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The reality of the application of financial inclusion and its repercutions on the credit risks in commercial banks in Tunisia during the period 2017-2021.

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ABSTRACT
The study aims to highlight the reality of financial inclusion at the tunisian banking sector, and the implications of its application on the credit risks in commercial banks during the period 2017-2021 . depending on the descreptive and analytical method and using the data of the central bank of tunisia and the reports of the relevant official institutions.

the reasearch concluded that there is a slowdown in promoting financial inclusion at the tunisian banking sector, as owning and using accounts to perform various banking services, as well as the ability to obtain financing is still weak, especially for low-income people and females and small enterprises.

Despite the increase in non-performing loans in tourism, agrecultural sector, banks were able to maitain accepteble levels in capital adequacy indicators, assets quality and profitabelity,thus reducing the potential negative effects of applying financial inclusion on credit risks.that due to the central bank's polities to find a rapprochement between the precautionary framwork with tha bazel standars and the development of the operational framework for banking control on the one hand , and raise the competence of banks regarding the provision of information about customers and calculating of loans on the other hand .

1. Introduction

There is a great interest from the governments of countries to enable various individuals to obtain banking and postal financial services, for economic and social goals, the financial inclusion is centred on making various financial services available to all in different regions.

The financial inclusion is the process through which access to a wide range of official financial services and products is enhanced in time and reasonable price, includes awareness and financial rducation in order to enhance financial welfare and social and economic integration (Arab monetary fund, 2015,p 6) . the CGAPdefinition alludes to the issue of « mainsreaming », that is, acces to mainsream financial institutions, the positive effects of financial inclusion access may be limited if poor householdes are limited to specialized institutions and financial products, such as MFI's, which have unique aspects such as group responsibility and rigid payment schedules but do not necessarily provide a stepping stone to more conventional financial access(Naoyuki Yoshino and Peter Morgan, 2016, p 4).

Financial inclusion starts with having a deposit or transaction account at a bank or other financial institutions or through a mobile money services provider, which can beused to make and receive payments and to store or save money(Asli Demirguk-Kunt and al, 2017 , p 2). G 20 has approved the basic financial inclusion indicators provided by the global partnership of financial inclusion, which deals with three basics dimensions : the access to the financial services, the use of the financial services, the quality in the production and provision of services (GPFI, 2016), Each of previous dimensions incudes a set of indicators. commercial banks provide the small and sutainable financing formula for the largest number of beneficiaries , however the expansion of granting credit may be reflected on the risks of

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lending , especialy in the hight levels of non-performing laons (Rami Mohamed Farid,2020, ; reza ghasarma,2020 , p 162).

In this paper, we discuss the repercussions of the application of financial inclusion to the credit risks of commercial banks in Tunisia by identifying first the financial inclusion and the credit banks and second exposing the relashionship between the financial inclusion and the credit risks, and finaly analysing the repercusion of the expansion of lending on the credit risks in the Tunisian commercial banks.

Many studies have addressed the problem of the relationship between financial inclusion and the banking variables at the banking sector in various countries, in north african countries, in the MENA countries , we present some of them and the most important finding :

- A study of Noura Metawaa and Rania Itani , the research title was : « The impact of digitalization on credit risk : the mediating role of financial inclusion (national bank of egypt case study) », published in mars 2023, this study unvestigates direct and indirect impact of national bank of egypt digitalization and its financial inclusion on credit risk, in the periode between 2011and 2021in the egyptian banking sector, the investigation outcome shows that NBE digitalization has both direct and indirect impact through the mediator varable, financial inclusion, it also provided an undrstanding of the relationship beyween digitalization, credit and financial inclusion . the digitalization has a negative direct impact on credit risk, also digitalization has a positive direct impact on credit risk through the medoator variable which is referred to as financial inclusion .
- In a study of Rami Mohamed Farid, published in 2020 , the research title was : « The effect of financial inclusion on banks credit risk : perspective from MENA region », this study aims at testing the relationship between the most used financial inclusion indicators and the ratio of the provision for loan losses to net loan as a proxy for credit risk, it is found that borrowing from financial institutions or through credit card in labor force affects credit risk negatively , the debit card ownership affects credit risk positively, and the countries the most affected by credit risk as a result of finacial inclusion programs are algeria, egypt, iraq, jordan, kuwait, libya, morocc, syria, tunisia, UAE, and yemen.in this respect financial inclusion will start to have a negative impact on credit risk in 3 years in the above economies which is a long term effect.
- In a study of Reza Ghasarma, Fida Muthia and al, the research title was : « the Influence of financial inclusion on credit risq in commercial banks in indonesia » , published in 2020, the stydy aims ti analyze of the effect of financial inclusion on credit risks in Indonesia, from 2011-2016, a total of 34 banks were sipmpled in this study , it was found that financial inclusion has a positive effect on bank credit risk.

There is very little research that discusse financial inclusion and credit risks in tunisia, this is considered important bacause the bank has a very large share as an intermediary agent in increasing financial inclusion, the risks faced will be higher. We will try to shed light on the relatioship batween the promotion of financial inclusion and the high credit risks in tunisia during the period 2017- 2021, marked by the high volume of non-performing loans due to the effects of corona virus.

2. The financial inclusion and credit risks

Financial inclusion is the sustenable provision of affortable financial services that bring the poor into formal economy, the benefits are enormous, having formal account is the first step towards financial inclusion because it can provide a convenient way to save- moneyand pay bills and to meet emergency needs, it can also introduce a saving culture whch indeviduals can take advantageof to manage their cash inflows (P.K.Ozili,2020, p 2).

The Credit risk is defined as those losses through which the lender is harmed, due to the borrower's inability to return the principal and interest of the loan, this risks are not limited to a specific type of loan, but all of them can pose a risk to the bank, but to varying degrees and it is not only related to providing the loan, but it continues until the completion of the full collection of the agreed amount (Ahmed hassan wasmi, 2021, p1O), There are many types of credit risks , due to the weakness of the diversification process in the credit portfolios, or the weakness of the procedures for the credit granting process, as a result of the inefficiency of the accounting information systems applied in the banks, the most important risks according to their sources are : (1) The Customer risks, its arise because of the customer's credit reputation and his financial position,(2) The risks of general conditions, : its related to the political conditios of the economic and country ,(3) The Risks of the client's economic activity,(4) the risks associated with the bank and it relates to the efficiency of the credit department in following up on the loan provided to the customer (Abd al-hamid ahmed shaheen et al, 2019, p 53).

The composents of credit risk in banks include : (1) Probability of default (PD), It measures the probability that the borrower or the counterparty will be unable to pay the financial obligations towards the bank during a specific period of time, and it is determined through the bank's experien ;ce related to the customer's credit rating « customer's rating quality », therfore a good classification of customers will reduce the chance of default, while ensuring that the information available to the bank is correct,(2) Exposure at default(EAD) ,It is the amount that the bank may lose in the event of default, it cannot necessarily be nominal value of the loan, it can be calculated through the value of the loan after excluding the value of the financial guarantees,(3) Loss given default(LGD), it is a measurement of the value of the loss in the investment portfolio in the event of default, meaning that the liss upon default is the percentage in the total value of credit exposure in the event of a customer's default, the basel decisions suggest that the percentage of loss upon default be within the range of 45% of the value of indebtedness,(4) Maturity(M), the undicator refers to the time span of the credit facility, it is simply the date of the final repayment of the loan or other financial instrument . it is an important determinant of credit risk. Long-term credit involves a greater possibility of default, so banks must provide complete information about the terms of the credit facilities they have granted(Abd al-hamid ahmed shaheen et al,2019 , p 53,54).

Bank credit risk levels are measured based on the followong indicators : the ratio of non-performing debts to total loans, the ratio of collected loans to the total non-performing debts, the ratio of net loan burdens to total loans, the ratio of provisions for doubtful debtsto total loans, the ratio of average loans to total assets loan concentration degree, loan growth rate.

3. The relationship between the credit risk and financial unclusion

On the positive side, Han andMeleky(2013) find a stabilizing effect of greater inclusion in banks deposits, countries in which a larger share of the population had access to deposits prior to the 2008 global financial crisis sufferd significantly smaller withdrawals when the crisis hit, Mehrota and Yetman(2015) show that consumption volatility tends to be lower in countries where there is a percentage of adults that have account and save in formal financial institutions(A.Barajas et al, 2020, p 16) .

The finacial inclusion raises levels of financial stability, there are three main channels through wich financial inclusion can contribute to financial stability, the first channe is the diversification of banking assets resulting from the high levels of credit to small companies, this is what limits the overall risks of the lending banks portfolios, as aresult of the decrease in the relative importance of each borrower within the portfolio reduces its volatility(Khan, 2011), The second channe is by increasing the number of small saving, which in turn expands the base of deposits, which reduces the dependence of banks on non-core financing, which usually tends to be more volatile during crises, which reduces cyclical risks. The third channe lis to contribute effectively to improving the efficiency of transmission on the impact of monetery policy(Bashar Ahmed Al-iraqi,2019, p 105) .

The presence of high levels of financial inclusion helps the poor to improve their financial conditions and generates a family sector that supports social and political stability, this increasing the share of the formal srctor at the expense of the informal sector(Arab monetery fund,2015, p 9).

Prasad finds that the axpansion of financial inclusion increase the risks , due to the decline in lending standars , wich was evident in the mortgage crisis in the united states of america, so the lending risks must be regulated. The rapid expansion of financial inclusion results a rise in lending rates which negatinely affects financial stability (Cihak and al, 2016), as confedence and the ability to deal with lending can not be available to all customers. The research relies on the mortgage crisis and microfinance crises in india(Bashar Ahmed Al-iraqi,2019, p106).there has been emperical work exploring the relatioship between financial inclusion and financial stability, this is motivated partly by the « too mutch finance » hypothesis, which argues that one reason why the finance-growth systems tend to become more prone to instability and creases, it is also related to work by Schularick and Taylor(2012) and others who find that rapid expansion in credit are often percursors to financial crises(A.Barajas et al, 2020, p 20).

4 . the repercussions of financial inclusion on credit risks in commercial banks

4.1. the importance of implementing financial inclusion in Tunisia

The tunisian banking sector constists of 43 licensed bank and financial institutions until 2022 , and 1999 branches for every 5921 resident . banks are divided into residant and non-residant, 14 financial institutions (financial leasing institutions, debt management companies and business banks) , 18 are universal banks, 2 specialized in microfinance and fincing small and medium enterprises and 3 islamic banks(TCB report,2018, p 28). The status of reference shreholders for the banking sector consists of : the tunisian state owns 7 banks, foreigh banking institutions that claim to be a reference shareholder for 11 banks, 2 within complexes active in the industrial and commercial sectors, and three banks that have a joint shareholding between the tunisian state and arab countries(TCB report,2018, p 35).

The resident banks account for 92% of the assets, 93% of the loans, and 97% of the deposits, with the focus of non-resident activity reguarding deposits un foreigh currency(TCB report,2022, p 177). There is a growing need for financing in tunisia, 9% do not have any kind of financial inclusion, and 40% or about 3.3 million individuals have basic financial services (deposit account and compulsory insurance, 35%did not benefit fron more than two financial products and 15% benefit from a group of products (a group of loans an means of payment), most of wich are from the male category, and finaly 1% that benefits from financial products and several digital financial products. A questionnaire cinducted by the central bank of tunisia indicates that 72% indevidualees benefited from loans of less than 10000 DT , 21% customers borrowed between 10000 and 20000 DT, and only 7% borowed amounts reaching or exceeding 20000 DT, the maximum limit was around 70000 DT(World Bank report , 2015, p 22).

The geographical distrubution of loans provided to individuals shows a disparity, 13.09% is the total percentage of individuals who benefiited from bank loans in rural areas compared to more than 14% for those living in urban areas, the percentage of females who benefited from banking products in total is 11% compared to 16% for men, and accordingly, the volume of bank financing provided to individuals remain weak(TCB report, 2021 , p 99).

With regard to the companies, 29 % do not have any kind of financial inclusion, the central bank of tunisia is suopport for lending to these companies, as well as family production and women’s production to support development. Compared to the world, the percentage of those who own a bank account is 37%(The Global Findex 2021 , 2022, p 22), the percentage globally is estimared at 61%, tunisia is considered to have a good performance at the african level and a overage performance compared to the total performance of MENA countries. the number of individuales who own a bank account with a banking institutions increased between 2014 and 2017 , and as a result the number of payment cards uncreased, in 2016 The number of bank accounts was 8,5million, including 5 million saving accounts, 4.9 % of this category did not make any withdawalas or deposits during the previous year. It also noted that the male category users more accounts than the female category(the Tunisien Institut for Strategic Studies,2023, p 14).

Table 1 : The use of degital means of payment adults over15 years old %

The use of degital means	2017
• Make or receive digital payments	29.4
• Using an account to receive government payments	12.3
• Using the internet to pay bills or to buy products	6.6
• Using a account to receive payments from the private sector	6.3
• Using mobile phone or the internet to access the account	4 .1
• Using the account to pay bills	3.6

Source :The Central Bank of Tunisia,2022 .

It is noted in the table.1 that the use of digital services i slow, as it does not axceed 7%, which is a small percentage in view of the performance of some arab countries. The majority of individuals use liquidity to conduct various financial operations.

The total percentage of obtaining a loan is distributed according to the categories as follows : the percentage of males is 12% and females are 5%, the percentage of the poorest individuals is 4% and of those with loans from the highest-income category is 60%, people receiving loans in riral areas is 6%.according to asurvey by the central bank of tunisia, who benefited from a one –time loan are a total of 154 males and 207females(out of 800 individuales), the number of those who obtained a loan twice was 221, while for three times it was 121for males and 60for females(report of AGFUND,2019),the percentage of obtaining saving pruducts among adults is between 7% and 16%, for the purposes of starting or axpanding projetcts, the perventage vary between rural and urban areas, the difference increase between the lower and higher income groups (the Tunisien Institut for Strategic Studies, 2023, p 18).

4 .2. The implications of non-performing loans on the credit risks in banks

Mishkin (1996) considered that financial instability is caused by the inability of the financial system to direct resources towards investment opportunities (Mohamed Yazid b. et al , 2009 , p 73), there are those who consider that financial stability is linked to the analysis of basic indicators related to financial safety in financial institutions, an approch CAMELS that proposes the following sub-indicators to build an indicator of financial safety : the capital adequacy , assets quality, management, profitability, liquidity, market sensitivity(Tobji Ammel , 2020, p 59).

The share of the total assets of the combined balance sheets of commercial banks in tunisia out of the total arab bankd amounted to 1.4% in 2018, and the deposits declined by 3%, due to the decline in the exchange rate of the local currency against the dollar(Jamal Kassem Hassan, 2019, p 5).the sector's lending –to-deposit ratio improved by more than three pearcentage points during the years 2020,2021, the macro-financial risk factors related to liquidity, assets quality, loan growth, and financial solvency also improved, with an increase in the risks of macroecomic conditions (TCB report, 2021, p110, 117).

The credit facilities and loans granted by commercial banks starting from 2016, reaching 33.721 million US dollars in 2018 and continued to rise until 2022, and this increase led to the :a ancrease in the solvency ratios and basic equity ratio, a slight improvement in loan portfolio quality, an ancrease coverage of loans classified by provisions, a slight increase in the sectoral distribution index of non-performing loans, the indicators of the profitability of resident banks improved with the increase in the return of own funds, the return on assets remained at the level of 0.8%, the banking liquidity improved in 2021, with a slight decline in the total volume of refinancing from the total banks resources, a ancrease in the liquidity needs of banks depending on the treasury's need for internal debt, the ratio of loans to deposits decreased in bank deposits at a faster rate than loans (TCB report, 2021, P118). By analysing the capital adequacy ratio indicator, witch is considered one of the basic indicators of financial safety, it included a group of sub-indicators(regulatory capital to risk weighted assets, ration of core capital to risk weighted assets, non-performing loans net of provisions as a ratio of capital, the ratio of ordinary shares within the basic capital to the risk weighted assets, the ratio of basic capital to assets)(Rami Obaid et al, 2023, p 80).

For the non-performing loans as a percentage of total gross loans, the share of credit facilities to total loans in Tunisia is about 2%(credit cards and housing loans) represent the largest percentage of total loans, the total loans are distributed according to sectors as folloows : the personal loans, the agrecutural sector, the manufacturing industries, trade, other sectors, the ratio of non-performing loans to total loans exceeds 10%, with a fluctuating increase in the profits of commercial banks, due to a slight decline in the percentage of provisions for xtotal non-performing loans.

Table 2 : The provisions coverage ratio of loan and debt in dispute

indicators	2016	2017	2018	2019	2020	2021
The ratio coverage of loan* provisions to the total non-performing loans	-	57	55.7	55.9	54.4	57.4
Loans without unpaid reveivables and disputed	84.6	86.6	86.3	85.7	85.7	85.7
Uncollected or disputed receivables	15.4	13.4	13.7	14.3	14.3	14.3

Source : (* : Rami Obaid et al, 2023 ; annual report of central bank of Tunisia, 2021)

It is noted on these loans is their transition from current debts to classified debts, but they remain a source of fragility in the banking sector, twelve banks hold more than 15% of the rated loans, and own 53.7% of the sector's total assets, 51% of the tourism sector loans are classified loans, and the percentage for the agrecultural sector is 38%, however the total share of this two sectors represents only 8% of the total commitments of banks. There is a higher share of savings allowances over loans in net banking output(annual report of central bank of Tunisia, 2021 , p121). The volume of loans to individuals increased by 4.6% in 2021(; annual report of central bank of Tunisia, 2021 ,p 122). The central bank of tunisia indicated that the reasons for defaulting loans in the informentioned sectors are due to : customer interruption, the customer's income decreases or he retires, not studying and following up the client's file adequately, the poor feasibility studies submitted to commercial banks and the use of loans for surposes other than those for wich they were granted, and other reasons related to economic and competitive factors. The liquidity coverage ration in tunisian banks until the end of 2021was about 200%, the ratio refers to the ability to withstand net outflows or liquidity pressure for a period of 30days, or the ability of banks to bear or to fulfill their short-term obligations, according to the requirement of Bazel 3, this indicator is calculated by diving high-quality assets by the expected cash outflows, within thirty days, the ratio recorded for tunisian commercial banks are caccepteble compared to arab countries. (annual report of central bank of Tunisia, 2021 ; Rami Obaid et al, 2023, p 71). The central bank of tunisia did not apply until the end of 2021 the standard of net stable financing ratios. The status of revenue and profitability indicators in tunisian commercial banks indicates the following : there is a relative efficiency of banks, given the index data, the ondex reflects the efficiency of managing assets to acheave profits, the profits on equity index indicates the efficiency in using capital for these institutions, the previous indicators provide information on the ability of banks to generate capital from own resources through ratained earnings and attractiveness of the sector to invest in new shares.

Table 3 : The rate of return on assets and equity in the tunisian banking sector

Indicators	2017	2018	2019	2020	2021
The rate of return on assets	1.2	1.2	1.1	0.8	1.1
The rate of return on equity	13.8	13.5	13.3	8.7	-
The net interest margin to gross income	49.8	51.9	55.1	55	51.6

Source : Annual report of the Central Bank of Tunisia, 2022.

The circumstances of the period must be taken into account, as the repercussions of the corona virus affected the return rates, there is a change and an upward review of the pricing of banking services, which keeps the banking output growing positively, and the share of the investment portfolio resources, net commissions and net profits on exchange transactions have been strenghthend(Rami obaid,(2021), p 79) despite the acceptable levels of profitability, yhe effect of non-performing loans is lear on profitability indicators, the cerrelation coeficcient between net profits and non-performing loans was -0.489, which indicated that a derease in the non-performing loans ratio by one percent helos to increase the real growth rate by 0.87%, there is an operational efficiency of the banks, which shows the extent to which banks rely on on generating income from their visionary business of financial intermediation. for reference,the average indicator at the level of arab countries between 2017 and 2021 was about 68.2%(Rami Obaid et al, 2023, p 77-80).

The increase in the general interest margin did not correspond to the growth of activity in some periods for the following considerations : the strong impact of the decrease in the interest income on loans, whike the cost of deposits was not affected by this decrease, given that 70% of the total deposits and demand deposits, the accumulation of unpaid interest, which amounted to 131 million dinars in 2016 (report of Central Bank of Tunisia, 2018, p49) .the cantral bank of tinisia launched in 2017 the preparation of a project related to the provision of the necessery self-funds to cover markets risks, in order to cover the markets risks of the financial portfolio for trading, including the risks on bonds or the risks of interest rates and the risks related to the fluctuations of equity securities, as well as the risks of foreign currency fluctuations which can affect all items of the budget and outside the balance sheets, and also aims to cover the settlement risks arising from the trading portfolio or the bank account portfolio or the risks related to the counterparty on future financial instruments(report of Central Bank of Tunisia, 2021, p133).

To face the pressure of non-performing loans on commercial banks, the central bank took an additional set of measures in 2020, which we summarize in : (1)adjusting the credit line allocated for refinancing rescheduling loans by banks for the benefit of small and medium enterprises affeccted by the corona virus, and a total precautionery operational system project has been initiated to follow up and prevent risks to the financial sector ,(2) conducting stress tests at the level of banks, which is one of the risk management tools according to the second pillar of basel 2 decisions for capital adequancy, the results indicate that the banking sector is generally considered flexible and has satisfactory financial solidity, provided that a cautions policy is followed by banks for the distribution of profits, while ensuring adequate coverage of the risks, (3) reviewing the methodology for calculating collective provisions from the perspective of ensuring adequate coverage of the risks inherent from postponing the repayment of loans, and defining a new division based on risks by distributing the counterparties into more homogenous groups and then determing them according to the degree of their vulnerability.(4) applying the loan to collateral ratio, ceiling on facilities granted in foreign currency, compulsory reserve requirements , credit concentrations for a single customers or a group of related customers,limits on sectoral concentrations, liquidity coverage ratio, calculating the ratio of indeviduals indebtedness to their income, as this ratio is calculated by banks when studing a loan file as a maximum lending ratio. (Rami Obaid, 2021, p 23 , 144).

4. Conclusion

We have tried through thid study to clarify and analize the implications of applying financial inclusion on the risks of lending in Tunisian commercial banks, and we have concluded through the analysis of indicators of financial inclusion during the period 2017 to 2021 that :

- First, there is an improvement regarding the increase in the number of beneficiaries of financial services and financing directed to various institutions, but the percentage of adult holders of bank account did not excced 37%, ther is also a slowdown in the use of digital financial services, as the percentage did not exceed 7% during the study period, which affects the deposits and loans,
- There is a large percentage of small enterprises do not brnefit from banking financial services, and there is a marginalization of those with low incomes withregard to benefiting from individual loans,
- Second, ther is a high volume of non-performing loans, especialy in the tourism, agricultural and individual loans, it affected the fragility of banking sector,
- The central bank's prudential policies regarding capital adequancy and assets quality anabled it to keep safety indicators at acceptable levels,
- Finally,the banking control measures reduce the possible negative effects of expanding lending resulting from the application of financial inclusion, which means a decrease in credit risks in the event that banking control standards are applied by the central bank, and raise the competence of banks regarding the provision of information about customers and calculating of loans .

5.References

[1] Arab monetary fund,(2015), requirements for adopting a comprehensive national strategy to enhance financial inclusion in the arab countries available at : http://www.amf.org.ae

[2] B.A.Al-iraqui et Z. A. Alnaimi,(2019), الشمول المالي و اثره في تعزيز الاستقرار المالي في البلدان العربية, the second scientific conference of jihan runiversity erbil in administrative and financial sciences, 27-28 june 2018.

[3] R. Ghasarma, F. Muthia, (2019), The influence of financial inclusion on credit risks in commercial banks in indonisia, jurnal akuntansi dan bisnis, vol. 19, No. 2. Available at : www.jab.fe.uns.ac.id

[4] A. Boulenfad, H. Ishaq,(2021, March), The relationship between financial inclusion and financial stability-imperical evidence from the north African coutries, journal of financial, accounting and managerial studies, vol 8, No 1, pp 734-751.

[5] R.Obaid, H.Atiah and al,(2023), Indicators of financial safety in the arab countries, Arab Monetary Fund, No 1. Available at : http://www.amf.org.ae

[6] The Global Findex Database, (2021), Financial inclusion, Digital payment and Resilience in the age of CIVID-19, Available at : www.worldbank.org .

[7] The Global Findex,(2017), world bank , available at: www.worldbank.org

[8] D. K.Hassan,(2019), Non-performing loans and their impact on the banking sector in the Arab Countries , Arab Monetery Fund, No 56, Available at:http:// www.amf.org.ae

[9] A. A.Chaheen and al, (2019), A ccounting measurement of credit risk in the light of the banking control standards of Basel 3 and the standard IFRS9 , .

[10] S.Mouley, ,(2023, febrery), l'inclusion financiere et son role dans la reduction de l'informalité en Tunisie, Institute Tunisien des Etudes Stratégiques .

[11] Annual report of Central Bank of Tunisia ,(2022).

[12] Banking supervision annual report,(2018), Central Bank of Tunisia.

[13] AGFUND,(2018), l'inclusion financiere des jeunes et des femmes entrpreneurs en Tunisie.

[14] G.Taoues,D.Hanane,(2021), straregies for enhancing financial inclusion in the arab countries- a a study of some arab experiences, revue algerienne d'economie et gestion ,Vol.15, No 1.

[15] Asli demirguc-kunt et al,(2017), financial inclusion and inclusive growth, a review of recent empirical evidence, policy research working paper, world babk group.

[16] N.Yoshino,P.Morgan,(2016, September), overview of financial inclusion, regulation, and education, Asian development bank institute. Available at: http://www.abd.org/publications/overvew-financial inclusion-regulation-and-education/

[17] P.K.Ozili,(2020), financial inclusion:a strong critique, Munich personal repec archive , p 2, available at: http://mpra.ub.uni-muenchen.ed/101813

[18] A.Barajas et al,(2020), financial inclusion: what have we learned so far?, IMF working paper.

[19] M.Y. Boumghar,(2009), la stabilité financiere, une mission pour la banque central, les cahiers du CREAD, No 87.

[20] M. Tobji,(2020), la construction d'un indice de stabilité financiere : cas de la tunisie , memoire de fin d'etude, institute de financement de development du Maghreb arabe.

[21] Banque Mondiale,(2015), état des lieux inclusion financiere en Tunisie- populations a bas revenus et micro-entreprises.

[22] R.Obaid, (2021), financialstability in arab countries, Arab monetary fund