

# Profits and Losses Sharing paradigm in Islamic banks: Constraints or solutions for liquidity management?

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## Abstract

*Profits and Losses Sharing (PLS) involves specificities in the Islamic bank liquidity issue. Using hypothetic-deductive methodology, this paper tries to examine whether the participative intermediation is responsible for high exposition to liquidity shortage or leads to less exposition to liquidity risk. Seeing maturity transformation, we conclude that PLS intermediation leads to a more exposition to liquidity risk since Islamic banks often use short-term deposits to allow financing of musharaka and mudarabah at long term. However, for the risk transformation, the PLS mechanism between the banks and its depositors on the one hand and the bank and entrepreneurs on the other hand, permits less exposition to liquidity risk. The participative intermediation seems to generate a limited liquidity function and is characterized by less money creation.*

*This implies that it is critical to reinforce the liability management of liquidity risk. Nevertheless, the impact of PLS intermediation on liquidity risk is influenced by the degree of development of islamic money market and the existence of Islamic lender at last resort.*

**Keywords:** PLS-Liquidity risk-Maturity-Islamic Bank- Risk liquidity Management

**JEL Classification:** G21, G32, P4.

## 1. Introduction

No one can claim any profit without incurring risk in the Islamic finance. This rule is called *al-ghounm bi al-ghourm* and the paradigm of Profits and Losses Sharing (PLS)

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has emerged from such a rule. According to this, the parties of a financial transaction must share together the risks and the returns. The specific financial intermediation of Islamic bank is the participative intermediation based on PLS at both asset and liability sides. It consists of financing by *musharaka* and *mudarabah* using funds of “investment deposits accounts”.

PLS paradigm induces specificities in the liquidity issue of Islamic banks. Participative financial intermediation can lead to less liquidity risk. Indeed, in the absence of guarantees of the nominal value of deposits, the Islamic banking system can better resist to the impacts of banking crises (Khan, 1986). PLS intermediation is characterized by less monetary expansion compared to debt finance (Siddiqi, 1992). Thus, the limited money creation reduces the exposition to liquidity risk. By contrast, PLS intermediation can induce more liquidity risk. Financing based on equity increases the Islamic bank vulnerability to risks (Qureshi, 1984). The domination of financing based on real assets also conducts to lengthen the liquidity differential (Al Monayea, 2012).

Different authors are interested in managing liquidity risk of Islamic bank (e.g. Iqbal and Mirakhor (2011), Greuning and Iqbal (2007), Ismail (2010), Akhtar et al (2011), Salman (2013)). Liquidity management of Islamic bank is facing important challenges due to religious constraints and the products nature (Abdul Rais, 2003). According to Aziz (2010) the infrastructure and the tools for liquidity risk management in Islamic banks are still in their “infancy” in many countries. Due to the lack of instruments for managing liquidity, Islamic banks are constrained to keep a higher liquidity which affects their profitability. Islamic banks have 40% more liquidity than conventional banks (Khan and Bhatti, 2008). According to Hasan and Dridi (2010), while Islamic banks rely more on retail deposits which are supposed to be more stable sources, they are confronted with the fundamental challenges of their liquidity management.

In this paper, we seek to investigate the role of PLS at both sides, asset and liability, in bank’s liquidity risk. The objective of this paper is to assess the liquidity risk in the participative intermediation. Using hypothetic-deductive methodology, this study aims at evaluating and discussing the hypothesis that PLS paradigm can impede or enhance the liquidity risk management of Islamic bank.

This paper is structured as it follows: in the second section, we present PLS paradigm and the liquidity risk. In the third section, we discuss whether PLS constitutes a constraint to Islamic bank for liquidity risk management (Hypothesis 1) or on the contrary, PLS intermediation allows opportunities for Islamic bank liquidity

management (Hypothesis 2). We conclude by specifying recommendations aiming at improving the liquidity risk management.

## 2. Specific Islamic banking intermediation and liquidity risk

The Banking-financial intermediation is known by its liquidity production compared to other non-banking financial intermediation. The specificity of the bank is not related to the management of means of payment but rather to the risks arising from its asset's illiquidity (Goodhart, 1989). The liquidity risk constitutes a challenge for banks. The Islamic financial intermediation based on PLS involves a specific exposition to liquidity risk.

### 2.1. PLS intermediation

The originality of Islamic banks consists of the principle of Profits and Losses Sharing (PLS) between the provider and the user of funds. This notion of equitable sharing is a key element in the concept of Islamic finance as it is supposed to reflect the values of Islam. Under the rules of *sharia*, no one can claim any compensation without incurring some of *ex ante* investment risks (*al-ghounm bi al-ghourm*). The principle of profits and losses sharing has emerged from this rule, according to which the parties of a financial transaction must share the risks and the returns. The PLS is the central axis of Islamic banking intermediation, because of its effect on the two sides of the bank balance-sheet: the assets and liabilities, which are both subject to the condition of PLS (Chong and Liu, 2009).

As far as liabilities are concerned, the principle of PLS is applied through investment deposits (profit sharing investment accounts) which are specific to Islamic Banks. Unlike conventional banks' deposits, contractual relationship between Islamic banks and investment account holders (IAH), called *mudarabah*, is based on the concept of PLS.

As pointed out by Archer and Rifaat (2009), the Profit-sharing investment accounts (PSIA) are not insured accounts, or capital certain, they are rather treated as investment products. Through investment-deposits accounts, the *ex-ante* rate of return on investment (interest rate premium in conventional banks) is replaced by an uncertain *ex-post* rate of return that must follow the principle of PLS. In fact, the unrestricted PSIA holders are directly involved in the medium and long term assets funded by PSIA, but without receiving guarantees or voting rights as it is the case for shareholders and current account holders (Hamza and Saadaoui, 2013). Indeed, these accounts can be commingled with current accounts and shareholders' equities in order to finance assets.

As far as assets are concerned, the Islamic bank plays the role of capital provider (*Rab al Mal*). It should make the collected funds available to entrepreneurs. In fact, Islamic assets are divided into two categories. The first category includes mainly the instruments of *murabaha*, *istisna*, *salam* and *ijara*, through which the bank plays a “commercial financing role”. These financing instruments are not based on the principle of PLS, but rather on a transfer of ownership of (underlying) assets from the bank to its customers.

The two main types of investment contracts, or PLS assets, are *musharaka* and *mudarabah*. A *musharaka* contract means that the bank and the customer make partnership to finance a project or a transaction, and here they support the same risk, proportionally according to their participation. *Musharaka* contracts can be a source of regular income for Islamic banks. Under a *mudarabah* contract, a partnership is required between the investor which provides capital (the Islamic bank: *Rab al mal*) and an entrepreneur (*mudarib*). The major feature of this operation is that *Rab al mal* bears the entire risk of loss, while the losses borne by the entrepreneur is limited to his efforts, except in case of negligence or misconduct from his part.

This participative intermediation is the ideal Islamic financial intermediation (e. g. Chapra (1985), Siddiqi (1998), Al-Suwailem (2009)). The non-existence of *mudarabah* and *musharaka* is responsible for inefficiency of financial resources mobilization (Dar and Presley, 2000). PLS is based on equity, justice and fairness in financial transactions in both mobilizing and investment resources<sup>3</sup>. However, other authors such as Ismail (2002) do not agree to the superiority of PLS and precise that the overemphasis on the PLS is not founded on any *quranic* text.

Yet, PLS intermediation is not the dominant Islamic financial intermediation. For example, PLS contracts represent only 2% of Pakistani Islamic banking assets (Baele et al, 2010). In reality, PLS intermediation presents many serious risks to banks and is inherent to agency problems (Dusuki, 2007). In a recent empirical investigation, Jouaber and Mehri (2011) show that diminishing *musharaka* is considered as the most risky Islamic product.

## **2.2.The liquidity risk**

The liquidity risk is one among many important risks Islamic banks can face. The Islamic Financial Services Board (IFSB) defines the liquidity risk as “the potential

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<sup>3</sup> For a study of relationships between PLS intermediation and economic growth (merits and limits), see Ben Jedidia and Ben Ayed (2012).

loss to IIFS<sup>4</sup> arising from their inability either to meet their obligation or to fund increases in assets as they fall due without incurring unacceptable costs or losses” (IFSB, 2012:5).

The liquidity risk has two types: funding liquidity risk and market liquidity risk. The first risk arises if the Islamic bank cannot meet efficiently both its expected and unexpected current and future cash-flow and collateral needs without affecting the daily banking operations or the bank’s financial conditions. This funding liquidity risk can be related to unexpected withdrawals or transfers of funds by depositors (due to reduced creditworthiness, displaced commercial risk, reputational risk or *sharia* non-compliance risk). The market liquidity risk appears if the bank is not able to easily offset or eliminate a position at the market price due to market deficiencies such as market disruption or the inadequate market depth. In others words, these two categorized liquidity risk are of two types: lack of access to funding and lack of liquidity in the market (Greuning and Iqbal, 2007).

In addition, the liquidity risk can be a result of other risks such as credit, operational or market risk. In Islamic banks, risks are entangled (Hassoune, 2010). In fact, there is an important correlation between different risks like the one between credit risk and liquidity. Consequently, liquidity risk is difficult to appreciate. Furthermore, the vulnerability to liquidity risk is enhanced since bank deposits come more from the retail market and less from the corporate market (Hassoune, 2003).

In PLS financing, the liquidity risk can arise if there is a late or nonpayment of profit payment during the contract. It can also be related to the nonpayment by the client of the principal at the end of contract. However, *musharaka* and *mudarabah* have a problem of periodic evaluation of these long term assets. The absence of secondary market for these products leads to their costly evaluation. In PLS liabilities, the liquidity risk emerges if the bank is not able to satisfy the liquidity behavior of its depositors for both routine liquidity demand and liquidity distress demand.

Many techniques of measurement of liquidity risk can be used, such as time horizons, levels of granularity and the cash-flow mismatch/maturity gap for calculating the net funding requirement (banks estimate the amount and the timing of future cash flows with respect to contractual or expected maturity).

To avoid liquidity crisis, Islamic bank must ensure sufficient funds available to match the demands for repayment. In principle 9, the IFSB (2012) requires that banks

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<sup>4</sup> Institution(s) offering Islamic financial services (excluding for these Guiding Principles Islamic insurance/*Takaful* institutions and Islamic collective investment schemes)

maintain a liquidity buffer (cash or other highly liquid asset *sharia* compliant) to face a prolonged period of liquidity shortage<sup>5</sup>. In addition, Islamic bank should prepare a “contingency funding plan” to deal with liquidity stress situation. IFSB (2012) invited Islamic banks to model the contractual and behavioral profiles of current account holders, investment account holders IAH, current and also other fund providers, in normal and stressed market conditions.

### **3. Assessment of PLS’s role in the Islamic bank liquidity management**

#### **3.1. PLS as constraint to Islamic bank liquidity management risk?**

Generally, the liquidity management is a challenge for Islamic financial institutions. The empirical research of Ismal (2010) constructs the LRM index in order to assess the liquidity risk management (LRM) practices in Indonesian Islamic banking industry during the period 2000-2007. He found that the practices of LRM are not optimal. We focus on the liquidity problems related to PLS intermediation in order to discuss the first hypothesis. We start by macro-economic problems of the liquidity management.

##### **3.1.1. Macroeconomic Problems of liquidity management**

The liquidity supposes that banking assets are structured and they can be resalable whenever the liquidity need occurs. The asset selling permits to mitigate the funding liquidity. Nevertheless, Islamic bank cannot use traditional covering instruments like conventional banks (Olson and Zoubi, 2008). The *sharia* imposes limitations on the financial asset’s trading. In fact, Islamic products like debt can only be resold at their face value to avoid the interest rate. Moreover, the principle of financing backed by tangible assets is causing difficulties for their conversion into cash.

In this regard, Dar and Presley (2000) note the inexistence of a secondary market for trading of *musharaka* and *mudarabah*. Even if the secondary market for financial Islamic instrument exists, it is smaller and the number of market participants is limited. Iqbal and Mirakhor (2011) consider that the lack of an organized effort to “securitize” Islamic banking assets in the market reduces the liquidity of Islamic

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<sup>5</sup> After the financial crisis of September 2008, Bale III recommended two ratio: LCR, the liquidity coverage ratio (will be implemented on 1 January 2015) to promote the immediate resistance banks for possible illiquidity, banks will be required to have a driving of sufficient high quality liquid assets sufficient to meet cash outflows in an acute stress scenario at short term. The NSFR, net stable funding ratio (will become a minimum standard by 1 January 2018) and will address the asymmetries of financing and encourage banks to use stable sources to fund their activities.

banks. In addition, the majority of loans and facilities of the Central Bank are not in conformity with the *sharia* (IFSB, 2008) causing a lack of islamic lender at last resort.

Money market instruments constitute key tools to improve the liquidity management. They provide facilities to Islamic bank to fund and adjust their portfolios in short term and to synchronize their outflows and inflows cash. Compared to conventional one, the Islamic inter-bank market is under-developed (Hesse et al, 2008). It is narrow and it suffers from the scarcity of short-term *sharia*-compliant instruments. The most common interbank instruments are based on commodity-based murabahah transactions. Yet, Commodity murabaha that should be used as a liquidity management tool is becoming an instrument to raise funds and a funding source for islamic banks which arise a systemic risk (Salman, 2013).

Consequently, the difficulties to manage liquidity risk compelled the Islamic banks to keep more cash in order to meet their obligation. In return, the bank performance is affected.

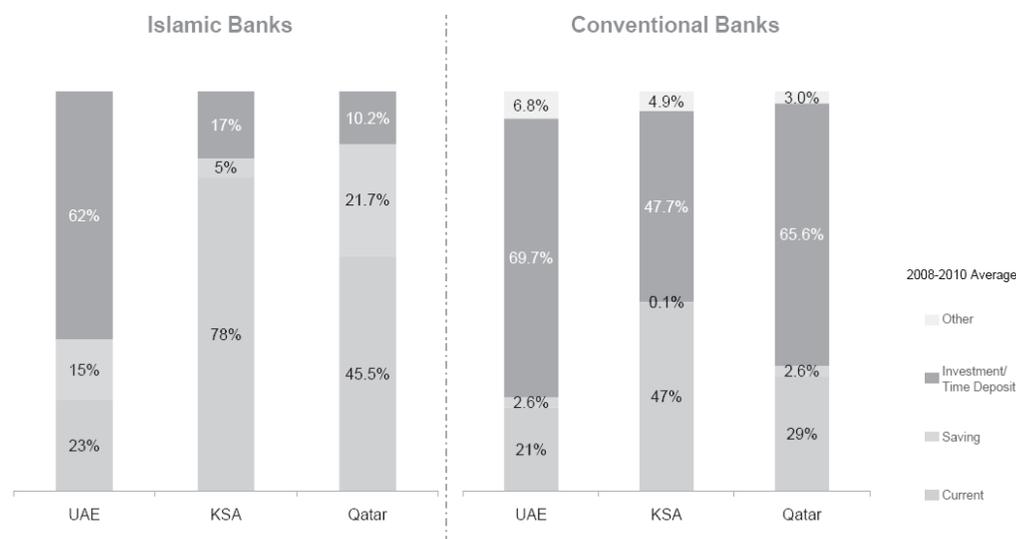
### **3.1.2. Differences maturities**

The initial theory of intermediation has highlighted the transformation of the financial asset (from primary to secondary) by the financial intermediary (Gurley and Shaw, 1960). This asset characteristics' transformation allows the reconciliation between lenders and borrowers. The main transformations are: maturity transformation since the bank offers long term financing funded by short term deposits and the risk transformation due to the transformation of risky assets to riskless liabilities. Consequently to the transformation process, the conventional bank performs a liquidity function (from higher liquidity to illiquidity financing).

Abelkhail and Presley (2002) argue that the transformation of mismatches is an important element of financial intermediation of Islamic banks. Then, the more the mismatch differences between asset and liability side of balance sheet is important, the higher the liquidity risk is. Iqbal and Mirakhor (2011) precise that the asset liability duration mismatch is the most dominant reason behind the liquidity risk. Islamic bank are more exposed to a maturity differential (Hassoune, 2003). The maturity transformation arises as the short-term deposits provide finance at medium and long term. Indeed, the Commodity Murabaha Transactions (CMT)-based funds at short term used by Islamic bank to finance longer-term asset causes a maturity-mismatch and an asset-liability imbalance (IFSB, 2012). The dominance of short term deposits constitutes a challenge for the liquidity risk of Islamic bank (Tarawneh, 2006). According to Al-Muharrami and Hardy (2013), Islamic banks face a lager

maturity mismatch due to the availability of mostly very short maturity funding and the demand for long term project funding.

As shown in Fig 1, compared to conventional banks, Islamic banks have limited long term liabilities. The empirical study of Ismal (2010) concludes that the large portion of short-term time deposits (1-month) and also the rational depositors who are very sensitive to interest rate returns both constitute the most serious liquidity problem for Indonesian Islamic banks.



**Fig1 : Bank deposits (islamic and conventional), Source : ERNST & YOUNG (2012)**

Accordingly, the maturity gap approach permits to address the net funding requirement for Islamic banks in each time horizon. ERNST& YOUNG's report (2012) highlights that Islamic banks have negative liquidity gap for short-term maturities. In fact, Net liquidity gap/ total asset is equal to -44% for a maturity less one year but 72% for a maturity over one year. As argued by Hassoune (2003), Islamic banks **lose** in terms of liquidity while they earn in term of their profitability which is less volatile than conventional banks. To avoid the problem of differential maturity of assets and liabilities, Islamic banks should allocate deposits to suitable maturities.

### 3.1.3. Displaced commercial risk

PSIA offer a remuneration that varies with profitability of bank assets, according to a set of criteria agreed on in advance with the bank. Thus, Islamic banks are

constrained to conform to the principles of *sharia* and, at the same time, to face hard competition from conventional banks. They are also forced to adjust their operations and strategies to a legal and institutional environment which is often favorable to conventional financing activities. It is difficult for Islamic banks to predict and to stabilize the rate of return of PSIA, which depends mainly on competition level between banks. Therefore, it is more difficult for Islamic banks to maintain their market power and to compete with conventional banks. This could ultimately make investors lose their confidence and push them to withdraw their funds. The risk due to the loss of competitiveness, caused indirectly by PSIA, is called Displaced Commercial Risk (DCR). It means that the bank may confront commercial pressure to pay returns which exceed the rate earned on its assets financed by investment account holders.

Liquidity risk suddenly dries up as a consequence of massive withdrawals. The AAOIFI (1999) identifies this risk as the probability of loss of competitiveness due to a greater uncertainty regarding the PSIA rate of return. The Islamic banks are under pressure to pay their investors-depositors a rate of return higher than what should be payable under the “actual” terms of the investment contract<sup>6</sup>. Hence, the occurrence of this specific risk for Islamic bank, the Displaced Commercial Risk<sup>7</sup> exacerbates their liquidity risk (Hamza and Saadaoui, 2013). We can conclude that the management of DCR and the liquidity risk are interlinked.

In Sum, if we focus on the relationship between PLS intermediation and liquidity risk, we notice on the one hand, the importance of maturities differential between asset and liability side and on the other hand, the impact of displaced commercial risk on the liquidity shortage of interest-free banking. Moreover, the occurrence of business cycle causes disrupts in the performance of asset side and may cause imbalance asset-liability. Unlike conventional banks, the liability management in PLS intermediation cannot be replaced by asset management due to the less reversibility and the problem of selling of PLS financing. Then, it is critical to

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<sup>6</sup> The IFSB (2005) make the following definition: “Displaced Commercial Risk refers to the risk arising from assets managed on behalf of Investment Account Holders which is effectively transferred to the Islamic Financial Institutions own capital because the IFI forgoes part or all of its mudharib’s share (profit) of on such fund, when it considers this necessary as a result of commercial pressure in order to increase the return that would otherwise be payable to Investment Account Holder’s” (2005, § 76)

<sup>7</sup> In order to overcome this risk and to attract IAH, Islamic banks can use the Profit Equalization Reserves (PER) to cover an insufficiency of returns by smoothing profit payout, and Investment Risk Reserves (IRR) to cover unexpected losses on PSIA returns

reinforce the liability management (increasing capital, increasing the maturity of deposits) and the importance of Islamic refinancing.

However, the PLS as a constraint to Islamic bank liquidity management risk is strongly influenced by the degree of development of Islamic finance in the country, precisely the nature of financial system (dual/islamised), the degree of development of Islamic money market and the existence of Islamic lender at last resort. First, the intervention of Islamic bank in a conventional financial system causes many difficulties for the risk management. The liquidity management of Islamic banks faces two challenges: the surplus liquidity should not be transferred to conventional bank and Islamic bank access to liquidity is limited due to constraints on their borrowing (Al Monayea, 2012). Second, Islamic banks face a lack of legal support from Central Bank<sup>8</sup>. In fact, Islamic banks are more vulnerable to liquidity problems without the facility of the last resort lender (Alamsyah, 2011). Third, the lack of liquidity *sharia* compliant instruments management tools and tradability of liquidity instruments hamper the liquidity management (IFSB, 2011). Then, a deep<sup>9</sup> and efficient Islamic money market is currently among relevant issues in Islamic finance. The exception is in Malaysia, where the Islamic Interbank Money Market (IIMM created in 1994) helps banks to match their funding requirement. Activities in IIMM are: sale and purchase of Islamic financial instruments within participants, interbank investment activities, cheque clearing and settlement system through the Islamic Interbank Cheque Clearing System (IICCS)<sup>10</sup>.

### 3.2. PLS as solution for Islamic bank liquidity management?

The participative intermediation is less common in Islamic bank activity. In this analysis, we will see if the specific Islamic intermediation offers opportunities to the bank liquidity management in order to discuss the second hypothesis. In theory, Islamic banks are likely more stable due to their profit sharing (Salman, 2013). If the saving depositors withdraw their funds only at maturity of projects in which their funds are invested, PLS financing does not pose an asset-liability mismatch.

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<sup>8</sup> In Sudan where the financial system is fully islamised, the Central Bank of Sudan uses *sharia* compatible securities to provide liquidity.

<sup>9</sup> Agents involved in money market are banks, government, businesses, investment companies (brokerage firms) finance companies (commercial leasing companies), or pension funds provider, insurance companies (property and casualty insurance companies).

<sup>10</sup> But, the trading instruments are mainly based on debt instruments principles (such as Govt Investment Issue, Islamic Acceptance bills, Islamic Debt securities).

### 3.2.1 A limited liquidity function

The introduction of equity based risk sharing instruments can “shield” bank from the effects of future shocks. In fact, deposits based on the sharing risk principle can absorb any adverse outcomes on the asset side of bank (Dusuki, 2007). In theory, as the majority of funds are obtained from *mudarabah* and *wakala* investment accounts, Islamic banks enjoy a significant buffer against losses (Al Monayea, 2012).

Shocks are immediately observed through changes in the value of investment deposits leading to the ongoing appropriateness between the actual value of the bank assets and liabilities. Globally, the sharing risk is important to insulate the Islamic economy from the shocks (Mirakhor, 1988).

Thus, a limited liquidity function is associated to PLS intermediation since the value of the bank depositors’ funds represents the real assets value of the Islamic banks. Thanks to the sharing paradigm, the equality of assets and liabilities can be established simultaneously and liquidity minimized. Therefore, Islamic banks are less exposed to liquidity shortage problem since the remuneration of deposits does not guarantee fixed yields.

From the PLS perspective, we think that the liquidity less exposition is more linked to the less risk transformation than to the maturity transformation. In order to resolve the problem of maturity differential, Islamic bank can convince its depositors to use their deposits for investment for medium and long term. In this view, among challenges for managing the liquidity risk, Islamic bank maintain deposits by ensuring high returns (Hasan and Dridi, 2010). For this purpose, Islamic banks must be competitive in order to pay high return and attract more deposits. In addition, in order to lengthen the maturity deposits, Islamic bank can use instruments of management of displaced commercial risk.

In practice, Islamic banks do not use all investment deposits for financing and a part is unaffected and remains unused. The more the allocation ratio of PLS deposits is important, the less the Islamic banks are exposed to liquidity risk. Generally, Islamic bank hold more liquid assets than conventional banks (Cash and Cash Equivalents/ Total liabilities is 19% for Islamic bank while it is 14% for conventional banks, ERNST & YOUNG, 2012)

### 3.2.2. Less money creation

In Islamic finance, money is a medium of exchange and unit of account. Money cannot generate money only in conjunction with industrial or commercial activity (Khan, 1984). In this regard, money is considered as a tool and not as an objective.

Money creation exposes the bank to a significant risk of liquidity. The exposition to liquidity risk is related to the degree of money creation. In Islamic finance, the literature of the issue of credit creation and control for interest free banking system is “scanty”, “controversial” and “inconclusive” (Hasan, 2008). While some authors indicate that Islamic bank activity does not result in money creation, others consider that participative intermediation leads to a monetary expansion (Siddiqi, 1992)<sup>11</sup>. According to the author, the system of PLS financing is « quantitatively less » than in debt finance. Because the ratio of current deposits to total deposits is smaller than their conventional counterparts, the money creation of Islamic bank is less than interest-based banks (Siddiqi, 1992).

Compared to money creation of conventional bank, the money creation of Islamic bank is “more closely” to the additional wealth creation in the real sector. In fact, the principle of asset backing which implies that financial transactions should be based on actual transactions leads to financing linked to real productive activities unlike speculative and unproductive money creation in the conventional system. According to Mirakhor (1988), the investment is determined by real savings and not by credit multiplier as in conventional banking. Islamic banks are precisely an intermediary investment and not simply financial intermediaries. Therefore, under PLS paradigm, the reduced money creation that reduced inflation limits the liquidity risk. Economically, the reduced money creation may hamper the financing of economic growth.

#### 4. Conclusion

The research’s objective is to discuss both research questions: PLS paradigm impedes the liquidity risk management of Islamic bank or on the contrary, PLS paradigm enhances the liquidity risk management in Islamic bank. These questions end with a nuanced response. In fact, in the view of maturity transformation, PLS intermediation conducts to a more exposition to liquidity risk since Islamic banks often use short-term time deposits to allow long-term financing of *musharaka* and *mudarabah*. The importance of differential mismatches between deposits and financing increases the liquidity risk. However, in the view of risk transformation, the PLS mechanism between the banks and its depositors on the one hand and the bank and entrepreneurs

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<sup>11</sup> Siddiqi (1992) explains that “since investment accounts with the Islamic banks carry some withdrawal facility, new money is created when the funds in these accounts go to entrepreneurs on profit sharing or murabaha basis” (p. 37). Also, there is a debate for the application of reserve requirement against investment deposits.

on the other hand, provides less exposition to liquidity risk. The participative intermediation seems to generate a limited liquidity function and is characterized by less money creation.

Unlike conventional banks, the liability management in PLS intermediation cannot be easily replaced by asset management due to important impediments such as the issue from *sharia* perspective (selling and securitization of assets), asset structure (lack of diversification, concentration), inefficient Islamic money market (lack of liquidity management tools preventing banks from managing their cash items and improving risk diversification). Consequently, it is critical to reinforce the liability management (increasing capital, increasing the maturity of deposits) to manage the liquidity risk. However, it is important to highlight that the impact of PLS intermediation on liquidity risk is influenced by the degree of development of Islamic money market and the existence of Islamic lender at last resort.

According to the Chief executive officer of a Tunisian Islamic bank (2014), the PLS assets seems to constitute a constraint to liquidity because the bank, in some critical situation, will have a difficult to liquid these assets. In addition, these assets will mobilize a lot of funds for long period with an uncertain return. To develop the PLS assets without affecting liquidity risk, our interviewer suggests essentially, the development of securitization and the secondary markets for these assets and the creation of a specific investment account with a long maturity above one year. Besides, he proposes the enhancement of the relation with institutional actors to attract them for this type of deposit and investment.

Finally, this study can be extended and strengthened by an empirical study about the relationship between PLS intermediation and liquidity risk.

### **List of abbreviations**

**AAOIFI** : Accounting and Auditing Organization for Islamic Financial Institutions

**CMT** : Commodity Murabaha Transactions

**DCR** : Displaced Commercial Risk

**IAH** : Investment Account Holders

**IFSB** : Islamic Financial Services Board

**IICCS** : Islamic Interbank Cheque Clearing System

**IIFS** : Institution(s) offering Islamic financial services

**IIMM** : Islamic Interbank Money Market

**IRR** : Investment Risk Reserves

**LCR** : Liquidity coverage ratio

**LRM** : Liquidity risk management

**NSFR**: Net stable funding ratio

**PER** : Profit Equalization Reserves

**PLS** : Profits and Losses Sharing

**PSIA** : Profit-Sharing Investment Account

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