

Bank liquidity risk in participatory banks. Which perspectives for Moroccan market ?

Le risque de liquidité des banques participatives, quelles perspectives pour le marché Marocain ?

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Abstract

When a participatory finance has proven the viability and stability of its model alongside conventional finance in many countries, the problem of managing its liquidity is a major issue in winning new clients.

Of course, participatory banks are subject to liquidity risk just as conventional banks are (Sundararajan et Errico 2002); Akkisisdis & Khandelwal, 2008; Al-Muharrami & Hardy, 2013). However, their responsiveness and flexibility to liquidity risk is very limited due to Shariah compliance requirements and the fragility of their financial ecosystem, forcing them to guarantee their solvency on the one hand and to protect themselves against liquidity risk by holding large amounts of cash instead of investing it.

This paper will discuss the topic with an overview of risk liquidity in participatory market, then approach and analyse issues and ways to come up with the liquidity constraints in Moroccan financial market.

Keywords : Sharia Compliance ; liquidity risks ; Banking intermediation ; Participatory banks ; deposits ; Morocco.

Résumé

Dans une ère où la finance participative a su faire ses preuves quant à la viabilité et la stabilité de son modèle aux côtés de la finance conventionnelle dans de nombreux pays, la problématique de la gestion de ses liquidités constitue un enjeu majeur pour conquérir de nouveaux clients.

Certes, les banques participatives sont sujettes au risque de liquidité tout comme les banques conventionnelles le sont ((Sundararajan et Errico 2002); (Al-Muharrami et C. Hardy 2013). Cependant leur réactivité et leur marge de manœuvre face à ce risque de liquidité est très restreinte à cause des exigences de conformité aux standards de la Charia Compliance et du fait de la fragilité de leur écosystème financier, les obligeant ainsi à garantir leur solvabilité d'eux même d'une part et se prémunir contre les risques de liquidité encourus en conservant d'importantes liquidité au lieu de les investir d'autre part.

Ce travail abordera le sujet avec une vue d'ensemble du risque de liquidité dans le marché participatif, puis présentera et analysera les questions et les moyens de surmonter les contraintes de liquidité dans le marché financier marocain.

Mots clés : Banques participatives ; risque de liquidité ; intermédiation bancaire ; dépôts ; Maroc.

Introduction

The introduction of Islamic finance in Morocco has been a real economic lever by its strategic dimension and its important impact on growth and development.

The integration of participatory finance in the Moroccan ecosystem would have a direct positive impact on the individual by improving household equipment and mobilizing national savings.

On the other hand, its impact on businesses is equally important on a category of SMEs excluded from the banking circuit due to the lack of supply in accordance with the CHARIA, is estimated at 32% of SMEs in the MENA region (SFI 2014)¹.

The same report emphasizes the shortfall corresponding to this potential participatory financing of Moroccan SMEs, which it estimates at between \$210 millions and \$240 millions per year, while that of deposits is estimated at between \$220 million and \$430 million per year (IFC 2014)²

Although this set of green indicators seems to be in favor of an economic opportunity in terms of positioning and attractiveness, this integration dilemma cannot be overcome without a perfect and global awareness of the specificities related to the management of operations and assets of participatory banking and which imperatively require the adoption of a set of measures and regulations aimed at regulating this market in all its particularities.

In our review, we will approach one of its specificities related to the risks of liquidity relating to the deposits of the participative banks, which represent an important and not negligible part of its resources, but also a guarantee in front of its investors.

In order to be able to carry the reflection in a very objective and structured way, we will try to answer throughout our literature review the following questions :

- How do participatory banks find themselves caught in the trap of their specificities?
- What risks do they run in a predominantly conventional money market?
- How do they manage their liquidity?

This article will approach in the first part the specificity of the participative bank in its role of financial intermediation, then in its second part will expose the nature of the risks to which

² IFC. (2014). *Islamic Banking Opportunities Across Small and Medium Enterprises in MENA* .

banks are exposed to a large extent by treating them by a funnel effect, until retaining the liquidity risk.

We then move on to an analysis of liquidity risk and the instruments put in place to limit and manage the impact of this risk with participating banks.

As for the choice of methodology, through this inventory and all the findings of this part, we will proceed to the analysis of the Moroccan participatory market by juxtaposition following the example of the emergence of participatory finance in Morocco and the many efforts made by the authorities to accompany this introduction.

To this end, the present article will represent a synthesis of the state of the art of the liquidity risk which will constitute a basis of comparison of the reality of this same risk for the Moroccan market and will thus constitute a report of the measures undertaken to limit the liquidity risk in the form of a synthesis article or report.

1. The particular role of banking intermediation in participatory finance

The principle of banking intermediation in Islamic finance differs from that in conventional finance insofar as the depositor with a participatory bank is exposed to a real investment risk (Toussi 2010) because he is assimilated to an investor and shares the losses as well as the profit of the project he has financed with his consent through his bank according to the PLS mechanism (profit and loss sharing).

This is one of the key principles of Islamic finance, which states that money has no intrinsic value; its remuneration depends on the performance of the underlying asset.

Thus, the borrower is responsible for the day-to-day management of the project financed by the bank, while the latter only provides financing, as is the case with the Mudaraba.

Alternatively, the bank can also take part in the management of the project, which is known as a Musharaka contract.

The result of the financed project is distributed between the borrower and the bank according to a predetermined distribution key in the agreement and in accordance with the PLS principle.

However, in conventional finance, the depositor is simply a client who receives a remuneration in the form of interest rates, who is unaware of how his assets are used, but who is also protected from potential losses thanks to the deposit guarantee schemes offered by the banks.

This rate, which remunerates the depositor, represents the main source of remuneration for the savings collected by intermediaries (W. Diamond et H. Dybvig 1983) whereas it is prohibited by participatory finance.

An advantage not offered by the participatory banks because of the principles that govern their activity, namely:

- The prohibition of Riba or interest
- The prohibition of Gharar (especially when the goods are not known)
- Prohibition of illicit investments (Haram)
- The principle of profit and loss sharing

Thus, participatory finance institutions rely on three types of unsecured accounts to fund their operations (Causse-broquet 2012)

- **Current accounts:** which are almost identical in both conventional and participatory finance in terms of their usefulness to the client, but which are usually transformed into interest-free and interest-bearing loans called "Qard Hassan" or benevolent loans for charitable purposes.
- **Restricted investment accounts (restrictive):** where the client holder has restricted the use of the investment and which, in this case, cannot be confused with those of the bank.
- **Standard (non-restrictive) investment accounts:** where the client has given the bank a free choice to invest them, in which case they can be merged with the bank's own funds to form a single investment capital.

These two types of investment accounts are in principle intended to finance PPP operations.

- **Savings accounts or term deposits :** the client authorizes the bank to use them for investment purposes without any right of control over the investment. However, the holder can withdraw them upon simple notification to his bank. They are therefore without any guarantee and are not very popular because they are very similar to the term accounts of conventional banks.

Behind this variety of products for financing investments, we must not forget the problem of the liquidity risks incurred as a result of the imbalance between the receipt of short-term funds to finance long-term loans, on the one hand, and the lack of guarantees for depositors, on the other, the main cause of which is the absence of an interbank market that would make it possible to absorb the deficit risk, but also the scarcity of exchanges between participatory type institutions in economies where they are few in number.

It is also worth recalling that the role of the central bank with regard to the Islamic banking system would be drastically reduced because it intervenes only as a last resort to compensate for the deficits of participatory banks, which in turn finance investments only up to the level of their authorized deposits, which reduces their potential for development without the existence of an inter-bank market.

In summary, the following simplified balance sheet shows the structure of the resources and uses of participatory banks.

Table 1 : Simplified balance sheet of an Islamic bank

Assets	Liabilities
Ready" to watch" <i>qardhassan</i> of administrative fees only) Asset-Backed Transactions: Murabaha (sale with a margin) Ijara (Islamic leasing) Istisna (financing of a good to be manufactured) Salam (sale of a property with delivery deferred and immediate payment) Profit-sharing operations: A. Musharaka or joint venture (profit and loss sharing) B. Mudharaba (profit sharing, but losses are borne by the investor clients) Fee- or commission-based transactions: A. Ju'ala B. Wakala C. Kafala	1. Current accounts (wadiyah) They are mainly used to finance qard hassan loans 2. Savings account (term) 3. Restricted Investment Accounts: Mudharaba (profit sharing, but losses are borne by the investor clients) 4. Non-restrictive investment accounts (standards): Mudharaba (profit sharing, but losses are borne by the investor clients) 5. Specific Reservations: Profit Smoothing Reserve (PSR) Risk Reserve investment (IRR) 6. Shareholders' equity

Source : IFSB (2010 a)

2. Analysis of potential risks of participatory banks

The main objective of any bank is to achieve economic performance in its ecosystem, and this performance cannot be achieved without perfect control of risks.

But given the major and particular role of participatory financial institutions in intermediation, and the importance of the maturity transformation function: managing long-term

commitments from short-term deposited funds, the risk exposure becomes more compelling to honor commitments to its depositories as to the immediate availability of their liquidity and without particular costs.

Thus, just like conventional banks, participatory banks are no exception in their day-to-day management of these same risks in a quest for performance. Moreover, participatory banks are all the more sensitive to this risk (Khan et Habib 2001) (Sandararajan et Errico 2002); (Grais et Kulthunga 2002) because of the principles that govern their transactions.

Therefore, we will take a look at all the risks to which the banks are exposed in a general way, before approaching the analysis of the liquidity risk which is particularly constraining for the participative banks in order to reveal towards the end of this part the instruments of management and minimization of this risk.

2.1. Common risk types

Several types of risks common to both banking sectors coexist:

- ❖ **Credit risk** is defined as the probability that a party will not meet its agreed obligations. It depends on three parameters: the amount of the claim, the probability of default and the share of non-recovery of the claim in case of default (Cécile Kharoubi 2016)
- ❖ **Market risk** : This is the risk of loss related to changes in the market value of a portfolio of financial instruments. (Holton 2004)

Noting that the securities that may create market risk and are considered for the valuation of the trading book are : Interest rates, foreign exchange, equities, commodities and credit.

- ❖ **Operational risk** : "Operational risk concerns direct or indirect losses due to inadequate or failed procedures, personnel and internal systems of a bank. According to the Basel framework, there are 7 main types of risk" (Comité de Bâle Février 2008).

This risk is virtually identical for both banking systems.

- ❖ **Liquidity risk** :

This is a risk of illiquidity or the occurrence of illiquidity.

(Borio 2000), (Strahan 2009) et (K. Brunnermeier et Pedersen 2009) define funding liquidity as the ability to obtain cash in the short term either by selling assets or by borrowing again. They thus intrinsically link funding liquidity to market liquidity.

For participatory banks, this risk is particularly important due to their specificities (Akkizidis et Khandelwal 2008); (Al-Muharrami et C. Hardy 2013) and (Sundararajan et Errico 2002) for several reasons:

- Prohibition of interest-bearing loans to offset liquidity needs.
- The composition of assets is dominated by receivables (Murabaha) and liabilities consisting of deposits from individuals (Wadiaa and participatory investment accounts) with very few corporate and interbank deposits constitutes a large maturity gap.
- Limited access to Shariah-compliant financial markets in the absence of an interbank market (Hesse, Andreas and Solé 2008)
- The reduced role of the central bank to mitigate potential deficits

To guard against this, Islamic banks hold additional liquidity ratios up to 40% higher than conventional banks (Khan et Bhatti 2008) (Pappas, et al. 2017) also note that Islamic banks are characterized by higher liquidity levels than conventional banks. Indeed, their liquid asset/deposit ratio is 55.6% compared to 40.3% for conventional banks.

Another comparative study conducted between 2008 and 2014 by the International Monetary Fund (IMF) among 65 banks in the Gulf countries revealed the following results :

Table 2 : Indicative table of liquidity levels

	Banks Conventional	Banks Islamic
% of liquidity/Total assets	19,80 %	23,00 %
ROA (Profitability of assets)	1,6	1,3
ROE (Return on Equity)	10,2	6,7

Source : IMF liquidity study report

All its indicators lead us to say that the most important risk for Islamic banks is liquidity risk (H. A. et Jasim 2012).

2.2. Liquidity risk analysis

After explaining the role of participatory banks as intermediaries in terms of investment, it is clear that the problem of liquidity is a major issue in the Islamic banking system in the absence of interbank market, exposing them particularly and more to this risk (M. Ben Arab 2008), because since the financial crisis, the liquidity risk has attracted specific interest because it is a major source of fragility of the global banking system.

What are the liquidity risk issues for participatory banks? And what are the instruments deployed to regulate them?

2.2.1. Definition of liquidity

Bank liquidity is the ability of the bank to fund the expansion of its assets and meet its liabilities as scheduled without incurring unacceptable losses (Comité de Bâle 2008).

Also, Central bank and market liquidity are sources of liquidity for banks, i.e., a reserve from which they can draw.

They constitute a supply of liquidity that can feed the net demand of banks, called "funding liquidity" (Madiès 2012)

2.2.2. Liquidity and central bank liquidity risk

Central bank liquidity is its ability to issue money in response to a need in the financial market.

The liquidity risk for the central bank is the risk of not being able to issue money on the market, but this risk is almost nil because it has a monopoly on issuing money.

Central bank liquidity is very important in the regulation and decongestion of a number of crises.

2.2.3. Liquidity and market liquidity risk

It corresponds to the counter part in money that an investor (a bank) can hold by liquidating its assets. In other words, it reflects the ability of assets to be instantly resold without losing their value.

This connotation of a transfer price close to the real value refers to the Keynesian conception of liquidity (Keynes 1936)

The notion of market liquidity refers to two dimensions :

- **Liquidity on the interbank market** : this means the transactions carried out between banking institutions.

- **Liquidity in the asset market** : where buyers and sellers exchange assets and liquidity, market liquidity risk is simply the inability to trade in the market at an optimal and reasonable price.

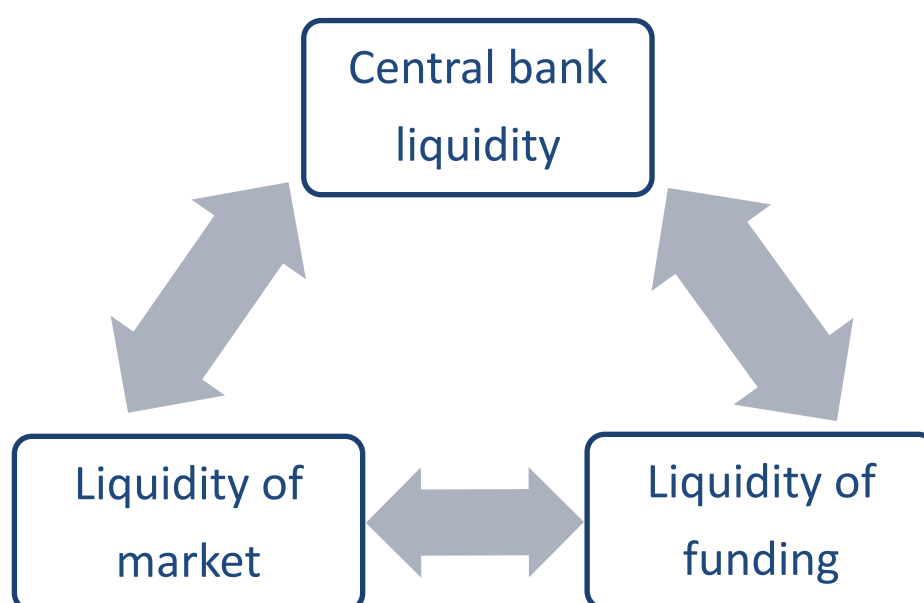
2.2.4. Liquidity and funding liquidity risk

Funding liquidity is defined by (Drehmann et Nikolaou 2009) as a cash-flow situation where banks are able to meet their obligations on time.

This is the bank's ability to meet its immediate commitments (disbursements) with its receipts.

This risk is weighted by two variables: the random amount of cash outflows, and the random cost of obtaining liquidity from different sources (demand deposits, market liquidity, central bank liquidity).

Figure 1 : The Three Liquidity Nodes of the Financial System



Source : NIKOLAOU 2009

2.3. Liquidity risk management

As developed earlier in this writing, it is worth remembering that like conventional banks, Islamic banks also receive term deposits and grant medium and long-term loans (Ameni et Brahim, Les déterminants du risque de liquidité dans les banques islamiques cas de la région MENA La Revue Gestion et Organisation Volume 10, Issue 2 2018) which constitutes a liquidity gap appealing to the concept of Asset-Liability Guarantee or GAP.

In other words, the participatory bank finances medium- to long-term assets with short-term liabilities because they are due immediately, which exposes it to additional liquidity risk (Pollin 2008).

In order to compensate for this variation, conventional banks tend to resort to several solutions to compensate for this gap, including recourse to the interbank market or interest rate readjustments to restore the liability-asset balance.

Those instruments, applicable to conventional banks, but which are not adapted to the principles of Sharia Compliance of Islamic banks, especially in the absence of interbank market, encourages us to push the research towards instruments compatible with the principles and standards of Islamic banks.

2.4. Liquidity management instruments

In order to achieve a level of operational efficiency in liquidity risk management, the implementation of a complete ecosystem with regulations adapted to the specificities of participatory banks is necessary to create an environment conducive to the development of participatory finance operations (Goodhart Février 2008).

Thus, to manage their liquidity, Islamic banks use a multitude of instruments.

The implementation of these instruments is based on guidelines from the Islamic Financial Service board (Islamic Financial Service Board January 20th, 2008) regarding liquidity risks in view of the specificities of the participatory banking sector as follows :

- The importance of the role of depositors and entrepreneurs in the investment and financing dynamics ensured through the intermediation role of the participative bank.
- The use of the Sharia Compliance Board in the management of assets by prohibiting and allowing trading.

Three types of contracts govern these operations :

- Equity financing (such as Mudarabah and Musharakah contracts)
- Debt financing (in Murabahah, ijara and Salam (sale with deferred delivery), Istisna (manufacture-sale) and Qardh (benevolent loan) contracts)
- Loans and voluntary services (Wakalah and Kafalah contracts)

And **liabilities ones** by:

- Adjustment of deposit types according to funded projects

- Allocation of available funds to the required amounts
- Managing and matching savings maturities to investment projects
- Monitoring and measuring liquidity risk: Islamic banks must maintain adequate liquidity reserves at all times. They must also continuously reassess and adjust them.

In this chapter, we will identify a number of instruments for managing and minimizing liquidity risk in participatory banks that are the most relevant and common to most financial ecosystems :

❖ **Sharia-compatible deposits (*Wadiaa*)**

This is a contract whereby one person may deposit property or goods in the care of another.

Within the framework of the participative finance, the *Wadiaa* concerns the management of sight deposit account or non remunerated savings provided that the Bank does not exploit the deposited assets without the prior agreement of the Client. And this contrary to the *Quard Hassan* by which the bank has the right to exploit the deposited assets without delivering any remuneration to the Client.

❖ **Government Investment Issues GII**

They correspond to the treasury bonds called in participative finance "*Qard hassan*" issued when surplus funds are transferred to the public treasury.

In return for this transfer, the banks can expect to receive "*Hiba*" donations in gratitude.

❖ **Mutual offsets between IFIs**

This principle is based on the calculation of credit and debit points on behalf of the creditor and the debtor respectively, taking into account the amount and duration of the loan. From a need to fill of a bank, the financial institution commits after repayment on an identical pact, which is to come-back to place the money during one day for example.

❖ **Sukuk Al Ijara**

According to the AAOIFI³, Sukuk (sometimes called "Islamic bonds") are defined as: "certificates of equal value representing undivided shares in the ownership of property defined, in the usufruct of a defined property, defined services or a defined Sharia-compatible investment project."

³ (AAOIFI Governance and Ethics Board (AGEB) in its 9th meeting approved the issuance of exposure draft (Exposure Draft G2/2018) on "Sukuk Governance ".) on 29-30 Safar 1440H, corresponding to the 7-8 November 2018)

They are a very popular element in Islamic liquidity risk management in the Middle East (Islamic financial law report 2017)

❖ **Sell and Buy Back Agreement SBBA** (Tabatabaei 2017)

Through this commercial transaction, the seller (the party in need of liquidity), transfers to the buyer (the bank with excess liquidity) assets at a fixed price.

In parallel to this agreement, a second agreement is signed. It stipulates the repurchase of the same asset by a reverse transaction within a fixed period of time and at a defined price.

If the repurchase price is higher than the initial sale price, the transaction is qualified as a simple debt creation arrangement or REPO (Sale and purchase agreement) which is not Riba free or also called Bai al Ainah instead of being a Shariah compliant transaction in the form of Bai Al Wafae. Today, only Malaysia allows this kind of transaction.

3. Case of Morocco

From the first part of the literature review, it can be deduced that in order to guarantee the success of its liquidity management, any participatory bank must hold a large amount of liquidity, called dead liquidity stock, to logically and sufficiently cover the risks incurred.

This condition remains valid in spite of the product Al Wakala Bil Istithmar which is certainly an innovative product but cannot fully absorb this need.

In the Moroccan market and after the sequential implementation of a participatory ecosystem over several stages, the problem of liquidity remains topical despite the measures that have been adopted to mitigate the impact of this risk that threatens the sustainability of the financial activity of the participatory market and which is just beginning to achieve its first performance.

3.1. Morocco participatory banks performance assesment

At the end of 2020, the balance sheet of banks and participative windows amounted to 16.8 billion Dhs against 12.2 billion Dhs recorded in 2019.

This progression is essentially linked to the performance of the MOURABAHA product which has experienced a 50% evolution of around 9.7MMDhs but which remains however timid compared to the three-digit performance recorded in 2019 of around 109% (BANK AL-MAGHRIB 2020)⁴

⁴ Annual report of bank supervision

Table 3: Activity and profitability indicators of participative banks

Montants en millions de dirhams	2018	2019	2020
Total bilan	7.925	12.151	16.787
Financements par décaissement (hors marges constatées d'avance)	3.213	6.519	9.750
Dépôts de la clientèle	1.548	2.557	3.807
Fonds propres (hors résultat de l'exercice)	2.226	2.312	2.405
Produit net bancaire	67	202	337
Résultat brut d'exploitation	-364	-414	-321
Résultat net	-377	-425	-351

Source : BAKM Report 2020

Regarding the network of banks and participatory windows, it has increased by nearly 53% between 2019 and 2020 from 133 to 159 branches grouped around the axis Casablanca-Kenitra.

As for sight deposits, their growth performance was better than that of participative banks between December 2019 and September 2020. They went respectively from 2.6 billion DH to 2.9 billions DH then to 3.4 billion DH between December 2019, June 2020 and September 2020, a progression of 11% over 6 months, 23% over 9 months reaching 47% annually compared to a slight progression of the same deposits with conventional banks of 5.9%.

Results that are certainly very encouraging in terms of progression, but quite negligible compared to the size of the market where the participatory sector represents only 0.01% of all deposits.

As for investment deposits, they have increased by nearly 97% in 9 months from 365M DH in December 2019 to 700M DH in September 2020.

Those indicators have not spared participatory banks from facing inherent liquidity risks. The outstanding financing of the Mourabaha product has stabilized at 9.3 billions DH against an outstanding deposit of 3 billions DH, that is to say a transformation ratio exceeding 300%.

With such alarming and worring statistics and inexistent Takaful insurance actions, the authorities and institutions involved all efforts to come up with a list of measures to reduce this imbalance by the end of the year 2020.

In addition and pending the implementation of reforms put on hold because of the pandemic circumstances of Covid'19, the banks have sought beyond the two types of deposits mentioned above to finance themselves with the parent banks via the contracts of Wakala bil Istithmar :

- Those contracts were established to face liquidity risks but in return for the payment of a part of the income to the parent company at rates that are quite high compared to the key rate of 1.5%.
- Amounts committed in the form of Wakala bil Istithmar amounted to 2.78Mdh in December 2019, and are a necessary but still insufficient complement.

3.2. Measures taken to limit liquidity risks

Faced with the competitive and attractive offer presented by the participative banks and demonstrated by their financial performance over 2019-2020, on the one hand, and in order to support this progression which comes to meet the demand of a specific clientele, Bank Al-Maghrib has undertaken a set of steps aimed at improving the conditions of the ecosystem of Islamic banks in Morocco by :

- The entry into force of the circulars on **the solvency ratio and equity of participatory banks** which will allow the application of the prudential treatment of financing granted by banks to their customers in the form of contract Wakala Bil Istithmar.
- The inclusion of **Sukuk certificates** among the instruments qualified as high quality liquid assets (HQLA). (Finance news Vendredi 30 Juillet 2021)
- The establishment of **financing lines** to cover the needs of participatory banks
- Also, with the effective entry of law 103.12 governing the activity of participatory banks in Morocco, new financial products designed to finance VSEs and SMEs have been launched: SANAD TAMWIL which is the new participative window of the « Central Guarantee Fund » offers **guarantee funds for** this category of the economic fabric in accordance to the directives of the Superior Council of the Ulemas.

The two main products offered by SANAD TAMWIL are :

- **DAMANE MOUBACHIR** : offering guarantees to projects of companies whose turnover is less than 10M DH and the amount of financing is less than or equal to 1MDH.

The proposed guarantees cover up to 70% to 80% with a ceiling of 5 MDH.

- **DAMANE DAYN** : Guarantees the projects of companies whose turnover is higher than 10 MDH and/or the capital financed is between 1 MDH and 10 MDH. The part of the guarantee is between 60% and 70% up to 20 MDH.

Conclusion

By and large, appears that the Moroccan participative ecosystem is not an exception regarding the liquidity risks to which the Moroccan participative banks are exposed. However, a great immaturity of the proposed solutions is still to be raised which makes the service offer partially incomplete and excessively risky either for the participative bank in its role of intermediary and guarantor, or for the individual client or company.

It should be concluded that despite the efforts made to reduce the gap between the risks faced separately by conventional and participatory banks, researchers are invited to multiply their efforts with a view to resolving the problems encountered by participatory finance as a result of the impact of liquidity risks.

Efforts are also required from governments and financial markets to support the development of this segment of finance, which does not represent direct competition to conventional finance. Far beyond, it comes in response to the inspirations of investors, custodians and customers who have had great difficulty in using conventional finance while looking for compliance with the Sharia.

As a continuation of this work, I believe that it is essential to analyze in more detail and through a macro-economic approach, the loss of income resulting from this gap in order to estimate the importance of this project and the reforms and readjustments that must be made to reduce the risks of liquidity and consequently increase the mass of investment instead of provisioning it to protect itself from very uncertain risks.

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