

The impact of ownership structure on bank risk: case of Tunisia

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Abstract

The ownership structure and risk are two important variables in the banking sector . Indeed , shareholders have incentives to monitor bank risk according to their objectives .

In the context of this article , we used a sample of 19 banks in Tunisia over the period(2000-2010) . Through the method of panel static , we found that public ownership has a negative effect on bank risk , while private ownership and foreign ownership have a positive effect on bank risk.

Key words: Ownership structure , public ownership , foreign ownership , private ownership , bank risk , panel static

1-Introduction

The ownership structure has a significant effect on bank risk .Indeed , the type of ownership may increase or decrease depending on the objectives of shareholders and bank risk managers (Teresa and Dolores (2008),

Moreover , the ownership structure influences the decisions of managers and their risk aversion . We will focus in the context of the 3 types of ownership (public ownership , private ownership , foreign ownership) . Indeed , public ownership reduces market risk because there is social goal rather than maximizing profit by the shareholders of bank .

Also , public ownership reduces operational risk due to resource implicit state guarantee. Increasing public ownership is related to inefficient financial system (Laporta and al (2002) , Barth and al (2001)).

In the case of the financial crisis , there are increasing role played by the European government in the capital of banks (Ianotta and al (2012)). On the other hand , private ownership incentives to increase transaction on capital markets which increases the risk of exchange of securities .

In the case of insolvency risk , private ownership encourages more respects commitments to depositors and creditors , which reduces the risk of default of the bank .

Also , private ownership aims to maximize the profit , through the incentives for mangers to work according to regulatory standards and accounting which reduces the operational risk of the bank .

Moreover , the presence of the privatized banks and reducing barriers to entry will increase competition in the market which can lead to changes in the risk taking of privatized banks and their rivals .

In addition , public banks are more exposed to credit risk³ than private banks because they play an important role in facilitating the political credit and loans . They are less sensitive to macroeconomic shocks in comparison with the private banks (Micco and Panizza (2004)).

For market risk⁴, private banks are more level than public banks . Moreover , private banks have a goal of maximization profit that encourage more transactions in the capital market and deposits .

For operational risk⁵, public banks have the protection of the state which their precedence over private banks . Indeed , the government part of capital , guarantee financial and legal protection in particular on the market and to protect banks against the risk of default⁶.(Megginson et Netter (2001)).

Moreover , foreign ownership may influence the risk of local banks in several ways . Indeed , when foreign banks exercising more competition , domestic banks are trying to increase their credits(which increase the credit

³ the risk that borrowers do not repay loans at the agreed time .

⁴ the risk of adverse interest rate movements of financial market and money market on the position of the bank .

⁵ The risk of inefficient use of resources and bank equipment .

⁶ the risk that bank goes bankrupt

risk), but they are encouraged to increase the efficiency and new information technologies (which decreases the insolvency risk⁷). Growth operations in the banking market increases the risk of local banks. In addition to the investments made by national banks to act competition, additional training for enable managers reduces their operational risk.

In the context of this article, we will use a methodology composed of three sections: the first section is devoted to the literature review. In the second section, we will analyze an empirical study. Afterwards, we will conduct a conclusion that may be of interest to all stakeholders of banks in Tunisia.

2-Literature review

2-1 The relationship between public ownership and bank risk

Public ownership means the percentage of the bank's capital owned by the state. Public ownership may increase the credit risk because politicians are encouraged to give credits to their uncertain allies. Also, public ownership increases the insolvency risk because there is an intense activity in the market of deposit and loans without sufficient collateral.

On the other hand, public ownership reduces market risk because there has social objectives rather than maximizing profits by the shareholders of the bank. Also, public ownership decreases operational risk due to resource implicit guarantee of state.

Moreover, there are several studies that have confirmed the influence of public ownership in the banking risk. Laporta and al (2002) analyzed data of state owned banks from 92 countries. Concluding that the presence of state politicized the process of resource allocation within financial institutions, because it allows the government to finance political investment desirable but not efficient from economic and financial point of view.

Sapeinza (1999) concluded that the Italian banks pursue political objectives in their credit decisions. Barth and al (2001) indicated that the increase of public ownership is related to inefficiency and less developed financial system.

On the other hand, most recently, following the financial crisis (2007-2009), many European banks have been helped by the national governments through a series of provisions, which not included the purchase of tiers borrowing at favorable conditions and the state guarantee of uninsured debt, but also the injection of equity.

This has led to an increased role played by European governments in the capital of banks (Guiliano et al (2012)). This nationalization from the European banking sector has received in turn debate on opportunities and consequences of public ownership.

It is often argued that the protection of government subsidizes public banks and leads them to more aggressive taking⁸.

On the other hand, public ownership encourage managers to increase operational risk and projects. So, we will test the following hypothesis

H1 : Public ownership affect negatively the bank risk .

2-2 The influence of private ownership on bank risk

Private ownership shows the percentage of bank capital owned by private investments. In the case of credit risk, private ownership incentive to reduce unsecured and non performing loans and thereby reducing the risk of borrowing from the bank.

⁷ The risk that the bank can not meet its obligations to depositors and creditors.

⁸ This distorts competition and undermines the effectiveness of market mechanism discipline.

In the case of market risk , private ownership incentive to increase transactions in the capital market which increases the risk of trade in financial securities . In the case of insolvency risk, private ownership encourages more respect of commitments to depositors and creditors , which reduces the risk of default of the bank .

Also , private ownership aims to maximize the profit of a bank . Through the incentive for managers to work according to regulatory standards and accounting which reduces the operational risk of bank . In addition , it should be noted that privatization⁹ has an impact on bank risk .

Moreover , according to Otchere (2007,2009) , the presence of privatized banks and the reduction of barriers to entry will increase competition in the market which can lead to changes in the risk taking of privatized banks and their rivals .

Indeed , changes in ownership and objectives may affect the risk taking of private banks . Privatized banks become more aggressive to generate more profit and market share . According to Sana et Otchere (2012) , in the period after privatization , privatized banks could move loans to public enterprises to more worthy clients who meet the lending standards of banks .

Sana and Otchere (2012) found that privatized banks have reduce risk (measured by Z score , the volatility of equity return , volatility of return on assets , the ratio of non performing loans) .

These results are consistent with the hypothesis that the privatized banks become more conservative and less risky after privatization .

With emphasis on the method of privatization , they showed that the bank privatized by issuing shares is less risky that the bank privatized by the scales of assets . Also , they showed that the privatized banks in developed countries have less risk than banks in developing countries .

On the other hand , privatization through the opening of capital in both national and international trade involves issuing shares , reduced barriers to foreign investment and expanding the number of shareholders of the bank (Chiese et Nicodera (2003)).

This increases the market risk and risk associated with investment operations .

So , private ownership has a significant impact on bank risk .

We will test the following hypothesis :

H2: The private ownership has a positive impact on bank risk .

2-3 Comparison between public banks and private banks in term of risk taking

There are differences in risk taking between public banks and private banks . For credit risk , public banks have more level than private banks . Because public banks pursue the objectives of politicians and social objectives which increases the number of non performing loans .

Indeed, public banks increase their credit risk because of their political orientation , which is their characteristic in developing countries (Nakan and Weinturb (2005) , Zouari and Sonia (2012)¹⁰).

Moreover , they found that public banks are more exposed to credit risk than private banks because they play an important role in facilitating the politic of credit . Their loans are less sensitive to macroeconomic shocks in comparison with that of private banks .

Sapeinza (2004) also found such a relationship . He explained this result by three alternatives views . From the social point of view , he showed that state intervention in banks in order to correct the market failure caused by

⁹ Public banks or semi public banks become private banks . Privatization has been an instrument to reduce state participation in many countries and sectors (Megginson and al (2001) , Dajankov et al (2002)).

¹⁰ They used a sample of 17 banks in Tunisia over the period (2000-2010)). They showed that public banks have a lot of non performing loans .

private banks . According to the political point of view , he has demonstrated that public banks are pursuing private interests of politicians .

Finally , regarding the point view of agency , he showed that public banks are essentially volunteering (they maximize social well being , but they are planed by corruption and the misallocation of resources) .

For market risk , private banks have more level than public banks . Moreover , private banks have a goal of maximizing profit that encourages more transactions on the capital markets and the market of deposits .

For operational risk , public banks have the protection of the state which their precedence over private banks . Indeed , the government part of capital , guarantee financial and legal protection in particular on the market and to protect public banks against the risk of default (Megginson and Netter (2001)).

Moreover , Thierno and al (2009) using bank ownership data for a sample of European commercial banks , they found no difference in default risk between public banks and private banks .

Guiliano et al (2012) used a sample of 210 large banks in Western Europe for 10 years (2000-2009) to assess the impact of government ownership on bank risk . They found that public banks have a lower risk of default but have greater operational risk than private banks , indicating that they benefit from government protection as from of implicit guarantee .

Thus , the evolution of operational risk of public banks and government protection during the electoral cycle is significantly different from that of private banks . For the insolvency risk , private banks have more level than public banks . Moreover , private banks have a large number of creditors and customers , that increasing their liquidity risk .In addition , they don't enjoy a state guarantee in relation to public banks¹¹.

2-4-Impact of Foreign ownership on bank risk

2-4-1 Foreign ownership and the banking environment

Foreign ownership means that a percentage of the banks capital is owned by foreign investors . Which has interactions with the banking environment . Moreover , there are several studies that have shown the influence of foreign ownership on the banking environment .

Indeed , Demirguc Kunt et al (1998) presented an analysis of a large sample of emerging economies including the presence of foreign banks. This reduces the likelihood of the banking crisis . Moreover , Detergiache and Gupta (2004) showed that foreign banks have a stabilizing influence before on during local crisis .

On the other hand , Claessens and al (2001) used data of banks in 80 developed and developing countries over the period (1988-1995) . They found that the increase in foreign ownership is associated with higher risk and less profitability for domestic banks .

In addition , Terrel (1986) , Bhattacharya (1993) , Mc Fadden (1994) , Clark et al (1999) , Denizer (1999) , Barjas et al (1999) studied data from 14 developing countries and found that foreign ownership is accompanied by less profit , more operational cost and risk for national banks to act with competition .

In addition , it should be noted that foreign ownership promotes competition in banking system which has a positive and negative effect on the risk of domestic banks depending on the circumstances and levels of banking operations . Thus , foreign ownership is associated with a high insolvency risk . This is due to high debt and volatility of earning ratios .

Zhu , Li , Zeng , He (2009) studied a panel of chin ease banking sector between (2002-2005). They examined the impact of foreign investors on the behavior of bank risk . They found that foreign investors have a positive but limited impact on the credit risk of the bank in China , but risk management is improved when the participation of foreign investors is more than 15% of the total capital of bank (decrease credit risk of bank) .

¹¹ In a sample of Russian banks over the period (1999-2007) , Zuzana et Laura (2008) found that the effect of public ownership of bank is negatively related to the insolvency risk .They explained this result by the fact that public banks tend to be more stable .

Moreover , the decline in non performing loans is due to higher growth of the chinese economy and the massive restructuring of state banks . Foreign ownership may help to more effectively management of credit risk (efficiency) . Indeed , foreign banks increased liquidity , the amount and the abandonment of financial services (Levine (1996)).

In addition , the presence of foreign banks improves the infrastructure of financial system (accounting , transparency , regulation) and stimulates the increase presence of agents such as (rating agency , audit and regulatory office) (Claessens and Oks (1994)).

So , the presence of foreign banks can increase the ability of financial institutions to effectively measure and manage credit risk . On the other hand , Kasan et Marton(2003) showed that the entry of foreign banks encourages the local banking system to be more efficient .They found that foreign banks and new banks are more efficient .

In the case of foreign ownership , it has the input of capital , new technologies of information (which increases the market risk of the bank due to increased securities of portfolio) . As a result , there is a positive effect of foreign ownership on the market risk of the bank .

Foreign investors brings capital which reduces the insolvency risk of the bank . As a result , there is a negative relationship between foreign ownership and insolvency risk of the bank . In addition , foreign investors bring stamping sophisticated to better detected the credit worthiness of borrowers (which reduces the credit risk of the bank) .So , there is a negative relationship between foreign ownership and the credit risk of the bank .

Dimova (2004) showed that the size and large foreign banks provide an advantage in technical of management of credit and information technology . Foreign banks prevents executives to divert from objectives of shareholders .(Caprio et Levine (2002)).

Indeed, the foreign banks has an incentive to acquire information , to monitor managers and to engage in risk management . Clarez et Hainz (2006) , Van Thassel et Vishwara (2005) analyzed the effect of different modes of foreign bank entry on competition in a specified banking market . They found that the entry of foreign banks leads to more competition and lower interest on the local banking market .

On the other hand , Deehas , Vanlyveld (2006) showed that the supply of credit from foreign banks remains stable during the crisis in the host country . However , the opening of banking markets can entail major risks for national banks , because they must to make huge investments to be competitive .

Dell Arricia and Marquez (2004) indicated that there is a difference between superior information of banks in host country and low cost refinancing of foreign banks entering in t local market .

Bush (2003) showed that large barriers face information discourage the entry of foreign banks . Also it should be noted that the entry of foreign capital in the banking sector can be due in different ways (the representative office , the branch , the affiliated bank) .

The representative office whose activities are limited to non commercial banking operations , the branch is authorized to conduct certain types of banking operations , the affiliated bank is the local bank whose parent company own less than 5% of its capital .

2-4-2 The characteristics of the entry of foreign banks in the local banking market

The entry of foreign bank in the local banking market has several indicators , such as the provisions of new information technologies , sophisticated tools to determine the credit worthiness of borrowers , the high reputation in the international capital market .

According to Beck et al (2004) , Claessens et al(2001) , Berger et al (2001) , the banks with higher foreign ownership have a different level from the local banks where they use new ways of managing risks . indeed , the first banks are generally subsidiaries , therefore they enjoy the advantage of economies of scale .

In addition , they can use a multidimensional customer base by moving to other countries , primarily those containing foreign subsidiaries of their clients (local companies) (Goldberg and Saunders (1981)).

Moreover, according to Vintzel (2001), banks with high foreign ownership benefit from easier access to capital markets, a greater ability to diversify risk and greater opportunity to offer some of their services to foreign clients that are not easily accessible by local banks.¹²

Therefore, foreign banks bring with them new technology risk management (role of rehabilitation) which increases the growth rate and financial capital (Guptal (2002), Claessens and al (2001), Jeon and al (2006)).

On the other hand, foreign banks have gained the trust of customers based on their reputation in their home countries and they took the entrepreneurs and potential investors in such sectors such as foreign trade (Keren and Ofer (2002)).

Bonin (2005), Levine (2002) showed that foreign banks help to improve the quality of governance which increases the efficiency of local banks and reduce their excessive risk. In addition, it should be noted that the entry of foreign banks can increase financial stability by enabling greater diversification of exposure and improving risk management.

Presence of foreign banks could be particularly valuable during banking effects to diversify against systemic risk and specific risk which may affect the capital of banking system.

The fact that foreign banks are diversified across different countries could change the cyclical behavior of the financial system of the host country as foreign banks are less sensitive to business cycles of the host country. On the other hand, central banks of host countries are attracted by the effective participation of foreign banks from the transfer of technology and management gains of international networks.

Indeed, foreign banks are interested by high growth of gains in emerging markets and financial returns. But, they are affected by the contagion in the event of crises in the host country.

Moreover, there are several empirical research on foreign banks and financial stability (Larène, Reinhart, Varquez (2006), Dages, Goldberg, Kinney (2000), Peckand, Rosenberg(2000)). They concluded that foreign banks tend to improve financial stability in host countries. International banks have lower default risk and have access to international capital because of their global diversification.

In addition, the presence of international banks could prevent local financial crisis. On the other hand, foreign banks reduced financial constraints, improve access to credit and reduce the cost of credit by promoting economic performance of their host countries.

Indeed, Detragiache and al (2008) showed that foreign banks are better than national banks to produce "hard" information but not "soft" information¹³.

3-3 The profits effects of foreign banks in the local banking market

The presence of foreign banks can stimulate domestic banks to reduce costs, improve efficiency and increase the diversity of financial services competition. In the presence of foreign banks, domestic banks have an incentive to improve the quality of financial services (Lensink, Hermes (2004)).

Indeed, the presence of foreign banks can put practices that improve banking. Also, they increase competition with domestic banks which can reduce the interest rate on loans. On the other hand, foreign banks may also

¹² Even in developing countries, the foreign banks from developed countries have access to new technologies.

¹³ The "hard" information are different from "soft" information regarding the degree of transferability. The "hard" information refers to credible and verifiable services of time as (balance sheets of company, historical credits guarantee).

The "soft" information can not be verified by a third person and expresses a result of the relationship between a bank and a borrower. For example, repeated interviews with an owner of a young society. The manager of branch could be convinced that the business owner is a contractor worker, honest and with a high profitability of success.

However, the soft information can not be transferred to other potential lenders. (Petersen(2004)).

have modern technology and efficient operations that are new to domestic banks (these techniques can be copied).

Moreover , Berger and al (2000) made the overall hypothesis of advantages . They have shown that foreign banks can overcome border instruments (distance , cost monitoring , differences in environment and culture) and more efficient use of their resources .

Foreign banks may have a higher yield operating in other nations because they can use their superior management and best practices than local banks . Foreign banks can also increase their income form investments or effective management of their resources by providing a better quality or variety of services that customer prefer or diversify their risk , or taking high risk of investment and high profitability .

In addition , Micco , Panizza and Yanez (2004) reported that the average level of foreign banks penetration among developing countries rose from 18% to 33% of total banking assets between (1995-2002) . Claessens and al (2008) showed that approximately 40% of all developing countries , over 50% of banks have foreign owners , it exceeds 80% in several countries of central Europe and Eastern Europe .

Indeed , foreign banks provide a greater financial stability (Clark Cull , Martinez Peria and Sanchez (2003) , Claessens (2006) , Chopra (2007) , Cull Martinez et Peria (2011)). Generally , lower costs of financial intermediation measured by the margins , overheads costs and low profitability is indicated with a greater presence of foreign banks .(Claessens and al (2001) , Mian (2003) , Berger et al (2005)).

In addition , the entry of foreign banks is positively related with the quality of financial intermediation and lower provision for credit losses . (Martinez Peria and Mody (2004)).

Alos , Aneta et Oscar (2010) assumed that multinational banks early access to foreign markets to increase their profitability with acceptable risk profile . Indeed , the characteristics of the host country related to profitability and risk are important drivers of bank's decisions to enter a foreign market .

Indeed , foreign banks benefit from their best resources that lower the borrowing rate , foreign banks may enjoy lower costs due to their great reputation of deposits .

Moreover , Dell Ariccia and Marquez (2004) also demonstrated the impact of loan rates when foreign banks compete with the best national banks . They showed that lending rates charged to borrower transparencies are lower than those charged to opaque clients and this is due to the difference in credit application .

They also showed that the entry of foreign banks may affect the maturity of loans and currency exchange rates .

Indeed , several theoretical and empirical studies have shown that foreign banks have a comparative advantage in lending based on information transparency of companies (historic , detailed information about credits , financial accounts) (Gormley (2007) , Sengputal (2007)).

Moreover , the entry of foreign banks can also lead to improvements in the regulation and supervision of national banks , since these banks may require improved regulation and supervision of regulatory authorities in the host countries , which contributes to improving the quality of operations of national banks .

Also , foreign banks can increase bank risk management that promotes financial stability and increased welfare of customers . Indeed , foreign banks may also have modern technology and efficient operations that are new to the banks .

Moreover , foreign banks can help to improve the management of national banks especially if they participate directly in the management of there . The entry of foreign banks can contribute to reduced influence government on the domestic financial sector .

However , cost reduction can occur in the long term as national banks must incur costs first to implement new services , improve the quality of existing services and new techniques introduced and bank risk management .

On the other hand , foreign banks may improve the quality of human capital in the domestic banking system by a number of ways (foreign banks , transmit high quality management to local leaders of their subsidiaries) .

Also , foreign banks can invest in training local staff in improving the quality of human capital available to the national banking system in order to contribute to more effective national banks which reduces costs .

On the other hand , foreign banks are urging governments to improve the regulation , supervision increase transparency and catalyze national reform (Levine (1996) , Dobson (2005) , Mishkin (2006)). So , foreign banks have several positive effects on the local banking markets .

2-4-3 The negative effects of foreign banks on the local banking market

The entry of foreign banks in the short term can also provide some factors of instability to host countries . Moreover , foreign banks can transmit financial shock from their home country to the host country and make the local financial system unstable .

In addition , the strategies of foreign banks may be inconsistent with the sustainable development strategies of host countries . Also , increasing inputs of foreign banks can lead to a reduction in the value of local banks . Therefore , national banks can make some risky business (Hellman , Murdock , Stiglitz (2000)).

Indeed , the increasing entry of foreign banks led to an excessive liberalization of local financial market and can cause a financial crisis . Moreover , foreign banks may be affected by shocks to their home countries and to send them to host countries .

In addition , regional conflicts , political issues and financial crisis can make insolvent foreign banks which lead to their bankruptcy . Analyzing the international economic situation and the characteristics of mobility of capital , it is recognized that financial ability of a country , even an institution , may cause local banks and their foreign partners in tough situations .

However , Peria and al (2005) analyzed the behavior of foreign bank lending in Latin America between (1985-2000) . They found that foreign banks transmit shocks from their home countries to the host countries . Indeed , the economic depression and financial crisis in the home country may result in the sources of capital and the decline in available credits .

Also , the low interest rates in the home country led foreign banks to give loans at higher interest rates in the developing countries which generate instability in the granting of credits in the host countries .

On the other hand , foreign banks are encouraged to make capital from their home countries, which can cause a financial crisis in the host country (Rodrick , Velasco (1999)). In addition , foreign banks employ shorter loan maturities to reduce loans related to risk of borrowers and information asymmetry .On the other hand , Lensink and Hermes (2004) showed that the entry of foreign banks is associated with profit margins in developing countries but not necessarily in developed countries . Moreover , the divestment of foreign banks subsidiary may be related to a decrease of market opportunities in home countries .

Also , Tsheogl (2005) showed that bank parents can sell their subsidiaries when markets of host countries are unprofitable and owners see little more to stay abroad . Indeed , studies of the behavior of foreign banks during the financial and economic crisis show that foreign banks tend to net be as affected by the crisis than the operations of national banks (because they are more conservative in their lending (Crystal et al (2001)).

Dages and al (2001) concluded in their studies that foreign banks in Argentina and Mexico between (1994-1999) have shown a stronger and less volatile loan growth than domestic banks .

Also , Gormley (2010) was found that the companies had 8 points less likely to receive a loan after the entry of foreign banks due a systematic decline in domestic banks loans . In addition , foreign banks select borrowers (Detragiache , Gupta and Tressel (2008) , Beck and Peria (2007)).

Foreign banks tend to select the best clients in the local market (Clarke and al (2001)).

The can affect the overall of financial services , because the selection reduces access to credit and have a negative impact on financial development , particularly in low income countries where the loan relationship is important .

Foreign banks are at the origin of difficulty of 2 gropes factors in the is country (nationals banks and customer risky) . Indeed , the decline in profit in the banking sector caused by the increased competition lead banks to reposition itself in the credits for companies neglected by foreign banks .

Moreover , empirical studies on this issue show that the most of the time , national commercial banks do not manage of this change (increase credit risk , low profit) and they are forced to go bankrupt (Berger et al (2001) , Detragiache and al (2006)).

In addition , the presence of foreign banks benefited only for the best borrowers (large companies) at the expense of small and medium enterprises . Indeed , foreign banks will not have an attachment to borrowers of national banks as they can diversify among different regions .

This preference of borrowers in home countries play an important role in the case of shocks in the host country (Peek and Rosengren (2000)).

On the other hand , Dehaas and al (2011) , Popov and Udell (2011) found that in emerging European countries , foreign subsidiaries reduce their credits against national banks at the beginning of the financial crisis .¹⁴

Moreover , Dehaas et Van Horen (2011) showed that during the global financial crisis , foreign banks continue to lend to these countries geographically close with relationship to long –term loans , indicating that foreign banks differ between countries during time of crises .

On the other hand , it should be noted that there is the risk of loss of financial autonomy for the government and the central bank of the host country . These may experience conflicts politics with foreign banks .

Moreover , national authorities will lose control of the banking system if the presence of foreign banks is too high . Sometimes , it is difficult to monitor foreign banks by the host country and the home country (Roldos (2001)).

2-4-4 The impact of foreign banks on the local banking market risk

Foreign banks may influence the risk of local banks in several ways . Indeed , when they exercising more competition , domestic banks are trying to increase the credit which increase credit risk , but they are encouraged to increase the efficiency and new information technologies (which decreases the insolvency risk) .

Growth operations in the banking market increases the risk of local banks . In addition , to the instruments made by national banks to act competition , additional training for enable managers reduces the operational risk .

Moreover , there are several studies on the influence of foreign banks in the local banking market risk . Indeed , Ying and al (2009) studied the Chinese banking sector . They examined empirically the effects of foreign ownership on the behavior of risk of Chinese banks .

The results show that foreign ownership has a sportive but small impact on the credit risk of the bank . According to Mihaljek (2006) , the credit risk of emerging market economies has fallen due to the transfers of skills , technology , know-how and management from foreign banks .

Also , using a linear model with data on 16 developing countries for the period (1999-2006) , they found that foreign banks don't increase the risk of foreign currency loan .In addition , Basso et al (2007) showed that the access for foreign banks to foreign funds leads to a higher level of loan dominated by foreign currency .

Similarly , based on the analysis of 21 emerging countries through the period (1990-2003) , Luca and Betrova (2007) showed that foreign banks shift the foreign currency exchange . On the other hand , it should be noted that competition imposed by foreign banks may encourage national banks to borrow more or to spend of their resources which will have a positive impact on their market risk and the insolvency risk . But , Valeriya and Dinger (2009) show that foreign banks reduce liquidity risk in emerging markets , on the other hand , some apparent form the discussion of the contraction effect of effect of foreign banks on financial stability is due to 2 potential sources of confusion .

¹⁴ International banks have supported their foreign subsidiaries during the financial crisis through internal capital markets (Dehaas , Vanlelyveld (2006) , Kavaretni ,Lalzolai , Levi and Pozolli (2010)).

First, the claims are made without specifically measure financial stability, that is considered as lower volatility of asset prices. Identification is very simple because it is not difficult to think of a situation where the complete stability of asset prices is the result of poor functioning of the financial system generally due to “over-regulation”

It is important to recognize that financial stability is a complex concept with many missions. Among many definitions, Padoa – Schioppa (2002) showed that financial stability is “a condition where the financial system can withstand shocks without conducting a cumulative process that alters the allocation of savings to investment opportunities and processing payments in the economy”.

In addition, the second source of confusion is due to the different nature of activities of foreign banks in the host country. At a minimum, a distinction between the broader lending and local activity is still justified. Moreover, border lending tends to be more oriented than the local activity, especially if it is driven by large foreign banks

Indeed, the decision – making process to provide a border loan or increase the local activity by a foreign subsidiary is also different, took the home country in the first case and decentralized in the second case, this has an impact on the financial stability.

Conditions of home country favor the boarder loan. Indeed, particular attention was devoted of the effects of foreign bank lending on the stability of the supply of the credit. However, the volatility of credit supply is not always a bad thing.

Moreover, the increased volatility may be the result of political healthier ready and could be a positive indicator of financial stability. But, models of microeconomics banks showed that if no constraints rules are put in place, informationelles asymmetries and poor incentives make banks to take excessive risks during the period expansionists and reduce their loans in the downturn of economic activities.

Foreign banks can reduce problems and informational asymmetric. Also they have a best management practices as sophisticated risk management procedures and more transparent decisions process.

Monitoring loans is reinforced by the control of the parent bank’s over their subsidiaries. Indeed, in rural banking crises in this decade, foreign banks have attracted a large number of deposits that were saved from the national banks perceived as unsafe.

Although, it may induce the collapse of some banks, such a process is more beneficial than the total capital flight of depositors, as usually occur in the absence of profitable banks (Alicia and Daniel (2009)).

Thus, some assumptions have shown that foreign banks could increase the volatility of credit. These assumptions are based on the design of geographical diversification by international banks, that may result in higher volatility of different countries.

It is common that international banks have a broader place for geographical diversification as their domestic competitions. Although this higher diversification has resulted in the reduction of overall risk for international banks, the redistribution of capital among different countries may result in a more volatile supply of credit at a local level.

If the allocation of the portfolio is more sensitive to economic fluctuations than domestic banks, a higher presence of foreign banks will result in a procyclical credit supply. On the other hand, Crystal et al (2002)¹³¹⁵ analyzed the difference in stability between foreign banks and domestic banks in Latin America between (1995-2000). They concluded that the overall financial situation for foreign banks and national ones do not differ significantly, but public banks are significantly worse.

Moreover, foreign banks tend to have higher risk based on their capital that promotes stability in the banking system. Foreign banks increase the stability of banking market of economies in developing economies by their conservative lending practice (Tschögl (2003))¹⁶.

¹⁵ See Janek and Uipoubin (2006).

¹⁶ He showed that these positive effect of foreign banks are particularly positive if the share of foreign banks in the host market is small.

During the financial crisis , foreign banks benefit from their quality , increase deposits , less volatility of credits . First , foreign banks use their sophisticated risk management techniques based on a more rigorous control of the authorities of their home countries (Alexander Minda (2007)).

Also , foreign banks can diversify their risk . In addition , parent banks can help their industries on other countries , if they have liquidity problems . In Latin America , foreign banks helped financial stability through the introduction of new standards of new methods of risk management and to control procedures and enhancement of the stability of assets of banking system .

But foreign banks can be creators of new sources of financial fragility (exposure to foreign currency risk) . In 2002 , the Argentine crisis has shown that foreign banks may sometimes give up their branches or subsidiaries .

Surveillance requires closer collaboration between the host authorities and the home country , especially in banking systems dominated by foreign banks . On the other hand , the internationalization of banks allows them to gain more market share and impact on risk (Bush and al (2011)).

They found that banks with a lot of foreign assets have a higher market power in their home countries .

Also , holding assets in many foreign countries increases bank risk , which shows that the cost of monitoring a large portfolio outweigh the benefits in term of diversification .¹⁷

Also , Amihud and Lev (2002) examined the effect of risk of bank mergers across borders . By analyzing the changes in the market risk and reactions of price of capital , they found that an average , bank across borders do not change the risk of acquired banks .¹⁶¹⁸

But according to the recent global financial crisis , the benefits of international banks in term of a more efficient allocation of international risk is quite ambiguous . Moreover , the crisis has shown that international integration shows not only the benefits of diversification but also exposes bank to different systemic risks .

In addition , the crisis has increased the focus on systemic risk implications in large banks and the need to impose strict regulation on these banks . This debate has ignored the possible relationship between market power and the internationalization of banks .

Indeed , in an international context , foreign entry should reduce the insolvency risk of bank (Berger (2000)). This result is based on the idea that it is better for a bank , not to put all its eggs in one basket (Winton (1999) as geographical diversification is the strategy of risk reduction .¹⁷¹⁹

On the other hand , Pedro and George (2004) examined the impact of privatization and foreign entry on the choice of bank risk in Argentina .

They found that after foreign entry , private banks increase their portfolio risk (because of competition by foreign banks) .

In addition , Stijn and Claessens (2012) showed that foreign banks have more liquidity to capital that influences the risk of local banking market. Hans and al (2012) showed that foreign banks are different from local banks in term of portfolio competition which effects risk taking and objectives of bank management .

Therefore , the entry of foreign banks has a significant impact on the risk of local banks due to competition and change in the financial environment and objectives yields and achieve good performance .And this change depends on the type of risk and the nature of the objectives of local banks .

¹⁷ Literature of internationalization banks focused on the determinants of the expansion of foreign banks (Berger and al (2003) , Buch and Lioppener (2007) , Dehaas and Vanlelyveld (2010)). This literature concludes that the regulatory and cultural barriers limit international expansion of banks . The largest and most of profitable banks find it easier to overcome the obstacles .

¹⁸ Same point of view , Meon and Will (2005) studied the impact of mergers across boarders for European banks (exposure to macroeconomic risk) . They found gains of risk diversification through mergers .

¹⁹ According to this interpretation , the impact of internationalization in bank risk depends on the correlation between domestic and foreign returns and volatility in foreign markets .

We will test the following hypothesis :

H 4 : the foreign ownership has a significant impact on bank risk .

Section 3 : Empirical study

The impact of ownership structure on bank risk has been of particular importance in the recent literature (Iannotta et al (2007) , Sironi (2006) , Mohsni et Otchere (2012)).

We will focus in this section on the influence of (public ownership , private ownership , foreign ownership) on bank risk .

We will adopt a methodology of 4 parts , First we will specify the sample and the model studied then we will show the econometrics tests . Finally , we will show the results of estimating model and their interpretations .

3-1 Sample

The sample consists of 19 banks belonging to the professional association of banks in Tunis over the period (2000-2010) . Financial data are collected from website of professional association of banks of Tunis and from annual reports of banks . Macroeconomic indicators are collected from the national institution of statistic and the central bank of Tunisia.

Table 1 : Sample of banks

Index of Bank	Name of Bank
AB	AMEN BANK
ABC	ARAB BANKING CORPORATION
AB	Attijari Bank
BH	Bank of Housing
BT	Bank of Tunisia
BTE	Tunisia and Emirates Bank
BFT	Franco Tunisian Bank
BIAT	Arab International Bank of Tunisia
BNA	National agriculture Bank
BTS	Tunisian Solidarity Bank
BTK	Tuniso koweiti Bank
BTL	Tuniso Lybian Bank
CB	CITI BANK
STB	Tunisian banking society
TQB	Tunisian Qatari Bank
UBCI	Banking Union for trade and industry
UIB	International banking union
STUSID	Society of Tunisia and Saudi investment and development

3-2 Model specification

We will use the static panel because there are individual banks (depending) on number of years (2000-2010) . Also to control unobserved heterogeneity (Pirotte (2011)).

The model studied is as follow :

$$Risk_{it} = b_0 + b_1.SIZE_{it} + b_2.CAP_{it} + b_3.TLAI_{it} + b_4.ROA_{it} + b_5.ROE_{it} + b_6.CEAI_{it} + b_7.Tdeposit_{it} +$$

$$b_8 .CPCi,t + b_9 .ALAI,t + b_{10} .CFCi,t + b_{11} .Pubi,t + b_{12} .Foreigni,t + b_{13} .TPIBi,t + b_{14} .TINFi,t + b_{15} .Privi,t + Ei,t$$

b₀=constant

b₁,b₂,b₃,b₄,b₅,b₆,b₇,b₈,b₉,b₁₀,b₁₁,b₁₂,b₁₃,b₁₄,b₁₅:Parameters to estimate

E_{i,t}=error term

$$Riski,t = \left(\frac{\sigma_i(ROAi,t)}{Ei(ROAi,t) + CAIi,t} \right)^2$$

i=bank , t= time

Risk = insolvency risk of bank (Teresa and Dolores (2008)).

This indicator reveals the degree of exposure to operating losses , which reduce capital reserves that could be used to offset adverse shocks . Entities with low capital an a weak financial margin relative to the volatility of their returns will score high on this indicator .

Since this indicator assigns great importance to the solvency and profitability recorded of financial institutions , it is a measure of their weakness or their strength .

$\sigma(ROA)$ = standard deviation of return on assets

E (ROA) = expectation of return on assets .

CAP =equity / total assets

CAP shows the strength of bank capital against the vagaries of the economic and financial environment . Generally , more capital can respond to shocks and excessive risks .

Size = size of the bank = log of total assets

Size indicates the ability of the bank to win and take the risk . Large banks can diversify their operations which reduces their risk .

TAL= total credits / total assets .

TAL shows the percentage of loans in relation to total assets . Is shows the market power of banks in granting credits . If TAL increases , Risk increases .

ROA= net income / total assets

The net income shows the profit made by the bank after the market transactions , transactions with customers also indicates the bank profitability . ROA shows the profit per dollar of asset .

It reflects the ability of the bank to use the financial and real estate resources to generate profits (Naceur (2003) , Karawesh (2011) , Ongore and Kusa (2013)). If ROA increases , so the bank is more efficient in its use of resources .(Wen (2010)).

More ROA increases , the bank can cope with the vagaries of risk .

ROE = net income / equity

ROE shows the return on equity . It is important to view the shareholders .ROE reflects the ability of the bank to use its own funds to generate profits (Yilmaz (2013)).

CEA= operating expenses / total assets

CEA shows the share of operating expenses relative to total assets . More CEA increases , more there is a bank risk , which encourages bank to reduce operating expenses for effective bank management .

T deposit = total deposits / total assets

T deposit shows the share of deposit in relation to total assets .Usually deposits are used to finance credits operations .

CPC= equity / total loans

CPC shows the share of capital in credit operations . CPC should be low to reduce bank risk .

CFC = financial expenses / total loans

CFC shows the share of financial expenses based on the total credits . CFC should be low to reduce bank risk .

ALA = liquid assets / total assets

ALA shows the share of liquid assets to total assets . If ALA increases , bank risk decreases .

Pub = 1 if the bank is public , 0 otherwise .

The bank is public if the state has more than 50% of bank capital .(Leaven and Levine (2002)).

Priv = 1 if the bank is private , 0 otherwise .

The bank is private if private investors possess more than 50% of bank capital (Mohsni and Otchere (2012)).

Foreign = 1 if the bank is foreign , 0 otherwise .

The bank is foreign if foreign investors possess more than 50% of the bank capital (Claessens and al (2001)).

TPIB = growth rate of gross domestic production

TINF= rate of inflation

3-3 Econometric tests

3-3-1 Multicollinearity test

Multicollinearity is a statistical phenomenon in which two or more predictor variable in a multiple regression model are highly correlated , meaning that one can be linearly predicated from the others with a non trivial degree of accuracy .(free encyclopedia)

Table 2 : correlation between the variables

	Risk	Size	CAP	TLA	ROA
Risk	1.000				
Size	0.1439	1.000			
CAP	-0.1378	-0.3848	1.000		
TLA	-0.0627	0.2140	-0.141	1.000	
ROA	0.0249	-0.0826	0.2763	-0.974	1.000
ROE	0.0391	0.2218	0.0043	-0.1110	0.6066
CEA	0.2357	0.0774	-0.2020	-0.1461	0.0890
Tdeposit	0.1865	0.3970	-0.5937	-0.0713	0.0592
CPC	-0.0350	-0.4493	0.7514	-0.0696	0.3578
ALA	-0.0729	-0.0393	0.0027	-0.0108	-0.0020
CFC	0.0762	-0.0073	-0.1055	-0.1311	0.0828
Pub	-0.2231	0.4065	-0.1446	0.2603	-0.1044
Foreign	-0.1067	-0.6969	0.3168	-0.2614	0.1088
TPIB	0.0420	0.1477	0.0179	-0.2609	0.3708
TINF	0.1102	0.2076	-0.1442	0.1487	0.1130
Priv	0.3807	0.4154	0.2335	0.0359	-0.0194

Table 2 (suite)

	ROE	CEA	Tdeposit	CPC	ALA
ROE	1.000				
CEA	0.1965	1.000			
Tdepoit	0.2335	0.5192	1.000		
CPC	0.0236	-0.2908	-0.5849	1.000	
ALA	0.0173	-0.0726	-0.0720	-0.0167	1.000
CFC	0.1251	0.4621	0.3116	-0.1344	-0.0472
Pub	0.0168	-0.1820	-0.1405	-0.2891	0.1375
Foreign	-0.1206	0.0955	-0.1155	0.4209	-0.0988
TPIB	0.2861	-0.0108	-0.0336	0.0741	-0.0317
TINF	0.1221	-0.1745	0.2037	-0.0290	-0.1279
Priv	0.1314	0.0835	0.2998	-0.2024	-0.0299

Table 2 (suite)

	CFC	Pub	Foreign	TPIB	TINF	Priv
CFC	1.000					
Pub	-0.1327	1.000				
Foreign	0.0844	-0.6447	1.000			
TPIB	0.0148	0.01	-0.0597	1.000		
TINF	0.0252	-0.0750	-0.0092	-0.1159	1.000	
Priv	0.0424	-0.3090	-0.5278	0.0597	0.0947	1.000

Test de VIF

The variance inflation factors (VIF) quantifies the severity of multicollinearity in an ordinary least squares regression analyses . It provides an index that measures how much the variance (the square of the estimate's standard deviation) of an estimated regression coefficient is increase because of collinearity .

Table 3:VIF of variables

Variable	VIF	1/VIF
CFC	21.51	0.046491
CEA	18.89	0.052940
Size	13.89	0.072005
CPC	9.16	0.109213
Tdeposit	7.53	0.132741
CAP	3.43	0.2915
ROE	2.98	0.3355
Foreign	2.62	0.381690
ROA	2.36	0.423328
ALA	2.13	0.469461
TLA	1.82	0.549714
TINF	1.64	0.5500
TPIB	1.58	0.608713
Pub	19.24	0.0519
Priv	2.69	0.034429

There is a problem of multicollinearity in (CFC , CEA , SIZE , CPC , Tdeposit , Pub).

Because $5 < VIF$ (Gujarati 2005).

We take the following model :

$$Risk_i, t = b_0 + b_1.ROA_i, t + b_2.ROE_i, t + b_3.TLAI, t + b_4.ALAI, t + b_5.CFC_i, t + b_6.Foreign_i, t + b_7.TPIB_i, t + b_8.TINF_i, t + b_9.Priv_i, t + E_i, t$$

3-3-2 Hausman test

It determines if the individual effects are fixed or random . It determines if the coefficients of 2 estimates (fixed and random) are or not statistically different . Under the null hypothesis of independence between errors and variables explanatory , both estimation are unbiased , so the estimated coefficients become somewhat different .

The fixed effect model assumes that the influence of explanatory variables on the dependent variable if the same for all individuals , regardless of the period (Sevestre (2002)).

The random effects model assumes that the relationship between the dependent variable and explanatory variables is no longer fixed but random , the individual effect is not a fixed parameter but a random variable . (Bourbonnais (2009)).

In our model , pvalue = 0.99

Therefore , we choice the random model .

3-3-3 Heteroskedasticity model

There is a heteroskedasticity of residus if they do not all have the same variance . To detect heteroskedasticity , we apply the 2 tests (Breush –Pagan , Wald test) .

The general idea of these tests is to verify whether the squared residuals can be explained by the explanatory variables of the model . Test of Breush-Pagan allows us to detect individual heteroskedasticity which assumes different variances between the error terms and in the same individual .

Pvalue is superior to 1% . There isn't a problem of heteroskedasticity in our model .

3-4 Analysis of descriptive statistics

Table: Descriptive statistics

Variable	Mean	Standard deviation	Minimum	Maximum
Risk	0.0108212	0.0211518	0	0.1659
ROA	0.0145241	0.042181	0	0.54
ROE	0.0783434	0.1149	0	0.85
TLA	0.6765583	1.9988	0.057	0.95
ALA	0.0558325	0.1169	0.0045	0.8416
CFC	0.0356079	0.0269	0.0023	0.3179
Foreign	0.5240385	0.85	0	1
Priv	0.43217	0.7412	0	1
TPIB	0.0420	0.0109	0.02	0.0611
TINF	0.0388182	0.0075	0.03	0.056

-The average risk is 1.08% . The standard deviation is 2.1% . There is a difference significative between banks at insolvency risk .

-The mean of ROA is 1.45% . The mean of ROE is 7.8% . So , the performance of equity is higher than the performance of assets .

-The standard deviation of ROE is higher than the standard deviation of ROA . There is more difference between banks in ROE .

-The mean of TLA is 6.7% .Credits represent on average 67% of total assets . As a result , bank give importance to credit operations . The standard deviation is high .So , there is a significant difference between banks in the credit .

-The average of ALA is 5.58% . Liquid assets represent 5.58% of total assets . The standard deviation of ALA is high . There is a difference significative between banks in liquid assets .

-The mean of CFC is 3.5% . Financial expenses represent 3.5% of total loans . Which show effective bank management . The standard deviation of CFC is not high . There is no significant difference between the banks in CFC .

-The mean of foreign is 52.4% . Foreign ownership represents 52.4% of total bank ownership.

-The mean of Priv is 42.3% . The private ownership represent 42.3% of total ownership of bank .

-The mean of TPIB is 4.2% . This growth is acceptable . The standard deviation is low . There isn't a great difference between (2000-2010)in TPIB.

-The mean of TINF is 3.88% . This rate is acceptable . The standard deviation is very low . There is a little difference between (2000-2010) in rate of inflation .

3-5 Results of model estimation

Table4 :Results of estimations

Risk	Coefficient	Standard error	Z	Z<p	95% Confidence interval
TLA	0.0056251	0.0027	2.06	0.040	0.0002 0.01
ROA	-0.0016108	0.023	-0.07	0.944	-0.046 0.043
ROE	0.0222178	0.01013	2.19	0.028	0.0023 0.04
ALA	0.009346	0.0087	1.08	0.282	-0.0077 0.026
CFC	-0.071476	0.044	-1.62	0.105	-0.157 0.0148
Foreign	-0.0547928	0.00134	-40.81	0.000	-0.057 0.052
TPIB	-0.03654	0.04369	-0.84	0.403	-0.122 0.04
TINF	0.02474	0.0285	0.87	0.387	0.031 0.08
Priv	0.015	0.00410	10.15	0.060	0.04 0.081
Cons	0.05226	0.0008	13.50	0.000	0.044 0.059

The model estimated

$$\begin{aligned}
 Risk_{i,t} = & 0.05226 + 0.0056251.TL_{Ai,t} - 0.0016108.RO_{Ai,t} + 0.0022178.ROE_{i,t} + \\
 & (13.50)^{***} (2.06)^{**} \qquad \qquad \qquad (-0.07) \qquad \qquad \qquad (2.19)^{**} \\
 & + 0.0093946.AL_{Ai,t} - 0.071476.CFC_{i,t} - 0.05479.Foreign_{i,t} - 0.03654.TPIB_{i,t} \\
 & (1.08) \qquad \qquad (-1.62) \qquad \qquad (40.81)^{***} \qquad \qquad (-0.84) \\
 & + 0.02474.TINF_{i,t} + 0.015.Priv_{i,t} + E_{i,t} \\
 & \qquad \qquad \qquad (0.87) \qquad \qquad (10.15)^*
 \end{aligned}$$

The values between parentheses are t student .

The other values are estimations of coefficients .

3-6 Interpretations

-There is a positive relationship between Risk and TLA (if TLA increases by 1% , Risk increases by 0.0056%) . This is consistent with the result found by Teresa and Dolores (2008).The increase in credits has a positive effect on the insolvency risk of the bank . This relationship is statistically significant at the 5% . The increase in impaired loans increases the number of borrowers which increases the insolvency risk of the bank .

-There is a negative relationship between Risk and ROA (if ROA increases by 1% , Risk decreases by 0.0016108%) . The increase of return on assets has a negative relationship on insolvency risk of bank .The relationship is not statistically significant . The increase of return on assets increases the financial performance of bank , this decreases the insolvency risk of bank .

-There is a positive relationship between Risk and ROE (if ROE increases by 1% , Risk increase by 0.022%) . The increase of return on equity has a positive relationship with the risk . This relationship is statistically significant at 5% . This result is conform with found by Teresa and Dolores (2008).The increase of return on equity can lead to diversification of unprofitable operations which increases the insolvency risk of the bank .

-There is a positive relationship between Risk and ALA (if ALA increase by 1% , Risk increases by 0.0093%) .The increase of liquid assets has a positive relationship with the insolvency risk of bank . This relationship is not statistically significant . The increase in liquid assets reduces the possibility exploitation of profitable investments by banks which increases the insolvency risk of bank .

-There is a positive relationship between Risk and CFC (if CFC increase by 1% , Risk increases by 0.071%) . The increase of financial expenses has a positive effect on insolvency risk of bank. This relationship is not statistically different . The increase of financial expense lead to decrease of profitability , this increases the insolvency risk of the bank .

-There is a negative relationship between Risk and foreign (if the foreign ownership increase by 1% , the risk decreases by 0.54%) . This relationship is statistically significant at 1% .

This is conform with result found by (Gormley and Sengputa (2007)) but contrary to result found by (Crystal and al (2002)).

Foreign ownership encourages local banks to make large investments to response a competition which increases their insolvency risk (Wintzel (2001) , Classens and al (2001)).

-There is a negative relationship between Risk and TPIB (if TPIB increase by 1% , the risk decrease by 0.036%) . The increase of TPIB has a negative relationship with bank risk . This relationship is not statistically different .

This relationship is not statistically significant . This result is conform with the result found by Salked .M (2011) (in period of economic expansion , the increase of PIB whith low risk of bank) .

-There is a positive relationship between risk and TINF (if TINF increase by 1% , Risk increases by 0.024%) . The increase in inflation has a positive effect on the insolvency risk of the bank . This relationship is not statistically significant . The increase in inflation may lead to increased costs for banks , which increases the insolvency risk of the bank . This is conform with the result of (Hakimi and al (2012) , Salked .M (2011)).

-There is a positive relationship between Risk and Priv (if Priv increase by 1% , Risk increase by 0.05%) . The increase of private ownership has an effect positive on insolvency risk of bank . This relationship is statistically significant at 10% .

The main objective of private ownership is to maximize profit which may result from unprofitable business diversification . Which increases the insolvency risk of bank . This is consistent with the result found by Sana (2012) , Iannotta and al (2007) , but contrary to result found by Maghales and al (2010)).

Conclusion

The ownership structure has a significant influence on bank risk . Shareholders want to orient the risk with their objectives , which enter them to conflict with the managers (who are naturally averse to risk) . Through this article , we focus on (public ownership , private ownership , foreign ownership) . From a sample of 19 banks in Tunisia over the period (2000-2010) , we found that foreign ownership has a significant negative influence on bank risk , while private ownership has a positive influence (but the public ownership has a negative influence on bank risk) .Therefore , domestic private banks are riskier than public banks and foreign banks in Tunisia .

References

- Anderson .R.C , Fraser .D.R (2000) "Corporate control , bank risk taking and the health of the banking industry " Journal of Banking and Finance , 24, p1383-1398.
- Barry .T.A, Lepetit.L , Tarazi .A (2011) " Ownership structure and risk in publicly held and privately owned banks " Journal of Banking and Finance , 35, 5 , p1267-1340.
- Barth .J .R , Caprio .G.R.G , Levine .R (2001) " Banking systems around the globe : do regulation and ownership affect performance and stability ? " University of Chicago Press .
- Beck.T , Demircug Kunt .A , Maksimovic.V (2004) " Bank competition and access to finance : International evidence " Journal of Money , Credit and Banking , vol 36, p627-648.
- Berger .A.N , Udell .L.F , Udell .G.F (2001) " The ability of banks to lend to informational opaque small business " Journal of Banking and Finance , vol 25, p2127-2167.
- Bhattacharya .J (1993) " the role of foreign banks in developing countries : A survey of evidence " Cornell University , Mimeo .
- Bonin .J , Hassan .I , Wachtel .P (2005) " Privatization matters : bank efficiency in transition countries " Journal of Banking and Finance , 29, 8-9, p2155-2178.
- Bouaziz .W , Bouri .A (2012) " Ownership structure and financial institutes risk taking : evidence from Tunisia quoted banks " International Journal of Managerial and Financial accounting ,vol 4 , n°1.
- Boubakri .N, Cosset .J .C , Fisher .K , Guedhami .O (2005) " Privatization and bank performance in the developing countries " Journal of Banking and Finance , 29, 8-9,p2015-2041.
- Chiesa .G , Nicodano .G (2003) " Privatization and financial market development : Theoretical issues " FEEM Note de Lavoro..
- Claessens .S , Demircug Kunt .A , Huizinga .H (1998) " How does foreign entry affect the domestic banking markets ? " elibrary.worldbank.org , p1-30.
- Claessens .S , Demircug Kunt .A , Huizinga .H (2001) " How does foreign entry affect domestic banking markets ? " Journal of Banking and Finance , vol 25 , p891-911
- Claessens .S , Van Horen .N (2012) " Foreign banks : Trends , impact and Financial stability " IMF working paper , www.imf.org,p1-40
- Dages .B.G , L.Goldberg , D .Kinney (2000) " Foreign and domestic banks participation in emerging markets : lessons from Mexico and Argentina " NBER Working paper n°7714.
- Dawar .G , Goyal.S (2012) " Ownership structure and risk in Indian banks : A comparison of private and public banks " International Journal of Management and Information Technology , vol 1 , n°2 , Mai , p7-12.
- Degryse.H , Havrylchik.O , Jurzyk .E , Kozak .S (2009) " Foreign bank entry and credit allocation in emerging markets " www.imf.org,p1-43
- Dehaas .R , I .Van Lelyveld (2006) " Foreign banks and credit stability in Central and Eastern Europe : A panel data analysis " Journal of Banking and Finance , vol 30 , pp1927-1952
- Demircug Kunt .A , R.Levine , H.G.Min(1998) " Opening up to foreign banks : Issues of efficiency , stability and growth " The implications of Globalization of World Financial Markets , Seoul , Korea , The Bank of Korea , p83-105.
- Dimova .D (2004) " The benefits of privatizing banks to strategic foreign investors : a survey of central and eastern Europe " Oxford University , users.ox.ac.uk
- Djankov .S , Murrell .P (2002) " Enterprise restructuring in transition : A quantitative survey " Journal of Economic Literature , 40, p739-792.
- Fungacova .Z , Solanko .L (2008) " Risk taking by Russian banks : Do location , ownership and size matters ? " BOFIT Discussion Paper , www.bof.fi, p5-40.
- Garcia -Herrero .A , Santabarbara .D (2008) " Does the Chinese banking system benefit from foreign investors " www.bis.org
- Goldberg .L.G , Saunders .A (1981) " The determinants of foreign banks activity in the USA" Journal of Banking and Finance , 5 , p17-32

- Gormley .T (2007) “ The impact of foreign banks entry in emerging markets : Evidence from India” Mimeo.
- Hassan .I , Marton .K (2003) “ Development and efficiency of the banking sector in a transitional economy : Hungarian experience “ *Journal of Banking and Finance* , vol 27 , 12, p2249-2271.
- Iannotta .G , Nocera.G , Sironi .A (2012) “ The impact of government ownership on bank risk” www.unibocconi.eu , p1-p40.
- Laporta .R , Lopez –de-Silanes .F , Shleifer .A (2002) « Government ownership of banks “ *Journal of Finance* , 57, (1) , p265-301.
- Lensink .R , Hermes .N (2004) “ The short term effects of foreign bank entry on domestic bank behavior : Does economic development matter ? “ *Journal of Banking and Finance* , 28, (3) , p533-568.
- Levine .R (1996) “ Foreign banks , financial development and economic growth “ in Calude E.Barfield , *International Financial Markets* , Washington .D.C , AEI Press.
- Megginson .W (2005) “ The financial economics of privatization “ New York : Oxford university press .
- Mohsni .S , Otchere .I (2012) “ Risk taking behavior of privatized banks “ [northernfinance .org](http://northernfinance.org), p1-43.
- Nakan .M.I , Weinturb .D.B (2005) “ Bank privatization and productivity : Evidence from Brazil “ *Journal of Bank Marketing* , 2 , (1) , p45-51.
- Otchere .I (2005) “ Do privatized banks in middle and low income countries perform better than rival banks ? An intra-industry analysis of bank privatization “ *Journal of Banking and Finance* , 29, p2067-2093.
- Otchere .I (2007) “ Does the response of competitors to privatization announcements reflect competitive or industry –wide information effects : International evidence “ [Journal of Empirical Finance](#) , 4 , p523-545.
- Otchere .I (2009) “ Competitive and value effects of bank privatization in developed countries “ [Journal of Banking and Finance](#) , 33 , p2373-2385.
- Popov .A , Udell .G (2010) “ Cross-border banking and the International transmission of financial distress during the crisis (2007-2008) “ [European Central banking working paper](#), N°1203.
- Salhi.B , Boujelbène .Y (2012) “ Effect of the internal banking mechanisms of governance on the risk taking by Tunisian banks “ [International Journal of Economics , Finance and Management](#) , vol 1 , n°1, December , p8-19.
- Sapeinza .P (2004) “ the effect of government ownership on bank lending “ [Journal of Financial Economics](#) , 72, 2, p357-384.
- Sapeinza .P (1999) “ What do state owned firms maximize : Evidence from the Italian banks” Mimeo , Northwestern University .
- Van Horen .N (2006) “ Foreign banks in developing countries : origin matters “ [Emerging market Review](#) , vol 8, pp81-105
- Zouari .D , Zouari Ghorbel .S (2012) « What is the impact of privatization on bank risk ? the case of Tunisian banks “ [Journal of Business , Management and Economics](#) , vol 3 , 9 , p315-325.