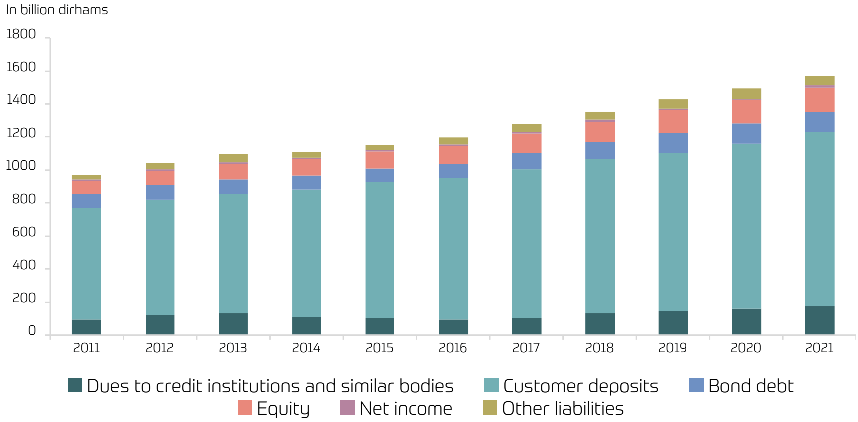
Deposits collected from customers represented in 2021 a share of 67 percent of banks' liabilities against 66.8 percent in 2020. These deposits increased by about 5.5 percent in 2021 against 5.2 percent in 2020, for a total outstanding amount of 1 063.3 billion dirhams. This amount includes deposits collected by participatory banks and windows (including investment deposits[27], which amounted to 7.5 billion dirhams in 2021, up 2.4 billion dirhams compared to the previous year.

Dues to credit institutions amounted to 175 billion dirhams in 2021, up 8.7 percent against 15.6 percent in 2020, representing a share of 11 percent in total liabilities. Nearly 2.4 billion dirhams of these debts were collected by participatory banks compared to 1.7 billion dirhams in 2020.

As regards book equity and bonded debt issued by banks, their volumes reached in 2021, respectively, 151.3 and 120.1 billion dirhams.

27 Including sight deposits (5.2 billion dirhams), investment deposits (1.8 billion dirhams) and other accounts payable (0.5 billion dirhams)

Change in the structure of banks' liabilities

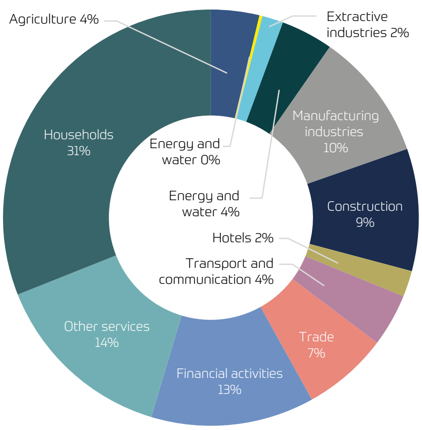


Source: BAM

The credit portfolio is still diversified by sector

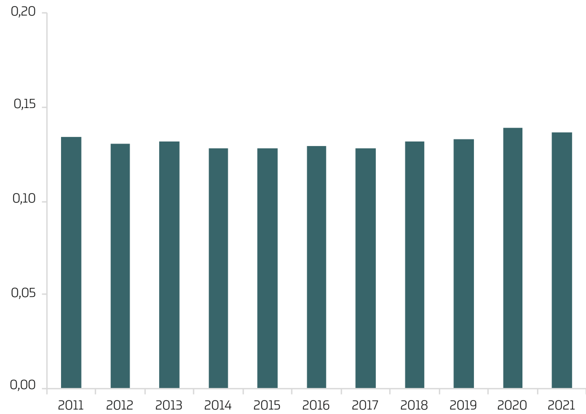
The banks' portfolio of disbursed loans remains diversified and covers the different activity sectors. Thus, loans to households represent nearly a third, followed by loans to «financial activities» and «manufacturing industries» with respective shares of 13 percent and 10 percent, respectively. The sectors of «construction» and «trade» hold around 9 percent and 7 percent of total loans, respectively.

Sectoral breakdown of banks' disbursed loans at end 2021



Source: BAM

HHI index measuring the concentration of loans to businesses



Source: BAM

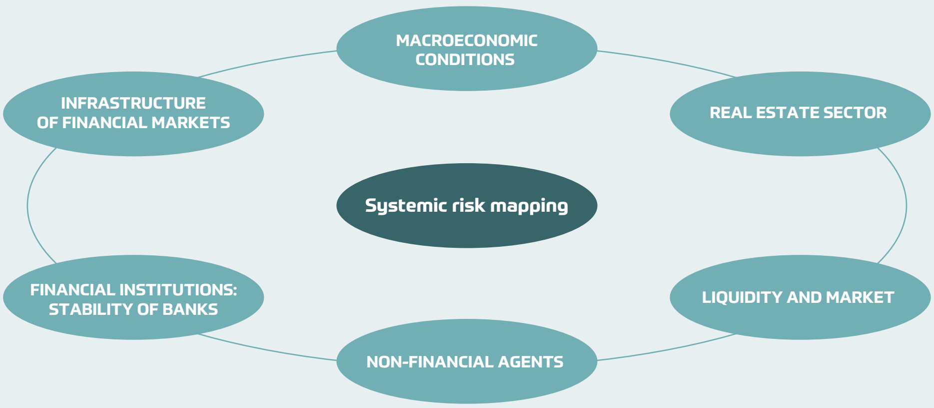
The HHI[28] concentration index, which measures concentration, stood at 0.138 in 2021, confirming the diversification of the loan portfolio dedicated to companies.

28 The Herfindhal-Hirschman Index (HHI) measures the concentration of a market. It ranges between 0 and 1. The higher this value is, the higher the concentration level.

Box 5: Systemic risk mapping

Systemic risk mapping is a tool for identifying and assessing risks to the stability of the financial system. It is a scorecard built around a set of indicators in order to monitor real or latent risks. These indicators are grouped according to risk criteria, which are classified into 6 risk pillars in order to structure the analysis framework. They are evaluated using a scoring approach, which is based on quantitative (levels, trend, volatility and distribution of values) and qualitative (expert judgment) criteria.

Systemic risk mapping



The scoring process

The scoring approach adopted consists first in setting thresholds for the list of indicators selected according to one or more statistical methods. In determining these thresholds, the historical development of the indicator and its nature, structural changes that may have taken place or changes in regulation are taken into consideration.

Statistical approaches

- **The z-score**

  This method consists of scoring an observation by taking into account the level of its deviation from the average. This level is noted on a scale of 1 to 5 according to changes in the indicator and the expert judgement. The formula used in this method is written as follows:

$$Z_t = \frac{(x_t - \bar{x})}{\sigma}$$

- **Quantiles**

  These are «q» measures that allow an observation to be scored based on its position in relation to the different quantiles that are calculated. Thus, the decision relationship has the following form: if x <= or >= q, the score is b.

The choice of α and b depends on the types of indicators and the experts' perception of risk.

- **The percentile rank**

  It is defined as the proportion or percentage of data at or below a specific point in the series of the indicator under study. The score of an observation is assigned according to its percentile rank.

For each indicator, one or more of these techniques are applied. The results may depend on the historical depth available and differ slightly from one technique to another.

The scores resulting from these statistical techniques are examined and compared with expert judgement, taking into account two essential elements, namely the threshold at which the indicator in question is considered critical and the persistence of the indicator over time beyond the set tolerance threshold.

Expert judgement

Expert judgement allows the information that escapes the implemented rules described above to be captured, either due to lack of data or due to the complexity of the relationship between some indicators and financial stability. The expert judgement makes it possible to finalise the choice of thresholds to be retained.

Presentation of results and graphic illustration

At a time *t*, an s^i_t score is assigned to a given indicator i according to its value at t. The score varies from 1 to 5, depending on the position of the value of the indicator compared to the previously defined thresholds. The score of a risk criterion is the simple or weighted arithmetic average of the scores of the indicators composing it. The score of a risk pillar, composed of many risk criteria, is the simple or weighted arithmetic average of the scores of the risk criteria that make up the pillar.

The scores for each pillar are presented in the form of a heatmap:

1	2	3	4	5
Very Low	Low	Medium	High	Critical

These scores are sometimes accompanied by an additional rating in the form of a (+) or (-) sign in order to:

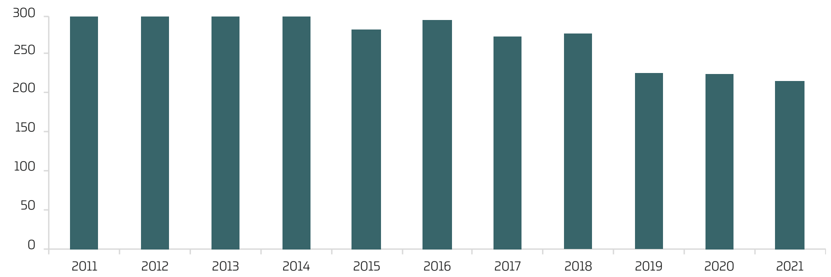
1. Reflect the future trend of risk for indicators for which the outlook is available.
2. Give intermediate scores allowing a finer appreciation for certain risks.

Banks remain vulnerable to default shocks with their largest counterparties

The gross balance and off-balance sheet exposures of banks to large debtors increased by 1.9 percent at the end of 2021, confirming the recovery observed in 2020 (+1.7 percent) after a 5.9 percent decline in 2019. These exposures amounted to 375.8 billion dirhams in 2021, of which 37 percent concerned the 10 largest non-financial groups.

Loans and debt securities, which account for 88 percent of balance sheet exposures and 51 percent of total corporate loans, fell slightly by 2 percent after a 1 percent increase in 2020. The overall level of concentration remained at 2.3 times banks' equity.

Banks' exposure to large debtors (as a % of banks' prudential capital)



Source: BAM

Although the default rate remains significant, the banking sector's default rate has slowed down and the related risk remains well covered

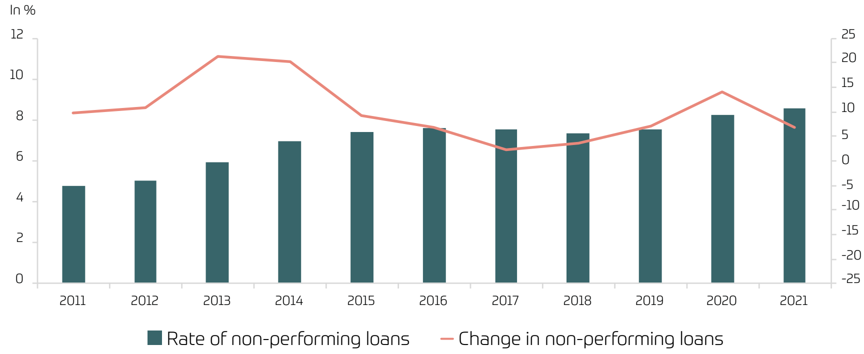
The portfolio of banks' non-performing loans decelerated to 6.7 percent, or around 85 billion dirhams, as against an increase of 14 percent a year earlier. This slowdown, which concerned both loans granted to households and those in favour of non-financial companies, is due to the recovery of economic activity.

Households' non-performing loans, held by banks, decelerated compared to 2020, from 19.3 percent to 7.8 percent and peaked at more than 30 billion dirhams.

As for non-financial companies, their non-performing loans increased by 6.6 percent as against 11.3 percent a year earlier. The most affected activity sectors are those of construction, manufacturing industries and hotels, recording respectively increases of 17.3 percent, 9.1 percent and 30.1 percent, or additional claims of 1.5 billion dirhams, 1.3 billion dirhams and 1.1 billion dirhams from one year to the next.

Overall, the average default rate for the banking sector reached 8.5 percent compared to 8.2 percent a year earlier. For the three systemic banks together, the ratio stood at 7.9 percent in 2021 from 7.5 percent in 2020.

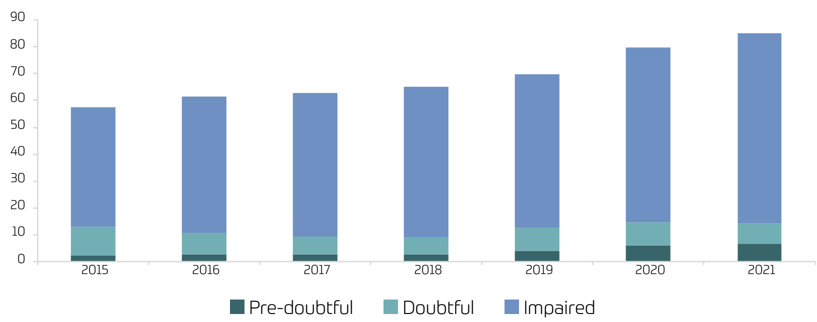
Change in banks' non-performing loans



Source: BAM

By category, the outstanding amount of impaired loans, representing more than 83 percent of the outstanding loans, decreased to 8.7 percent, after 13.8 percent a year earlier, to 70.8 billion dirhams. Pre-doubtful loans increased by 12.8 percent, while doubtful loans contracted by 12.5 percent. These represent respectively 8 percent and 9 percent of the total non-performing loans.

Banks' non-performing loans by category, in billion dirhams

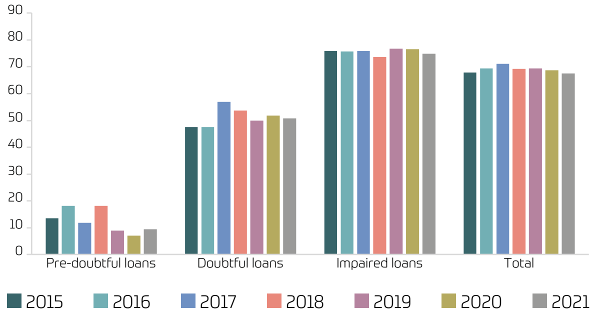


Source: BAM

Against this background of increasing default rate, specific provisions increased by 4.9 percent compared to 12.9 percent in 2020, bringing the average coverage rate down to almost 68 percent from 69 percent. This rate reached 74.8 percent for impaired loans, 50.7 percent for doubtful loans and 9.4 percent for pre-doubtful loans. For the three systemic banks, the coverage rate was around 67 percent.

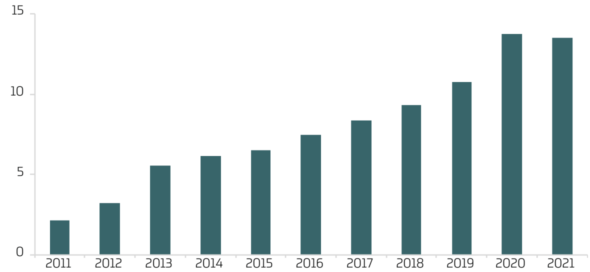
Banks also constituted general provisions, amounting to 13.5 billion dirhams, slightly down by 1.9 percent compared to 2020. These provisions constitute for the banks a safety buffer to cover latent risks.

Change in the coverage rate of non-performing loans, in %



Source: BAM

Change in the general provisions made by banks, in billion dirhams

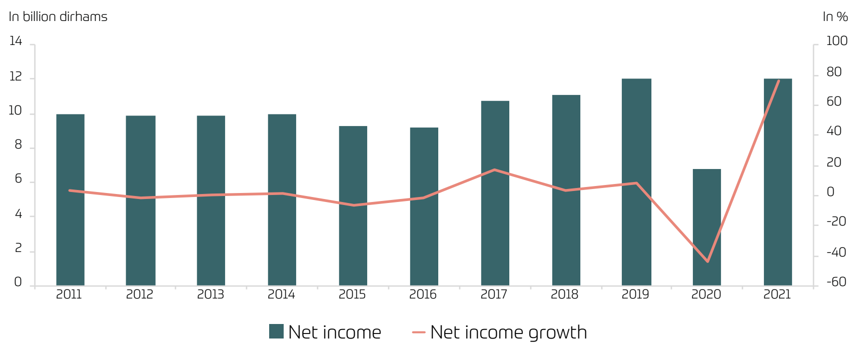


Source: BAM

Improved profitability of the banking sector, due in particular to the significant reduction in the cost of risk

The profitability of the banking sector posted a cumulative net income that was up 76.4 percent after the 43.2 percent contraction recorded in 2020. This strong change results, amid recovering economic activity in 2021, from the fall in the cost of risk by approximately 17 percent as well as the base effect induced by the contribution of the banking sector to the Covid-19 fund in 2020.

Change in banks' net income

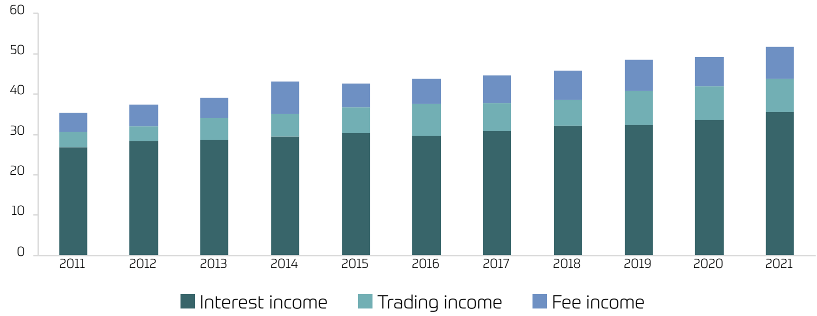


Source: BAM

The cumulative Net Banking Income (NBI) of the banking sector increased by 6.5 percent year-on-year to 52.7 billion dirhams, covering an increase of 6 percent in the interest income, a decrease of 1.5 percent in the trading income and an increase of 7.6 percent in the fee income. The net banking income of the three systemic banks went up by 7.7 percent in 2021 after the 2.7 percent contraction recorded a year earlier.

By component, the interest income, which is the main source of banks' income with a share of 69 percent in 2021, totalled 35.5 billion dirhams. That of the fee income remained stable at 15 percent in 2021, while the share of the trading income fell very slightly to 16 percent.

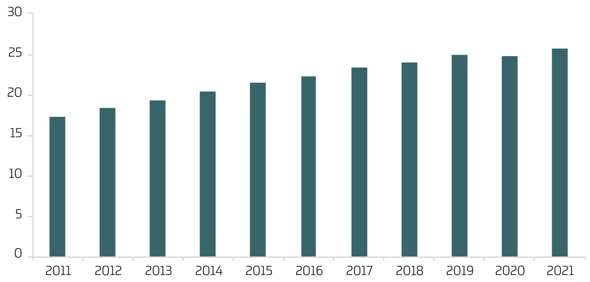
Change in banks' NBI components, in billion dirhams



Source: BAM

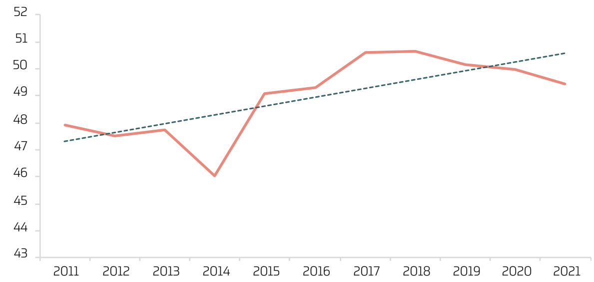
General operating expenses increased by 3.4 percent after a 0.4 percent decrease a year earlier, to 25.6 billion dirhams. The average operating ratio stood at 48.5 percent compared to 50 percent in 2020.

General operating expenses, in billion dirhams



Source: BAM

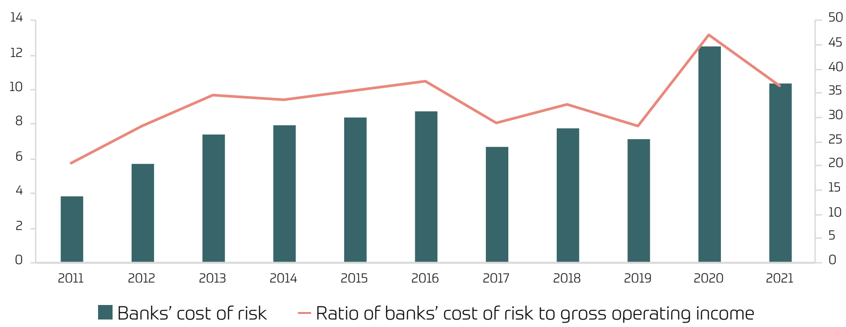
Average operating ratio, in %



Source: BAM

After a significant increase of 74.1 percent in 2020 under the effect of the health crisis and the rise in credit risk, banks' cost of risk decreased by 16.8 percent in 2021, to 10.4 billion dirhams. As a ratio to the gross operating income, it reached 37 percent against 47 percent a year earlier. Its share to outstanding loans went from 1.3 percent to 1 percent year-on-year.

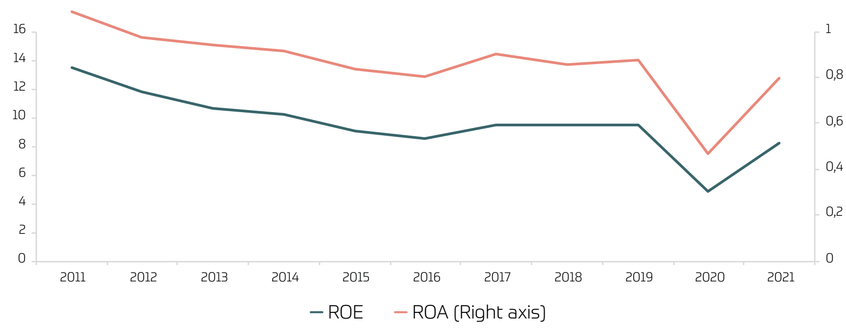
Banks' cost of risk



Source: BAM

The Average Return on Assets (ROA) rose to 0.8 percent from 0.5 percent in 2020 and Return on Equity (ROE) to 8.3 percent from 4.8 percent a year earlier.

Banks' profitability, in %



Source: BAM

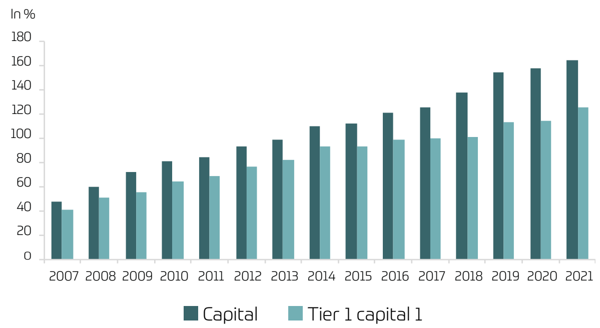
Banks continue to post solvency indicators above the minimal required levels

The prudential capital of Moroccan banks increased by 4.7 percent at the end of 2021 against 2 percent in 2020, totalling 165 billion dirhams. By component, the average Tier 1 capital increased by 9.3 percent due to the rise in income and the slowdown in default rate. As for Tier 2 capital, it dropped by 7.7 percent after a 5.5 percent rise a year earlier.

Risk-weighted assets, of which credit risk represent 82 percent, increased by 4 percent at the end of 2021 compared to 1 percent a year earlier.

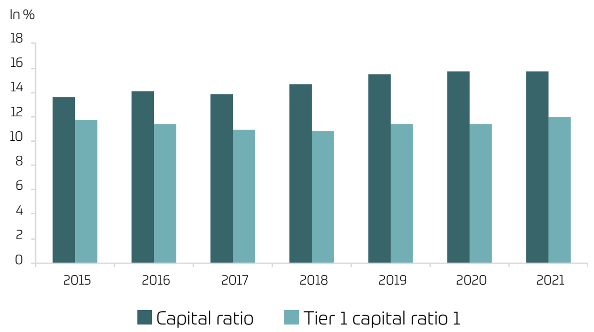
Under these conditions, banks posted an average solvency ratio of 15.8 percent, compared with 15.7 percent a year earlier, or a level above the regulatory minimal level of 12 percent. For its part, the Tier 1 ratio stood at 12 percent at the end of 2021 against 11.4 percent and 11.5 percent, respectively, in 2020 and 2019. For systemic banks, the average prudential ratios were 15.6 percent and 11.8 percent respectively, compared to 15.4 percent and 11 percent a year earlier.

Banks' prudential capital - corporate basis



Source: BAM

Banks' capital ratio - corporate basis

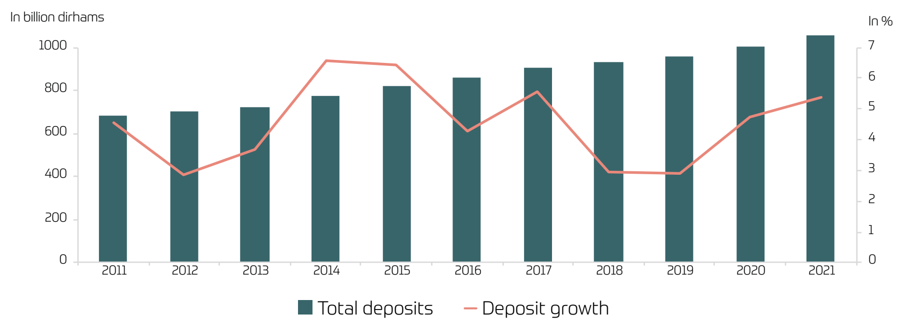


Source: BAM

Sustained growth in deposits collected by the banking sector from customers

Constituting the predominant component of banking liabilities, with a share of nearly 67 percent in 2021, customer deposits increased by 5.4 percent.

Change in deposits collected from customers

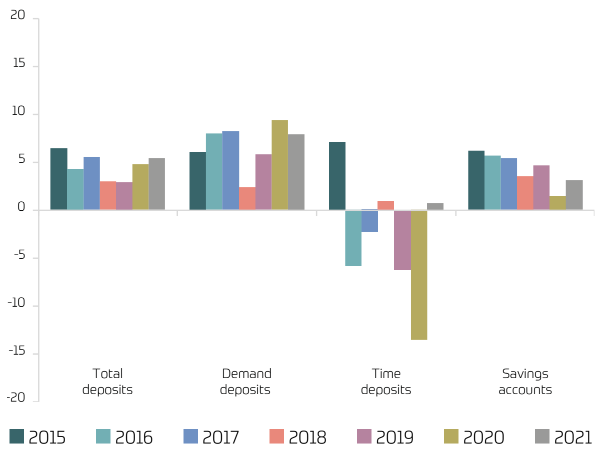


Source: BAM

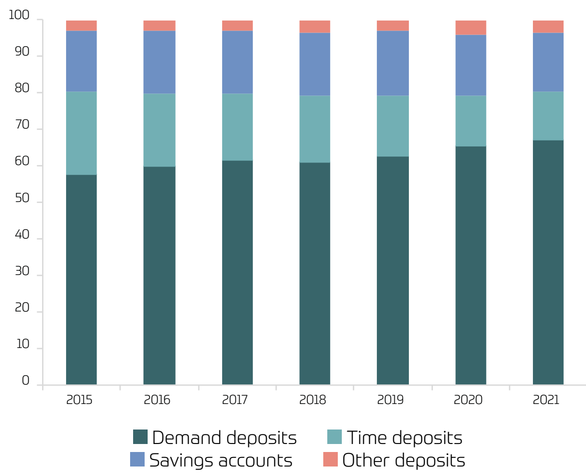
By category, sight deposits continue to grow at a steady pace. Their growth thus neared 8 percent in 2021 against 10 percent one year earlier. The share of this category in total deposits increased to 67 percent after 66 percent in 2020 and 61 percent on average between 2015 and 2019.

Savings accounts also increased by nearly 3.1 percent in 2021 against 1.4 percent in 2020. They represent 16.4 percent of total deposits, with nearly 174 billion dirhams, against 16.8 percent in 2020. In parallel, time deposits, which constitute 13 percent of total deposits, increased by 1.2 percent in 2021 after successive decreases since 2016. This would be linked to the low interest rates on these term deposits, combined with customers' preference for immediately available assets.

Change in deposits by category, in %.



Structure of deposits by category, in %

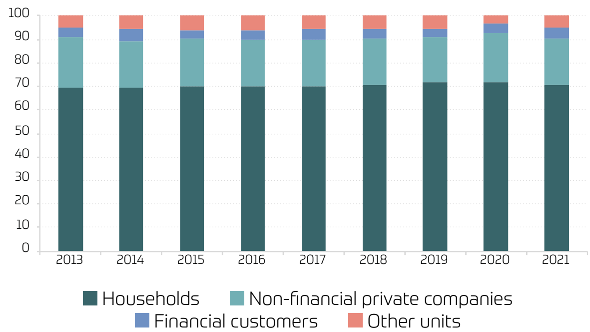


Source: BAM

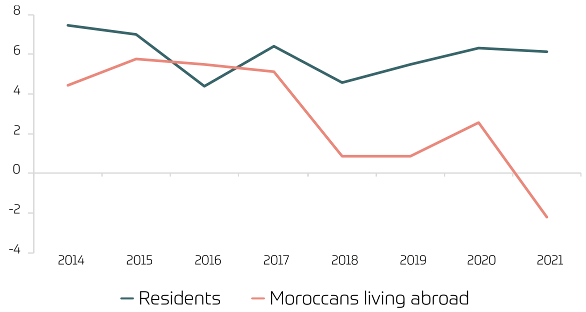
Bank deposits of resident individuals, which still account for nearly 54 percent of total deposits, increased by 6.1 percent, to 563.3 billion dirhams, against 6.3 percent a year earlier. The deposits of Moroccans living abroad (MRE) recorded a 2.2 percent drop to 185.3 billion dirhams after a rise of 2.6 percent a year earlier. These deposits represent a share of nearly 18 percent.

Deposits collected from private non-financial companies dropped by 1.2 percent to 208 billion dirhams, representing nearly 19.7 percent of deposits against 21 percent in 2020. As to the deposits of financial customers, they continue to increase, with a rate of 16.9 percent against 15.7 percent in 2020.

Structure of deposits by economic unit, in %



Change in deposits of resident households and Moroccans living abroad, in %



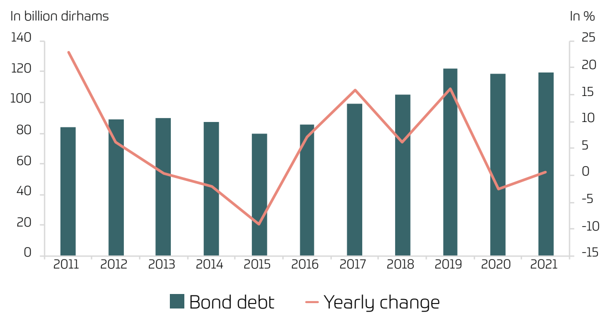
Source: BAM

Recourse to bond refinancing by banks remains comparable to the previous year

Banks' outstanding bond debt totalled 120 billion dirhams in 2021, a very limited increase of 0.6 percent or 0.7 billion dirhams, after the decline of 2.5 percent in 2020. Bond issuances in 2021 increased by almost 14.7 billion dirhams, thus confirming the increase in this type of refinancing started since 2016. Its share in the total liabilities of the banking sector represented 7.6 percent, against 7.9 percent a year earlier.

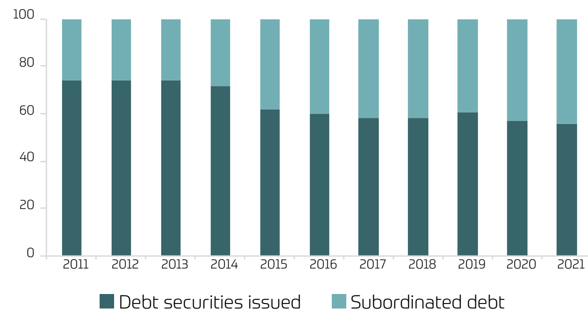
Out of this total, subordinated debts increased by 1.8 billion dirhams in one year, up 3.6 percent to 53.2 billion dirhams, while issued debt securities decreased by 1.7 percent or 1.1 billion dirhams, to nearly 66.9 billion dirhams.

Change in the bond debt



Source: BAM

Structure of bond debt issued by banks, in %



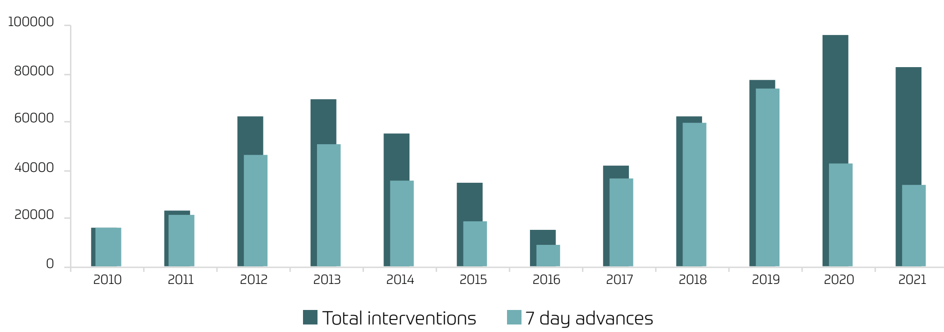
Source: BAM

Alleviation of the banking liquidity deficit, mainly linked to improved foreign exchange reserves. Against this background, Bank Al-Maghrib reduced the volume of its liquidity injections to the benefit of banks

In 2021, banks' liquidity requirements decreased overall, mainly as a result of higher foreign exchange reserves, the good trend in customer deposits and the deceleration in currency in circulation, compared with the previous year.

Over 2021, banks' use of advances of the Central Bank totalled nearly 83 billion dirhams on daily average, down by 14 billion dirhams compared to 2020. These liquidity injections were mainly related to 7-day advances for an average of 35 billion dirhams as well as to long-term repurchase agreements and guaranteed loans.

Interventions of the Central Bank, in billion dirhams (on average)

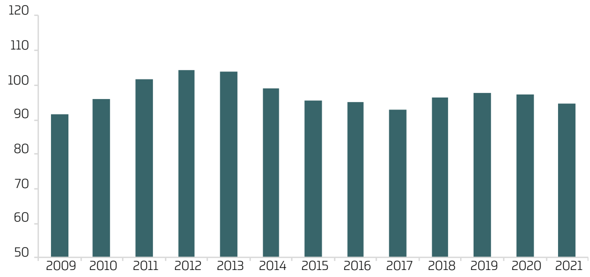


Source: BAM

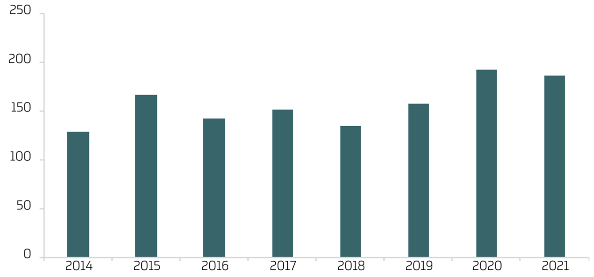
The loan-to-deposits ratio reached 95 percent compared to 97 percent in 2020, up 2 points, which reflects a more pronounced change in deposits compared to loans.

The short-term liquidity coverage ratio (LCR), measuring the ratio of high-quality liquid assets (HQLA) to net cash outflows over a 30-day period, stood at 187 percent at the end of 2021, compared with 192 percent a year earlier, well above the minimum regulatory requirement.

Change in banks' loan-to-deposit ratio, in %



Liquidity coverage ratio, in %



Source: BAM

Box 6: Trends in key banking sector indicators on a consolidated basis

On a consolidated basis[29], the cumulative balance sheet total of banks[30] amounted to 2 028 billion dirhams at the end of 2021, up 5.3 percent after 5.1 percent in 2020 and 7.3 percent in 2019. The three systemic groups continue to represent a share of nearly 70 percent of it.

Banks' assets are mainly composed of loans and claims on customers, totalling 1 205 billion dirhams, i.e 59.5 percent of total assets in 2021 against 60.5 percent in 2020 and 62 percent in 2019, with an increase of 3.5 percent after 2.8 percent in 2020 and 6.9 percent in 2019.They are followed by financial assets «at fair value through profit or loss» with an amount of 226 billion dirhams in 2021, with a sharp increase of 16.5 percent and financial assets «at fair value through equity» whose share remains around 7 percent.

Regarding the quality of the loan portfolio on a consolidated basis, the non-performing loans to customers amounted to 124.5 billion dirhams, up 6.3 percent compared to last year. The risk rate went up to 9.8 percent against 9.5 percent in 2020 and 8.5 percent in 2019.These receivables are still covered at an average of 66 percent. As for sensitive receivables meeting the IFRS 9 criteria, they are provisioned at an average of 14.5 percent compared to 14.6 percent in 2020.On the other hand, sound loans demonstrate no signs of vulnerability are covered by provisions for 0.8 percent on average, compared with 0.9 percent a year earlier. The large exposures of banking groups increased by 8 percent against 0.6 percent in 2020, i.e. 363 billion dirhams in 2020, and 335 billion dirhams, representing 1.8 times banks' capital against 1.7 times in 2020. For the three systemic banking groups, the average risk rate stood at 9.1 percent with a coverage rate of 68.5 percent.

29 Data collected from banks› IFRS financial statements.

30 Sum of the total consolidated balance sheets of the 11 banking groups subject to consolidation and the total balance sheets on a corporate basis of the 6 banks not subject to consolidation.

The liabilities remain dominated by debts to customers with a share of 65.6 percent in 2021 for an amount of 1 335 billion dirhams against 1 264 billion dirhams, up 5.6 percent against 5.2 percent in 2019. They are followed by debts to credit institutions and similar bodies, which increased by 3.2 percent from one year to another, cumulating 206 billion dirhams. Concerning equity, its share stood at 9.39 percent against 9.54 percent a year earlier.

As far as the income statement items are concerned, net profit almost doubled from 8 billion dirhams to 15 billion dirhams. Net profit - group share also increased by 78 percent, mainly due to the improved performance of some African subsidiaries, totalling 12 billion dirhams instead of around 7 billion dirhams in 2020.This change is also explained by the significant drop in the global cost of risk, which fell to 15 billion dirhams after 19 billion dirhams one year earlier, following in particular provision reversals amid a favourable evolution of the economy. The cost of risk thus represented 38 percent of gross operating income, compared with 55 percent in 2020. The profitability indicators of the banking groups have improved, with an average return on assets (ROA) of 0.6 percent instead of 0.4 percent one year earlier and an average return on equity (ROE) of 7.8 percent in 2021 after 4.6 percent in 2020.

As regards solvency, the consolidated equity of banking groups reached 203 billion dirhams against 194 billion dirhams in 2020, including nearly 164 billion dirhams of Tier 1 capital, bringing the overall average solvency ratio to 13.9 percent and the average Tier 1 capital ratio to 11.2 percent against respectively 13.7 percent and 10.6 percent in 2020 compared to regulatory minimum levels of 12 percent and 9 percent. For the three systemic banking groups together, these ratios stood at 13.3 percent and 10.7 percent, respectively, at the end of 2021.

Banks have once again demonstrated their ability to cope with macroeconomic shocks

Bank Al-Maghrib continues to use the macro-stress test as a tool to assess the resilience of banks to macroeconomic shocks. The present exercise, This exercise, which is based on data as at the end 2021 of the eight main banks[31], is based on two scenarios; (i) a baseline scenario in line with Bank Al-Maghrib's macroeconomic forecasts published in June 2022 and (ii) an extreme scenario simulating the materialisation of severe but plausible macroeconomic shocks.

The baseline scenario assumes a slowdown in growth to 1 percent in 2022 (due mainly to the fall in agricultural value added and the effects of the Russian-Ukrainian conflict) and then its acceleration to 4 percent in 2023. In the extreme scenario, the escalation and intensification of tensions between Ukraine and Russia, combined with a more severe disruption of supply chains and a new wave of the pandemic, would weigh heavily on national GDP, which is projected to contract by 3.6 percent in 2022 before growing by 2.4 percent in 2023.

31 Representing almost 80 percent of total assets and 90 percent of loans granted by the banking sector.

In particular, according to the severe scenario, the economic growth of Morocco's foreign partners would be affected by geopolitical tensions and the remarkable increase in the price of commodities (linked in particular to the tensions relating to the production and exchange of oil, foodstuffs and fertilisers), hence the contraction of GDP in the euro zone and the slowdown of its growth in Sub-Saharan Africa in 2022. Against this background, Morocco would experience a drop in foreign demand, a decline in FDI revenues and a higher-than-expected acceleration of inflation. In 2023, although tensions would ease, growth is expected to remain sluggish overall, and commodity prices would remain at fairly high levels.

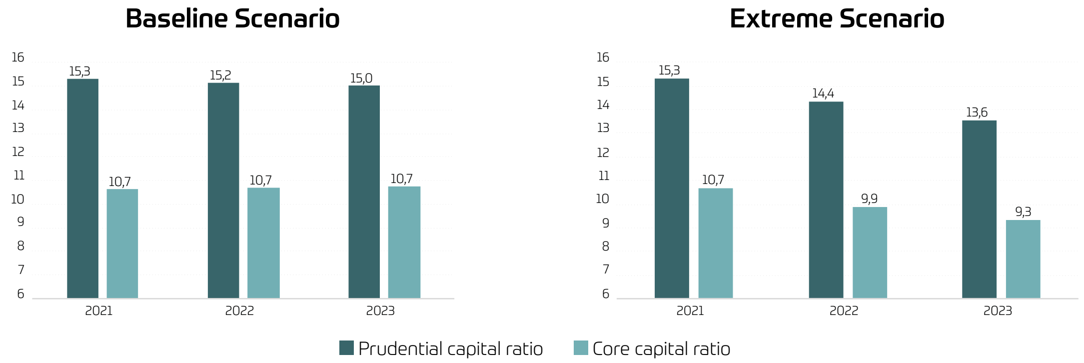
Macroeconomic scenarios

		2021	2022	2023
	External			
Euro area growth (%)	Baseline	5,6	2,8	2,3
	Extreme	-	-1,3	1,9
Growth in Sub-Saharan Africa (%)	Baseline	3,7	3,8	4,0
	Extreme	-	1,8	2,0
Oil price (%)	Baseline	67,4	42,0	-8,0
	Extreme	-	55,3	0,5
Non-energy commodity prices (%)	Baseline	32,7	19,2	-8,8
	Extreme	-	26,1	1,7
	Internal			
Growth	Baseline	7,9	1,0	4,0
	Extreme	-	-3,6	2,4
Inflation (%)	Baseline	1,4	5,3	2,0
	Extreme	-	7,2	5,0
Transfers by Moroccan expats (%)	Baseline	37,4	-5,9	-3,8
	Extreme	-	-4,8	-2,8
FDI receipts (% of GDP)	Baseline	2,5	3,0	3,2
	Extreme	-	2,5	2,5

The results of the baseline scenario reveal that the average default rate of the eight banks tested is expected to be around 10.2 percent for households and 11.4 percent for non-financial corporations (NFCs), on average in 2022-2023, with contrasting developments across banks. On the other hand, banks should record a quasi-stable net income. This is due in particular to a slight improvement, or even stagnation, in the interest income and the fee income. Under these conditions, the average overall capital ratio would be 15.2 percent in 2022 and 15 percent in 2023, while the core capital ratio would stabilise at around 10.7 percent.

However, the deterioration of economic conditions under the extreme scenario would result in higher credit risk, with the average household default rate rising to 11.7 percent in 2022 and then to 12.9 percent in 2023, and that of NFC rising to 12.2 percent in 2022 and then to 13.7 percent in 2023, mainly reflecting the effects of declining activity and purchasing power on the financial situation of households and non-financial companies. In addition, the decline in activity combined with the rise in inflation and the sluggishness of credit would penalise the profitability of the eight main banks in the market following the decrease in NBI and its main components (interest income, fee income and trading income). As a result, the average prudential capital ratio is expected to decline by 180 basis points (bps) and the core capital ratio by 130 bps over the forecast horizon. Despite these developments, the prudential capital ratios on a corporate basis would remain above regulatory requirements in 2022-2023.

Change in capital ratios



Box 7: Methodological details of the banking macro-stress

In order to strengthen the analytical framework of macroprudential supervision, Bank Al-Maghrib carried out in 2019, with the technical assistance of the IMF, an in-depth review of the banking sector's macro stress test process, which had the main following objectives:

- Improving the methodology for designing extreme macroeconomic scenarios with the Growth at Risk (GaR) technique;
- The estimation of seven satellite models suitable for linking banking risk factors to macroeconomic variables.

The new approach for the design of the extreme scenario was rolled out in June 2019 and its results were published in the Financial Stability Report N°6. Bank AL-Maghrib then refined the satellite model techniques and tested their predictive quality for the extreme scenario. This work was carried out with the online support of experts from the IMF mission.

The development of the satellite models is based on three different panel estimation techniques (dynamic fixed-effect OLS[32], Bayesian combination of alternative models[33] (BAM) and Pooled Mean-Group estimator[34]) covering eight major banks. The models relating to credit risk (Nonperforming loans rate and provisioning rate) are estimated on the basis of quarterly data, while the models explaining the evolution of banks' results are semi-annual.

32 The dynamic fixed-effects ordinary least squares (OLS) method is a panel linear regression that takes into account the lag of the dependent variable as well as the existence of a constant time factor specific to each bank.

33 Bayesian combination of alternative models (BAM): This method combines the predictions of several models to compensate for the uncertainty of the estimate.

34 The Pooled Mean-Group estimator is used to remedy the problem of non-stationary series by considering the existence of a long-term relationship between the variables as well as a short-term dynamic.

Dynamic fixed-effect OLS	Bayesian modelling	Pooled Mean-Group estimator
Default rate of households	Povisioninoning rate	Cost of financing
Default rate of non-financial companies		
Fee income	Income of market transactions	
Interest income to total loans ratio		

The specification of the model is based on :

- The correct sign and statistical significance of the coefficients.
- The high level of R^2 which measures the quality of the prediction of a linear regression.
- Correct out-of-sample estimation.

Credit risk

The explanatory variables selected to explain the change in household default rate are, in addition to the lag of the dependent variable, non-agricultural GDP growth and the change in the real interest rate on Treasury bills, so that a one percentage point decrease in (real) non-agricultural GDP growth would result in a 0.26 percentage point increase in households' default rate, and a one percentage point increase in the real interest rate would increase the households' default rate by 0.37 percentage points for this category of customers.

Change in households' default rate (g.a)	
Change in households' default rate (t-1)	0.6661***
	(35.00)
Real non-agricultural GDP growth	-26.3872**
	(-2.94)
Change in the Treasury bill rate	0.3742
	(1.13)
Constant	0.9804**
	(2.66)
R^2	0.55
Number of observations	500
P-value of Fischer test	0.00

For its part, the model retained to explain the evolution of the default rate of non-financial companies (NFC) is a dynamic fixed-effect OLS panel, with as explanatory variables (i) the variation of the default rate delayed by one period, (ii) the growth rate of real non-agricultural GDP, (iii) the year-on-year change of the real interest rate of Treasury bills and (iv) the year-on-year change of the stock of foreign capitals (FDI and transfers of Moroccan expats). The resulting coefficients have the expected intuitive signs. For example, the growth rate of real non-agricultural GDP is projected to have a decreasing effect on the default rate of NFCs, since the debt repayment capacity of borrowers increases as income improves. Similarly, capital inflows are expected to have a decreasing effect on this rate as they improve bank liquidity, allowing banks to distribute more loans.

Change in the NFC's default rate (g.a)	
Change in NFC's default rate (t-1)	0.7548***
	(14.58)
Real non-agricultural GDP growth	-14.9615***
	(-3.83)
Change in the Treasury bill rate	0.1643
	(0.76)
Change in foreign capital	-1.2028**
(FDI and remittances from Moroccan expats)	(-2.29)
Constant	0.2981
	(1.37)
R^2	0.68
Number of observations	448
p-value of Fischer test	0.00

The impact of the change in the default rate on banks' results depends on the level of provisioning of non-performing loans' flows, hence the estimation of a model for the provisioning rate. A Bayesian combination of alternative models (BMA) was used to minimise the risk of model error and to correct the sensitivity of the projections to a single specification. The equation chosen includes as explanatory variables the growth rate of real non-agricultural GDP and the year-on-year change in the real interest rate on Treasury bills.

Change in the provisioning rate (g.a)	
Growth in real non-agricultural GDP	0.7123***
	(-3.64)
Change in Treasury bill rate	-0.0106***
	(-4.34)
Constant	-0.0269***
	(-3.19)
Number of observations	497

Interest income

The model used is a dynamic fixed-effect OLS panel, on a semi-annual basis, explaining the ratio of interest income to total loans by its value in the previous period, by the nominal interbank rate and by the inflation rate. The last two variables have a positive impact on the evolution of the ratio. An increase in the inflation rate and in the interbank rate translates into a rise in bank costs, thus inciting banks to raise lending rates in order to maintain their net interest income.

Interest income to total loans	
(Interest income to total loans) (t-1)	0.7819 ***
	(10.77)
Nominal interbank rate	0.0554**
	(2.01)
Inflation	0.0059**
	(2.58)
Constant	0.4179***
	(2.41)
R^2	0.81
Number of observations	256
p-value of Fischer test	0.00

Financing cost

In order to determine the change in banks' financing cost following the change in macroeconomic conditions, a panel model was estimated, on a semi-annual basis, considering the ratio of interest charges to total financing, as a proxy variable for the financing cost. The explanatory variables are the inflation rate and the nominal rate of Treasury bills.

Since the statistical series of the dependent variable are not stationary, the financing cost is estimated using « the Pooled Mean Group estimator» to capture the effect of the long-run relationship. The coefficient of the error correction term in the short-term equation is negative, confirming the cointegration relationship. In addition, the coefficients in the long-run equation confirm the positive relationship between bank funding costs and the Treasury bill rate and the inflation rate.

Interest charges on total financing	
Long-term relationship	
Nominal interest rate of Treasury bills	0.4688***
	(7.43)
Inflation	0.1436***
	(3.04)
Short-term relationship	
Error correction term	-0.2930***
	(-13.56)
Annual change in the nominal treasury bill rate	-0.0768***
	(-3.01)
Change in inflation rate	-0.0159***
	(9.63)
Constant	-0.2388***
	(-9.72)
Number of observations	248

Fee income

The change in this component is estimated using an OLS fixed-effect model. The explanatory variables include annual real GDP growth, the year-on-year change in the nominal interbank rate and the inflation rate. GDP growth and the inflation rate have a positive effect on the net fee income, as the volume of business evolves in line with overall economic activity, while the interbank interest rate is expected to have a negative impact, as it would slow down trading activities.

Change in fee income	
Real GDP annual growth	1.2770***
	(3.51)
Change in the nominal interbank rate	-0.2232***
	(-9.81)
Inflation	0.0122***
	(3.94)
Constant	-0.0358**
	(-2.31)
R^2	0.34
Number of observations	208
p-value of the Fischer test	0.00

Trading income

This model is estimated using a combination of alternative models (BMA). The explanatory variables include the year-to-year change in the nominal interest rate on Treasury bills and the CPI. The signs of the coefficients obtained are consistent with theory. The inflation rate has a positive impact on the change in the trading income, as it reflects the dynamism of economic and financial activity. On the other hand, the change in the nominal Treasury rate has a negative impact on this income due to (i) the negative correlation between the interest rate and securities prices and (ii) the increase in the cost of financial transactions following the rise in the reference interest rate.

	Change in trading income
Change in nominal interbank rate	-0.3307***
	(-2.81)
Inflation	0.0396
	(0.68)
Constant	0.0654
	(0.60)
Number of observations	205

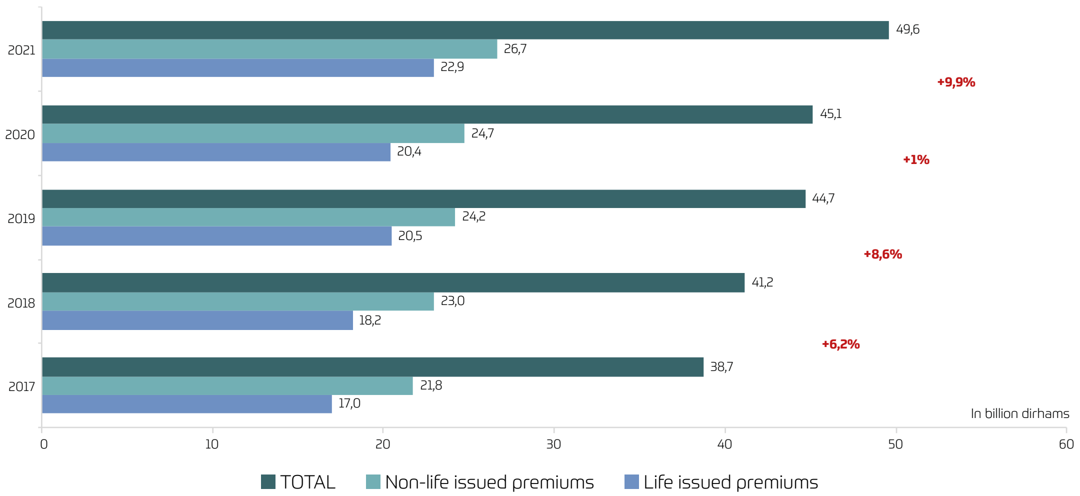
The estimated satellite models made it possible to establish links between the macroeconomic environment and certain components of the balance sheet and income statement of the eight main Moroccan banks. They are subject to regular review as part of the improvement process and may be adjusted if necessary.

III.2. Insurance sector

The insurance sector is growing again

After a difficult year of pandemic and its negative impact on economic activity, the national insurance sector recovered its pre-crisis dynamics with a volume of issued premiums (direct business) of 49.6 billion dirhams, up by 9.9 percent (against 1 percent in 2020). This performance is in line with the general improvement of the national economy and marks a recovery of the sector's activity.

Change in life and non-life issued premiums



Source: ACAPS

Although it has varying degrees, the good performance of the insurance sector's turnover concerned both life and non-life branches.

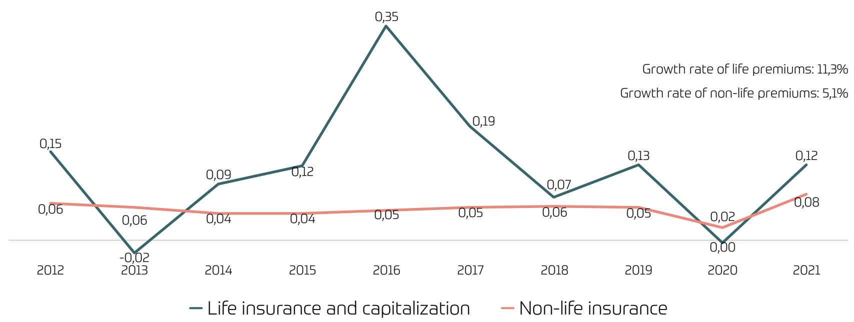
The life branch resumed its growth pace initiated before the crisis and reached 22.9 billion dirhams of inflow against 20.4 billion dirhams a year earlier, up 12.5 percent. This improvement benefited all the segments of the life branch: savings in dirhams recorded an increase of 12.2 percent to 18 billion dirhams, the unit-linked products continued on their dynamics by going up 20 percent to 1.7 billion dirhams and the death insurance returned to growth by rising 10.2 percent to 3.2 billion dirhams.

Thanks to these developments, the contribution of life insurance and capitalization to total turnover increased to 46.3 percent from 45.2 percent a year earlier.

Despite this positive development, the low interest rate environment continues to weigh on the balance sheets of life insurers, who are gradually shifting their products to unit of account contracts, which represent a low risk for insurers.

On the other hand, the non-life branch recorded a significant increase of 7.7 percent with an issue volume of 26.7 billion dirhams. This increase is mainly due to car insurance, which achieved a premium volume of 13 billion dirhams and a growth of 8.6 percent.

Change in the growth rate of life and non-life premiums



Source: ACAPS

Share of life and non-life insurance in total turnover

	2020	2021
Life insurance and capitalization	**45,2%**	**46,3%**
Non-life insurance	**54,8%**	**53,7%**
Guarantees against the consequences of catastrophic events	1,1%	1,1%
Car insurance	26,5%	26,2%
Work accidents and occupational disease	4,9%	4,7%
Bodily injury	9,8%	9,6%
Fire	4,3%	4,1%
Credit-assistance-guarantee insurance	3,1%	3,1%
Others	5,2%	5,0%
Total	**100%**	**100%**

Source: ACAPS

On another note, reinsurance acceptances dropped by 5.2 percent to 2.8 billion dirhams. This activity, which is essentially concentrated in non-life insurance (94 percent), continues to be dominated by exclusive reinsurers with a market share of 78 percent.

Overall, the turnover of the insurance sector, including reinsurance acceptances, reached 52.4 billion dirhams, up 8.9 percent compared to 2020.

Despite the double-digit growth rate of issued premiums, the insurance penetration rate[35] remained almost at the same level[36] as in 2020, at 3.9 percent.

35 The penetration rate is calculated as the ratio of issued direct premiums to GDP.
36 The calculation method of GDP was reviewed by the HCP, which led to a strong increase in GDP at current prices.

Box 8: Takaful insurance is promoting financial inclusion

Takaful insurance reached a landmark in 2021, with the publication of the rest of the regulatory corpus related to this type of insurance and the granting of licenses to the first Takaful operators.

The entry into force of this new activity, long awaited for by the participatory finance community (banks and clients), completes the ecosystem by proposing an adapted insurance offer.

At the start of this activity, the proposed offer will mainly focus on death/disability insurance and multi-risk construction insurance, in response to a clear demand from participatory banks. It will also cover savings insurance products known as «Takaful investment».

The emergence of this activity represents a real opportunity for financial inclusion by making it possible to integrate segments of the population that do not use conventional insurance for religious convictions or for ethical reasons.

In doing so, it will help improve the insurance penetration rate and promote the dynamics of the Moroccan insurance market.

Yet, the development of this emerging market still depends on the establishment of a participatory finance ecosystem favoring the availability of a wide range of assets, which are in line with the opinion of the Higher Council of the Ulema (CSO).

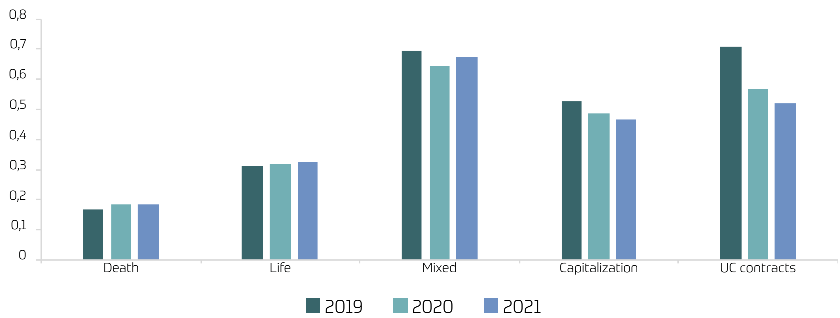
Market concentration remains at its average level

In 2021, the structure of the insurance market in terms of the number of operators and market shares remained almost unchanged. As a result, the concentration of the insurance sector, as measured by the Herfindahl-Hirshman Index, remained at its average level of 0.117, compared with 0.116 a year earlier.

In life insurance, concentration remained high with an index of 0.177 (compared to 0.178 in 2020). The small number of players active in this segment combined with an asymmetric distribution of their market share continues to account for this result. In this market with only nine players, three of them have a 66.7 percent market share.

Within the life segment, the analysis of concentration reflects the same conclusion. All categories of this branch show high levels of concentration, which are more marked for the «mixed» and «Unit of account contracts» categories. However, a downward trend in the concentration of unit of account contracts is developing, due to the growing interest of players in marketing this type of contract.

Change in the concentration level of life insurance categories

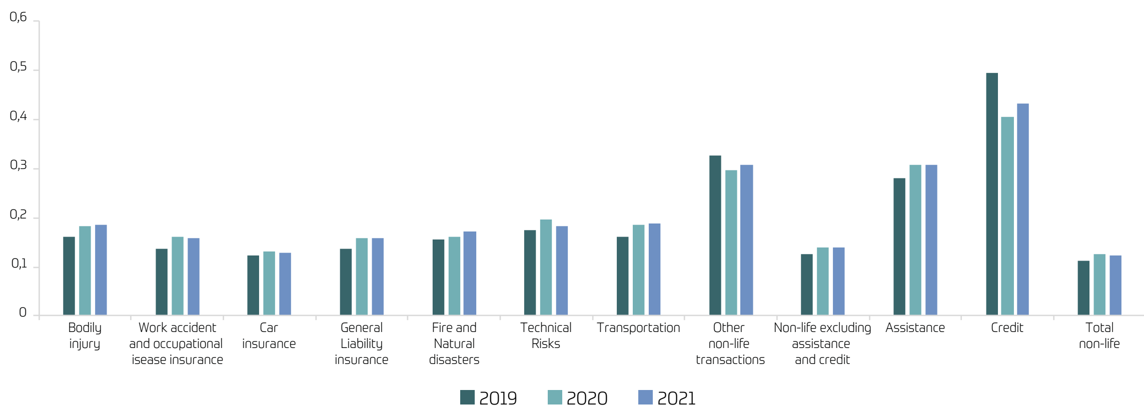


Source: ACAPS

With an HHI of 0.137, non-life insurance (excluding assistance and credit) maintained an average level of concentration. The number of players in this market remained stable and the shares held by the players did not change significantly.

Compared to the year 2020, the intra-branch non-life concentration did not change. The categories «Car», «General Liability», «Fire and Natural disasters» and «Work accident and occupational disease insurance» showed average levels of concentration, while the categories «Bodily Injury», «Technical Risks», «Transportation», "guarantee-credit-assistance" and other non-life transactions (Hail, Livestock Mortality, Theft, Weather Risks) stand out with high concentration levels.

Change in the level of concentration of non-life insurance categories



Source: ACAPS

A return to profitability

In 2021, the profitability of the insurance sector improved. The net income increased by 35 percent to reach 3.9 billion dirhams. The improvement concerned both the technical income (+ 0.8 billion dirhams) and the non-technical one (+0.3 billion dirhams).

In detail, the two branches, life and non-life, posted an increase in technical income of 30.9 percent (+234.0 million dirhams) and 16.8 percent (+596.9 million dirhams) respectively. The increase is due to the combined effects of:

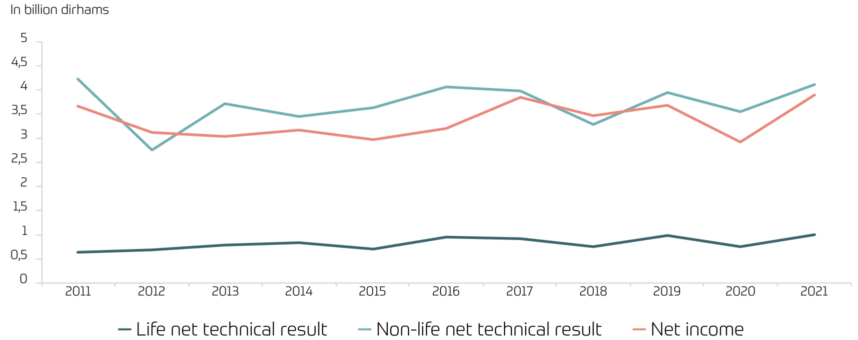
- The rebound of the financial balance by 64.7 percent (+2.4 billion dirhams), which benefited from the good performance of the stock market[37].
- The 23.3 percent decline in the operating income (-445.2 million dirhams), due in particular to the increase in the cost of claims for auto insurance;
- The decrease of the reinsurance balance by 86.6 percent (-1.1 billion dirhams) in favor of insurers. This decline can be explained by the decrease in the cost of claims, which particularly concerned fire insurance and crop insurance.

Changes in the components of the net income of direct insurers

	2020	2021	Variation
Earned premiums	45 358,5	49 888,1	10,0%
Services costs	34 729,0	39 414,3	13,5%
Net acquisition and management expenses	8 718,9	9 008,4	3,3%
Operating margin	1 910,7	1 465,4	-23,3%
Financial balance	3 645,3	6 004,0	64,7%
Gross technical result	5 555,9	7 469,5	34,4%
Reinsurance balance	-1 249,7	-2 332,4	-86,6%
Net technical result	4 306,2	5 137,1	19,3%
Non-technical result	-406,0	-143,2	64,7%
Pre-tax result	3 900,2	4 993,9	28,0%
Income tax	990,1	1 064,4	7,5%
Net result	**2 910,2**	**3 929,5**	**35,0%**

Source: ACAPS

Change in life and non-life technical result and net income of direct insurers



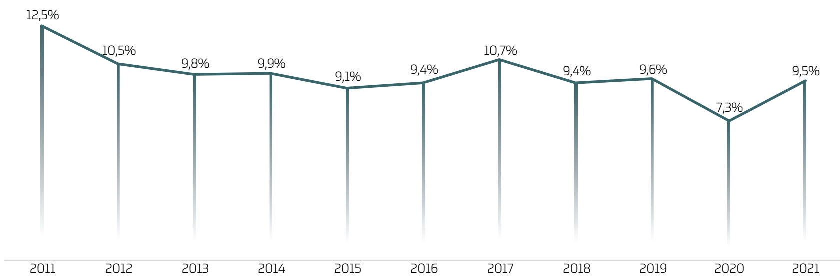
Source: ACAPS

Including exclusive reinsurers, net income amounted to 4.2 billion dirhams, up 31.4 percent compared to 2020.

37 The MASI index closed the year with an increase of 18.35 percent.

The 35 percent increase in net income combined with a smaller increase of 2.9 percent in shareholders' equity raised the rate of the Return on Equity (ROE) of 9.5 percent, close to the level recorded before the outbreak of the health crisis.

Change in return on equity (ROE) for direct insurers



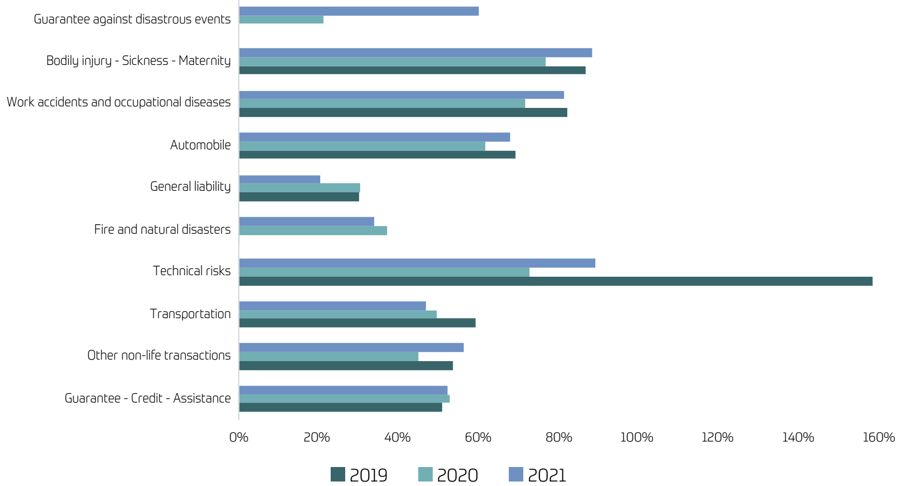
Source: ACAPS

A growing claims' experience

The non-life cost of claims increased by 6.5 percent to 69.0 percent, close to its pre-crisis level.

The increase in the cost of claims concerned a large part of the non-life categories. This is particularly true to auto insurance, where the C/P was 67.3 percent after a significant drop following the lockdown decreed in 2020. The same is true for the categories «Bodily injury - Sickness - Maternity» and «Work accidents and occupational diseases» whose cost of claims rebounded to 87.7 percent and 80.6 percent, respectively.

Change in net reinsurance C/P by non-life class for direct insurers over the last three years

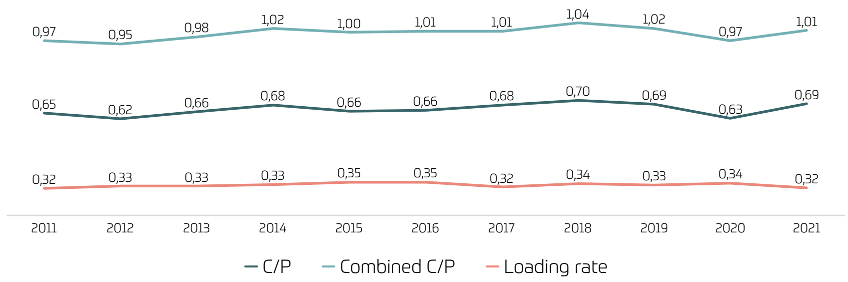


Source: ACAPS

The non-life combined ratio, which measures technical performance including loading[38], increased by 4.3 points to 101.1 percent.

38 Loadings include acquisition and management costs.

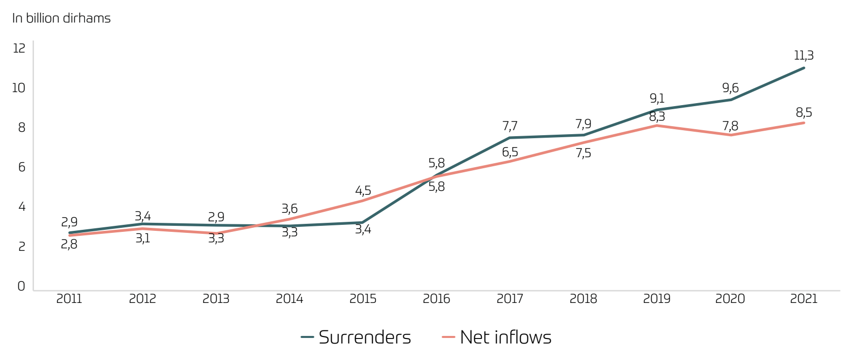
Change in net non-life cost of claims of reinsurance for direct insurers



Recovery of net saving inflows

With a net saving inflow of 8.5 billion dirhams and an increase of 8 percent, the savings insurance has recovered taking advantage of the improvement of the household savings capacity following the recovery of the economic activity. This growth concerned both savings in dirhams and unit-linked products, which reached, respectively, 7.2 billion dirhams (+6.3 percent) and 1.3 billion dirhams (+18.5 percent).

Change in net inflows of direct insurers



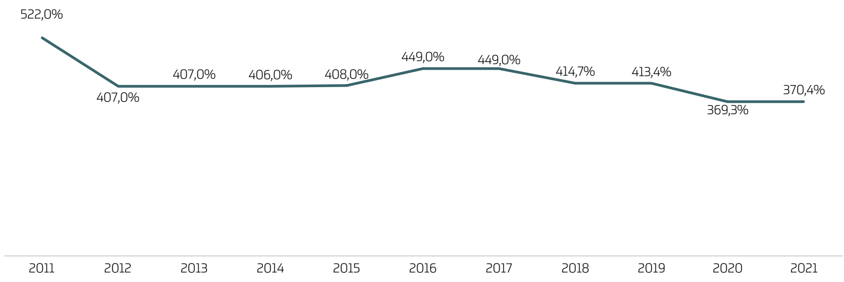
Source: ACAPS

A solvency margin well above the regulatory requirements under the current prudential framework

In 2021, the solvency margin rate of the insurance sector remained almost unchanged, rising from 369.3 percent to 370.4 percent.

The solvency margin rate remains well above the regulatory level. Under the current prudential framework, this margin only includes the underwriting risk and will decrease after the adoption of the Risk Based Solvency regime, which covers a wider range of risks to which the insurance sector is exposed.

Change in the solvency margin of direct insurers



Source: ACAPS

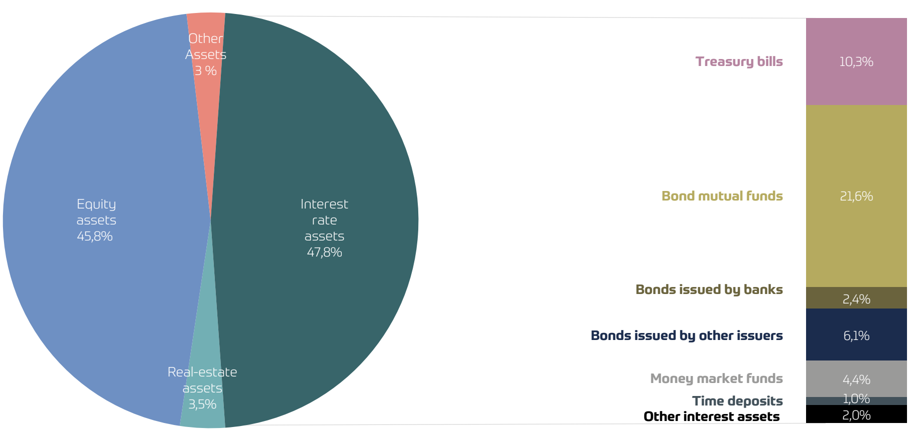
Rising investments with heavy exposure to equity risk

The investments of insurance companies at the end of 2021 in terms of inventory value increased by 7.7 percent to 210.3 billion dirhams. By integrating the exclusive reinsurers, they stand at 221.3 billion dirhams, up 7.5 percent compared to 2020.

In detail, investments allocated to insurance operations increased by 7.1 percent to 185.7 billion dirhams, while free investments rose by 12.4 percent to 24.6 billion dirhams.

An analysis of the asset portfolio structure shows a high exposure to the equity component. Its share increased by 0.4 percent to 45.8 percent of total outstanding amounts. Interest rate assets remain the leading investment instrument for insurance companies, with a share of 47.8 percent.

Investment structure of direct insurers



Source: ACAPS

Unrealized capital gains appreciated in parallel to the good dynamics of the financial market

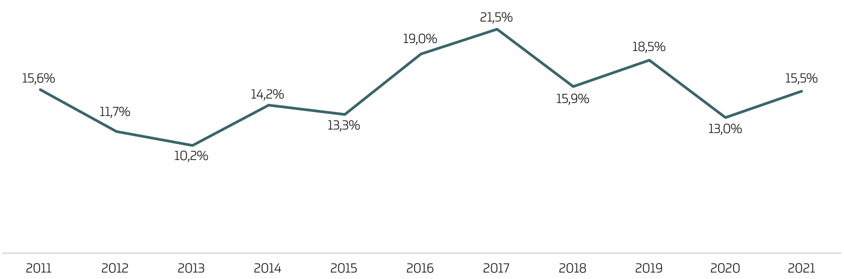
As a result of the improved health situation and in the wake of the overall economic recovery, the financial market regained its momentum, which led to an improvement in the market value of insurers' investments.

Thus, the unrealized capital gains closed the year with an increase of 28.4 percent for an amount of 32.5 billion dirhams against 25.3 billion dirhams a year earlier.

The level of unrealized capital gains of the «shares» segment, one of the main components of the portfolio, increased by 47.2 percent for an amount of 23.7 billion dirhams, thanks to the performance of the stock market (+18.35 percent of the MASI index).

This resulted in a higher ratio of unrealized capital gains on investments, from 13 percent to 15.5 percent by the end of 2021.

Change in the ratio of unrealized capital gains on investments of direct insurers



Source: ACAPS

Insurance companies remain resilient to «equity» and «real estate» shocks

By simulating a stress test[39] with a 10 percent and 25 percent decrease in the «equity» portfolio, the lowest solvency margin rate would be 113 percent and 104 percent, respectively. The average solvency margin rate would be 335 percent and 291 percent, respectively.

The same stress test exercise carried out on «the real estate» portfolio showed that the lowest solvency margin rate would be 125 percent and 124 percent, respectively. The average solvency margin is expected to stand at 367 percent and 363 percent, respectively.

The results of these stress tests show that the prudential solvency requirements are still met.

39 Simulation made excluding an assistance company.

Counterparty risk is still under control

Exposure to reinsurers

At the end of 2021, the assignees' shares in the technical reserves reached 10 billion dirhams, up 1.8 percent compared to 2020.

Deposits with ceding companies cover a share of the assigned commitments. It is estimated at 3.4 billion dirhams and represents 35.1 percent of total cessions.

The remainder of the ceded commitment is split between domestic and international reinsurers as follows:

- National reinsurers hold a share of the commitment amounting to 5.9 billion dirhams, of which 2.9 billion dirhams are under the State-guaranteed legal assignment. The retrocession programs of national reinsurers are mostly ceded to reinsurers with a BBB rating and above.
- Foreign reinsurers have a share of the commitment, which amounts to 655.5 million dirhams. Almost all of these reinsurers have a BBB rating and above.

Exposure to insurance intermediaries and policyholders

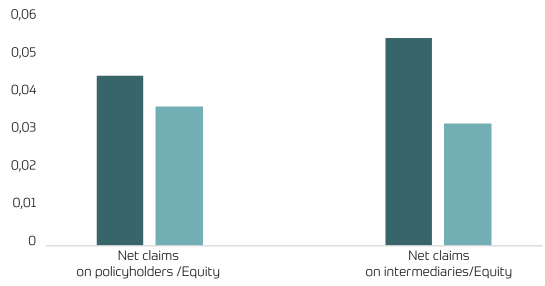
Counterparty risk to insurance intermediaries and to policyholders improved in 2021.

The ratio measuring the counterparty risk[40] to insurance intermediaries stood at 3.2 percent compared to 5.5 percent[41] in 2020. This improvement is the result of a decrease in claims on insurance intermediaries combined with a simultaneous increase in the level of provisioning by 26.5 percent and in the equity capitals of insurance companies by 2.9 percent.

For the same reasons, counterparty risk to policyholders also decreased. The ratio measuring this risk thus went down from 4.5 percent to 3.7 percent in 2021.

40 The ratio measuring the counterparty risk vis-à-vis insurance intermediaries or policyholders is calculated by dividing the net claims of intermediaries or policyholders on the equity of insurance companies.
41 The calculation of the 2020 ratios has been revised to take into account ad hoc accounting adjustments made by a life insurance company.

Change in the rate of claims on policyholders and insurance intermediaries

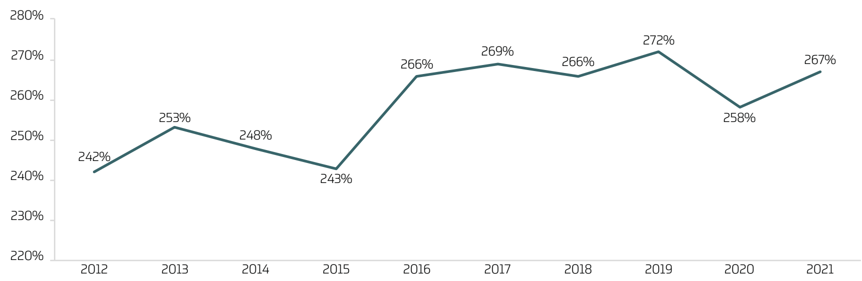


Source: ACAPS

Liquidity risk: Comfortable level

The liquidity ratio, measured as the ratio of liquid assets to current liabilities, remains at a comfortable level. At the end of 2021, it stood at 267 percent compared to 258 percent a year earlier.

Liquidity ratio



Source: ACAPS

Macroeconomic shock test

A macro stress test exercise[42] is carried out with a two-year simulation horizon covering the years 2022-2023. This exercise is divided into a baseline scenario and an extreme scenario:

42 This exercise is carried out on a sample representing more than 86 percent of the total assets of insurance companies.

- The baseline scenario where economic, financial and insurance variables would evolve under normal conditions:

Hypothèses d'évolution de certaines variables économiques selon le scénario de base

Variables	2022	2023
Key rate 2010 rate: 1.5%	No change (1,5%)	No change (1,5%)
Mortality Base year 2021	Same level of mortality	Same level of mortality
Surrender Base year 2021	Same level of surrender	Same level of surrender
Savings growth Base year 2021	+0%	+0%
Inflation 2021 rate: %+1.4%	+ 5,3%	+2%
Stock market prices Base closing prices 2021	-9%	+0%

Source: ACAPS

- The extreme scenario involving deteriorating economic and financial conditions and a worsening of the insurance risk factors:

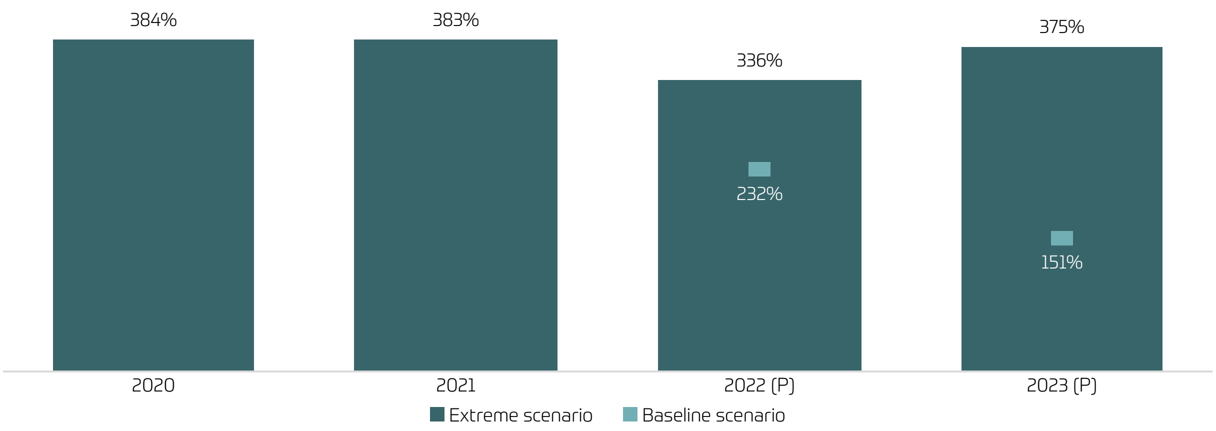
Assumptions on the change in some economic variables under the extreme scenario

Variables	2022	2023
Key rate 2010 rate: %1.5	No change (1,5%)	No change (1,5%)
Mortality Base year 2021	+30%	+30%
Surrender Base year 2021	+20%	+20%
Savings growth Base year 2021	-2%	-2%
Inflation 2021 rate: %+1.4%	+7,2%	+5%
Stock market prices Base closing prices 2021	-25%	-25%

Source: ACAPS

In the baseline scenario, the solvency margin rate is expected to fall to 336 percent in 2022 and improve to 375 percent in 2023. The extreme shocks would result in a decrease in the margin rate over the two years, to 232 percent and 151 percent, respectively.

Results of the macroeconomic shock tests



Source: ACAPS

Box 9: The management of financial risks related to climate change and the environment

The year 2021 was marked by numerous climatic disasters with very costly results.

According to the estimates of the Swiss Re institute, the bill borne by insurers in connection with extreme weather events is estimated at 105 billion USD, up by 17 percent compared to the year 2020.

The toll can only get worse according to the Intergovernmental Panel on Climate Change (IPCC), which warned in its latest report in 2021 about the scale and speed of climate change.

The devastating effects of climate change and the global responses to it would inevitably affect the functioning of the global economy and the financial system.

As a source of financial risk, climate change can impact the resilience of financial institutions, including insurers, as well as financial stability through physical and transition risks.

In recognition of the major challenges posed by climate change and environmental risks, ACAPS has initiated a draft instruction on the management of these risks for the insurance sector.

This instruction should constitute a reference of good practices for the implementation by insurance and reinsurance companies of a financial risk management system related to climate change and the environment. It sets out the principles that insurance and reinsurance companies should consider, in relation to corporate strategy and governance, risk management systems, communication and reporting.

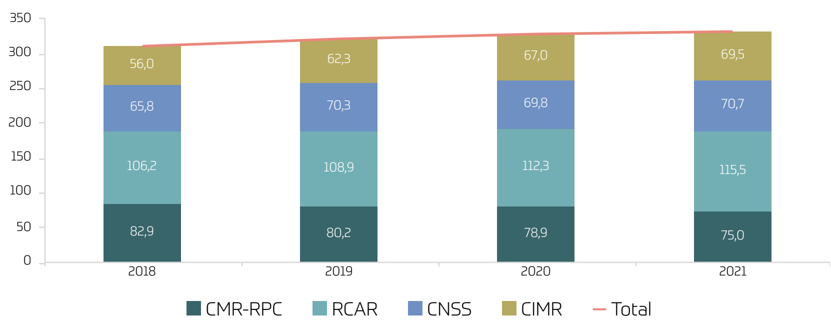
III.3. Pension schemes

Contributions collected by pension schemes[43] reached 54.2 billion dirhams in 2021, up 9.6 percent compared to 2020. The benefits recorded, for their part, an increase of 4.0 percent and amounted to 59.8 billion dirhams.

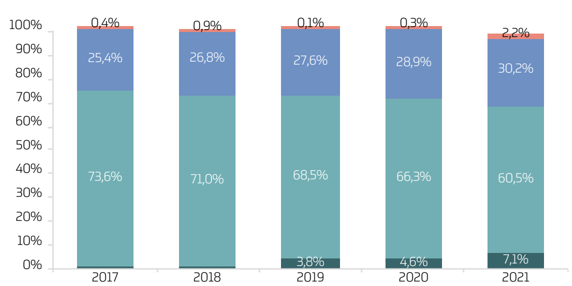
The reserves constituted by these schemes amounted to 330.8 billion dirhams, up 0.9 percent compared to 2020. Over the last five years, these reserves recorded an average annual increase of 3.3 percent. The reserves of the Civil Pension Scheme (CMR-RPC) amounted to 75.0 billion dirhams, down 5.0 percent compared to 2020 and 3.0 percent on average over the last five years. The scheme's cumulative technical deficits[44] over the same period totalled 31.9 billion dirhams and, since its first technical deficit in 2014, reached 40.1 billion dirhams.

The investments of pension schemes reached 322.8 billion dirhams in 2021, up 1.0 percent compared to 2020 and 2.4 percent over the last five years. Except for those of the long-term branch of the CNSS[45], these investments are made up of bonds for 60.5 percent and securities and shares for 30.2 percent.

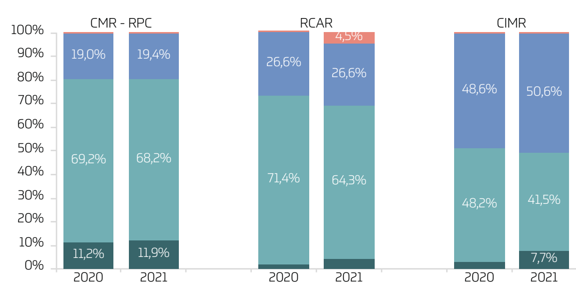
Change in the reserves of pension schemes, in billion dirhams



Change in the structure of pension schemes' investments



Investment structure by scheme



Source: ACAPS

43 These are CMR-RPC, the long-term branch of the CNSS, CIMR and RCAR General Scheme (RCAR-RG)
44 Technical balance = contributions –benefits
45 Made up mainly of deposits with the Caisse de Dépôt et de Gestion

Recent and projected changes in pension scheme balances

Change in the pension schemes' contributions, benefits, technical balance and overall balances (in million dirhams)

	Contributions		Benefits		Technical balance		Overall balance[46]	
	2020	2021	2020	2021	2020	2021	2020	2021
CMR-RPC	25 285	25 493	32 647	33 211	-7 361	-7 718	-3 961	-3 998
RCAR-RG	4 052	3 800	6 690	7 088	-2 638	-3 288	2 534	1 810
CNSS[47]	12 774	15 858	12 435	13 310	339	2 548	2 100	4 243
CIMR	8 642	9 095	5 704	6 190	2 937	2 906	4 856	5 727
Total	50 752	54 247	57 475	59 799	-6 723	-5 552	5 529	7 783

Source: ACAPS

In 2021, the number of active members of the CMR-RPC recorded a sharp increase of 12.9 percent following the integration of contractual teachers from the Regional Academy of Education and Training[48] who, since 2017, had been affiliated to the general RCAR scheme. Due to the favourable pricing of the scheme, this operation could result in an improvement in its long-term equilibrium indicators, in particular its pre-funding rate[49] and its equilibrium contribution rate[50], which stand at 85.7 percent (+17 points) and 35.2 percent (-19 points), respectively. However, the cash flows generated by these new enrolments would not generate a significant improvement in the sustainability of the scheme over the medium term due to the short time horizon for the depletion of its reserves (5 to 6 years). For the financial year 2021, the scheme's contributions rose by 0.8 percent[51], while benefits increased by 1.7 percent. Against this background, the technical and overall deficits of the scheme deteriorated to 7.7 billion dirhams and 4.0 billion dirhams, respectively.

At the same time, the change in the membership regime of the AREF generated a decrease in the contributions of the general RCAR scheme (3.8 billion dirhams against 4.1 billion dirhams in 2020) thus worsening its technical deficit to 3.3 billion dirhams against 2.6 billion dirhams. Thanks to a balance of financial operations worth 5.2 billion dirhams, the overall balance of the scheme stood at 1.8 billion dirhams instead of 2.5 dirhams billion a year earlier. In addition, the scheme underwent a parametric reform[52] in 2021 which mainly introduced a change in the calculation of the annual rate of revaluation of pensions paid and the rate of revaluation of career salaries for new pension settlements[53].

46 Overall balance = technical balance + net financial income - management expenses.

47 The final financial statements for the 2020 financial year show contributions worth 16.2 billion dirhams. The difference of 3.4 billion dirhams comes from an exceptional and one-off resource following the consolidation of the contributors' credit account relating to contributions from previous years.

48 Law No. 01.21 on subjecting the executives of the Regional Academies of Education and Training to the Civil Pension Scheme published in the Official Bulletin on July 26, 2021.

49 The sum of the reserves available in the base year and the present-value income as a ratio to the present-value future expenditures over the projection horizon.

50 The contribution rate allowing to have excess reserves through the projection horizon (2081).

51 The 0.8% increase in contributions despite a 12.9% increase in the number of contributors is explained by the exceptional contribution of the State in 2020 in the amount of 1.8 billion dirhams corresponding to the revision of the pensions of some retirees from the Ministry of National Education.

52 Decree No. 2-20-935 establishing the terms and conditions for the implementation of the Collective Retirement Allowance Plan (General Plan) (Régime collectif d'allocation de retraite), published in the Official Bulletin on July 27, 2021.

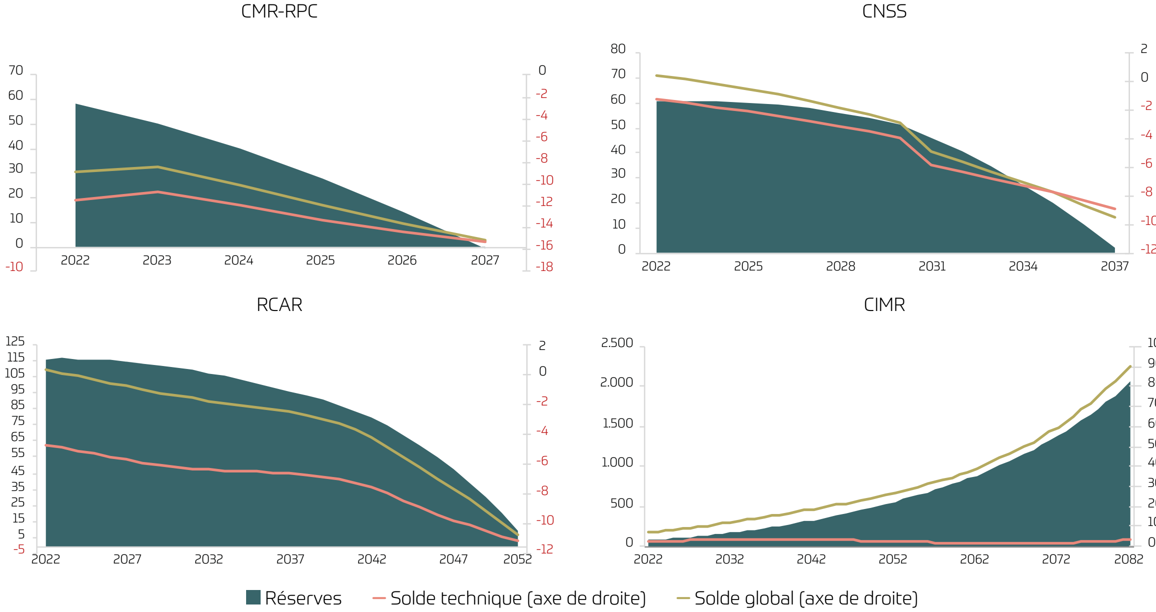
53 As of January 2022, the rate of revaluation of pensions and annual average career salaries corresponds to the maximum between the inflation rate and 2/3 of the rate of change in the payroll of the plan. This rate used to correspond, before this reform, to the rate of change in the average salary of the plan.

In the long term, this reform led to an improvement in the scheme's equilibrium indicators, in particular the pre-funding rate, which stood at 75.8 percent (+8.9 points). Despite the positive effect of this reform, the horizon for the depletion of reserves and the recording of the first deficit has overall shrunk by a few years following the drop in future contribution flows induced by the change in the membership regime for the contractual teachers of AREF.

In addition, the recovery of the national economy in 2021 has had a favourable impact on the balances of the CNSS pension branch. In fact, the wage bill subject to contributions increased by 16.4 percent compared to 2020 to 112.4 billion dirhams, up 10.2 percent compared to its level before the health crisis. Despite the recovery, which was faster than the one used in the previous actuarial valuation of the branch, the scheme's sustainability indicators have deteriorated compared to their pre-crisis level, in particular the reduction in the reserve depletion horizon by eight years (2038 instead of 2046) and in the rate of coverage of the scheme's commitments over the next sixty years (from 76.7 percent to 64.9 percent).

At the level of the CIMR and despite the increase in its contributions by 5.3 percent, the technical balance remained practically at its level in 2020 (2.9 billion dirhams) under the effect of a bigger increase in benefits (8.5 percent). The performance of the financial management has allowed for an overall balance of 5.7 billion dirhams, up 17.9 percent compared to 2020. According to the actuarial evaluations of the scheme, the latter would remain in surplus over the projection horizon, which would allow the reserves to maintain their upward trend.

Change in reserves, technical balance and overall balance (in billion dirhams)



Source: ACAPS

Major issues of basic pension schemes

The parametric reform of the general RCAR scheme introduced in 2021 has reduced the under-pricing of rights acquired in the scheme without establishing a balanced pricing. One dirham of contributions would now generate 1.4 dirhams of pension in present values instead of 2.1 dirhams before the reform. Nevertheless, the reform gave the scheme more room for manoeuvre to achieve a balanced pricing system, notably by increasing contribution rates and raising the retirement age, which can be undertaken as part of the overall pension reform of the public sector.

The urgency of this reform is felt more by the CMR-RPC, which, although enjoying a balanced pricing system, suffers from the importance of the pledged commitments before its parametric reform in 2016. As a result, the delay in the implementation of this comprehensive reform could lead to the implementation of more drastic measures and a higher financing cost to ensure the long-term viability of the public sector.

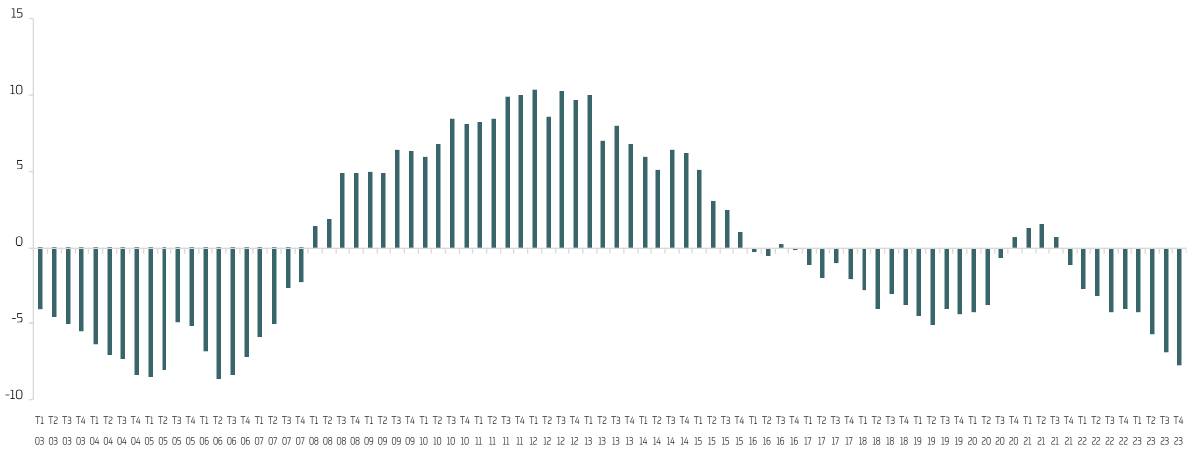
The CNSS pension branch has more room for manoeuvre to improve its long-term sustainability, thanks in particular to the demographic dynamics observed in the private sector. The revision of certain operating parameters within the framework of a parametric reform, in particular the retirement age and the contribution rate, would ensure its long-term sustainability. In addition to the introduction of a balanced pricing system, this reform would introduce equity among the contributors to the scheme through modifying the mechanism for acquiring rights. The latter is currently unfavourable for both short and long careers and excessively generous for medium careers.

III.4. Macroprudential policy instruments

A. Counter-cyclical capital buffer

The countercyclical buffer is a macroprudential policy instrument. It is defined as a core capital surcharge, calibrated between 0 percent and 2.5 percent of risk-weighted assets (RWA). It is activated in periods of excessive credit expansion and will be used to provide the banking sector with additional capital to cover potential losses related to system-wide risk build-up. However, in a downturn, usually associated with rising default risk, this instrument is loosened to relieve pressure on banks to ensure a sustainable supply of credit to the real economy.

Credit ratio-to-GDP gap, in %



Source: BAM

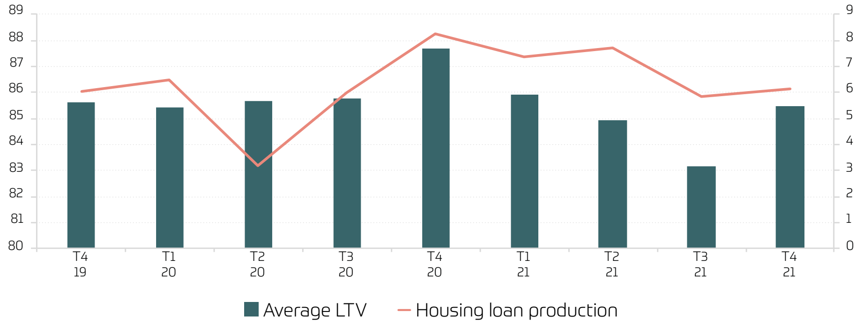
At the national level, the countercyclical buffer rate has been set at 0 percent since its introduction in June 2016[54]. The gap between loans granted to the private sector and GDP and its trend remains negative, which does not imply the activation of this buffer in this downturn of the financial cycle.

B. The “loan-to-value” ratio for housing loans

After the sharp drop in housing loan production[55] in the second quarter of 2020, in connection with the restrictive measures imposed by the health crisis, a significant recovery was observed in the third and fourth quarters of 2020. This dynamism slowed down overall in 2021, with in particular a drop in production observed in the second half of the year. Over the whole year 2021, the amount of the global production of housing loans has thus totalled 27 billion dirhams against 24 billion in 2020.

54 Circular on equity No. 01/W/2016 dated June 10, 2016.
55 The data analysed concerns the eight major banks of the market.

Housing loan production and average LTV ratio

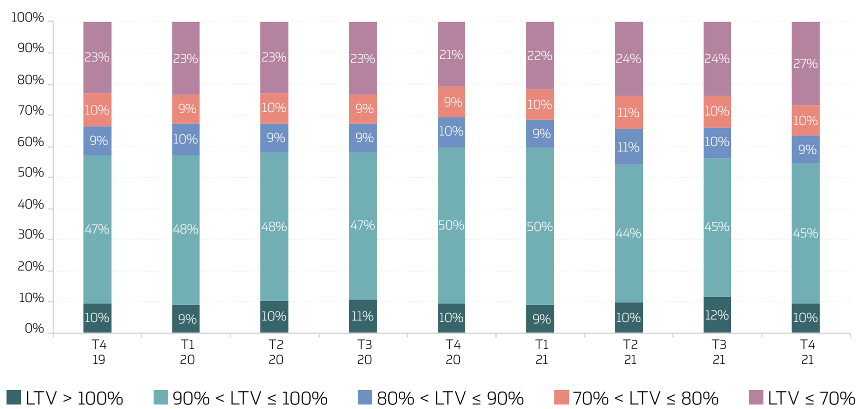


Source: BAM

The notable increase in loan production observed between the fourth quarter of 2020 and the second quarter of 2021 can be attributed in large part by a catch-up effect on the period of lock-down, stimulated by the fiscal measures in favour of the real estate sector[56] undertaken by the State to boost the sector.

The average LTV ratio at granting (Loan to Value or the ratio of the amount of the initial loan to the acquisition value of the property financed) has stabilised from one year to the next at around 85 percent on average, with a peak of 88 percent in the fourth quarter of 2020 and a low of 83 percent in the third quarter of 2021.

Structure of production by LTV bracket



Source: BAM

The structure of production by LTV bracket changed significantly during 2021. The share of loans with an LTV ratio between 90 percent and 100 percent fell slightly in 2021 to an average of 45 percent, while the proportion of loans with an LTV ratio below 70 percent gradually increased to 27 percent in the fourth quarter of 2021. This situation would be the result of the fallouts of the

56 Total or partial (50%) tax exemption from registration fees, granted by the State for the benefit of purchase deeds of real estate for use as a main residence. It concerned the housing or land intended to be used as a dwelling of a value which does not exceed 2.5 million dirhams. It was then extended until the end of June 2021 and extended to real estate worth up to 4 million dirhams. Social housing in particular benefited from a total exemption from registration fees.

health crisis, which weakened the solvency of borrowers and consequently impacted the conditions for granting credit. As for the proportion of production, with an LTV ratio above 100 percent (over-financing), it remained at around 10 percent on average.

The Bank will continue to monitor this indicator on a quarterly basis, with a view to establishing a regulatory framework for the LTV limit in the medium term.

C. Capital surcharge for systemically important banks

At the international level, an examination of the various experiences shows that most countries that have identified systemically important banks have activated the capital surcharge in a gradual and staggered manner, over a period of three to four years. It should also be noted that several countries (Cyprus, Canada, Portugal, the Netherlands, the UAE, etc.) decided in 2020 to fully or partially relax this buffer or postpone its implementation, in order to limit the extent of the repercussions of the health crisis on the financing of the economy. Nevertheless, most of these countries have set the timetable for the reactivation of the said overload in 2021; in particular, the starting date for its gradual implementation has been pushed back to the beginning of 2023 at the latest.

Bank Al-Maghrib has, as usual, updated the exercise relating to the identification of systemically important banks, the calculation of their systemic nature score as well as the calibration of the capital surcharge to be applied to them. To align with international practices, the Central Bank is continuing the preparatory work on the regulatory framework of this macroprudential instrument, which should contain detailed information on the levels of surcharge to be applied as well as on the timing of its deployment and the duration of its spread.

Box 10: Financial stability index

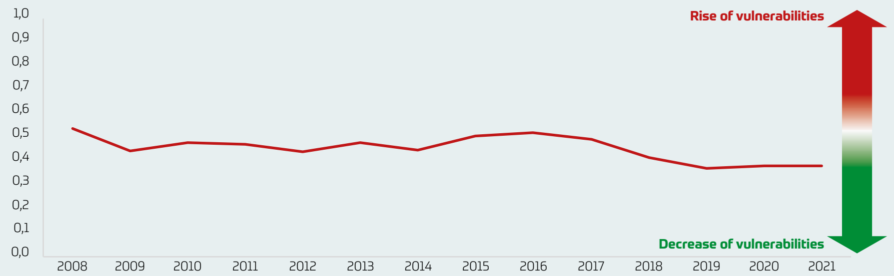
The year 2021 was marked by an almost generalized return of activity in Morocco, allowing the improvement of economic conditions and financial activities. Thus, the financial stability index remained moderate (0.38)**, attesting to the absence of major risks for the financial sector.

As regards economic conditions, the rebound in growth, combined with the strengthening of official assets and the narrowing of the fiscal deficit, offset the wider current account deficit and higher inflation. At the same time, reduced volatility in the foreign exchange and bond markets reduced the risks arising from financial conditions.

Financial institutions, for their part, posted an increase in their results and equity, despite the rise in claims in both the banking and insurance sectors.

The vulnerabilities of non-financial agents remain moderate overall, in line with the slowdown, albeit slight, in the indebtedness of the Treasury, households and non-financial companies. As for the real estate sector, the fall in prices combined with the moderate rise in credit suggests a moderate to high level of risk for financial stability.

Change in financial stability index



**The history is updated on a regular basis due to the use of methods to smooth statistical series.

III.5. Challenges related to financial technological innovations and the climatic changes

A. Financial technology innovations

The rapid development of crypto-asset markets could pose a threat to the stability of the financial system, due to the structural vulnerability of these markets, their increasing interconnection with the traditional financial system and the lack of unified regulation across jurisdictions.

According to the FSB, vulnerabilities emanating from crypto-asset markets are mainly associated with:

- the growing participation of institutional investors and banks in the crypto-asset ecosystem;
- the accelerating adoption of crypto-assets as a payment means through partnerships with payment companies or retailers/social networks;
- the increasing size, role and risks associated with crypto-asset trading platforms;
- the rapid growth of DeFi[57] in the absence of intermediaries or parties responsible for governance;
- data gaps that hamper risk assessment and calibration of strategic options.

In this sense and given the cross-border nature of the crypto-asset markets, authorities have made considerable efforts to improve supervision and minimise regulatory arbitrage through cooperation and information sharing. In addition, the FSB has committed to reviewing in 2022 the potential regulatory and supervisory implications of crypto-assets (including stablecoins), including the types of actions that FSB member jurisdictions have taken or plan to take to address any threats to financial stability.

In addition, to counter the rising risks of crypto-economies, many global regulators and central banks have increasingly turned to the Central Bank Digital Currency (CBDC). This new form of currency issued, controlled and regulated by central banks would, among other things, enable them to maintain their sovereignty, strengthen financial inclusion and maintain the efficiency and security of the national payment system. Against this backdrop, the Bank for International Settlements (BIS) has conducted a study showing that nine out of ten central banks are actively considering CBDCs, and that more than half are developing or conducting concrete experiments for their circulation.

57 Decentralized Finance (DeFi): a set of alternative financial markets, products and systems that operate using crypto-assets and «smart contracts» (software) built using a distributed ledger or similar technology.

As part of this global initiative, Bank Al-Maghrib has set up a committee to study the issues related to the Central Bank Digital Currency, in order to assess the opportunity of issuing a wholesale and/or retail CBDC, and to study the objectives to which it could contribute, the associated risks, its impact on the financial ecosystem as well as the different possible functional and technological designs. This committee is also in charge of studying the risks related to crypto assets on the Moroccan economy. In this respect, a National Working Group on Crypto-Assets (NWGCA), composed of representatives of the members of the Systemic Risk Coordination and Monitoring Committee (CCSRS), has been set up mainly in order to define the related legislative and regulatory framework.

B. Climate risks

The occurrence of extreme weather events, as well as a disorderly transition to a low-carbon economy, could have destabilising effects on the financial system. These two risk factors have long-term effects if they materialise, which is why action is needed at the level of individual entities and for the system as a whole.

As part of this, the FSB published a roadmap in 2021 to address climate-related financial risks, including the steps and timelines needed to do so. The roadmap aims to coordinate work between different international bodies in four main areas:

- **Reporting:** ensure that companies' reporting on climate-related financial risks is consistent and comparable on a global scale, in order to provide financial markets with the information they need to manage the risks and seize the opportunities arising from climate change.
- **Database:** Establish a comprehensive, consistent and comparable database that can be used to monitor and assess the climate-related financial risks faced by individual companies and the financial system.
- **Vulnerability analyses:** provide additional efforts to develop and refine the analytical tools used to assess climate-related vulnerabilities.
- **Regulatory and supervisory practices and tools:** fully integrate supervisory and regulatory approaches to climate-related risk into the overall regulation of financial risks

For its part, the IMF stressed the importance of implementing climate-related macro-financial policies, integrating climate risk assessments into Central Banks' financial stability frameworks, strengthening the climate information architecture and mobilising public and private investments.

In the same vein, the Moroccan financial authorities have committed to supporting the green finance and setting up a climate-risk management framework. Thus, Bank Al-Maghrib published in March 2021 a directive on the implementation of specific mechanisms for the management of financial risks related to climate change and the environment. Similarly, it signed a memorandum of understanding with the EBRD and the Professional Association of Moroccan Banks (GPBM)[58] to establish a cooperation framework to support banks in the field of green finance and the management of the above-mentioned risks. For its part, ACAPS has initiated a draft instruction on the management of these risks for the insurance sector, while the AMMC and the International Finance Corporation have signed[59] a new cooperation agreement for the development of sustainable finance in the Moroccan capital market.

58 9 May 2022.
59 29 June 2022.

III.6. Linkages between financial institutions

The results of the analysis of the interconnections between financial institutions reconfirm that (1) the money market remains resilient in view of the low volume of transactions processed and the absence of a domino effect, (2) insurance companies remain vulnerable to contagion from banks and not vice versa and (3) finally, the impact of the risk of cross-border contagion on the solvency on a corporate basis of the three systemic banks remains limited.

A. Interbank linkages in the domestic market

The risk of contagion arising from interbank exposures is very limited and the concentration of borrowing by some local banks remains high

The matrix of interbank exposures[60], calculated for the contagion stress test[61], shows that three banks on the money market alone account for 89 percent of gross borrowings in the fourth quarter of 2021, reflecting the high structural concentration of the money market.

The results of the domestic interbank contagion stress test, which assesses the degree of interdependence of banks in the interbank market and their systemic nature, show that the risk of contagion arising from interbank exposures is very limited, thus confirming the resilience of the money market.

B. Linkages between banks and insurance companies

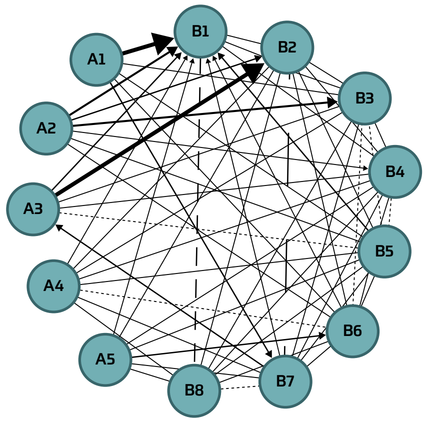
Insurance companies' exposures to banks remain significant unlike banks' exposures to the insurance sector

Analysis of the matrix of direct interconnections arising from bilateral exposures between the insurance and banking sectors shows that insurance companies are the most exposed, with assets mainly connected to the banking sector.

In fact, in 2021, their exposure to banks represents 15 percent of their assets. These exposures are made up for 96 percent of securities in the form of shares and/or bonds or certificates of deposit issued by the banks and deposits with a share of 4 percent. On the other hand, banks' exposures to the insurance sector are mainly in the form of loans and equity securities and represent less than 1 percent of their assets.

60 Collateralized and non-collateralized interbank market.
61 Simulates the consequence of a counterparty default on the rest of the banking system.

Exposures between banks and insurance companies



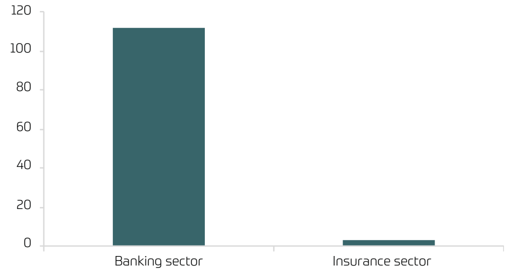
Nodes represent banks and insurance companies. The arrows trace exposures between these institutions. The thickness of an arrow is proportional to the importance of the exposure.

Source: BAM – ACAPS

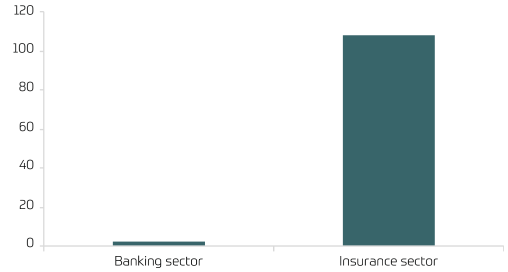
Stress tests confirm the vulnerability of insurance companies in the event of bank failures

The results of the stress test[62] carried out to assess the risk of contagion arising from the direct interconnections between banks and insurance companies reconfirmed that insurance companies would still be vulnerable to bank failures, but not vice versa given the size of their direct exposures to banks. Indeed, the contagion index[63] is higher for banks, indicating their systemic nature, while the vulnerability index[64] is highest for insurance companies.

Contagion index



Vulnerability index



Source: BAM - ACAPS

62 It is based on the gross bilateral exposures of thirteen Moroccan financial institutions covering eight banks (91% of total assets) and five insurance companies (68% of total assets). The scenario used is based on several simulations, each measuring the impact of a default by a borrowing counterparty on the rest of the lending institutions (domino effects).

63 The contagion index measures losses as a percentage of other institutions› capital due to the default of an institution.

64 The vulnerability index measures the losses as a percentage of capital incurred by an institution as a result of the default of other institutions.

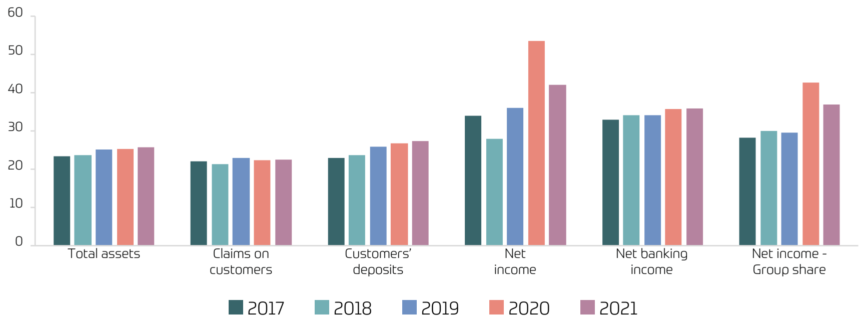
C. Linkages between banks and their subsidiaries abroad

Continued positive contribution of the banks' international business to their consolidated business

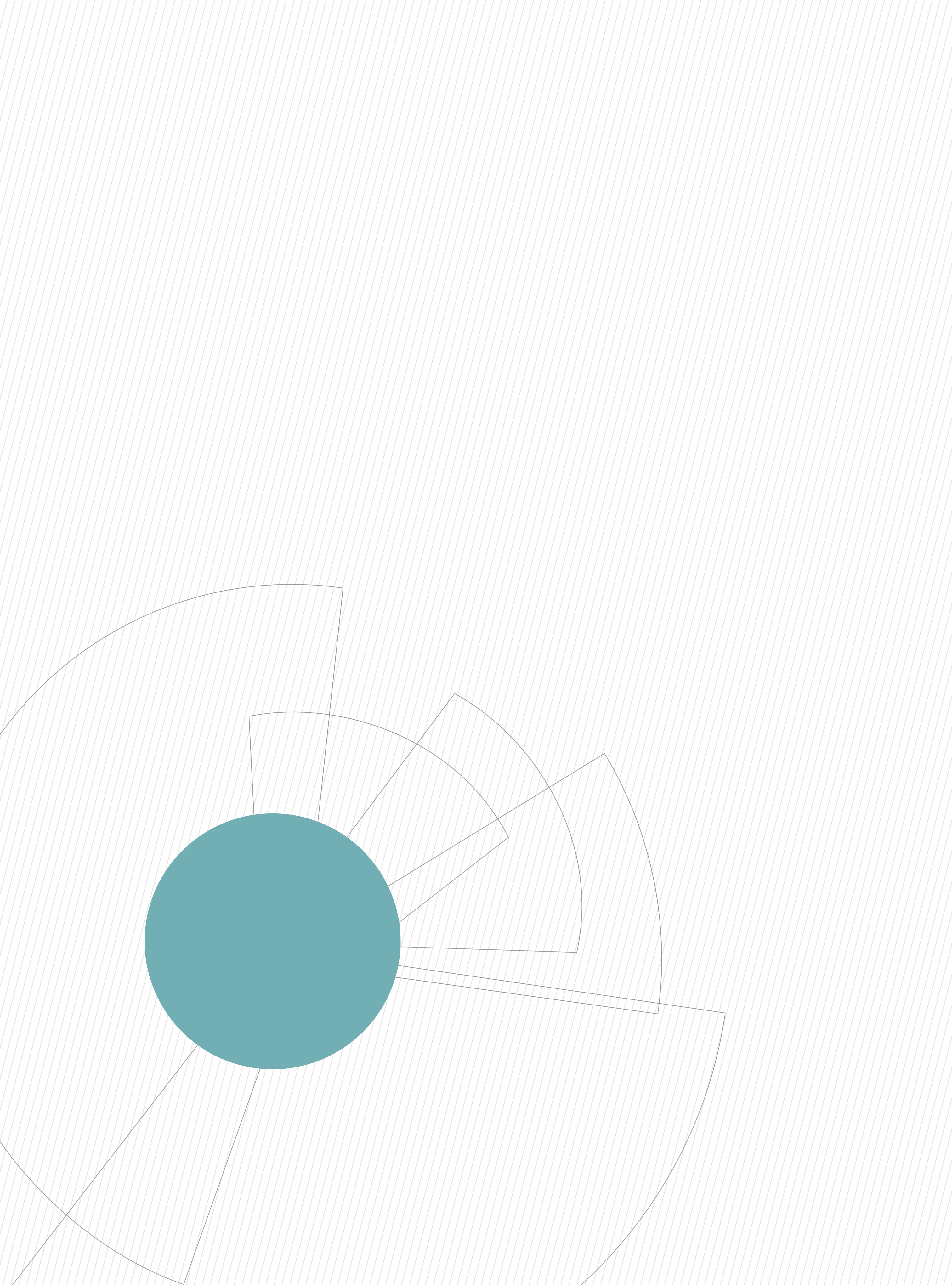
For the year 2021, the activity of the foreign subsidiaries of the three Moroccan banking groups contributed positively to the consolidated activity with a share of 26 percent of the total volume of activity of the sector.

This contribution amounted to 37 percent of the net income -Group share compared to 43 percent in 2020. The aggregate net banking income of the subsidiaries amounted to 21 billion dirhams, or 36 percent of the consolidated NBI of the three banking groups. The share of collected deposits was overall maintained at around 27 percent and that of distributed loans stabilised at 22 percent.

Share of international activity in the volume of consolidated activity, in %



Source: BAM



Capital markets, market infrastructures and currency in circulation

Chapter 4

Overview

Bank liquidity requirements decreased in 2021, in line, for the most part, with the strengthening of foreign exchange reserves. Against this background, Bank Al-Maghrib reduced its average daily injections to 83 billion dirhams after 92 billion dirhams in 2020.

The issuances of Treasury bills amounted to 144 billion dirhams, down 6.5 percent compared to 2020, mainly following the drop in the budget deficit. The easing of rates continued on the primary and secondary bond markets in 2021 and the volatility of Treasury bill rates on the secondary market remained limited overall despite some periods of tension during the year.

The outstanding private debt increased slightly to 244.2 billion dirhams at the end of December 2021 against 236.5 billion dirhams a year earlier, despite the fall in issuances, particularly in the bond compartment. In the same vein, bond issuances through private investment, which is reserved for qualified investors, also dropped by 41.6 percent to 9.98 billion dirhams but their share in private bond issuances increased to 58.9 percent against 51.4 percent in 2020. For their part, perpetual subordinated bonds with a riskier profile, but also reserved for qualified investors, continued to grow with an outstanding amount at 20.8 billion dirhams thanks to three new issuances totalling 1.58 billion dirhams in volume. As for the overall indebtedness of non-financial issuers of private debt, it remained under control and fell to 80 percent of equity by 2021.

The MASI, the stock market performance index, posted a significant increase of 18.35 percent from 11,287.38 points at the end of 2020 to 13,358.32 points at the end of 2021, thus exceeding its pre-crisis maximum level, which is 12,600.45 points on January 24, 2020. The average volatility of the index was moderate in 2021, at 7.1 percent, down by more than half compared to 2020. The overall valuation of the market at the end of 2021 was down sharply after an exceptional year in 2020, but remained high, with a PER of 23.9x. Although still low, the market's liquidity ratio improved slightly in 2021 to 9.9 percent from 8.8 percent in 2020. As for the issuances of equity securities on the stock market, they remained limited with a volume of 3 billion dirhams, comparable to that of 2020. Stock exchange transactions on the central market are still dominated by Mutual Funds with a net long position, as well as by resident legal entities. The share of the free float in the stock market held by non-residents maintained its downtrend at 8.19 percent against 9.37 percent in 2020. As for brokerage firms, they have a good financial base overall and recorded a 123.6 percent increase in overall net income in 2021.

Mutual funds' market continues to show resilience with global net assets of 593 billion dirhams, up 13 percent, as a number of subscribers which was up 7.8 percent. The net inflows of mutual funds in 2021 reached 48.1 billion dirhams, with a strong investor interest in diversified mutual funds. The performances are positive for all categories, with a clear recovery for the «Equities» and «Diversified» funds and a lower performance for interest rate products. The securitisation market is back on an upward trend with an issue volume of 3.5 billion dirhams after a sharp decline in 2020 to 888 million dirhams. The indicators of activity and profitability of the mutual fund management companies are improving, with an overall solid financial base. The private equity activity has also proved to be resilient with amounts raised reaching 1.9 billion dirhams, up 38 percent compared to the previous year. The real estate investment funds activity is in full expansion, reaching global *net assets worth 21.6 billion dirhams, up 254 percent compared to the year 2020.*

The volume of securities lending operations amounted to 185 billion dirhams in 2021 in continuous decline since 2018. These operations are still dominated by Treasury bonds for 88.8 percent. Mutual funds and banks are no longer the only main borrowers in the market, as non-financial companies held the first place in 2021. The share of loans made without collateral decreased to 66.9 percent in 2021 from 81.9 percent in 2020, following the entry into force in August 2021 of the amendment to the law on securities lending requiring the provision of a collateral, except for intra-group transactions, liquidity providers and market makers.

The volume of assets under custody with the Central Securities Depository "Maroclear" increased by 12.3 percent to 2191.80 billion dirhams. The volume of settled flows remained stable with a daily average of 57.9 billion dirhams. On the Casablanca Stock Exchange, the suspension rates of stock exchange transactions are low and constantly decreasing. The incidents reported by the Central Depository and the Casablanca Stock Exchange remain limited and under control, despite a slight increase in 2021.

IV.1. Capital market

A. Money and bond markets

Mitigation of banks' liquidity needs in 2021 compared to the previous year

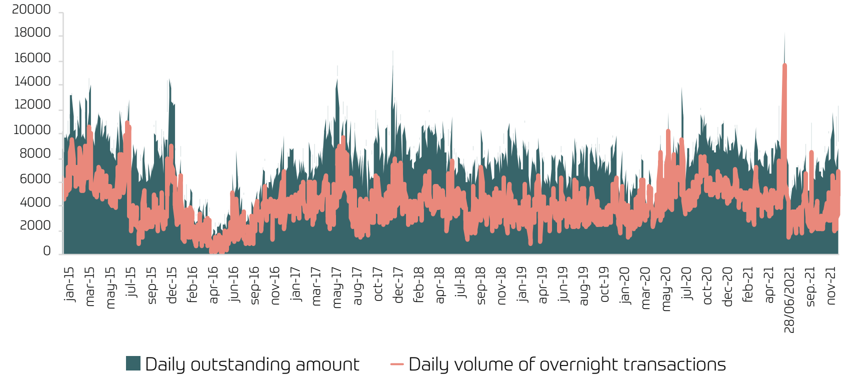
The year 2021 was characterised by an overall easing of liquidity pressures due largely to higher foreign exchange reserves and the moderate evolution of currency in circulation, which recovered its historical rhythm before 2020.

The Central Bank's interventions thus amounted to 83 billion dirhams on daily average instead of 96 billion dirhams in 2020 and the reserve requirement ratio was maintained at 0 percent since June 2020.

Maintenance of the volumes exchanged on the unsecured interbank money market at the same level as the previous year

At the level of the unsecured interbank money market, the monthly average volume traded stood at nearly 7.6 billion dirhams, a level comparable to that of the previous year. Overnight transactions, representing nearly 53 percent of the volumes traded on this market, fell by 15 percent year-on-year, to 4.1 billion dirhams. At the same time, the average daily volume of forward transactions increased by 37.2 percent, reaching a monthly average of 3.6 billion dirhams.

Volumes exchanged on the interbank money market, in million dirhams

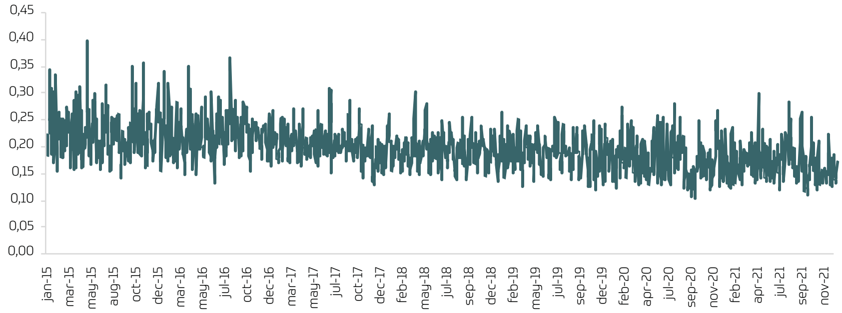


Source: BAM

The money market remains concentrated

The distribution of bank liquidity remains concentrated in the largest banks. Thus, the Herfindahl-Hirschman concentration index (HHI) of bank liquidity stood at 0.18 compared to 0.19 in 2020, reflecting a structural concentration of bank liquidity.

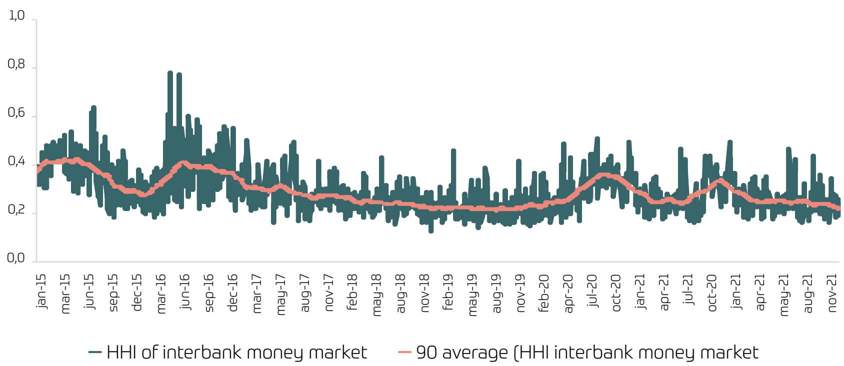
Concentration of bank liquidity



Source: BAM

The concentration on lending and borrowing in the unsecured interbank money market remains strong, despite its attenuation, as shown by the change in the HHI Index, which fell from 0.30 to 0.25 from one year to the next. This dynamism is observed both for lending operations, where the HHI index rose from 0.33 in 2020 to 0.26 at the end of 2021, and for borrowing operations, whose concentration index stood at 0.24 after 0.26 one year earlier.

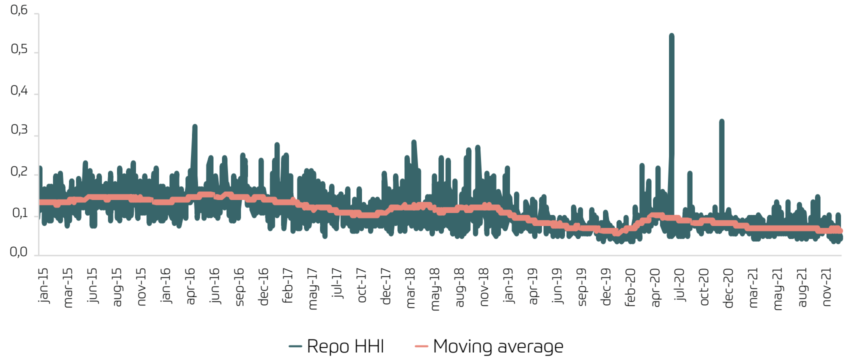
Concentration of overnight unsecured interbank money market



Source: BAM

The repo market, being a moderately concentrated one recorded an HHI of 0.07 after 0.08 a year earlier, due to its expansion to other financial operators, notably mutual funds.

Concentration of the repo market

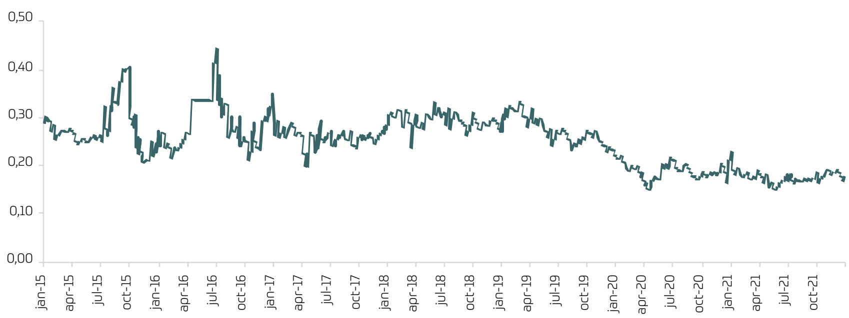


Source: BAM

Persistence of the high concentration of refinancing with the Central Bank

More than 90 percent of the amount of Bank Al-Maghrib's injections for the year 2021 went to a limited number of banking institutions, due to the high concentration of banking liquidity, albeit slightly down compared to previous years. The level of the HHI of Bank Al-Maghrib's injections stood at 0.18 in 2021, against 0.19 one year earlier and 0.28 on average between 2015 and 2019.

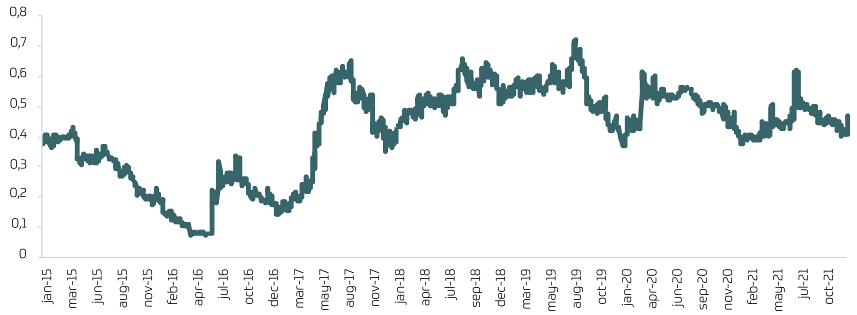
Concentration of refinancing with Bank Al-Maghrib



Source: BAM

The pressure on the collateral eligible for monetary policy operations was 45 percent on average per day in 2021, compared with 51 percent and 56 percent in 2020 and 2019, respectively. This improvement is mainly due to the expansion of the collateral mobilised by banks for monetary policy operations to include marketable securities, claims on central government and corporate and mortgage claims.

The share of banks' collateral

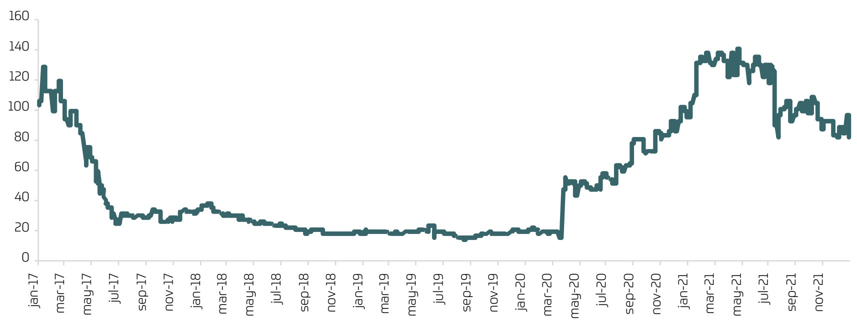


Source: BAM

Continued increase in the average duration of BAM's interventions

The average duration of Bank Al-Maghrib's interventions stood at nearly 4 months while it was 2 months in 2020 and did not exceed 16 days in 2019. This increase is due to the stronger share of long-term refinancing operations, particularly in connection with the reorganisation of the operational framework of monetary policy in 2020.

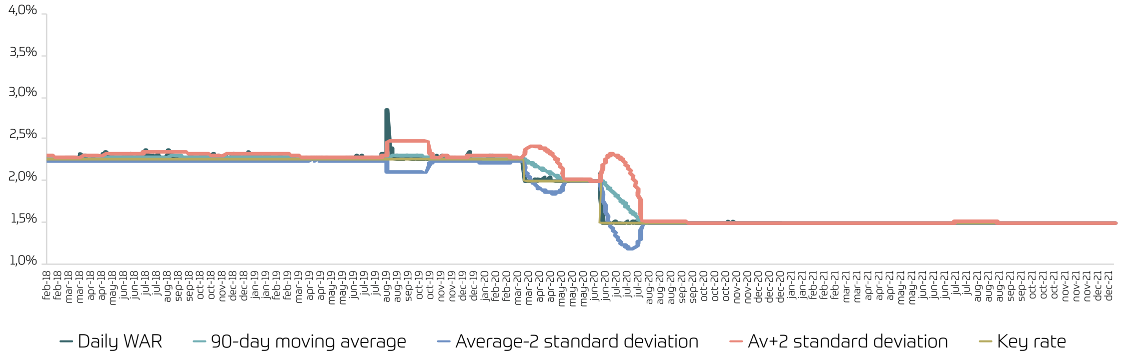
Average duration of Bank Al-Maghrib's interventions



Source: BAM

Against a backdrop of reduced central bank interventions combined with a decline in the volume traded on the interbank money market, the weighted average rate (WAR) on the unsecured overnight interbank market fell by a further 0.2 basis points to an average of 1.5 percent during 2021. Over the year 2021 as a whole, the overnight interest rate remained at the same level as the key interest rate.

Interbank WAR: trend and volatility

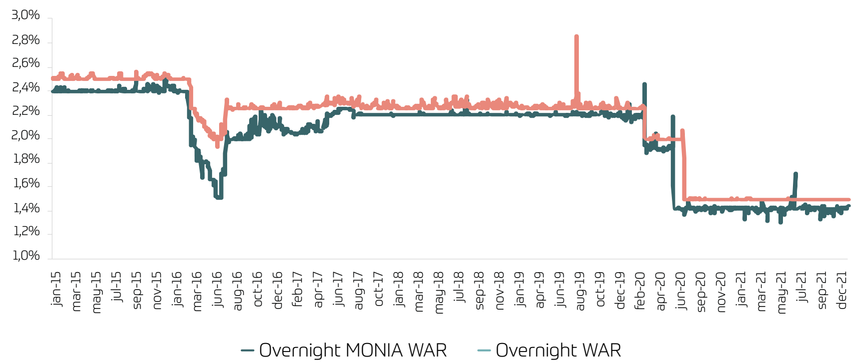


Source: BAM

As a result, the maximum and minimum interest rates observed during the same day on the unsecured interbank market were exactly 1.5 percent, reflecting strong market efficiency.

The MONIA index, which represents the weighted average rate of overnight repos, averaged 1.42 percent daily, compared with 1.72 percent in 2020. The spread between unsecured and collateralised money market funding was 8 basis points compared with 11 basis points a year earlier, reflecting a decline in risk aversion during 2021.

Overnight WAR in the repo market and the unsecured interbank market

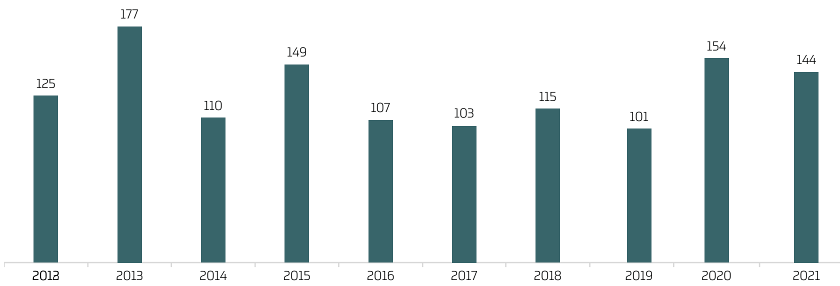


Source: BAM

Decrease in Treasury bill issuances, amid falling budget deficit.

The situation of the Treasury's charges and resources showed in 2021 a 7.3 percent decrease in the budget deficit excluding privatization, which stood at 76.3 billion dirhams at the end of December 2021 compared to 82.3 billion dirhams a year earlier. This improvement is the result of an increase in ordinary revenues, which was higher than that of overall expenditure. Against this background, issuances of Treasury bills in 2021 were down 6.5 percent compared to 144 billion dirhams in 2020.

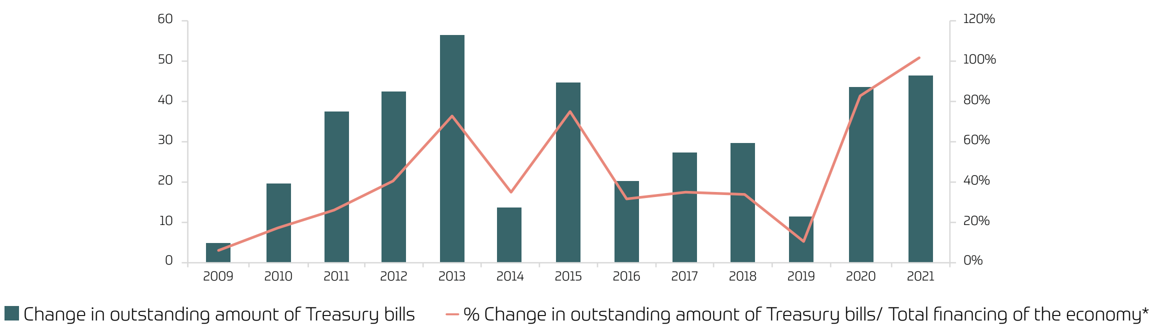
Change in Treasury bill issuances (in billion dirhams)



Sources: Maroclear and AMMC Calculations

Despite falling issuances, the outstanding amount of Treasury bills reached 647 billion dirhams at the end of 2021 against 601 billion dirhams at the end of 2020, with an increase of 7.64 percent, due to a more important decrease in repayments.

Change in outstanding amount of Treasury bills (in billion dirhams)[65]



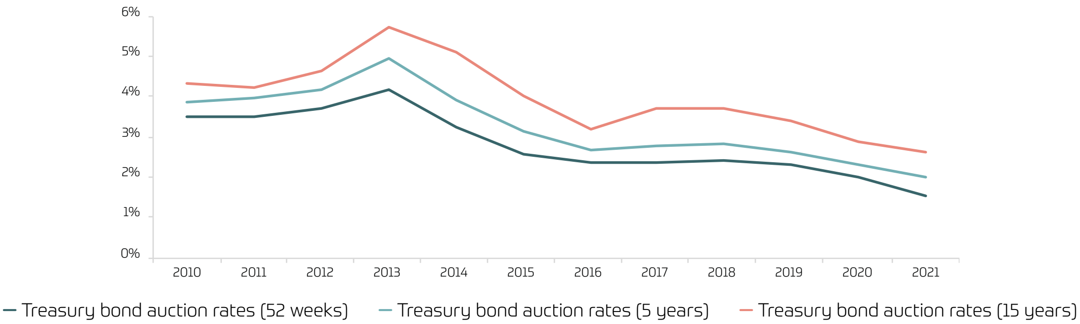
Sources: Casablanca Stock Exchange, Bank Al-Maghrib, Maroclear and AMMC Calculations

Continued downtrend in bond yields in the wake of improved Treasury financing conditions

In 2021, the weighted average rates (WAR) for Treasury bill auctions trended downward overall compared with the previous year, particularly for short-term maturities. On an annual average basis, Treasury bill rates for the year 2021 recorded declines ranging between 25 and 45 basis points compared to the year 2020, after declines ranging between 35 and 50 basis points the previous year. By maturity, the decline reached 45 basis points for 52-week Treasury bill rates, which averaged 1.54 percent. As regards medium and long maturities, the declines reached 29 basis points for 5-year Treasury bill rates with an average of 2.28 percent and 25 basis points for 15-year Treasury bill rates with an average of 2.64 percent.

65 In this chart, the total financing of the economy is calculated as follows: issuances on the primary market of the stock exchange + change in outstanding debt securities, securitization funds and venture capital funds (OPCR) + change in outstanding loans of credit institutions.

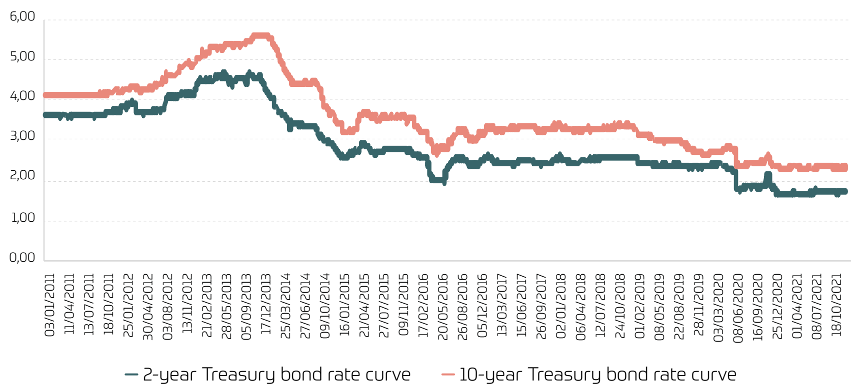
Change in rates on the primary bond market



Source: BAM, Ministry of Finance

On the secondary market, the bond yield curve continued its downward trend in 2021 in the wake of falling rates on the primary market. By maturity, this decline reached 12 basis points for the 2-year Treasury bond rate, which stood at 1.73 percent at end- December 2021 compared to 1.85 percent at end-December 2020. The decline was less significant for the 10-year Treasury bond rate, which stood at 2.33 percent at end-December 2021 compared to 2.38 percent a year earlier, with a drop of 5 basis points.

Change in rates on 2- year and 10-year Treasury bond secondary market

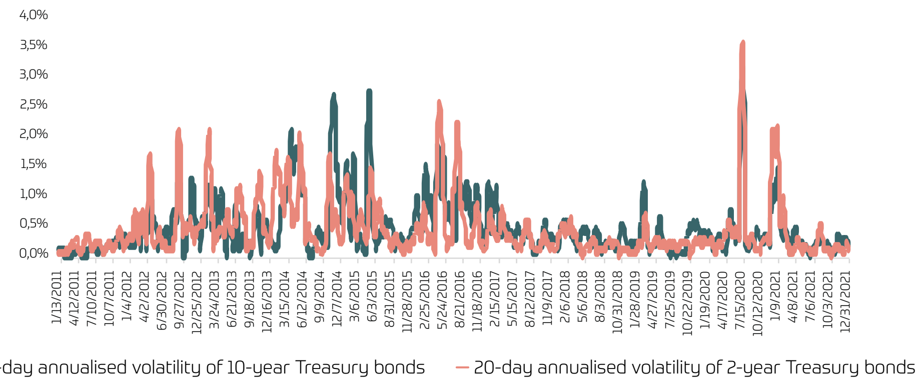


Source: BAM

Overall limited volatility in Treasury bond rates in 2021

Thanks to a generally favourable economic recovery context as well as a lower budget deficit, the Treasury was able to mobilise the necessary resources on the domestic market, without exerting strong pressure on bond yields, with the exception of a period of high volatility which began on 24 November 2020 during which the annualised 20-day volatility of the 2-year and 10-year Treasury bond rates peaked at early January 2021, to 2.02 percent and 1.31 percent, respectively. This situation was due to a one-off increase in Treasury auctions pending international borrowings. This was followed by a phase of gradual decline in volatility which lasted until March 2021. Thereafter, the 2-year and 10-year Treasury bond rates recorded low volatility, reaching 0.139 percent and 0.159 percent at the end of the year, respectively.

Change in the annualised 20-day volatility of the 2-year and 10-year Treasury bond rates between 2011 and 2021



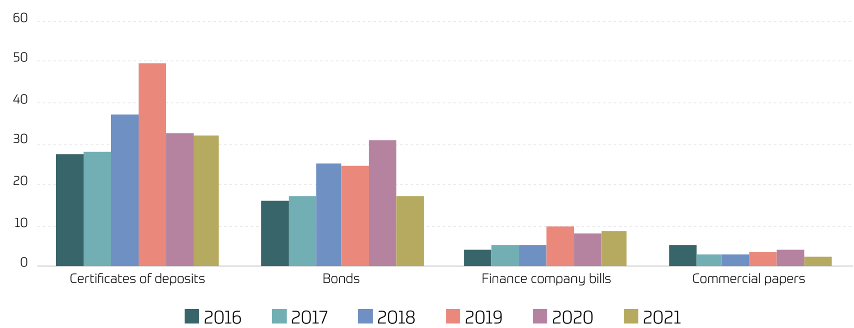
Source: BAM and AMMC calculations

A downward trend in issuances on the private debt market, driven mainly by the bond compartment

The amounts raised on the private debt market at the end of 2021 decreased by 20.2 percent compared to the previous year. They amounted to 59.7 billion dirhams against 74.8 billion dirhams in 2020 and 86.8 billion dirhams in 2019.

This change is mainly due to the decline in bond issuances, which reached 16.9 billion dirhams in 2021, down by 45.3 percent compared to 2020. The issuances of commercial paper also declined by 38.5 percent in 2021 to 2.4 billion dirhams against 3.9 billion dirhams in 2020. The issuances of certificates of deposit, which represent more than half of the issuances, reached 31.7 billion dirhams in 2021, with a slight drop of 1.2 percent compared to 2020. Only the issuances of notes by finance companies increased by 10.1 percent in 2021, to 8.7 billion dirhams.

Change in private debt issuances by category of security (in billion dirhams)



Sources: Maroclear and AMMC Calculations

The breakdown of private debt issuances in 2021 shows that negotiable debt securities (NDS) consolidated their position as the main investment vehicle on the market, with issuances accounting for 71.7 percent of the amounts issued, compared with a 58.7 percent share in 2020. However, the different types of negotiable debt security have not evolved in the same way. While the shares of certificates of deposit and finance company bills rose from 42.91 percent and 10.56 percent in 2020, respectively, to 53.10 percent and 14.57 percent in 2021, the share of commercial paper fell to 4.02 percent from 5.21 percent a year earlier. As for bonds, their share dropped sharply to 28.31 percent in 2021, whereas it represented almost 42 percent in 2020.

By category of company, the bulk of the funds raised on the market was monopolised by credit institutions (banks and finance companies), which remain the main issuers of private debt. On the other hand, the amounts issued in 2021 by banks remain below their pre-crisis level. Banks' issuances on the market amounted to 34.6 billion dirhams in 2021 against 39.2 billion in 2020 and 58.2 billion in 2019. For their part, finance companies made issuances amounting to 8.9 billion dirhams, or 15 percent of market share, against 11.8 billion dirhams in 2020.

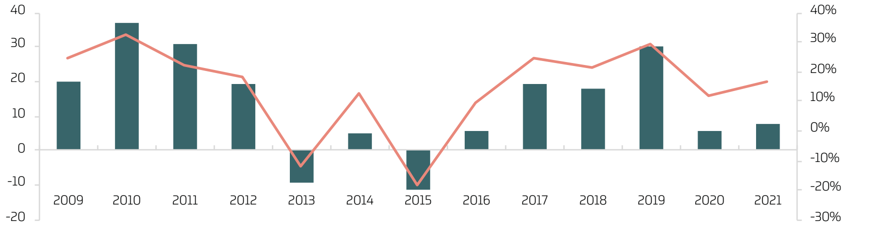
Breakdown of private debt issuances by activity sector

Sources: Maroclear and AMMC Calculations

The third position of issuers in 2021 is held by companies which represent nearly 12 percent of the market with an issue volume of 7.1 billion dirhams made by only three companies. The companies of the other sectors combined represent a little more than 15 percent of the private debt issuances in 2021.

Concerning the contribution of private debt to the financing of the economy, it would recover in 2021 to 17 percent against 12 percent in 2020. This situation is explained by the combined effect of a positive variation in the outstanding amount of private debt and a fall in the overall volume of financing of the economy. The outstanding private debt increased by 7.65 billion dirhams in the wake of a more significant drop in repayments compared to issuances. The latter fell from 74.89 billion dirhams in 2020 to 59.69 billion dirhams in 2021, while repayments amounted to 52.04 billion dirhams in 2021 against 68.62 billion dirhams in 2020. The overall volume of financing of the economy still followed a downward trend to reach 45.18 billion dirhams in 2021 against 52.51 billion dirhams in 2020 and 100.96 billion dirhams in 2019.

Change in outstanding private debt[66]

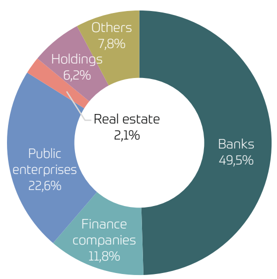


Sources: Casablanca Stock Exchange, Bank Al- Maghrib, Maroclear and AMMC Calculations.

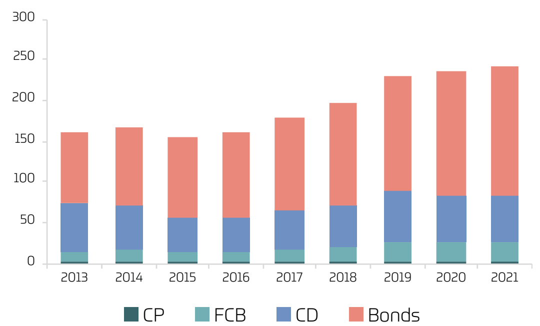
Despite the decline in issuances, the outstanding private debt increased slightly to 244.2 billion dirhams.

Driven mainly by its bond component, the total outstanding private debt increased by 3.2 percent, from 236.5 billion dirhams at the end of 2020 to 244.2 billion dirhams at the end of 2021. This trend is due to the increase recorded on bonds by nearly eight billion dirhams, fed by a strong presence of banks and public institutions. Finance company bills gained one billion dirhams while the commercial paper segment decreased by the same amount. It should be noted that the outstanding amount of certificates of deposit virtually stagnated at 57 billion dirhams.

Breakdown of the private debt outstanding amount per sector



Change in private debt outstanding amount (in billion dirhams)



Source: Maroclear and AMMC calculations

Decline in bond issuances through private investment in the wake of a sharp drop in capital raising through bond issuances

Contrary to 2020, which saw a significant increase in bond issuances through private investment with a number of transactions and a volume that almost doubled, the year 2021 was characterized by a sharp decline in issuances with a volume that stood at 9.98 billion dirhams against 17.1 billion dirhams a year earlier, with a decline of 41.6 percent. In spite of the fall in the volume of issuances, the share of these transactions in the total volume of private bond issuances remains the most

66 In this chart, the total financing of the economy is calculated as follows: issuances on the primary market of the stock exchange + change in outstanding debt securities, securitization funds and venture capital funds (OPCR) + change in outstanding loans of credit institutions.

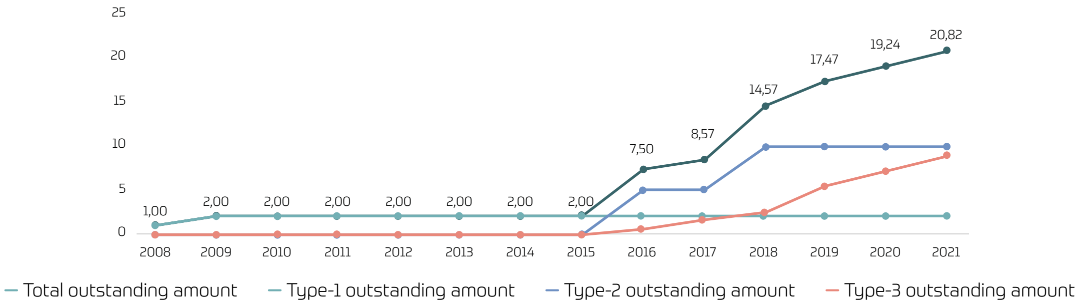
important since it represented 58.9 percent in 2021 against 51.4 percent in 2020. As a reminder, this type of issue does not benefit from the protection of the public offering regime. However, it remains reserved for a limited number of qualified investors, with a maximum of twenty investors per issue.

Continued upward trend in the outstanding amount of perpetual subordinated bonds with a riskier profile in particular of the AT1-type, which are nevertheless still reserved for qualified investors.

Outstanding perpetual subordinated bonds remain on the same uptrend started in 2016. In 2021, they stood at 20.82 billion dirhams against 19.24 billion dirhams a year earlier. This situation is the result of three type-3 issuances (see definition in box n°11) with a total volume of 1.58 billion dirhams:

- An issue carried out by the Bank of Africa Group for an amount of 1 billion dirhams;
- An issue carried out by the Attijariwafa Bank Group for an amount of 500 million dirhams;
- An issue carried out by the CFG Bank Group for an amount of 80 million dirhams.

Change in outstanding perpetual subordinated bonds (In MDH)



As a reminder, Type 3 (AT1) issuances appeared on the Moroccan market in 2016. They accommodate both the investors' need for higher yields and the issuers' need for stronger financial structures. Indeed, investors in this type of bonds receive higher returns, compared to an ordinary bond. Nevertheless, as presented in the box below, these hybrid securities have a higher risk profile.

In view of the above, the AMMC reserves the possibility of subscribing to these instruments, as well as trading them on the secondary market, to qualified investors. Regarding mutual funds in particular, which are the main subscribers to these issuances, the AMMC requires that only funds whose investment strategy explicitly allows for such instruments may subscribe to them.

Box 11: Perpetual bond issuances

In recent years, a particular type of bonds have started to emerge in the Moroccan market. These are subordinated bonds with special characteristics that allow them to be considered as equity capital by prudential regulators or rating agencies.

These instruments have hybrid characteristics common to both debt and equity securities. To date, there are three types of perpetual subordinated bonds in Morocco:

- Type 1: Perpetual subordinated bond issuances with an early redemption clause as from the 10^{th} year, after the approval of Bank Al-Maghrib and with a minimum notice period of 5 years, as well as a clause allowing the issuer to defer interest payments when its financial situation so requires.
- Type 2: issuances of perpetual subordinated bonds, with a redemption option from the 10^{th} year, under certain other conditions. The terms of these issuances also provide that the issuer may, at its discretion, defer the payment of one or more vouchers. In the latter case, the issuer may not distribute dividends or remunerate securities of the same rank.
- Type 3: AT1-type bond issuances carried out by credit institutions to strengthen their regulatory capital. The prudential treatment of these instruments qualifies them as additional Tier 1 capital (in accordance with the provisions of Circular n° 14/G/2013 of Bank Al-Maghrib of August 13, 2013 on the calculation of the regulatory capital of credit institutions) thanks to their terms, the main principles of which are:
  - A perpetual maturity, with the possibility of repayment after the approval of Bank Al-Maghrib and a minimum notice period of five years;
  - The issuer may decide, at its discretion and after prior approval of Bank Al-Maghrib, to cancel (in whole or in part) the payment of the interest amount for an indefinite period and on a non-cumulative basis, in order to meet its obligations (notably following a request of Bank Al-Maghrib);
  - The nominal value of the securities is depreciated when the Common Equity Tier 1 (CET 1) ratio, as defined by Bank Al-Maghrib, falls below a certain level (6.0 percent) of the weighted risks, on a corporate or consolidated basis. The depreciation of securities enables the issuer to reconstitute its core capital until the above-mentioned threshold is reached;
  - The clauses on voucher cancellation and impairment of the nominal value of securities apply to all instruments of the same category on a proportional basis.

The main risks concerning the above-mentioned instruments are as follows:

Risk of impairment of the nominal value of securities

This risk concerns Type-3 (AT1) instruments, which must be written down when the issuer's CET1 ratio falls below 6 percent. The issuers of these instruments have undertaken to publish their historical and forecast prudential ratios to keep the market informed of their development. The levels posted by the credit institutions issuing these instruments comply with regulatory requirements and do not indicate any risk of activation of the security impairment mechanism.

Risk of voucher cancellation or deferment

The clauses provided for in the aforementioned instruments grant the issuer the discretion to defer or cancel one or more vouchers. If activated, this mechanism would also have an impact on the other categories of securities by limiting the issuer's distribution capacity to their benefit. However, it should be emphasized that issuers of these instruments are subject to several transparency mechanisms that improve the protection of the interests of bondholders, in particular:

- The obligation to inform the market of any important decision relating to the securities (depreciation, deferral or cancellation of the voucher);
- The obligation to publish on a semi-annual basis the composition of their equity and weighted risks as well as their projected prudential ratios over an 18-month horizon;
- The obligation to transmit this information to the representative of the bondholders' group;
- The obligation to inform regulators (BAM and AMMC) of decisions relating to securities.

Risk related to securities' valuation

Perpetual bond issuances are complex instruments, the value of which depends on several factors such as:

- The probability of activating possible mechanisms for the depreciation or appreciation of the nominal value;
- The probability of options being exercised at the issuer's discretion (redemption, deferral or cancellation of the voucher);
- The probability of changes affecting the issuer's financial position or the qualification of securities (regulatory changes or changes in the methodology of rating agencies);
- The issuer's credit risk;
- Changes in interest rate market conditions.

As a result, the valuation of this type of securities may become difficult and valuation differences may be observed. This risk can be reduced through adequate communication by issuers.

Risk related to repayment in case of default

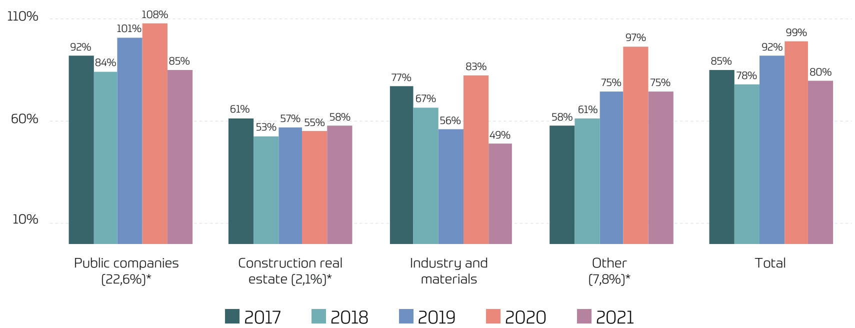
As their names indicate, these bonds are subordinated to the ordinary bonds in the event of default, which means that their redemption only occurs after the ordinary bonds have been fully redeemed, but before the redemption of the shares. Consequently, the chances of recovering these debts in the event of default are lower.

The debt of non-financial issuers of private debt is decreasing, despite the crisis context.

As in previous years, the credit risk relating to private debt is under control in 2021, as no default events have been recorded. The two issuers belonging to the same real estate group which experienced difficulties in 2014 are continuing to implement a restructuring programme that has significantly reduced their bank and private debt. Thus, in recent years, the said issuers have undergone operational and financial consolidation, which has led to drastic reductions in financial and structural costs.

Concerning the overall net debt of non-financial companies issuing private debt and having made a public offering, it amounted to 167.5 billion dirhams at the end of 2021, down by 9.85 percent compared to the previous year. Their overall gearing has been significantly reduced from 99 percent in 2020 to 80 percent in 2021.

Change in the gearing[67] of the non-financial issuers of private debt[68]



Source: Issuers' financial publications

(*)Weight in overall private debt outstanding amount

The sectoral analysis shows an overall downward trend in debt, except for the real estate sector. For public companies, the gearing stood at 85 percent in 2021 against 108 percent in 2020 and 101 percent in 2019. Despite a slight increase from 55 percent in 2020 to 58 percent in 2021, the net debt ratio of the real estate sector remains under control. As for the industry and construction materials sector, it shows a clear decline in its debt with a gearing ratio of 49 percent in 2021 against 83 percent in 2020.

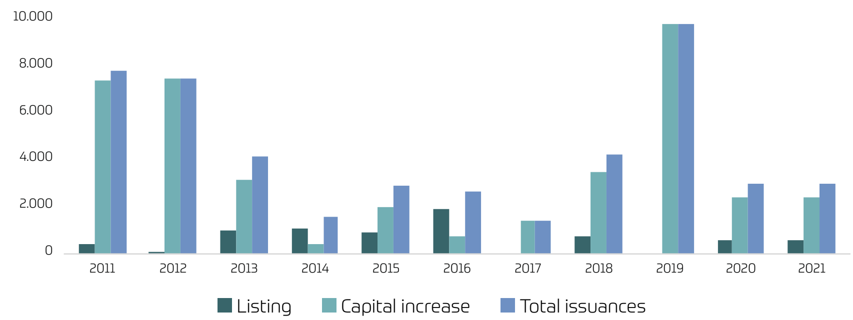
67 Gearing is the ratio of net debt to a corporate equity.
68 By public offering (excluding private placement).

B. Equity markets

The volume of issuances on the stock market remains low.

Capital raising in shares on the stock market in 2021 amounted to 2.99 billion dirhams, almost stagnant compared to the year 2020 when issuances had reached 3.01 billion dirhams.

Change in the stock market issuances (in million dirhams)



Source: AMMC calculations

Only one IPO for an amount of 600 million dirhams was carried out. The majority of the capital raised was by issuers already listed, in the form of capital increase, 99 percent of which was through the conversion of dividends.

Summary table of the main capital increase operations in 2021

Companies	Date of the capital increase	Type	Number of shares	Issue price	Volume of the issue in MDH
ATW	03/03/2021	By conversion of dividends into shares	Issued	388	1 285,5
ATW	31/08/2021	By conversion of dividends into shares	1 967 852	411	808,7
BCP	28/09/2021	By conversion of dividends into shares	1 057 817	263	278,2
JET CONTRACTORS	03/09/2021	Subscription in cash without preferential rights	57 142	350	19,9

Source: Casablanca Stock Exchange

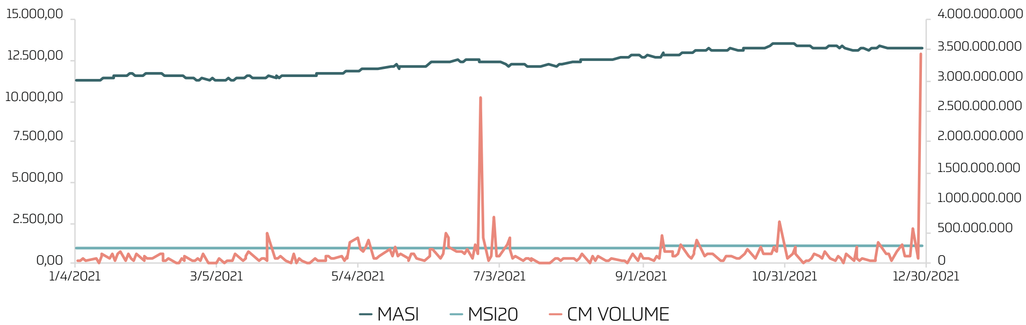
Gradual improvement of the Casablanca Stock Exchange indicators

After the gradual recovery phase of the MASI index during the second half of 2020 reaching a value of 11,287.38 points at the end of the year, with an annual underperformance of 7.27 percent, the stock market evolved on an upward trend in 2021. At the end of the first half of the year, the MASI rose overall after a mixed trend during the first two months of the year, exceeding for the first time its level reached before the health crisis and closing the first half of the year at 12,409.24 points, with an increase of 9.93 percent. Subsequently, the MASI maintained its rise during the second half of the year, despite a slight decline in July, recording 13 358.32 points at the end of the year, which brought its annual performance to 18.35 percent.

For its part, the MSI20 index, which reflects the performance of the prices of the 20 most liquid stocks listed on the Casablanca market, reached 1 085.71 points at the end of December 2021, recording an increase of 17.4 percent compared to end- December 2020.

In terms of volume on the central and block markets, the Casablanca Stock Exchange recorded in 2021 a transactional volume close to 64.4 billion dirhams, up 31.4 percent compared to 2020 when the volume had reached 49 billion dirhams. On the one hand, this change is due to the increase of nearly 48 percent in the volume at the level of the block market, which rose to 23.6 billion dirhams in 2021 against 16 billion dirhams in 2020. On the other hand, the volume on the central market reached a daily average of 163.9 million dirhams, up 24 percent compared to 2020 when the average amounted to 132 million dirhams.

Change in the MASI & MSI20 indices and central market volume in 2021



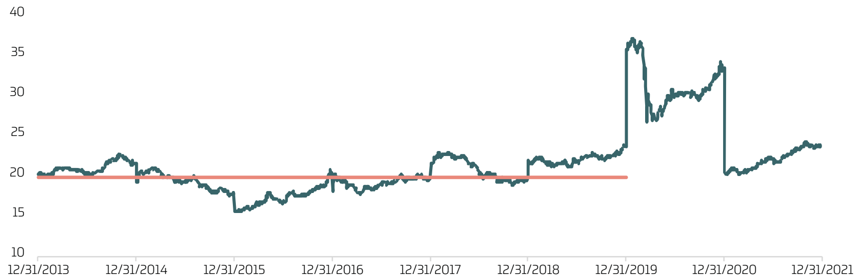
Source: AMMC Calculations

Although falling sharply after an exceptional year in 2020, the overall valuation of the market in 2021 is high.

The overall PER of the Casablanca Stock Exchange[69], which is an indicator of market valuation, fell in 2021, after the exceptional rise recorded in 2020 due to the impact of the health crisis and contributions to the Covid-19 fund on the profits of listed companies. The PER is 23.9x at the end of 2021 compared to 33.5x at the end of 2020. This drop in valuation is mainly due to the nearly 65.2 percent increase in listed companies' earnings following the economic recovery, compared with only 18.1 percent for overall market capitalisation.

69 Valuation ratio calculated on the basis of the daily market capitalization divided by the profits of the listed companies in the same year.

Market overnight overall Price Earning Ratio



— Overnight PER — Pre-crisis average (2014-2019)

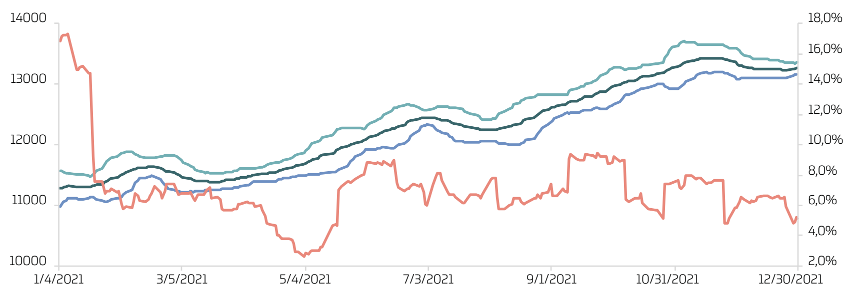
Source: Issuer data and Casablanca Stock Exchange - AMMC Calculations

However, the overall PER of the Casablanca Stock Exchange at the end of 2021 is high compared to the average of the five years before the health crisis (2014-2019), i.e.19.9x. Admittedly, the context of historically low interest rates is a factor that can contribute to this level of valuation, by pushing investors to seek financial instruments with higher returns. Nevertheless, this high valuation exposes the stock market to the risk of a price correction in a still uncertain pandemic context.

The stock market has returned to a moderate level of volatility in 2021.

During the first half of 2021, stock market volatility fell sharply from the high levels reached in 2020 following the outbreak of the health crisis, from a high of 17.28 percent reached on 8 January 2021 to a low of 2.61 percent reached on 3 May 2021. In the second half of 2021, volatility gradually increased but moderately, ranging from 4.78 percent to 9.47 percent.

MASI moving average and volatility in 2021



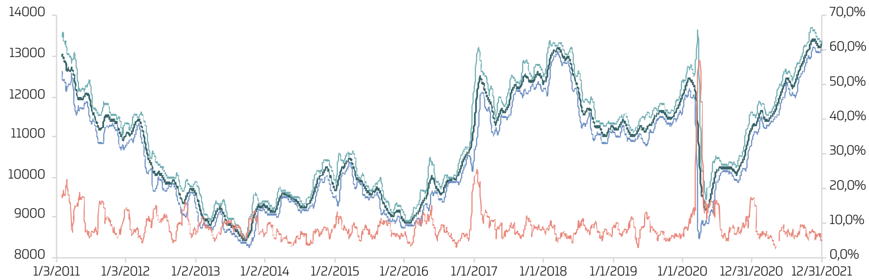
— 20-day simple moving average of MASI — Upper band* — Lower band** — 20-day annualized volatility

Source: AMMC Calculations[70]

Compared to the previous year, the volatility of the MASI has halved with an average value of 7.10 percent against 15.12 percent in 2020. Its range of variation has narrowed to the extent that it has evolved in a range between 2.61 percent and 17.28 percent compared to 5.18 percent and 57.31 percent in 2020.

*70 * 20-day simple moving average of MASI plus twice the standard deviation of the index.*
*** 20-day simple moving average of the MASI minus twice the standard deviation of the index.*

MASI moving average and volatility between 2011 and 2021

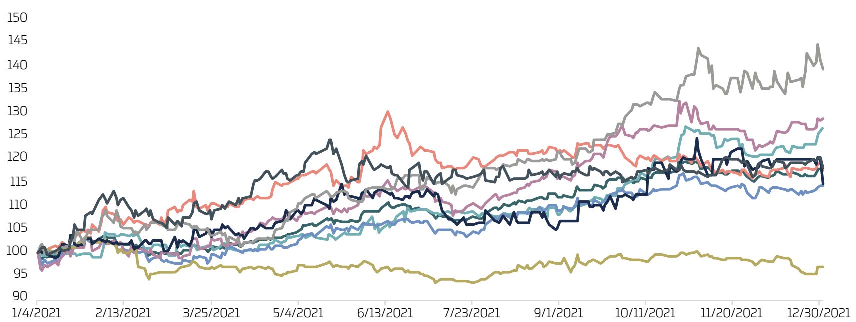


Source: AMMC Calculations[71]

The majority of sector indices posted a positive performance in 2021 after significant declines in 2020.

In 2021, the indices of the main sectors in terms of capitalisation in the stock market recorded significant increases, given that the overall performance index of the Casablanca Stock Exchange, namely the MASI, rose by 18.35 percent at year-end. All sectors have experienced strong increases except for the Telecommunications sector, which showed a slight decrease of 7 percent in its index.

Sector change in the main sectors in 2021 on a 100 basis

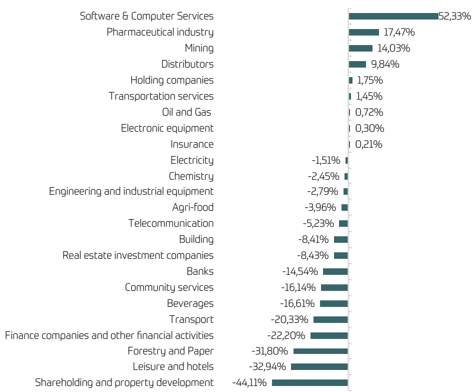


For the year 2021 as a whole, nineteen out of twenty-three business sectors showed a positive performance, compared to nine in 2020. Among the positive developments, two sectors showed significant increases. These are the pharmaceutical industries sector, which stands out with a performance of 179.65 percent, and the engineering and industrial equipment sector, which shows a performance of 79.30 percent.

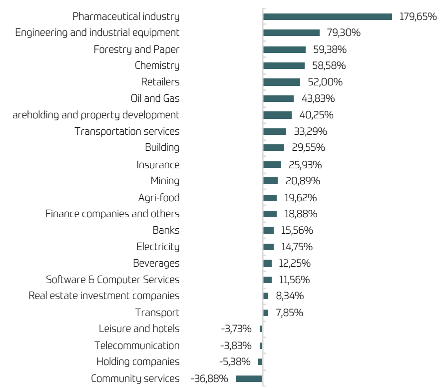
71 Same as footnote 70.

Conversely, the indices of three sectors showed moderate declines in 2021. These are the Leisure & Hotels sector with -3.73 percent compared to -32.94 percent in 2020, the Telecommunications sector with -3.83 percent compared to -5.23 percent in 2020, and the Portfolio companies and Holding companies sector with a decline of 5.38 percent in 2021 after a rise of 1.75 percent in 2020. The Utilities sector index is down significantly by -36.88 percent in 2021 compared to -16.14 percent in 2020.

Sectoral performance in 2020



Sectoral performance in 2021

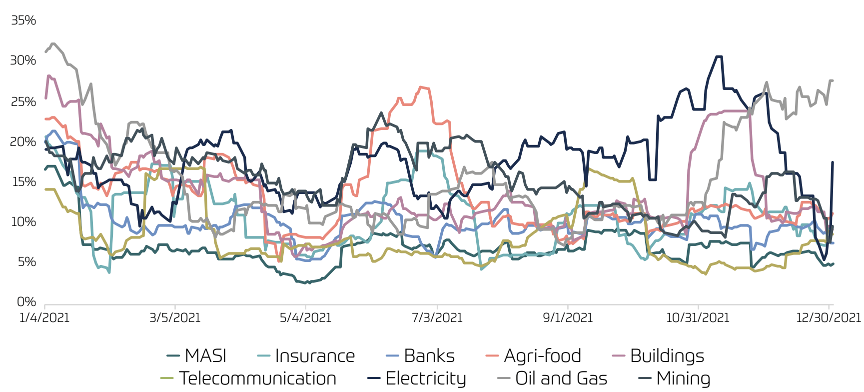


Source: Casablanca Stock Exchange

This almost generalized rise in the main sectoral indices in 2021 was coupled with a downward trend in volatility, after the high peaks reached in 2020. The average volatility of the main sector indices in 2021 ranged from a low of 8.59 percent for the Telecommunications sector to a high of 17.75 percent for the Electricity sector, compared to a low of 17.18 percent and a high of 26.35 percent in 2020.

The other most volatile sectors in 2021 are the Oil & Gas and Mining sectors with an average volatility of 15.8 percent and 15.78 percent, respectively.

Volatility of the MASI and the main sectors in 2021

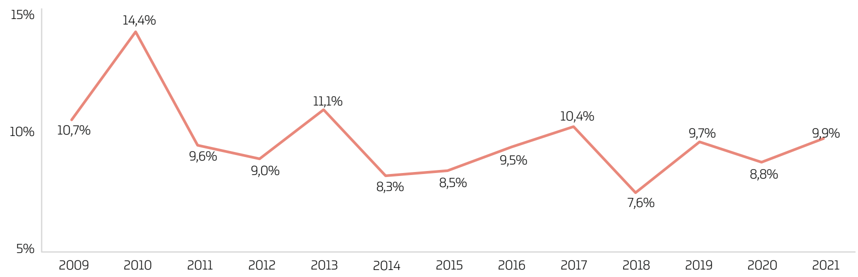


Source: AMMC Calculations

Liquidity improves slightly in 2021, but remains low.

Since 2011, stock market liquidity[72] has been fluctuating in a low range between 7 percent and 11 percent. It improves slightly in 2021 to 9.9 percent compared to 8.8 percent in 2020. However, its level remains low and below the average for Frontier markets[73].This structural weakness of liquidity remains a complex issue that depends on several factors such as the lack of paper, the high level of valuation, the preponderance of institutional investors whose investment horizon is generally medium to long term and the weakness of the free float factor.

Change in stock market liquidity



Source: Casablanca Stock Exchange

The stock market intermediation sector has a sound financial base, with higher consolidated revenues in 2021.

The revenues of brokerage firms improved in 2021 after a decline in 2020. The consolidated turnover of stock exchange intermediaries stood at 262.6 million dirhams in 2021 against 210.4 million dirhams in 2020 and 372.2 million dirhams in 2019. This clear improvement of nearly 24.8 percent is due to:

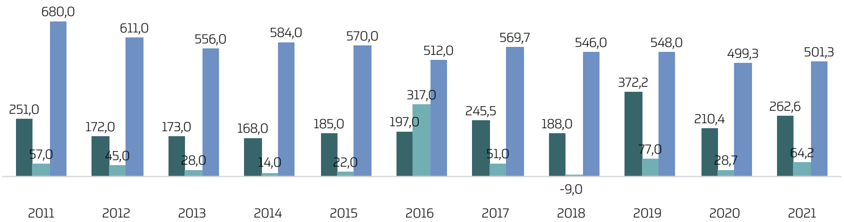
- The 24 percent increase in transactional volume on the central market;
- The 49 percent increase in transactions on the block market;
- The increase of more than 200 percent in the volume of security contributions.

This situation had a positive impact on the operational profitability of the brokerage firms. The consolidated net result reached 64.2 million dirhams in 2021 against 28.7 million dirhams in 2020, or an increase of 123.6 percent.

72 The liquidity ratio is the moving average of the simple monthly volume of the central market and block market on the month-end capitalization, calculated year-on-year.

73 According to World Bank data, the liquidity of the central market of the Casablanca Stock Exchange stood at 4.98 percent and 5.5 percent, respectively, in 2019 and 2020 against an average of 7.49 percent and 8.44 percent, respectively, for all Frontier markets.

Change in the financial indicators of brokerage firms between 2011 and 2021 (in million dirhams)



Source: Casablanca Stock Exchange

Fifteen out of seventeen brokerage firms recorded positive net results in 2021. The weak results of some independent brokerage firms induce a low risk on their financial situation with limited impacts in case of default, taking into account the different risk mitigation mechanisms, notably prudential rules.

With reference to their financial structures, brokerage firms enjoy a good financial base with a consolidated equity of 501.3 million dirhams in 2021, slightly higher compared to 2020 when the equity amounted to 499.3 million dirhams.

It should be noted, nonetheless, that the sector of stock market intermediation remains relatively concentrated with 30 percent of the brokerage firms achieving more than 60 percent of market share. These companies are all subsidiaries of banking institutions.

Box 12: Stock market regulatory and guarantee framework

The regulatory and guarantee framework ensuring the safe functioning of the market is based on the following rules and measures:

- Prudential rules applicable to brokerage firms:
  - The equity capital of brokerage firms shall not be less than the minimum amount of their share capital. The share capital of brokerage firms shall not be lower than:
    - » 1,500,000 dirhams for those exclusively carrying out transactions in securities on behalf of clients, advising and soliciting clients for the acquisition or sale of securities;
    - » 5,000,000 dirhams for those which, in addition to the above operations, carry out:
      - Trading for own account;
      - Custody of securities;
      - Security portfolio management under a mandate;
      - Participation in the investment of securities issued by legal entities making public offerings.

- The credit balances of customer accounts must be permanently registered on the asset-side of the brokerage firm as liquid assets.
- The total value of net positions taken by brokerage firms for their own account on the different securities issued by the same issuer must be permanently less than 40 percent of the net equity of the said firms. However, this rule does not apply to securities issued or guaranteed by the State.
- The total value of the net positions of the same customer must be permanently less than 10 times the net equity of brokerage firms.
- Brokerage firms must permanently respect a risk coverage ratio, defined as the ratio of risks incurred by brokerage firms on the net positions taken on their own account and on behalf of their clients to their net equity. The risk coverage ratio must be permanently below 100 percent.

• A procedure for guaranteeing the successful completion of stock market operations managed by the Casablanca Stock Exchange and based on guarantee mechanisms and procedures for resolving delivery or payment defaults. Two mechanisms in particular are planned to support this system: daily margin calls intended to cover the market risk of transactions undertaken by the brokerage firms, and an initial contribution paid by the brokerage companies on the basis of their transaction volumes and re-evaluated each quarter;

• Separation between the client's assets and the custodian's own assets at the level of the Central Depository "Maroclear."

• A guarantee fund set up with the objective of compensating the customers of liquidated brokerage firms. It is financed by the semi-annual contributions of account-holding brokerage firms. The amount of these contributions is determined as a percentage of the volume of shares and cash conserved by each one of these companies. The amount of this fund reached 54.6 million dirhams at the end of December 2021 against 52.4 million dirhams at the end-December 2020, 49.9 million dirhams at end-2019 against 47.4 million dirhams at end-2018, 44.8 million dirhams at end-2017 and 42 million dirhams at end-2016.

In accordance with the provisions of Article 89 of Law No. 19-14 on the Stock Exchange, brokerage firms and financial investment advisors, the intervention of the Guarantee Fund is subject to the AMMC's recognition of the liquidation of a brokerage firm. To date, the AMMC has not concluded to any default and has not had to activate the Guarantee Fund.

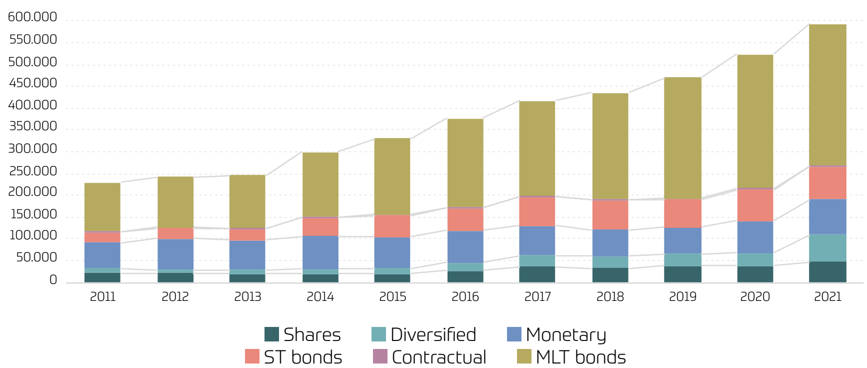
C. Asset management activity

The market of mutual funds continues to show great resilience.

Despite an uncertain economic context linked to the health crisis, the mutual funds management industry still has investor confidence, as shown by the evolution of assets under management. The net assets managed by mutual funds amounted to nearly 593 billion dirhams at the end of 2021 against 523 billion at the end of 2020, that is to say an increase of 13 percent, after a rise of 11 percent the previous year. With 537 mutual funds under management, the mutual funds management industry consolidates its preponderant weight within the economic fabric and still fully ensures its role of mobilization of national savings.

The positive evolution of the net assets of mutual funds concerned all categories of mutual funds, with the exception of the contractual category whose net assets declined.

Change in mutual funds' net assets (in million dirhams)



Sources: Mutual funds management companies and AMMC calculations

The trend in fund creation is still upwards, with 35 funds created in 2021 after 28 in 2020. On the other hand, and contrary to the year 2020 during which a trend of bond funds creation was observed, the year 2021 was characterised by diversified creations, which also concerned the equity and diversified categories. This situation could be explained by the favourable evolution of the stock market as well as by a situation marked by a recovery of the national economy. Interest rate products remain the most popular, and more specifically the «Medium- and long-term bonds» MLTB category, given its lower risk in a climate that remains uncertain. Out of a total of 35 funds created, almost half were equity or diversified funds with 7 and 10 mutual funds created respectively. The number of «MLTB» mutual funds increased by 12 funds. The remaining 6 mutual funds created in 2021 are divided equally between the "Money-market" and "ST bond" categories.

As of 31 December 2021, 35 percent of mutual funds, or 188 funds, belonged to the MLTB category. These funds correspond to the investment profile of institutional investors, who are the main investors in mutual funds.

Breakdown by category of mutual funds (2021)

Sources: Mutual funds management companies and AMMC Calculations

This predominance is also reflected in the assets under management. Indeed, at the end of 2021, the «MLTB» category had net assets of 324.8 billion dirhams, or 54.8 percent of the total net assets.

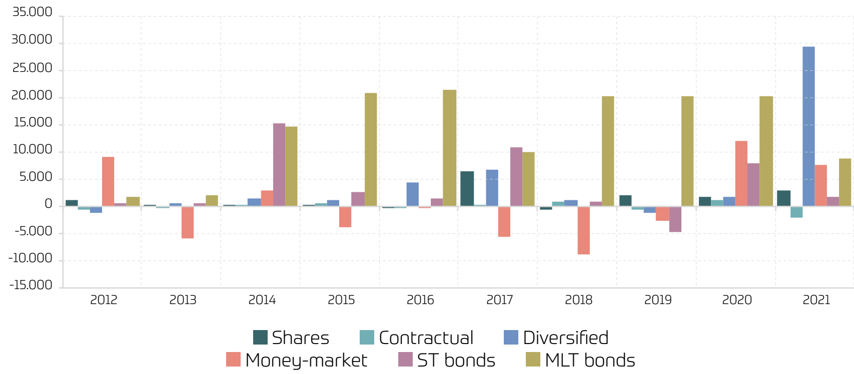
The net inflow of mutual funds in 2021 still resists the crisis and continues its upward trend, with a strong investor interest in diversified mutual funds.

Driven mainly by a net inflow, which reached a historical peak over the last ten years with 48.1 billion dirhams drained in 2021, the net assets under management have increased by 69.7 billion dirhams compared to 2020. The valuation effect benefited from the good performance of the equity market and contributed 21.6 billion dirhams to the growth of net assets in 2021, compared to a contribution of only 8 billion dirhams in 2020.

After the year 2020 which was marked by a stronger aversion to risk in a context of crisis, the year 2021 was the year of recovery with a strong preference for «diversified» mutual funds which have captured the interest of investors. Out of an overall net inflow of 48.1 billion dirhams, «Diversified» funds managed to attract more than 29 billion dirhams, or nearly 61 percent of the funds collected. This situation can be explained by the desire of investors to take advantage of the favourable evolution of the equity market in 2021 while maintaining an exposure to less risky debt securities in a context of still low rates. Equity funds also benefited from the good stock market dynamics by posting a net inflow of 3 billion dirhams against 1.6 billion dirhams in 2020.

Interest rate products were strongly impacted by this situation with «ST bond» and «MLTB» mutual funds whose net inflows went from 5.8 dirhams and 18.2 billion in 2020 to 1.6 dirhams and 8.7 billion in 2021, respectively. In the same vein as bond funds, the inflow of «Money-market» mutual funds declined in attractiveness with a net volume of 7.5 billion dirhams in 2021 against 11.4 billion dirhams in 2020.

Change in net subscriptions to mutual funds (in million dirhams)



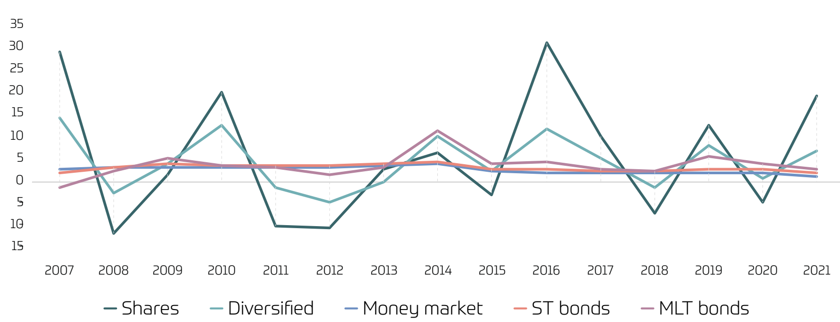
Sources: Mutual fund management companies and AMMC Calculations

Positive performance for all categories, with a clear recovery for "equity" and "diversified" funds and a decline in the performance of interest rate products.

An analysis of the performance indexes achieved by the various categories of mutual funds in 2021 shows the following:

- Driven by the good performance of the stock market, the «Equity» and «Diversified» funds showed a clear improvement in performance compared to the previous year. The «Equity» category goes from an underperformance of -4.42 percent in 2020 to a positive one of 19.46 percent in 2021. The same applies to the «Diversified» funds, whose performance index improved from 1.01 percent in 2020 to 6.99 percent in 2021.
- The performance of interest rate products was impacted by the continuing downward trend in interest rates. Thus, the yields of the «Money-market» and «ST bond» funds were down compared to 2020, falling from 2.11 percent and 2.89 percent, respectively, to 1.45 percent and 1.98 percent.
- The «MLTB» funds, which are more sensitive to interest rate variations, showed a greater decline with a performance of 3.04 percent in 2021 compared to 4.06 percent in 2020.

Change in performance by category of mutual funds



Sources: Mutual fund management companies and AMMC Calculations

Subscription movements have increased the volatility of net assets, particularly for «diversified» mutual funds. However, overall volatility remains rather limited.

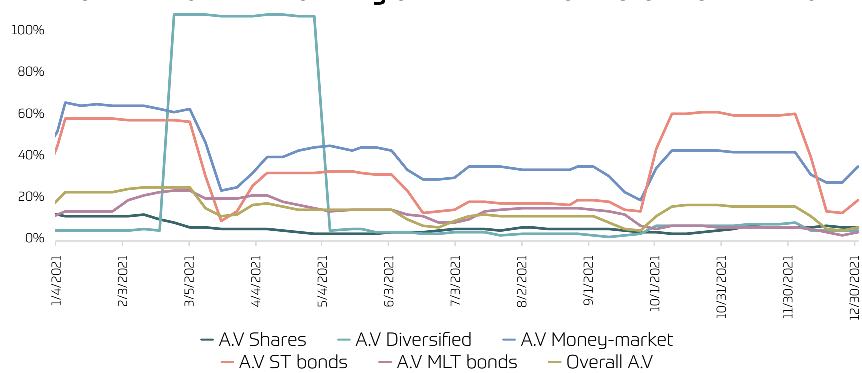
The analysis of annualised 10-week volatility for 2021 showed a generally downward trend, with a sporadic change in the «diversified» category during the first quarter.

After the first two months of the year marked by a stable volatility, a decrease in volatility was observed for the «ST bond» and «Money-Market» categories which ended the first quarter with volatility levels at 14.08 percent and 25.47 percent, respectively, before recovering in the last quarter to end the year with volatility at 19.34 percent and 35.90 percent, respectively.

As regards the «Diversified» category, the change in its net assets showed the highest volatility in 2021, going from 4.65 percent at the beginning of the year to 108 percent at the end of the first quarter. This situation is due to a strong investor interest in this category. The outstanding amounts of «diversified» mutual funds increased significantly between 19 and 26 February 2021 in the wake of a net subscription of nearly 15 billion dirhams.

The volatility of the «MLTB» and «Equity» categories followed a downward trend with respective levels of 12.66 percent and 12.26 percent at the beginning of 2021 before ending the year with volatility at 3.82 percent and 6.36 percent, respectively.

Annualized 10-week volatility of net assets of mutual funds in 2021

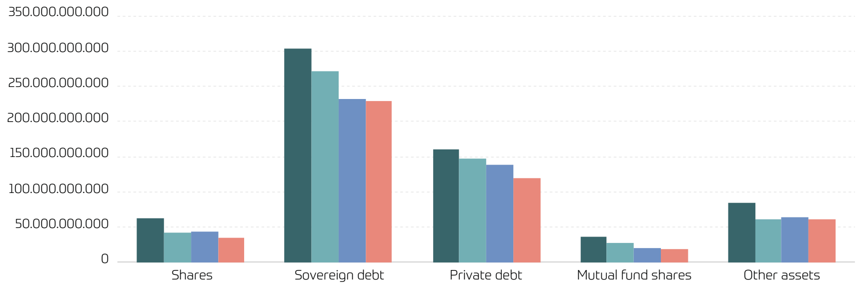


Sources: Mutual fund management companies and AMMC Calculations

Increase in the weight of equities combined with lower sovereign and private debt in the overall assets of mutual funds, amid economic recovery and positive stock market performance.

Asset allocations in mutual funds' portfolios showed contrasting variations in 2021, with a substitution between equities and interest rate products as investors turned to equities, which performed better, while the performance of interest rate products was down. The position of bonds issued or guaranteed by the State, as well as private debt, as the first choice of investment for mutual funds, diminished, with shares falling from 49.33 percent and 26.75 percent respectively in 2020 to 46.92 percent and 24.79 percent in 2021. These declines benefitted equities, whose share stood at 9.71 percent in 2021 compared with 7.78 percent in 2020.

Breakdown of assets of mutual funds by security category (in dirhams)



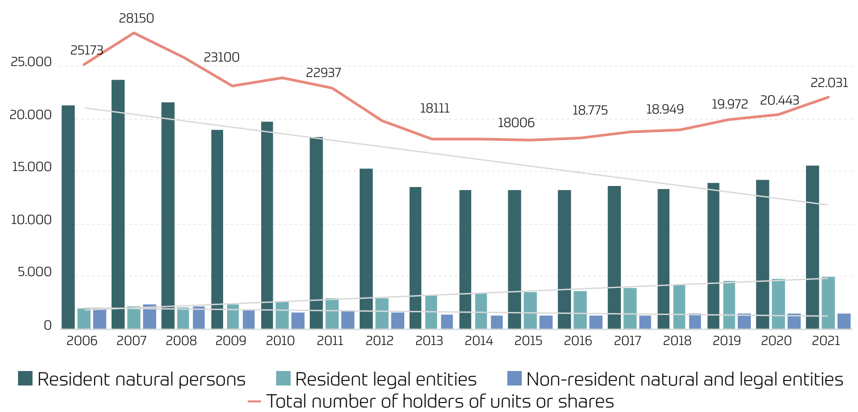
Sources: Mutual fund management companies and AMMC Calculations

Similarly, mutual funds shares/units held by mutual funds posted a slight increase with a share of 5.55 percent in 2021 compared to 5.07 percent in 2020.

Acceleration of the upward momentum in the number of mutual funds unit holders with a significant rise in the total number of subscribers in 2021.

Driven by the positive performance of the various categories of mutual funds, the number of mutual funds' investors rose by 7.8 percent in 2021, compared with 2.4 percent in 2020. The number of mutual fund unit holders stood at 22,031 in 2021 against 20,443 in 2020 and 19,972 in 2019. This increase is mainly due to the rise in the category of resident individuals and the category of resident legal entities, with +9 percent and +6 percent, respectively. The number of non-resident natural and legal entities stagnated compared to the previous year.

Structure of mutual fund investors



Sources: Mutual funds management companies and AMMC Calculations

Interconnections between different actors in the financial sector through mutual funds can foster risk contagion, particularly in the event of a crisis.

Interconnections between asset management and the financial system[74] may result from the funds' holding of securities issued by financial firms such as banks and finance companies. They may also arise from the liabilities of the funds, whose shares may be held by financial entities. These interconnections may also result from broader links such as capital relationships or guarantees given.

The analysis conducted on the basis of data received from regulatory reporting shows that financial companies play an important role in the collective investment sector. Indeed, total assets held by the latter continue to increase, from 350 billion dirhams in 2019 to 405 billion dirhams in 2020, before reaching more than 456 billion dirhams in 2021, or nearly 76.9 percent of the total net assets of mutual funds.

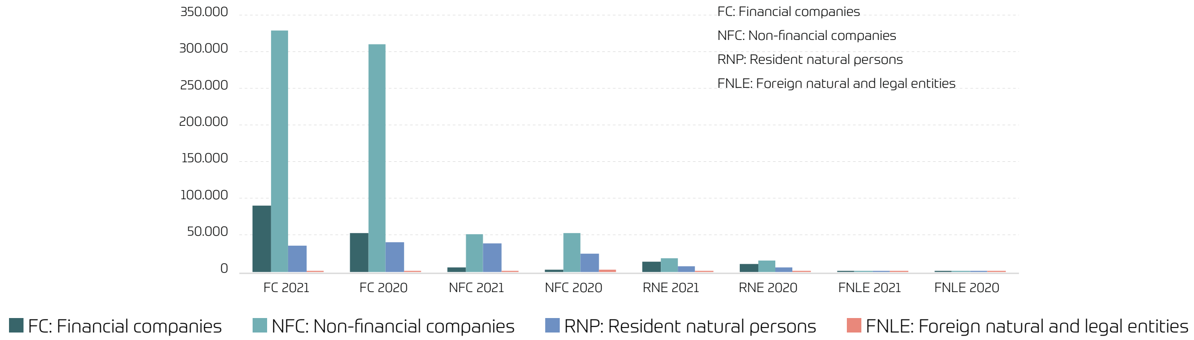
In detail, insurance companies and pension funds remain the main investors in mutual funds with a total outstanding amount of 261.5 billion dirhams, or 44.1 percent of total net assets. This category of investors, with a long-term investment horizon, is more oriented towards «Bond» mutual funds with an outstanding amount of 176.7 billion dirhams, or 67.6 percent of the amounts invested, and more precisely the «MLTB» category (65.6 percent of the amounts invested).

Banks come second with a total outstanding amount of 112 billion dirhams, or 18.9 percent of the total net assets, mainly oriented towards «MLTB» mutual funds for up to 71.6 percent of the outstanding amount held.

Non-financial enterprises also remain important investors with 16.3 percent of the assets managed by mutual funds. It should be noted that the amounts invested by this category have increased from 82.9 billion dirhams in 2020 to 96.4 billion dirhams in 2021 and are almost exclusively directed towards «Money-Market» and «Bond» mutual funds. This trend could be explained by the very nature of these investors, who are sensitive to the economic environment and who generally use mutual funds for short-term investments for cash flow optimisation purposes.

74 Financial enterprises are composed of CDG, banks, finance companies, insurance and reinsurance companies, welfare institutions and pension funds, mutual fund and other companies engaged in financial activities.

Breakdown of net assets of mutual funds by type of investors (in million dirhams)



Sources: Mutual fund depository banks and AMMC calculations

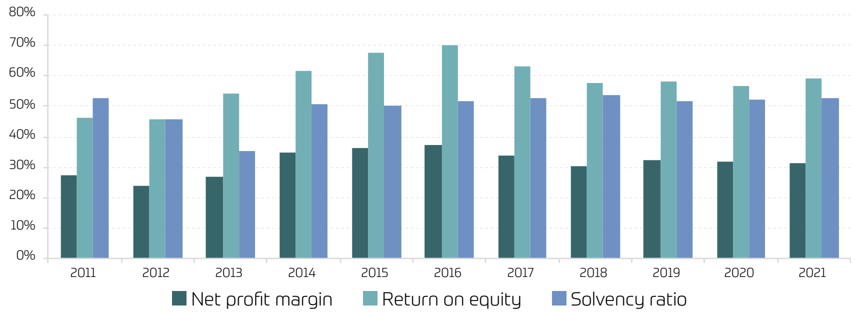
A detailed analysis of the interconnections arising from the exposure of the banking and insurance sectors to the asset management sector shows that there are significant linkages between financial institutions. Financial institutions hold 76.9 percent of the total assets of mutual funds, 24.8 percent of which is invested in private debt. However, private debt is itself issued by financial institutions (61.3 percent). This interconnection is also amplified by the operations carried out on the repo and securities lending markets between mutual funds and financial institutions. This interconnection may favour the propagation of risks in the event of a financial crisis.

Improvement in 2021 in the activity and profitability indicators of mutual funds management companies, which enjoy a solid financial base overall.

The business of mutual funds management companies posts overall positive performance, in line with the good performance of mutual funds net assets. The consolidated turnover of the management companies for the year 2021 amounted to 1.65 billion dirhams against 1.42 billion dirhams a year earlier, up 15.8 percent. Thus, the sector's consolidated net income stood at 516.2 million dirhams against 449.6 million dirhams in 2020, up 14.8 percent. The profit margin remains stable at 31.33 percent in 2021 against 31.59 percent in 2020, while the Return on Equity (ROE) is up 59.01 percent in 2021 compared to 56.81 percent in 2020. At the individual level, it should be noted that two management companies have negative operating and net results.

In terms of balance sheet structure, the sector continues to enjoy a sound financial base, with an equity/total balance sheet ratio of 52.73 percent in 2021 compared with 51.99 percent in 2020.

Financial indicators of the management companies



Sources: Mutual fund management companies and AMMC Calculations

Although the mutual funds management sector remains concentrated, this concentration is mainly controlled by the subsidiaries of financial institutions, which account for 82.7 percent of net assets under management.

The concentration of mutual funds management remains high with a share of 75 percent of overall net assets managed by the top five management companies out of the nineteen active ones. However, it should be noted that 82.7 percent of the overall net assets are managed by management companies that are subsidiaries of financial institutions, which are financially sound and have significant organisational resources.

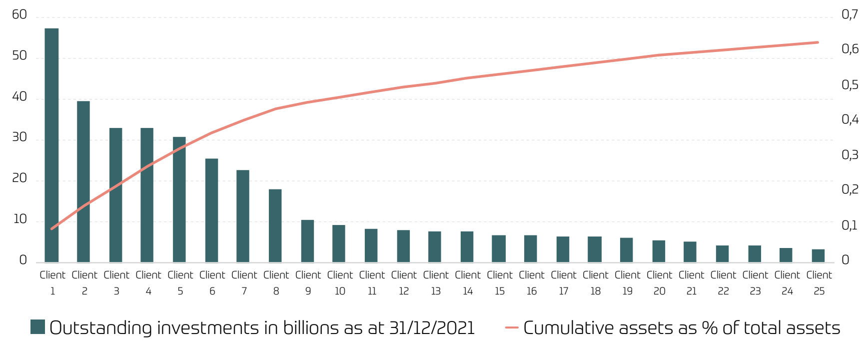
Category of management company	Number	Net assets as at 31/12/2021	Share
Management companies subsidiaries of banks	7	388 061 368 121,66	65,5%
Management companies subsidiaries of CDG	1	76 742 376 050,43	12,9%
Management companies subsidiaries of insurance companies	1	25 685 917 201,32	4,3%
Independent management companies	10	102 417 857 567,48	17,3%
Total	19	592 907 518 940,89	100,0%

Market shares of the main management companies as at 31 December 2021

Concentration of fund liabilities and low liquidity of certain asset classes are the weak points of the mutual funds industry.

There is a high level of concentration in mutual funds liabilities, with the top 12 unitholders holding half of the assets under management. This situation may put managers under strain in case of significant redemption requests from these unitholders, particularly in the event of a financial crisis, as the liquidity of certain asset classes remains very limited, particularly private debt securities. Moreover, the liquidity of the Treasury bonds' secondary market and the stock market remains insufficient.

Outstanding amount by major unitholders as at 31 December 2021



Box 13: Mutual funds risk management framework

In view of the assets composing them, mutual funds are mainly exposed to market, credit, counterparty, liquidity, leverage and valuation risks. The regulatory framework set in place to address the risks of mutual funds is based on the following:

Risk division rules

- A mutual fund shall not invest more than ten percent (10 percent) of its assets in securities of a same issuer, or 15 percent for listed equity securities whose weighting in the reference stock index exceeds ten percent (10 percent) or 20 percent for listed capital securities whose weighting in the reference stock exchange index exceeds 15 percent.
- The total value of the securities that a mutual fund may hold with issuers in each of which it invests more than ten per cent (10 percent) of its assets may in no case exceed forty-five per cent (45 percent) of its assets.
- A mutual fund may not invest in:
  - negotiable debt securities issued by legal entities whose securities are not listed on the stock exchange;
  - units of private Equity Investment Vehicles (OPCC);
  - or units of Securitization Vehicles (FPCT);

more than a specific percentage of its assets. This percentage is fixed by order of the Minister in charge of Finance, after consulting the AMMC, and it should not exceed 20 percent.

Control rule:

- A mutual fund may not hold more than ten percent (10 percent) of the same class of securities issued by the same issuer.

Rules relating to repurchase agreement operations:

- A mutual fund may hold in its assets the amount of receivables representing the repo operations it carries out as transferee. These receivables may not represent more than one hundred percent (100 percent) of its assets.
- The exposure of mutual funds to the counterparty risk on the same contractor resulting from the aforementioned repo operations is limited to twenty percent (20 percent) of its assets.

Rules for securities lending transactions:

- A mutual fund may carry out securities lending transactions up to a limit which may be increased to 100 percent of its assets, provided that it constitutes collaterals.
- Securities received as collateral by a mutual fund:
  - Must not be issued/guaranteed by the borrower or by an entity belonging to the same group as the borrower;
  - Must belong to one of the asset classes that the mutual fund is authorised to hold according to its category and investment strategy;
  - Must have a market value at least equal to the market value of the securities lent during the entire loan period.

Leverage rules:

- A mutual fund may carry out cash and securities borrowing transactions up to a limit of 10 percent of the assets of the mutual fund.
- When a mutual fund carries out:
  - repurchase operations as transferor;
  - Securities lending transactions as borrower,

the sum of outstanding debts representing repurchase operations, outstanding debts representing securities borrowed and cash borrowings must not exceed the limit of ten percent (10 percent) mentioned above.

Rules on foreign investment:

- Mutual funds collecting subscriptions in dirhams may carry out foreign currency investments within the limit of 10 percent of the value of their net assets made up of dirham-denominated securities.
- All the prudential rules to which Moroccan mutual funds are subject remain applicable to trans-border investment.

Valuation rules

- Mutual funds are required, by the regulations, to apply specific valuation methods that reflect the market value of their investments. In case of difficulty in valuing its investments ("illiquidity" of a financial instrument, financial difficulties of an issuer, lack of market references, etc.), a mutual fund may, after a favorable opinion from the auditor and the approval of the AMMC, suggest the modification of the valuation methods mentioned above.

The securitisation market resumed its upward momentum after a decline in issuances in 2020.

The change in the securitisation sector in 2021 is part of an economic recovery with a significant increase in the volume of issuances of securitisation funds (SF) on the Moroccan market. They amounted to 3.5 billion dirhams in 2021 compared to only 888 million dirhams in 2020, 3.36 billion dirhams in 2019 and 4.34 billion dirhams in 2018. Seven funds were authorised in 2021 compared to two in 2020.

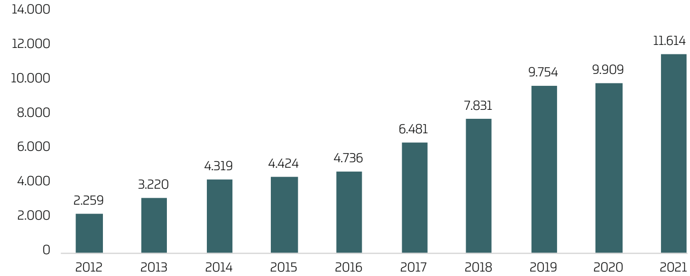
List of authorizations for securitization funds in 2021

SF	Purpose of the securitization transaction	Managing company
FT Damane Tamayouz - Compartment I	Guarantee of financing risks	MAGHREB TITRISATION
FT MIFTAH Compartment MIFTAH Fonctionnaires III	Securitization of mortgages	ATTIJARI TITRISATION
SALAF INVEST FT Compartment «INVEST AL MOUADDAF II»	Securitization of receivables from consumer loan contracts	ATTIJARI TITRISATION
FT HYPOTHECA	Securitization of mortgage loans	BMCE CAPITAL TITRISATION
FT NOVUS II	Securitization of trade receivables	MAGHREB TITRISATION
FT SOFAC AUTO LEASE	Securitization of receivables from LOA contracts	SOFAC STRUCTURED FINANCE
FT RELEVIUM COMPARTMENT I	Securitization of foreign currency-denominated receivables	MAGHREB TITRISATION

Source: AMMC

At the end of 2021, the total assets (total outstanding) of SFs stood at 11.61 billion dirhams compared to 9.91 billion dirhams in 2020 and 9.75 billion dirhams in 2019.

Change in total assets (total outstanding) of SFs (in million dirhams)

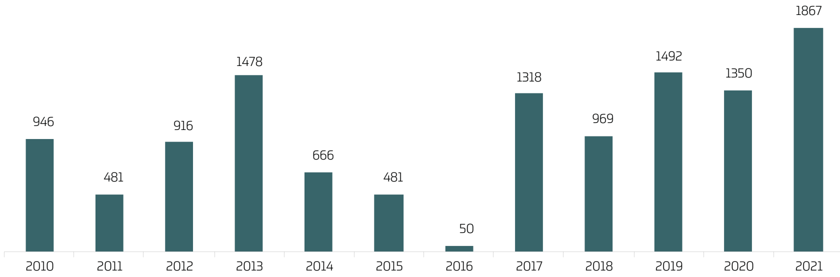


Source: Management companies

Increase in the volume of capital raised and investment in the private equity business.

The Moroccan private equity market maintained a good upward momentum in view of the amounts raised and investments made.

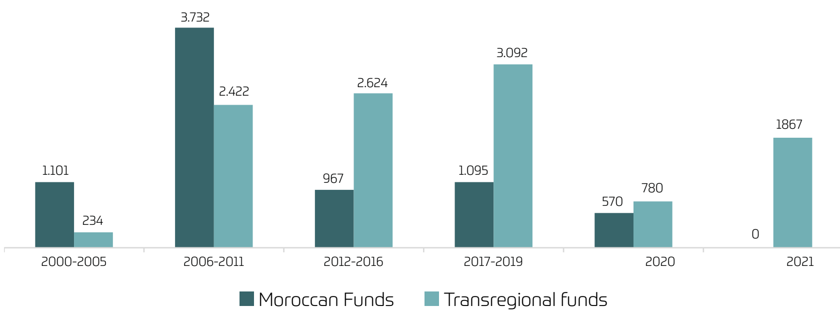
Change in the amounts raised (in million dirhams)



Source: AMIC (Moroccan Private Equity Association)

The amounts raised by capital investors increased compared to the last twelve years with 1.9 billion dirhams in 2021 against 1.4 billion dirhams in 2020, up 38 percent. Capital raising in 2021 was carried out entirely by four trans-regional funds. It should be noted that this type of fund accounted for 80 percent of the amounts raised in Morocco since 2012.

Breakdown of the amounts raised by type of fund (in million dirhams)



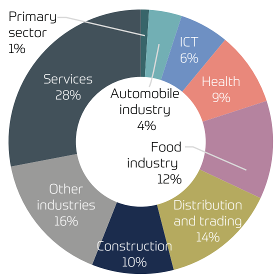
Source: AMIC

The total amount raised by the end of 2021 stood at 23.6 billion dirhams for private equity and infrastructure funds.

Two new funds adopted the "OPCC"75 form in 2021, bringing the total number of such funds to eight at the end of the year. In this context, total net assets of the OPCCs increased by 33 percent, from 1.05 billion dirhams in 2020 to 1.4 billion dirhams at end-2021. In addition, it should be reminded that by opting for the status of OPCC, investment funds are required to comply with limits set by the relevant regulations under the supervision of the AMMC.

Private equity encompasses different types of investment depending on the sector of activity and the development stage of the target company. In terms of target sectors, it should be noted that almost all economic sectors benefit from private equity. On the other hand, a few sectors account for a large share of investment. Thus, the year 2021 was marked by an orientation of investments towards the industrial sector with 32 percent of the amounts invested. The services sector ranks second with 28 percent of the companies invested. The technology sector and the primary sector remain weakly invested with respective shares of 6 percent and 1 percent.

Activity sector of invested businesses

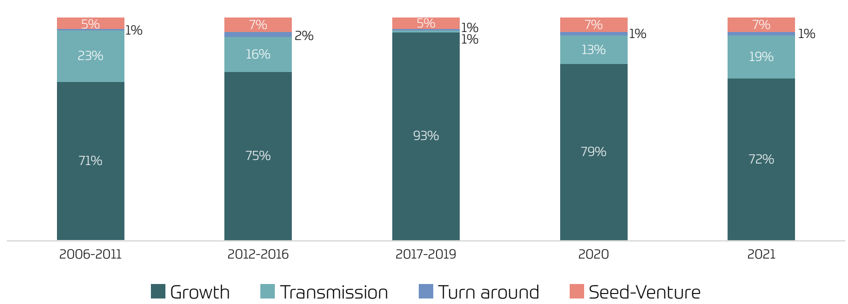


Source: AMIC (Moroccan Private Equity Association)

In terms of the growth stage of target companies, equity investors remain cautious. Therefore, they mostly opted for expansion capital, taking equity or quasi-equity stakes to fund the development or buyout of shareholder positions in companies that are well established in their markets, profitable and have significant growth potential. It should also be noted that the market share of expansion capital fell slightly from 79 percent in 2020 to 72 percent in 2021. This drop in the share of development capital investments benefited buyout capital, whose share went up from 13 percent in 2020 to 19 percent in 2021.

Furthermore, it should be noted that 7 percent of the amounts invested in 2021 were in the start-up phase (seed-venture capital) and, more particularly, in the new technologies sector (start-ups).

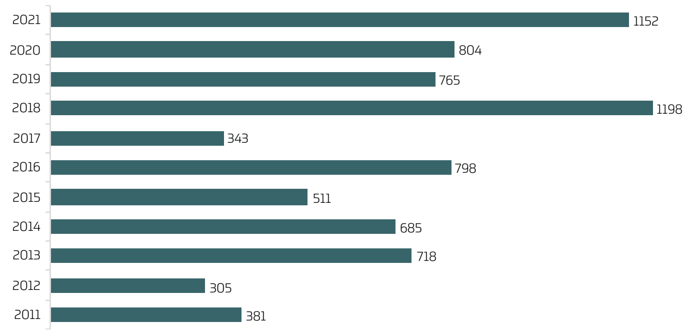
Development stage of invested businesses



Source: AMIC (Moroccan Private Equity Association)

Following the same trend in fundraising, the amounts invested in 2021 rose significantly compared to the previous year. Thus, they went from 804 million dirhams in 2020 to 1.15 billion dirhams in 2021, up 43 percent.

Change in the amounts invested (in million dirhams)



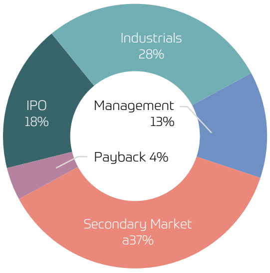
Source: AMIC (Moroccan Private Equity Association)

On the divestment side, four divestments were reported in 2021, for a total amount of 882 million dirhams, compared to 220 million dirhams in 2019. The main exits were from the secondary private equity market and industrial investors, with shares of 37 percent and 28 percent, respectively.

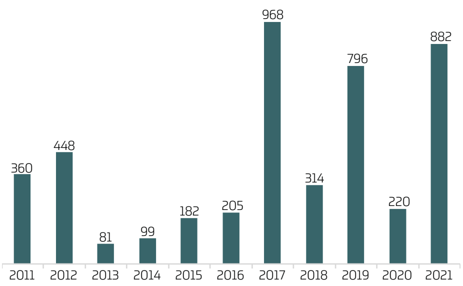
The outflows on the secondary market are not only from Moroccan funds but also from foreign funds, which are showing a growing interest in investing in this market in Morocco.

At the end of 2021, funds had invested a total of 10.5 billion dirhams, including 1.4 billion dirhams in reinvestments, and made 130 disinvestments for a total amount of 5.9 billion dirhams, with an outstanding amount of 5.4 billion dirhams. This level of outstanding is not systemic.

Modes of outflow in value



Change in disinvestments (in million dirhams)

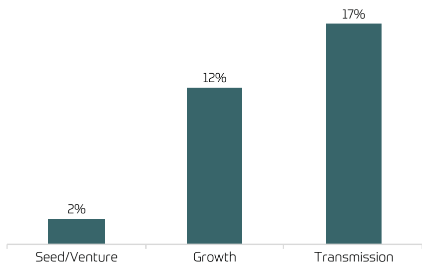


Source: AMIC (Moroccan Private Equity Association)

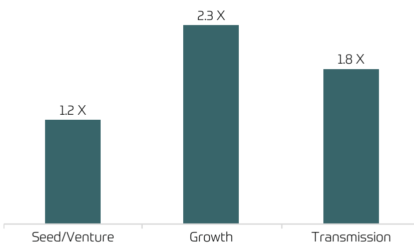
In terms of profitability, the private equity sector shows an average gross IRR (internal rate of return) of 13 percent and an overall multiple of 2 times at the end of 2021, for an average investment period of 6.1 years. By stage, the gross IRR and the multiple stand respectively at 17 percent and 1.8 times during transmission, 12 percent and 2.3 times during growth and 2 percent and 1.2 times during seed/venture.

Gross IRR and overall multiple
2000-2021 period

IRR per growth stage



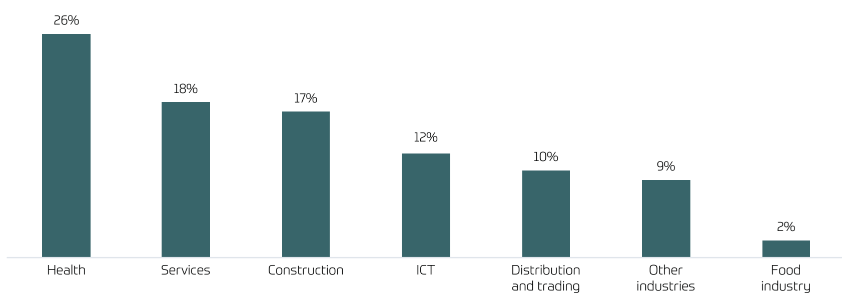
Multiple per growth stage



Source: AMIC (Moroccan Private Equity Association)

By sector of activity, the health, services and construction sectors showed the highest IRR.

IRR by sector



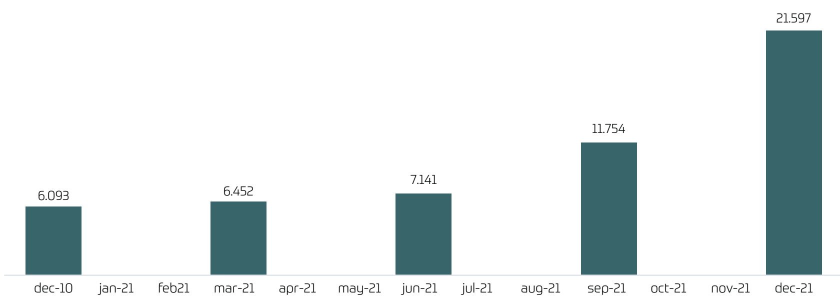
The activity of real-estate investment schemes is booming

The ecosystem of Real Estate Investment Schemes (OPCI) experienced a good dynamism in 2021. The past year witnessed the creation of 14 real-estate investment mutual funds, reaching a number of 21 active funds and a net asset of nearly 22 billion dirhams against 6 billion dirhams at the end of 2020, up 254 percent.

Of these 21 schemes, 14 are Real-Estate Investment Trusts with streamlined operating rules (SPI-RFA) reserved for qualified investors. These 14 trusts were managing an outstanding amount of 19.2 billion dirhams in 2021, or 88.9 percent of the total net assets under management.

The investment strategy of the active real-estate investment schemes targets different asset classes with a concentration of the first investments on administrative buildings, headquarters of financial institutions and educational establishments.

Change in the net assets of real-estate investment schemes in million dirhams



D. Securities lending market

Box 14: Introduction to the security lending activity

The securities lending activity is governed by Law No. 45-12, as amended and supplemented by Law No. 83-20, which defines securities lending as a contract that allows one party (lender) to hand over securities with full ownership to another party (borrower) who irrevocably pledges to give them back and pay him a compensation on a date agreed by both parties.

A security lent can only be loaned again by the borrower when it is registered in this borrower's account.

Securities lending transactions are governed by a written framework agreement between the parties. This agreement must follow one of the standard model agreements approved by the administration on a proposal from the AMMC, or the standard international agreements models recognized as equivalent by the AMMC

Who can borrow?

- Legal entities subject to corporate tax and having certified the financial statements of the last financial year prior to the lending transaction;
- Mutual funds governed by the legislative texts in force;
- Individuals with a securities portfolio and knowledge of securities lending transactions;
- The above-mentioned persons or entities subject to a foreign legislation recognised as equivalent by the AMMC.

Which securities can be loaned?

- Equity securities represented by shares;
- Negotiable debt securities, excluding commercial paper and certificates of deposit;
- Units or shares of UCITS;
- Securities issued by securitisation vehicles, including sukuk certificates;
- Units and shares of venture capital funds;
- Foreign financial instruments recognised as equivalent by the AMMC, governed by a foreign law;
- Securities issued by the Treasury.

Who are the intermediaries and what is their role?

Securities lending transactions may only be carried out through the intermediation of a legal entity that is an authorised financial intermediary (bank, or any other body authorized for this purpose by the administration), after obtaining the opinion of the Central Depositary, or a manager of a multilateral securities lending platform approved by the AMMC. The said platform allows one or more lenders/borrowers to come together to conclude securities lending contracts. Intermediaries must, inter alia, ensure the regularity and compliance of the securities lending transactions carried out through them with the provisions of the law on securities lending as well as those of the framework agreement.

What are the collateral requirements?

- All securities lending transactions must be secured.
- The collateralisation requirement does not apply to the following transactions carried out between:
  - persons/entities of the same group (parent company and its subsidiaries);
  - legal entities carrying out liquidity-providing activities (providing liquidity for a financial instrument under a liquidity-providing contract/agreement);
  - market makers (legal entities with contractual commitments to provide liquidity or ensure the regulation of a financial instrument's price).

What are the applicable prudential rules?

1. Mutual funds

- A mutual fund can make cash and securities borrowing transactions up to a limit of 10 percent of its assets.
- A mutual fund can make securities lending transactions up to a limit which may be increased to 100 percent of its assets, provided that it provides guarantees.
- Securities received as collateral by a mutual fund:
  - Must not be issued/guaranteed by the borrower or by an entity belonging to the same group as the borrower;
  - Must belong to one of the asset classes that the mutual fund is authorised to hold according to its category and investment strategy;
  - Must have a market value at least equal to the market value of the securities lent during the entire loan period.

2. Brokerage firms

- A brokerage firm may make securities lending operations, up to a limit of 25 percent of securities held in own account. This limit may be increased to 100 percent when the borrower gives cash or securities as collateral.
- A brokerage firm can also make securities borrowing operations: the amount of outstanding debts representing borrowed securities should not exceed ten percent (10 percent) of its net equity.

What are the risks?

Securities lending involves risks for the various counterparties, notably:

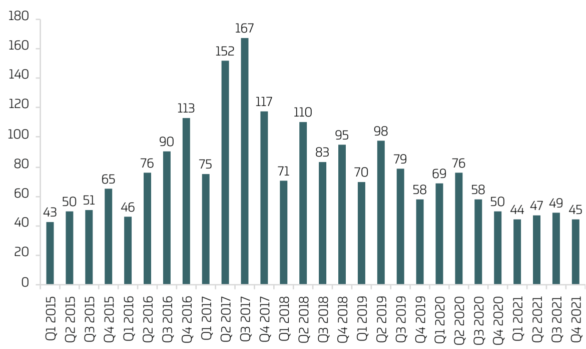
- **Regulatory risks:** risks associated with non-compliance with the legal and regulatory provisions governing the securities lending activity.
- **Counterparty risks:** risks associated with the default of one of the parties to return either the securities or the guarantee.
- **Liquidity risks:** risks associated with the impossibility of finding the security on the market to restore it.
- **Operational risks:** risks associated with the loss sustained in the event of a failure in the organizational, technical means... such as the processing of a securities transaction, the calculation of a margin call.
- **Market risks:** risks associated particularly with the risk of loss when investing the cash collateral in financial instruments.

Continued decline in the volume of securities lending transactions

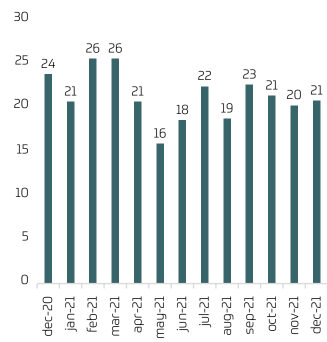
The securities lending activity has been on a downward trend since 2018. The year 2021 recorded a volume of operations which amounted to 185 billion dirhams against 255 billion dirhams in 2020 and 307 billion dirhams in 2019, with respective decreases of 27 percent and 40 percent.

The outstanding amount at the end of 2021 reached 21 billion dirhams against 24 billion dirhams a year earlier. The value of the outstanding amount fell by 12.7 percent year-on-year at the end of December 2021, after a slight increase in the first quarter when the outstanding amount had reached 26 billion dirhams, recorded at end-February and end-March 2021.

Change in the volume of lending operations (in billion dirhams)



Change in the outstanding amount of securities lending (in billion dirhams)

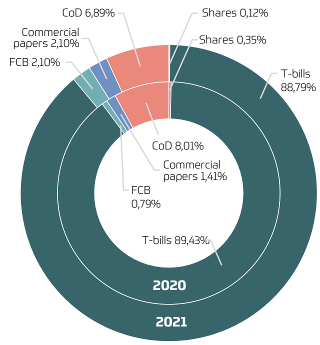


Source: Banks, AMMC calculations

...which is still dominated by Treasury bills...

The securities lending operations remain dominated by Treasury bills, which represent nearly 88.79 percent of the securities lent in 2021 against 89.43 percent in 2020, mainly due to the important use of Treasury bills borrowed by banks as a guarantee of refinancing with the Central Bank. Concerning private debt securities that were the object of loans, their share reached 11.09 percent in 2021 against 10.21 percent in 2020. We also note that the decline in the volume of securities lending was more pronounced for certificates of deposit, whose share fell from 8.01 percent in 2020 to 6.89 percent in 2021. Commercial paper and finance company bills had an identical share of 2.1 percent of the total volume. Equities had a share of 0.12 percent in 2021 compared to 0.35 percent in 2020. Private bonds have not been lent since 2019.

Breakdown of lending operations by category of securities in 2020 and 2021

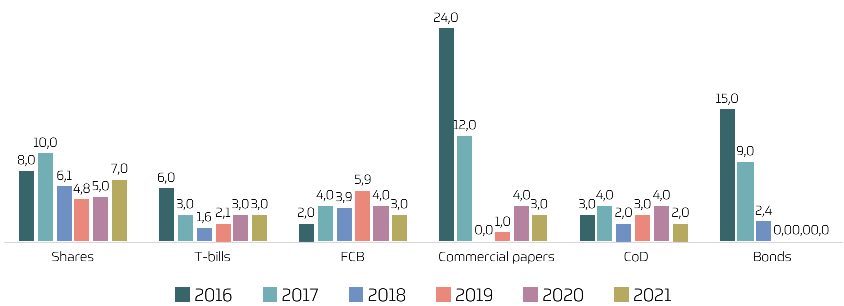


Source: Banks and AMMC Calculations

...with a decrease in the average loan period except for equities.

The average duration of securities lending decreased for most categories of securities, ranging from 2 to 7 weeks depending on the type of financial instrument. The largest decrease was in the average loan duration of certificates of deposit, which reached 2 weeks in 2021 compared to 4 weeks in 2020. In contrast, the average loan period for equities increased from 5 weeks in 2020 to 7 weeks in 2021.

Change in the average duration of loans by category of securities (in weeks)



Source: Banks and AMMC calculations

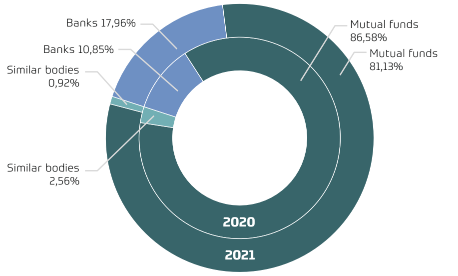
Mutual funds and banks remained the main players in this market, with a higher share of non-financial companies among borrowers...

Lenders are still dominated by mutual funds despite a decline in their market share from 86.58 percent in 2020 to 81.13 percent in 2021. They are followed by banks, which recorded a significant increase from a share of 10.85 percent in 2020 to 17.96 percent in 2021.

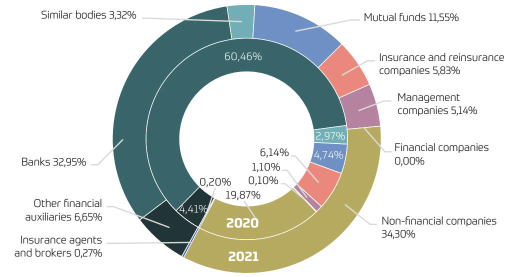
On the borrowers' side, non-financial companies held the first position in 2021 and represented 34.3 percent of the volume of loans, with a significant increase compared to 2020 when their share had reached 19.87 percent. Non-financial companies (real-estate and management companies) became active in the securities lending market as borrowers from August 2019. In second place are banks, despite their share falling to 32.95 percent in 2021 from 60.46 percent in 2020. Insurance and reinsurance companies also showed a slight decrease in their share to 5.83 percent in 2021 from 6.14 percent in 2020. On the other hand, mutual funds increased their borrowing with a share of 11.55 percent in 2021 compared to 4.74 percent in 2020, and the other categories of borrowers also showed an increase in their shares, namely:

- «Other financial auxiliaries» which increased from 4.41 percent in 2020 to 6.65 percent in 2021;
- Management companies which went from 1.10 percent in 2020 to 5.14 percent in 2021;
- Similar bodies, which increased from 2.97 percent in 2020 to 3.32 percent in 2021.

Breakdown of lenders, by category of economic units



Breakdown of borrowers, by category of economic unit

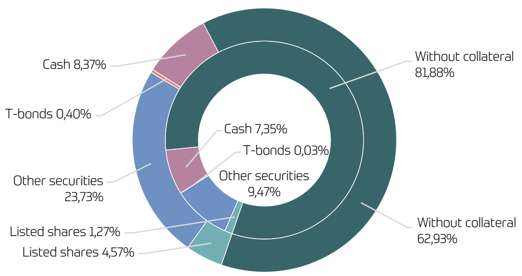


Source: Banks and AMMC calculations

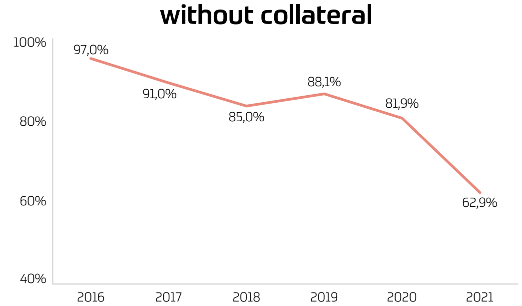
...with a decline in unsecured lending involving mutual funds as lenders.

The majority of securities lending transactions were carried out without collateral, generally between banks and mutual funds managed by management companies belonging to the same group. However, this situation changed in August 2021 with the amendment to Law No. 83-20 on securities lending, which requires collateral to be constituted for all lending transactions[75]. During the year 2021, the share of securities lending concluded without collateral decreased to 62.9 percent against 81.9 percent a year earlier. It should also be noted that there was an increase in transactions secured by «Other securities»[76], the share of which reached 23.7 percent in 2021 compared to 9.47 percent a year earlier.

Breakdown of volumes by type of guarantee in 2020 and 2021



Change in the share of loan volume concluded without collateral



Source: Banks and AMMC calculations

75 Except for intra-group transactions or transactions by liquidity providers and market makers. This exception does not apply to mutual funds, where all securities lending transactions must be collateralised.

76 Private debt securities.

E. Investors

Very slight increase in the number of resident natural investors.

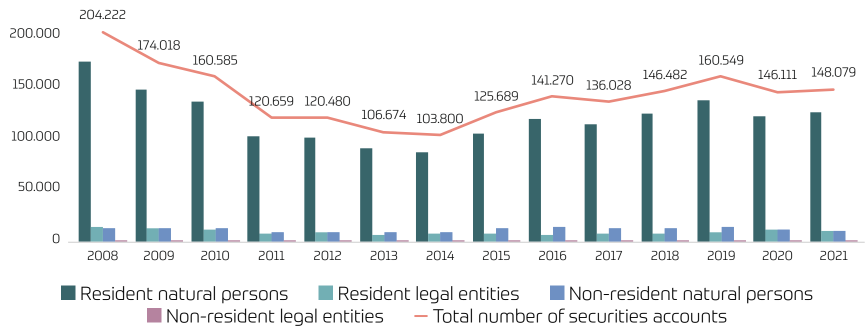
The change in the number of securities accounts picked up slightly in 2021, after the decrease recorded in 2020, from 146 111 to 148 079 at end-December 2021, with an increase of 1.35 percent.

The rise mainly concerns the category of resident natural persons, which went up from 122 200 securities accounts at the end of 2020 to 126 127 at the end of 2021, with an increase of 3.21 percent.

The category of non-resident natural persons decreased significantly from 11 820 at the end of 2020 to 10 195 at the end of 2021, with a decrease of 13.75 percent.

Concerning the category of resident legal entities, the number of securities accounts fell from 11 569 at the end of 2020 to 11 236 at the end of 2021. As for non-resident legal entities, the number of securities accounts remained almost stable at 521 at the end of 2021 compared to 522 at the end of 2020.

Change in the number of securities accounts by category of investors



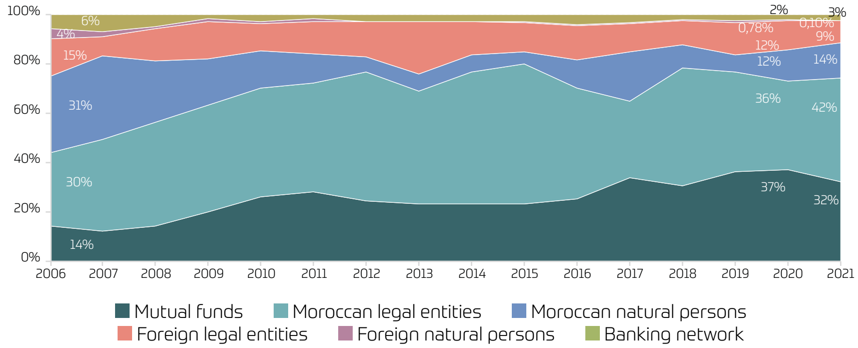
Source: Banks and AMMC calculations

Continued dominance of mutual funds and resident legal entities in stock market transactions on the central market.

In 2021, mutual funds and resident legal entities remained the main actors on the stock market, with a combined share of 74 percent, almost unchanged from the level of 2020 when the share reached 73 percent. In detail, the weight of resident legal entities in terms of trading volume increased from 36 percent in 2020 to 42 percent in 2021, while that of mutual funds fell to 32 percent in 2021 from 37 percent a year earlier.

Resident natural persons were more active on the stock market, as their share represented 14 percent of the volume in 2021 compared to 12 percent in 2020. As for the clients of banking networks, their share remained limited to 3 percent in 2021 against 2 percent in 2020. The shares of foreign legal entities and foreign natural persons fell slightly from 12 percent and 0.78 percent respectively in 2020 to 9 percent and 0.1 percent in 2021.

Stock market transactions in the central market, by investor category



Source: Banks and AMMC calculations

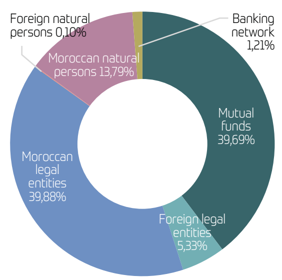
Mutual funds buying position at the end of 2021 and continued disengagement of other categories of investors.

Over the year 2021, mutual funds have accumulated a net buying position of 6.34 billion dirhams on the stock market, after a net buying position of 1.07 billion dirhams in 2020. This position was maintained throughout the year, moving from a net buying position of 685 million dirhams at the end of the first quarter to a net buying position of 3.66 billion dirhams at the end of the third quarter.

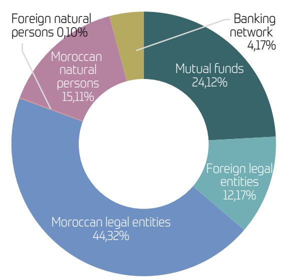
Moroccan natural persons went from a net buying position of 102 million dirhams at the end of the first quarter to a net selling position of 246 million dirhams at the end of the third quarter before ending the year with a net selling position of 540 million dirhams.

For their part, foreign natural persons went from a neutral position at the end of the first quarter to a net buying position of 1 million dirhams at the end of the third quarter before ending the year with a net selling position of 3 million dirhams.

Breakdown of purchases by profile of investors in 2021

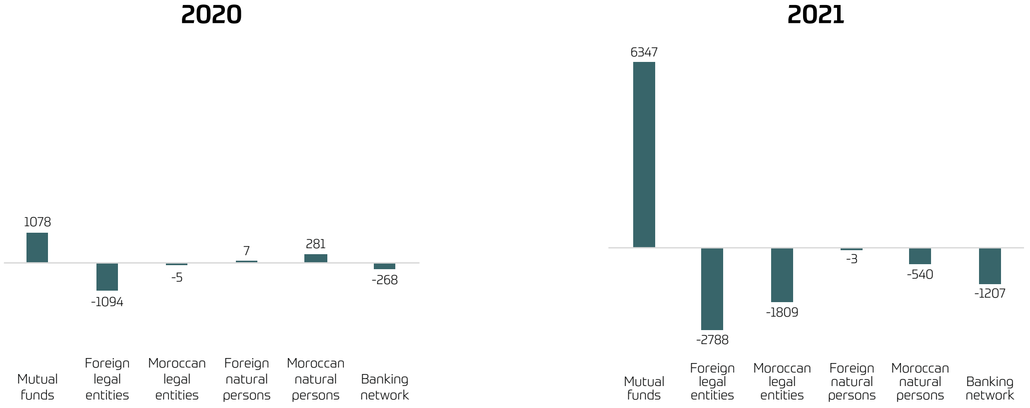


Breakdown of purchases by profile of investors in 2022



Sources: Stock market companies and AMMC calculations

Net buying or selling positions, by profile of investors (in million dirhams)



Sources: Stock market companies and AMMC calculations

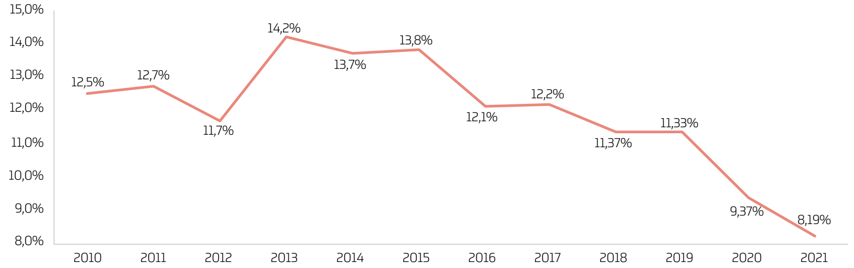
On the other hand, foreign legal entities continued to disinvest in 2021, with a net selling position of 2.78 billion dirhams, after having recorded a net selling position of 1.09 billion dirhams in 2020. A similar trend was noted among Moroccan legal entities which recorded at the end of 2021 an overall selling position of 1.8 billion dirhams against a net selling position of 5 million dirhams in 2020.

The banking network's customers also continued to disinvest from the stock market with net selling positions in 2020 and 2021 of 268 million dirhams and 1.2 billion dirhams, respectively.

Continued decline in the share of free float held by non-residents

The analysis of the free float held in the stock market shows a continued downward trend in the share of foreign investors in 2021, which began in 2014. This share fell from 14.2 percent at the end of 2013 to 9.37 percent at the end of 2020 and 8.19 percent in 2021. This change could be explained by the uncertainty linked to the context of the health crisis which still persists.

Share of the floating stock held by non-residents



Sources: Banks, Stock market companies and AMMC calculations

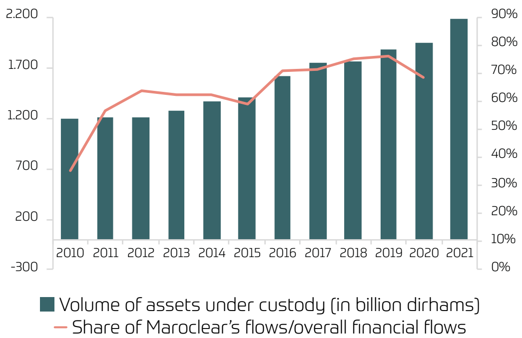
IV.2. Market Infrastructures

A. Securities settlement system (MAROCLEAR)

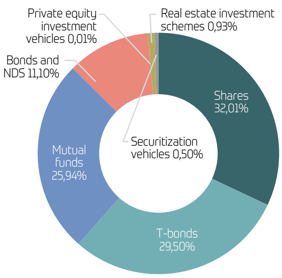
The upward trend in the volume of assets held accelerated in 2021.

The value of assets held by Maroclear rose by 12.32 percent at the end of 2021 to reach 2 191.80 billion dirhams, after an increase of 3.71 percent in 2020. This rise is mainly due to the increase in the net assets of mutual funds by 92 billion dirhams, followed by increases in market capitalisation and the outstanding amount of Treasury bonds to 78 and 46 billion dirhams, respectively. The net assets of real estate investment schemes and the outstanding private debt also had a positive impact on this change with +15 and +8 billion dirhams, respectively.

Change in the volume of assets under custody



Breakdown of the volume of assets under custody by category of securities



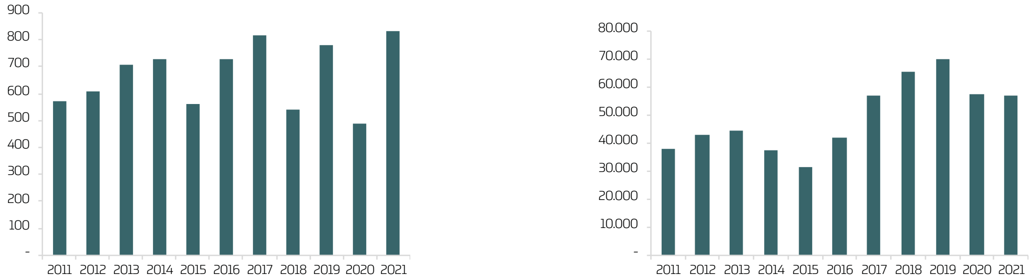
Source: Maroclear

Virtual stagnation of settled flows overall, with contrasting variations by segments

The activity of transaction settlement through the delivery-settlement system of Maroclear has stagnated overall, with a daily average of settled flows of 57.9 billion dirhams in 2021. On the other hand, it should be noted that in detail, the Stock Exchange segment shows an increase of 71 percent of the settled flows while at the same time the OTC segment, which represents 99 percent of the flows, shows a slight decrease of -0.60 percent.

Daily average of flows settled by Maroclear (in million dirhams)

Stock exchange segment **OTC segment**

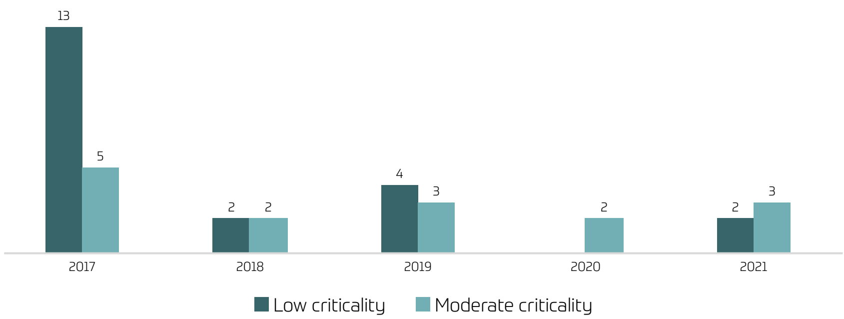


Source: Maroclear

The number of incidents reported by the Central Depositary remains very low, despite an increase in 2021.

The total number of incidents recorded in 2021 was 5 compared to only 2 incidents in 2020. The degree of criticality remains under control with 3 moderate and 2 low incidents.

Trend in incidents



Ventilation des incidents par processus

Criticality	Nature of the incident	2017	2018	2019	2020	2021
Low	Transactions management	10	1	2	-	
	Settlement platform	3	-	2	-	
	Telecom	-	1	-	-	
	Line	-	-	-	-	1
	Other	-	-	-	-	1
Moderate	Transactions management	4	1	1	-	
	Settlement platform	1	1	2	-	
	Systems	-	-	-	2	
	Statistics	-	-	-	-	1
	Calculations	-	-	-	-	1
	File transmission	-	-	-	-	1

Source: Maroclear

As part of its risk management system, Maroclear carried out several actions in 2021, including:

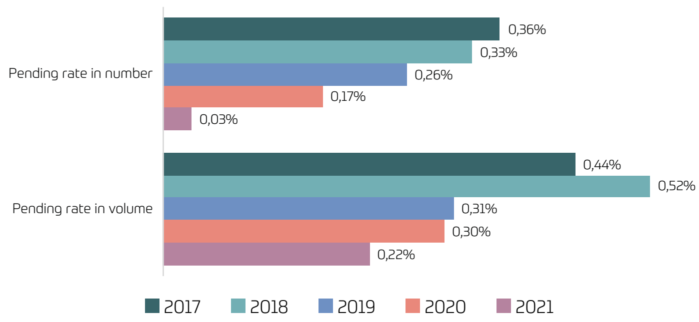
- The certification audit of the Business Continuity Management System in accordance with the ISO 22301 standard, which resulted in obtaining the ISO 22301:2012 certification;
- The certification audit of the Quality Management System in accordance with the ISO 9001 standard, which also led to obtaining the ISO 9001:2015 certification;
- The second surveillance audit of the Information Security Management System in accordance with the ISO 27001 standard, which resulted in the renewal of the ISO 27001:2013 certification.

B. Quotation systems of the casablanca stock exchange

The rate of pending stock market transactions is constantly decreasing.

The statistics relating to pending stock exchange transactions show that the counterparty risk of stock exchange activity remains very low. The pending rate in number fell sharply from 0.17 percent in 2020 to 0.03 percent in 2021. In terms of volume, the rate of pending transactions followed the same downward trend and stood at 0.22 percent in 2021, compared with 0.30 percent in 2020.

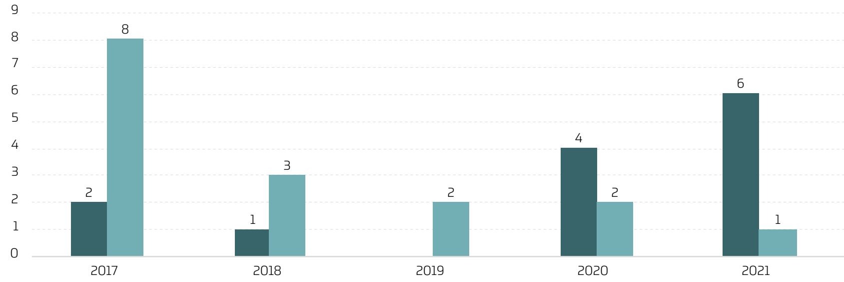
Pending rate of stock exchange transactions



Slight increase in the total number of incidents recorded at the Casablanca Stock Exchange, but with a seriousness that remains under control.

The year 2021 witnessed the occurrence of 7 operational incidents of the technical platforms of the Stock Exchange against 6 incidents in 2020. On the other hand, the impact of these incidents on the proper functioning of the market varies between low and moderate criticality.

Change in incidents



Breakdown of incidents by process

Criticality	Nature of the incident	2017	2018	2019	2020	2021
Low	Trading platform	2	-	-		1
	Statistics and indices	-	1	-	1	2
	Telecom	-	-	-	1	-
	Clearance system	-	-	-	1	-
	Electrical equipment	-	-	-	-	1
	Other	-	-	-	-	2
Moderate	Trading platform	4	1	1	1	-
	System	1	1	-	-	-
	Telecom	3	1	1	2	-
	Clearance system	-	-	-	-	1

Source: Casablanca Stock Exchange

C. Work on the start of the CCP

In pursuing work related to the start of the Central Counterparty Clearing House (CCP), the Futures Market Coordination Body (ICMAT), established by virtue of Law No. 42-12 relating to the futures market of financial instruments, whose members are made up of representatives of Bank Al-Maghrib and the AMMC, continued work on the internal regulations of the entity and the memorandum of understanding governing the two authorities, and started discussions with the various stakeholders on the general regulations of the CCP and the company managing the futures market.

At the same time, the working group set up by the aforementioned authority began work on the draft amendment to the text of Law No. 42-12 on the futures market of financial instruments in order to reflect developments and best practices relating to this market.

In addition, following the first World Bank technical mission in 2020 on the CCP risk management framework, Bank Al-Maghrib benefited from a second assistance relating to the recovery and resolution of CCPs in order to achieve a regime adapted to the Moroccan context. The presentation of the mission's deliverable was made in the presence of the stakeholders, namely the Ministry of Finance, the AMMC and the Casablanca Stock Exchange.

D. Stress test of the Moroccan Gross Settlement System (SRBM)

In the context of the missions aiming to assess their compliance with the CPMI/IOSCO Principles for Financial Market Infrastructures (PFMIs)[77], Bank Al-Maghrib has recommended to these infrastructures to conduct regular stress tests in order to determine the amount of liquidity needed to cover their payment obligations and to regularly verify whether the level of this liquidity is sufficient. These tests should also ensure that the collateral and other financial resources securing an FMI's credit and liquidity risk exposures are enough to cover all resulting credit losses. Bank Al-Maghrib has been conducting its own SRBM stress tests exercises since the fourth quarter of 2020 on a semi-annual basis, using a software solution from the Central Bank of Finland[78] and a set of extreme but plausible scenarios.

The two stress test exercises, conducted in S1 and in 2021, provide an indication of the liquidity situation of the participants, banks and ancillary systems, as well as the resilience of the system in a deterministic environment with static behaviour. Thus, potential liquidity problems are identified and can be resolved by the dynamic behaviour of the participants and by the intervention of Bank Al-Maghrib if necessary.

E. Assessment of the maturity of FMIs' cyber-resilience

Fiscal year 2021 was marked by the approval of Decree No. 2-21-406 relating to the implementation of Law No. 05-20 on cyber security. This decree mainly aims to define the protection measures for the information systems of State administrations, public entities and companies and any other legal entity governed by public law, as well as those of critical infrastructures and private operators. It also determines the qualification criteria for audit service providers and cybersecurity service providers. Bank Al-Maghrib, as coordinator of the banking sector, has notified all the entities subject to and qualified as critical infrastructures in order to comply with the requirements of the aforementioned law and decree.

As a reminder, Bank Al-Maghrib has adopted the CROE[79] methodology to assess the cyber maturity of FMIs, which has improved since 2020, according to the self-assessments conducted by these infrastructures.

F. Assessing the resilience of FMIs

As part of the work on financial stability, the Risk Based Assessment Tool (RIBAT) was used to assess the «Resilience of financial market infrastructures» pillar.

77 CPMI-IOSCO (2012). PFMI Principle 7 on liquidity risk.

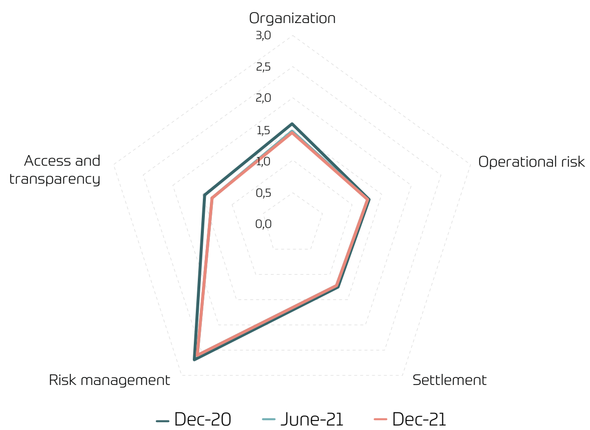
78 BoF-PSS2 which is a computer software developed with the sponsorship of the BOE, BOC and FED, under a free multi-user licence, with a modern and user-friendly graphical user interface and a database for more robustness and reliability. This tool is used by central banks and academic institutions around the world to meet the new requirements of the BIS, including the CPMI/IOSCO principles for MFIs in 2012 and the CBSB principles for intraday liquidity management in 2013.

79 Cyber-Resilience Oversight Expectation (CROE) developed by the ECB (European Central Bank) for the cyber-maturity of MFIs.

For the year 2021, the rating for the "FMIs resilience pillar" is 1.57 (a low level for financial stability), down slightly from 1.65 in 2020. This is mainly due to improvements in the areas of organisation and access and transparency, following the implementation of a number of recommendations made by Bank Al-Maghrib, notably:

- the elaboration of an argued legal study to clarify the legal basis governing each important aspect of the activities of the Group for a Moroccan Interbank Clearing System (GSIMT);
- the finalisation of the overall review of the GSIMT's risk map;
- The signature of the affiliation agreement of Maroclear and;
- The finalisation for all FMIs of the information framework for financial market infrastructures established by the CPMI/IOSCO.

As for operational risk, despite its improvement, it is considered average given that the FMIs' action plans aiming to remedy the gaps identified during their self-assessment exercise relating to cyber resilience according to the CROE (Cyber Resilience Oversight Expectations) methodology are still being implemented. Nevertheless, this still corresponds to a low level of risk to financial stability.



Several actions are planned in 2022 to improve the resilience of FMIs, the main ones being as follows:

- Follow-up of the implementation by FMIs of the actions resulting from the new law on cybersecurity and its implementing decree;
- Follow-up of the FMIs' action plans aiming to remedy the gaps identified during their self-assessment exercises of the FMIs' cybersecurity maturity according to the CROE methodology;
- Reception of the new version of the payment systems stress testing tool (BoF-PSS3) developed by the Central Bank of Finland;
- Expansion of the stress test scope to include the interaction of the SRBM system with the GSIMT and the running of another test scenario corresponding to the freezing of the unsecured interbank money market.

IV.3. Currency in circulation

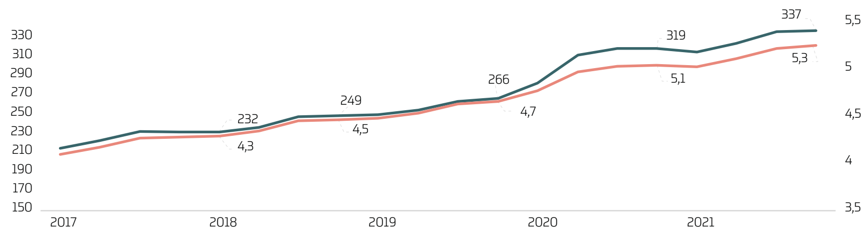
A. Overall trend

After an exceptional acceleration amid the health crisis, the increase in currency in circulation[80] recovered its usual pace, yet without the return of the massive withdrawals of Moroccan banknotes (MB), observed last year.

In fact, the outflow of Moroccan banknotes amounted to 169 billion dirhams, against 179 billion dirhams in 2020, and the return of Moroccan banknotes totalled 151 billion dirhams, after 127 billion dirhams. These movements resulted in a reduction in net outflows, from 52 billion dirhams to nearly 18 billion dirhams, and a significant improvement in the coverage rate[81], which approached pre-crisis levels at around 89 percent, after being limited to 71 percent a year earlier.

In total, currency in circulation stood at 337 billion dirhams, up 5.6 percent annually, after the rebound of nearly 20 percent in 2020.

Change in currency in circulation



Source: BAM

The infra-annual analysis shows that the change in notes and coins was generally punctuated by the developments which marked the health situation of the country. After the exceptional rise registered in 2020, the demand for cash showed a clear decline during the first quarter, with negative net withdrawals of 4.2 billion dirhams, knowing that they had evolved over the same period in 2019, around a positive flow of 1.1 billion dirhams. This slowdown did not last, as the pace of cash circulation accelerated sharply in the second quarter, particularly towards the end of the month of Ramadan, as evidenced by the rebound in net withdrawals to 9.2 billion dirhams, after 5.4 billion dirhams in 2019. During the third quarter, the easing adopted by the authorities would have resulted in the maintenance of the pace of demand for cash, with net flows totalling 12.3 billion dirhams compared to 9.2 billion dirhams in 2019. The delay in the backflow of withdrawals during the summer season, in connection with the extension of the school holidays in September, would be the cause of the significant improvement in payments during the last three months of the year, thus generating a decrease in net flows to 0.6 billion dirhams after 2.5 billion dirhams in 2019.

80 Without taking into account the cash held by banks.
*81 Payments*100/withdrawals.*

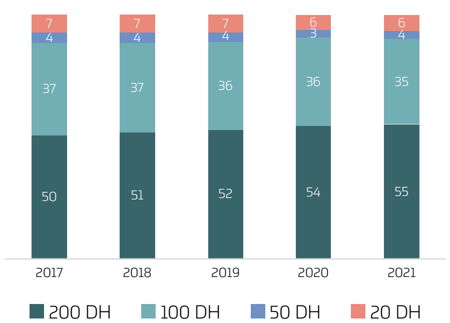
B. Change by type of currency

The breakdown of notes and coins by type of currency shows that Moroccan banknotes represent 43 percent in volume and 99 percent in value. The latter recorded in 2021 an increase of 5.4 percent, to total 2.3 billion notes or the equivalent of 333 billion dirhams.

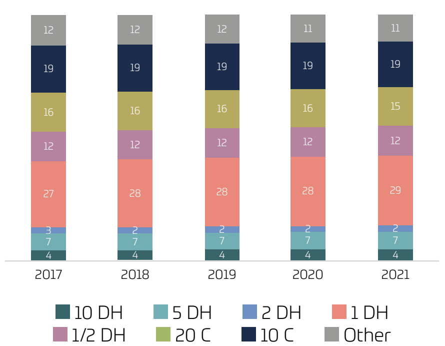
The analysis by division indicates the continued uptrend of the 200 dirhams notes in the overall volume of Moroccan banknotes in circulation. It has reached 55 percent, or the equivalent of 1.2 billion notes, after having increased in 2020 by 2 percentage points to 54 percent. This rise was achieved at the expense of the 100 dirhams note, whose contribution fell from 36 percent to 35 percent. As for the small denominations, the contribution of the 50 dirhams note returned to 4 percent, following a 10 percent increase in its volume in circulation, while that of 20 dirhams stabilized at 6 percent.

On the other hand, the structure in value of Moroccan banknotes in circulation did not change compared to the previous year, the 200 dirhams and 100 dirhams notes having maintained their respective shares at 74 percent and 24 percent.

Change in the structure of Moroccan banknotes in circulation, the volume in %



Change in the structure of coins in circulation, in %



Other: Commemorative coins and coins to be withdrawn from circulation

Source: BAM

equivalent of 3.9 billion dirhams. The structure of this stock was marked by a stronger share for the 1 dirham, that moved from 28 percent to 29 percent, while the contributions of the other coins showed slight decreases, standing at 4 percent for the 10 dirhams, 7 percent for the 5dirhams, 12 percent for the ½ DH, 15 percent for the 20 C and 19 percent for the 10 C.

Like the Moroccan banknotes, the structure of the stock of coins by value did not vary significantly, with the 10-dirhams denomination accounting for 34 percent, compared to 29 percent for 5 dirhams and 22 percent for 1 dirham.

C. Supplies

In a context marked by the persistence of the pandemic, Bank Al-Maghrib continued the close monitoring of the change in the demand for cash and maintained a range of measures to continuously ensure the supply of the economy in Moroccan banknotes under the best conditions, while reinforcing its strategic reserves constituted within the framework of its business continuity plan in order to face possible shocks.

Bank Al-Maghrib and the Private Sorting Centres (PSCs) provided banks with 3.1 billion banknotes, with an increase of 4.3 percent compared to the previous year which had seen an unprecedented rebound in the demand for cash and 11.1 percent compared to the average of the last three years before the crisis. This rise can be explained exclusively by the strengthening of Moroccan banknotes recycling operations, which were significantly impacted in 2020 by the health restrictions. These operations, 90 percent of which were carried out by the sorting services of the PSCs, made it possible to meet 83 percent of the needs in Moroccan banknotes, the remainder being served by new banknotes withdrawn from Bank Al-Maghrib counters.

List of abbreviations

ACAPS	Supervisory Authority of Insurance and Social Welfare
AMMC	Moroccan Capital Market Authority
BAM	Bank Al-Maghrib
BCEAO	Central Bank of West African States
BCP	Business Continuity Plan
BEAC	Central Bank of African States
BIS	Bank for International Settlements
CCIF	Collective Capital Investment Funds
CCP	Central Counterparty Clearing House
CDG	Deposit and Management Fund
CIFS	Collective Investment Funds
CMI	Interbank Electronic Money Center
CPMI	Committee on Payments and Market Infrastructures
CPSS	Committee on Payment and Settlement Systems
ECB	European Central Bank
FDI	Foreign Direct Investment
IMF	Financial Market Infrastructure
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GOI	Gross Operating Income
HHI	Herfindahl-Hirschmann Index
IAM	Itissalat Al Maghrib
ILTB	Intermediate and Long-Term Bonds

IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
IS	Corporate Tax
IT	Income Tax
LCR	Liquidity Coverage Ratio
LE	Large Entreprises
MADEX	Moroccan Most Active Shares Index
MASI	Moroccan All Shares Index
MENA	Middle East and North Africa
NDS	Negociable Debt Securities
PER	Price Earning Ratio
RCAR	Collective Retirement Benefit Scheme
SCR	Central Reinsurance Company
SICAV	Investment Company With Variable Capital
SIMT	Moroccan Interbank Remote Clearing System
SMESS	Small and Medium-Sized Enterprises
SMF	Securitisation Mutual Funds
SRBM	Moroccan Gross Settlement System
TB	Treasury Bonds
TD	Time Deposits
UCITS	Undertakings for Collective Investment in Transferable Securities (Mutual Funds)
VAT	Value Added Tax
VCIF	Venture Capital Investment Funds
VSES	Very Small Enterprises
VSMES	Very Small, Small and Medium Sized Enterprises
WAR	Weighted Average Rate

Dépôt Légal : 2022PE0032
ISSN : 2820-719X