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Competition and Performance in the Tunisian Banking System as Part of the Foreign Bank Entry Process

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Abstract

This paper gives main theories related to competition and performance and highlights the mechanism of entry of foreign banks and their ways of rooting. Two basic theories are presented: competition-efficiency and competition-inefficiency accompanied by underlying theories showing the entry processes of foreign banks and their ability to realize performance. Empirically, we used a sample of Tunisian banks comprising 11 banks during the period from 2004 to 2014. The econometric results show that there's an important impact of the presence of foreign banks on the performance of banks in particular on competition through concentration. Namely, foreign banks can concentrate by specialization, diversification, in the banking market, in parallel with domestic banks. In addition, the entry of foreign banks and their capacities foster competition to increase banking performance.

Keywords: Foreign bank, domestic bank, performance, efficiency, concentration, Tunisia

1. Introduction

Competition is generally seen as a positive force in most industries; it is expected to promote efficiency, improve the quality of delivery, stimulate innovation and enhance international competitiveness. To achieve these objectives, governments, developing countries and developed countries have recently undertaken further reforms financial sector. However, recent research has indicated that the relationship between competition and the performance of the banking system is more complex and that the idea that competition is good and unambiguous, is more naive in the banking sector than in other industries (Claessens and Laeven, 2004).

The internationalization of the banking sector has been stimulated by the liberalization of financial markets throughout the world. Developed and developing countries now allow banks to expand abroad and allow entry of foreign banks on the basis of the national regime. The purpose of this paper is to provide a theoretical overview of the effect of Competition on bank performance with the entry of foreign banks into the market. This theoretical part will enable us to better discern the causes and consequences of competition in the interbank market. We will discuss two main theories, competition-efficiency and competition-inefficiency. These two theories will be accompanied with the literature of the entry of foreign banks and their abilities to preserve their places. Empirical validation is the subject of the Tunisian banking market; we will see the effect of competition, the entry and capitalization of foreign banks on the performance of Tunisian banks. To do so, we proceed in the first place, to review the literature and then move on to a methodological part of the subject of empirical tests on competition and performance, and eventually with results and main conclusions.

2. Literature Review

Certainly the competition has effects on the banking sector. As a first-class effect, the increase of competition in the financial sector leads to lower costs and increases efficiency even taking into account the fact that financial products are heterogeneous.

The standard economic argument about the positive influence of competition on firm performance is that the existence of monopoly rents gives managers the ability to capture some of them in the form of play or efficiency (Nickell Et *al.*, 1997).

The study of competition in the banking sector and its relationship to bank efficiency continues to be a very important issue not only for researchers but also for politicians. There are two major hypotheses: the competition-efficiency hypothesis and the competition-inefficiency hypothesis evolve in the empirical literature (kiha Schaeck & C, 2008).

The competition-efficiency hypothesis is derived from the "efficient structure" hypothesis and suggests that increasing competition leads to increases in business efficiency. This evidence could be explained by different channels. For example, Zarutskie (2013) believes that banks could respond to competition through specialization, adjustment of their lending technologies and also focus on certain types of loans or particular groups of borrowers. This could allow them to reduce processing costs and originating loans, and better screen borrowers.

Chen (2007) and Dick and Lehnert (2010) argue that competition increases lending effectiveness and reduces credit risk for banks. Evanoff and Ors (2002) demonstrate that competition increases as a result of the entry or creation of a more viable local competitor, thus the incumbent banks react by increasing their level of profitability.

In the context of non-competitive markets, the "Quiet Life" (QLH) hypothesis holds that monopoly power allows managers to take advantage of monopoly rents in the form of discretionary spending or a reduction in their efforts, Generates inefficiencies. Thus, more market power could generate inefficiency.

On the other hand, the "competition-inefficiency" hypothesis stipulates that competition leads to a decrease in the inefficiency of the bank. Boot and Schmeijts (2006) consider that competition is more likely to be associated with shorter, less stable relationships between customers and banks, while amplifying information asymmetries and requiring additional resources for screening and Monitoring of borrowers. In addition, Weill (2004) examines the relationship between competition and efficiency in the banking sector in a sample of 12 EU countries during the period (1994) (1999) and provides support for a relationship Competition and efficiency in the banking sector.

Several authors have stressed the potential benefits of foreign bank entry to the national economy in terms of better resource allocation and greater efficiency, (Levine, 1996, Walter and Gray, 1983, and Gelb and Sagari, 1990).

Levine (1996) mentions that foreign banks can improve the quality and availability of financial services in the domestic financial market by increasing banking competition, and by allowing the greatest application of modern banking skills and technologies, Stimulate the development of underlying banking supervision and the legal framework, and improve a country's access to international capital.

Stijn Claessens, Asli Demirgüç-Kunt, and Harry Huizinga (2000) find that interest margins, overheads and profitability of foreign banks are lower than those of domestic banks in developed countries, while the reverse is true. This suggests that the reasons for the entry of foreigners, as well as the conditions of competition and regulation found abroad, differ significantly between developed and developing countries.

These differences may reflect the deferential market conditions of foreign banks. Foreign banks in developing countries may be able to realize high interest margins because they are exempt from credit allocation regulations and other restrictions that represent a net charge on margins.

When state banks dominate a large part of the banking system, non-commercial criteria can be used frequently to allocate credit, resulting from downward pressure on margins. In addition,

inefficient market invasiveness and outdated banking practices in developing countries should also allow foreign banks to earn net interest margins vis-à-vis domestic banks, outweighing the disadvantages of information they may eventually face.

Banking markets in developed countries tend to be more competitive with more sophisticated participants. The low margins of foreign banks in developed countries may be due to the technical advantages that foreign banks may have in these markets and which are not large enough to overcome the disadvantages of information they face compared to domestic banks.

Foreign banks should have more opportunities to transfer taxable income abroad than domestic banks. An interesting case is the United States where foreign banks pay taxes as a share of assets to about two-thirds of the taxes paid by domestic banks. In some other developed countries, such as Australia, Austria, Belgium, the Netherlands, Spain and the United Kingdom, foreign banks pay relatively low taxes. However, this model is not as widespread in developing countries: counterexamples include Malaysia and Egypt.

Stijn Claessens, Asli Demirgüç-Kunt, and Harry Huizinga (2000), using 7900 bank observations from 80 countries for the period 1988-1995, also find that foreign banks have lower net profits in the more developed countries; they generally have higher net benefits in developing countries. Results also indicate that the entry of foreign banks is significantly associated with a reduction in the profitability of the national bank and also a reduction in non-interest income and expenses.

To interpret these results, they indicate that by keeping other factors constant, high profits reflect a lack of competition, while high overheads may reflect less efficient management and lower organizational structures. Moreover, they point out that the entry of foreign banks can allow national banks to reduce costs because they assimilate all the techniques and practices of foreign bank competitors of superior quality. Alternatively, or complementarily, the entry of foreign banks may force the leaders of national banks to give up their "quiet life" protected and make a greater effort to achieve profitability.

Other results show that the number of foreign banks rather than their size is associated with conditions of competition in the national banking markets. One possible explanation is that domestic banks are already changing their competitive behavior when entering foreign banks before these banks acquire their market share. It can also mean that a questionable and competitive banking system depends more on the number of banks, rather than their shares of assets. Even in the long run, the number of foreign competitors can be linked to domestic bank profits, even if their market share of loans is not.

Several authors have examined the activities of foreign banks in developed countries, particularly in the United States, for example, Goldberg (1981) finds that US multinational banks tend to serve as retail customers, while foreign institutions United States are more oriented towards wholesale trade. Daman for (1990) provides similar evidence by showing that foreign banks show a high concentration of commercial and industrial loans in their portfolios. Calomiris and Carey (1994) suggest that growth in the market share of foreign banks depended more on the purchase of existing loans than on the provision of new loans.

Similarly, Kraus (1995) finds that by establishing their presence in the United States, many foreign banks have increased their market share by acquiring existing US banks, rather than by procuring new loans.

Although their focus is limited to the benefits that foreign banks could provide, some borrowers have been better off. Goldberg (1992) notes that foreign banks have been often accused of pricing their products (especially commercial and industrial loans) in order to get business. They were able to accept smaller profit margins than their domestic competitors due to low capital requirements and the greater ability to use leverage.

The high cost of doing business in a foreign country means that foreign banks often find themselves at a competitive disadvantage, which they need to overcome either through expertise or special services. In the United States, a developed country with strong domestic banks, it is difficult to

do so, and therefore it is little surprising that foreign banks competent on prices in the wholesale market.

However in developing countries, local banks will probably find it harder to protect their profits. Indeed, using panel estimation techniques, Barajas, Steiner, and Salazar (2000) provide evidence on the competitive impact of the entry of foreigners into Colombia in that the entry of foreigners serves as the sole measure Of the liberalization of the financial sector, entry is associated with intermediation spreads, lower non-financial costs, and improved loan quality (fewer nonperforming loans versus total loans). In simple regressions (OLS), they find that new banks, whether domestic or foreign, have placed spreads lower than their counterparts, probably in an effort to gain market share.

In Colombia, the entry of foreigners took place simultaneously with other structural and regulatory changes. When the authors understand the entry measures of the national bank and a measure of financial liberalization not related to entry, the impact of foreign entry changes slightly. The entry of domestic and foreign banks was associated with significant reductions in non-financial costs for all banks and a significant increase in non-performing loans of existing domestic banks. However, they find that the entry of foreigners has been associated with the reduction of gaps between foreign banks, while the entry of national banks reduces spreads across all banks. The latter result suggests that foreign banks in Colombia do not compete with domestic firms in all sectors.

3. Materials and Methods

Our study will focus on analyzing the effect of foreign bank concentration on bank performance. In this section we present the sample used first, then present the econometric model and the variables used. To answer our problem, we collected statistical data from 11 Tunisian commercial banks during the period 2004-2014. These are BNA, BH and STB, majority owned by the State, Attijari Bank, ATB, UIB and UBCI, whose capital is mainly foreign, as well as Tunisian private banks Namely BIAT, BT, Amen Bank and BTE. The data have been gathered from several sources including the Tunisian Banks and Financial Institutions Association (APTBEF) and the Central Bank of Tunis (BCT), which provide them on their sites Internet. In this study, we have a balanced homogeneous panel with 121 observations since all banks are observed over the entire period. In the first section, we study the relationship between concentration and foreign banks and its impact on performance, and then study the performance channels of foreign banks. The model used was established by Bourke in (1989) and has been applied in several studies.

3.1. Variables used

Return on Assets (ROA): The ratio of asset returns measures the profitability of the business; it evaluates the ability or the inability of the company to make profits with its own material means. It is therefore an indicator of the profitability of the company. Our work consists in analyzing the effect of concentration and foreign banks on ROA.

Foreign Bank Share (PBE): This variable indicates the change in shares of foreign banks in the banks in our sample and during our study period. It is represented by the percentage of foreign capital in the capitalization in Tunisian banks. Demirgüç-Kunt and Levine (2008) indicate that the presence of foreign banks has a positive impact on banks' performance.

Size: The size of each bank is calculated by the logarithm of its assets. However, the impact of size on the performance of banks is still ambiguous. Short (1979), Smirlock (1985), Bikker et *al.* (2002) and Pasiouras et *al.* (2007) find a positive impact of size on the performance of banks. It is argued that large size reduces costs because of the economies of scale involved.

However, Stiroh et *al.* (2006), show the negative effects of size and point out that the larger a bank, the more difficult it is to manage. Kasman (2010) also finds a statistically significant and negative impact of size on the net interest margin using a panel of 431 banking institutions in 39

countries. Goddard et al. (2004), Micco et *al*. (2007) and Athanasoglou et *al.* (2008) do not show a statistically significant impact of size on bank performance. The capital ratio: represents the ratio of equity to assets. Demirgüç-Kunt and Huizinga (1999), Abreu and Mendes (2002), and De Jonghe (2010) discover that the best performing banks are those that manage to maintain a high level of equity relative to their assets.

Ratio of capital: it represents the ratio of equity to assets. Demirguc-Kunt and huizinga (1999). Abreu and Mendes (2002) and Jonghe (2010) find that the best performing banks are those that maintain a high level of equity relative to their assets.

Liquidity ratio; it is measured by the ratio of loans to assets. The majority of authors namely Molyneus and Thornton (1992) found a positive relationship between this ratio and performance; and a negative relationship between liquidity and performance

Operating ratio: It represents the ratio of personal expenses to GNP. This ratio is a measure of the efficiency of cost management. As Guru et *al.* (2002) points out, good cost management leads to increase profitability. This variable is expected to have a negative effect on bankability.

HHI: The HHI is an index that measures the concentration of the market. Bourke (1989) and Molyneux and Thornton (1992) show that bank concentration has a positive and statistically significant impact on bank performance. However, according to Smirlock (1985) concentration has no significant effect on profitability.

The concentration ratio; it represents the combined market share of the most important firms.

We will summarize all the variables used and present their calculation methods and their ratings in this table.

Tab. 3.1: Summary table of variables used

	Variable	Measurement	Rating
Dependent Variables	Return on assets	**Net income / Total assets**	**ROA**
Explanatory Variables	The size of the bank	**Ln (total assets)**	**LNS**
	The capital ratio	**Equity / total assets**	**CAP**
	Operating ratio	Staff Ratio / GNP	**CI**
	The liquidity ratio	**Total Deposits / Total liabilities**	**LIQ**
	Share of foreign banks	**Assets held by Foreigners / Total assets**	**BE**
Concentration indices	The Index of Hirschman	**The sum of the square of the shares of market**	**HHI**
	The C3 ratio	**Assets of the three major banks / Total assets**	**C3**
	The C4 ratio	**Assets of the four major banks / Total assets**	**C4**
	The C5 ratio	**Assets of the five major banks / Total assets**	**C5**

In this study, the model is described as follows:

$$ROA = \alpha_0 + \alpha_1 + \beta_1(LNS) + \beta_2 (LNS)^2 + \beta_3 (CAP) + \beta_4 (CI) + \beta_5 (LIQ) + \beta_6 (Indice) + \beta_7 (BE) + \varepsilon_{it}$$

- ROA: Explained variable
- LNS: size of the bank
- CAP: Ratio of capital
- CI: Operating ratio
- LIQ: Liquidity ratio
- Index: concentration index
- BE: Share of foreign banks
- i: index of the individual dimension
- t: index of the temporal dimension
- α_0: constant of the model.
- α_i: Individual effect
- β_i: Parameter to estimate.
- ε_{it}: Error term

3.2. Descriptive Statistics

The analysis of the descriptive statistics of our sample allows us to note the following results

Table 3.2: Descriptive statistics of the variables

	ROA	LNS	CAP	CI	LIQ	C4	BE/100
Average	0,008	14,580	0,127	0,349	0,777	0,573	0,239
Median	0,009	14,675	0,092	0,358	0,830	0,582	0,170
Maximum	0,050	15,801	0,673	0,605	0,962	0,590	0,642
Minimum	-0,102	12,151	-0,010	0,098	0,062	0,541	0,000
Std. Dev.	0,014	0,804	0,116	0,106	0,185	0,019	0,229
Observations	110	110	110	110	110	110	110

Source: Author's calculation

The average ROA is 0.8%, the standard deviation is 0.9%, which indicates that the ROA has very little volatility.

- The capital ratio averages 12.7% with a dispersion around the average of 9%.

The average operating ratio is 34% with a volatility of 35% of the maximum and minimum values, which amount to 60% and 9% respectively. This shows that the cost control differs greatly from one bank to another in the Tunisian banking system.

Banks hold average liquidity of 77.7%

- The C4 concentration index shows an average of 57.3%, which shows that the Tunisian banking system remains relatively concentrated since the four largest hold close to 60% of the banking capitalization.

The average share of foreign banks in the capital of Tunisian banks is 23.9%. This shows that the banking system is still dominated by Tunisian banks.

3.3. Correlation Analysis

We will proceed to the analysis of the correlation which allows us to define the relations between the indices of concentration and the share of the foreign banks; its intensity and its significance. Therefore, this analysis is used to predict how the presence of foreign banks influences concentration. The results are shown in Table 3.3.

The analysis of these correlation results indicates that the share of foreign banks is negatively and significantly correlated with the C3, C4, C5 and HHI concentration indices. This indicates that the introduction of foreign banks helps to strengthen competition in the Tunisian banking system. It is also noted that the concentration indices are positively and strongly correlated.

Table 3.3: Correlation matrix of Indices

Correlation	C_3 100	C_4 100	C_5 100	HHI PBE
C_3 100	1			
C_4 100	0,965**	1		
C_5 100	0,904**	0,905**	1	
HHI	0,693**	0,721**	0,490**	1
PBE	-0,181**	-0,168*	-0,232*	-0,543*** 1

*Signicativity at the 10% level
** Signicativity at the 5% level
*** Signicativity at the 1% level

Correlation analysis between the explanatory variables and the variable explained The results are presented in Table 3.4

Table 3.4: Correlation matrix of explanatory variables

Correlation	ROA	LNS	CAP	CI	LIQ	C_4	BE/100
ROA	1						
LNS	-0,152*	1					
CAP	0,302**	0,790**	1				
CI	-0,513**	0,355**	-0,470**	1			
LIQ	-0,186***	0,619**	-0,835**	0,308**	1		
C4	-0,087	-0,238**	0,080	-0,006	-0,079	1	
BE/100	-0,167*	-0,036	-0,295**	0,148*	0,387**	-0,023	1

*Signicativity at the 10% level
** Signicativity at the 5% level
*** Signicativity at the 1% level

From these results, it is shown that the CAP variable is positively related to the ROA. However, the LNS, CI, LIQ, BE, and C4 variables are negatively correlated to the ROA. An important point to note is that the explanatory variables are not strongly correlated with each other, so there is no problem of multi-collinearity detected.

3.4. Estimation Results and Choice of the Index

In this study, we will provide empirical evidence of the relationship between the concentration of the banking system on the part of foreign banks and the performance of Tunisian banks. We will first try to verify whether the introduction of foreign banks influences the profitability of banks by increasing competition in the banking system. We will also analyze the channels through which the presence of foreign banks affects performance. To begin, we first proceed to the specification of the sample to verify the existence of individual effect and or temporal. If the homogeneity assumption is rejected, the Hausman test is used to choose the fixed effects or random effects specification. For each model, the calculated statistics and the probabilities of these tests are reported in Tables 3.5 and 3.6, which summarize the results of the estimates.

From these results, we can see that the fixed effects are significant, which proves that we are dealing with a non-homogeneous Panel. We therefore retain an individual fixed effects model.

In order to select the concentration index that will be used in the rest of our work, we started
By testing the signicativity of the 4 concentration indices namely C3, C4, C5, IHH.
The results of the estimates are presented in Table 3.5:

Table 3.5: Estimation results and choice of the concentration index

	HHI	C3	C4	C5
Constant	-3,265** (0,902)	-3,26** (0,893)	-3,349** (0,888)	-3,205** (0,891)
LNS	0,458** (0,126)	0,453** (0,121)	0,470** (0,121)	0,447** (0,120)
LNS2	-0,015** (0,004)	-0,015** (0,004)	-0,015** (0,004)	-0,015** (0,004)
CAP	0,206** (0,055)	0,198** (0,055)	0,199** (0,055)	0,200** (0,055)
CI	-0,078*** (0,024)	-0,085*** (0,024)	-0,084** (0,024)	-0,085** (0,024)
LIQ	0,005 (0,022)	0,004 (0,021)	0,001 (0,021)	0,006 (0,021)
HHI	-7,65 (9,74)			
C3		-0,141 (0,093)		
C4			-1,149* (0,076)	

	HHI	**C3**	**C4**	**C5**
C5				-0,127 (0,080)
R^2	0,311	0,32	0,332	0,324
F-Statistics	4,40***	4,574***	4,739***	4,595***
Hausman's statistics	15,13**	18,742**	17,677**	19,123**
Number of Banks	10	10	10	10
Number of observations	110	110	110	110

*Signicativity at the 10% level
** Signicativity at the 5% level
*** Signicativity at the 1% level

Based on these results, it is concluded that the C4 concentration index is significant at only 10%. We note that the other indices are not significant. This index was used for our empirical study.

Similarly, the results show that the effect of explanatory variables on the variable explain (ROA) coincides with most expectations.

Indeed, we note a significantly positive relationship between the size (LNS) and the (ROA), which confirms the results of short (1979). Smirtock (1985); Bikker et al (2002) and Pasiouras et al (2007) who discover that size has a positive effect on bank performance.

We also note that the variable "size squared" has a negative and significant effect on the explained variable, which confirms the hypothesis of non-linearity between the size of a bank and its profitability.

In addition, there is a positive relationship between the equity variable and the ROA. This already confirms the results found at the level of theoretical and empirical literature concerning the effect of this variable. Several authors including Bourke (1989), Berger (1996) Dermirguç-Kunt and Huizin ga (1999), Abreu and Mendes (2002). Goddard et al (2004), Naceur and Goaied (2001), argue that better capitalization increases bank performance.

For the operating ratio, there is a significantly negative relationship between this variable and (ROA) so the bank's expenses negatively affect its profit, which confirms Bourke's (1989) hypothesis, which indicates that increased profitability requires good cost management.

With respect to the liquidity variable, it has a nonsignificant effect on the ROA, which means that the level of liquidity does not affect the performance of the banks in our sample.

In a second step, we will analyze the interaction between the concentration and the share of foreign banks and its impact on the banks' performance.

For this, we compare the results of the estimates of the 4 models presented in the table 3.6.

Table 3.6: Choice of models and interaction between concentration and foreign banks

	Model 1	**Model 2**	**Model 3**	**Model 4**
	C4 BE	**BE**	**C4**	**(BE/100) C4**
Constant	-3,346** (0,875)	-3,229** (0,880)	-3,349** (0,880)	-3,304** (0,876)
LNS	0,464** (0,119)	0,431** (0,119)	0,470** (0,121)	0,475** (0,119)
LNS2	-0,015** (0,004)	-0,014** (0,004)	-0,015** (0,004)	-0,015** (0,004)
CAP	0,216** (0,055)	0,223** (0,055)	0,199** (0,055)	0,212** (0,054)
CI	-0,070** (0,024)	-0,060** (0,024)	-0,084** (0,024)	-0,069** (0,024)
LIQ	0,009 (0,021)	0,018 (0,021)	0,001 (0,021)	0,009 (0,021)
C4	-0,127* (0,075)		-0,149*** (0,076)	-0,115* (0,076)

	Model 1	Model 2	Model 3	Model 4
	C4 BE	BE	C4	(BE/100) C4
BE/100	-0,026*** (0,013)	-0,03*** (0,013)		
(BE/100) C4				-0,046*** (0,022)
R^2	0,351	0,340	0,332	0,351
F-Statistics	4,833***	4,873***	4,739***	4,832***
Hausman's statistics	19,688***	16,911***	15,833**	18,793*
Number of Banks	10	10	10	10
Number of observations	110	110	110	110

*Signicativity at the 10% level
** Signicativity at the 5% level
*** Signicativity at the 1% level

For the first model, we will study the influence of foreign banks and concentration on the performance of banks. There is a significantly negative relationship between the concentration and the ROA with a coefficient of -0.127 and a significantly negative relationship between foreign banks and the ROA with a coefficient of -0.026, which indicates that the concentration and the foreign banks are negatively influencing the performance of banks.

In the second model, we keep the share of foreign banks as an explanatory variable and we remove the index of concentration. It should be noted that the negative coefficient on the part of foreign banks rose from -0.02 to -0.03. The elimination of the concentration index has therefore contributed to increasing the impact of foreign banks on the ROA.

In the third model, we proceed to the opposite operation by removing the share of foreign banks and keeping the index of concentration among the explanatory variables. Here again we find that the coefficient of the concentration index goes from -0.12 to 0.15, which means that the impact of the concentration index on bank performance has increased.

The results of models 3.5 and 3.6 combined suggest that each of the variables captures some of the effect of the other on the explained variable (since the elimination of one of them may indicate that the impact of the introduction of foreign banks on the performance of banks goes through the channel of concentration.

To confirm this intuition, we introduced an interactive term of the two variables in question in model 4. The results of the estimations show that the coefficient assigned to the interactive term is negative and significant. This confirms the idea that the impact of foreign banks on the banks' performance is essentially due to their impact on the concentration index: the introduction of foreign banks intensifies competition and reduces concentration, which has a negative impact on the performance of banks.

Some researchers consider that the presence of foreign capital in the capital of a bank has a significant effect on its performance only from a certain threshold. Indeed, the foreign bank must have a significant share of capital to influence a bank's long-term strategy and therefore its results.

To take this into account, we divided our samples into two groups of banks: majority owned banks (more than 50% equity) and banks majority owned by foreign banks.

To compare the profitability of these two samples, an average equality test was first performed, the result of which is shown in Table 3.7.

Table 3.7: Equality test of averages

	Domestic Banks	Foreign banks
Avrage	0,0105	0,0029
Test statistic	2,616	
P-value	0,01 < 0,05	

According to the result of this test, we can see that the profitability of the majority of banks with domestic capital (0.0105) is higher than that of the majority of foreign banks (0.0029).

Table 3.8: Channels of influence of foreign banks

	Banks majority owned by Domestic capital	**Banks majority owned by Foreign capital**
Constant	-0,974* (0,545)	-8,048* (4,780)
LNS	0,133* (0,073)	1,130* (0,670)
LNS2	-0,004* (0,002)	-0,039* (0,023)
CAP	0,064* (0,036)	0,703** (0,187)
CI	-0,025* (0,014)	-0,141* (0,073)
LIQ	-5,93 (0,011)	0,041 (0,080)
C4	-0,016 (0,014)	-0,27 (0,202)
R2	0,504	0,445
F-Statistics	7,040***	4,207***
Hausman's Statistics	18,993**	17,434*
Number of Banks	8	2
Number of observations	73	37

*****Signicativity at the 10% level
** Signicativity at the 5% level
*** Signicativity at the 1% level

To explain this performance gap, we re-estimated our base models for both subsamples. The results of these estimates are presented in Table (38).

for banks that are majority owned by domestic investors, the results are similar to those analyzed above: size has a significant non-linear effect on performance; the capitalization ratio boosts performance, while operating costs degrade bank performance. The sub-sample made up of banks majority owned by foreign banks leads to different results only the capitalization ratio and operating expenses significantly influence the performance of banks. Moreover, we note that the impact of these two variables has significantly increased compared to the first sub-sample; the coefficient assigned to the capitalization ratio went from 0.06 to 0.7 while that of the operating expense ratio went from -0.025 to -0.14.

These results indicate that capitalization at the level of majority owned banks is better than that of domestic banks. It can be inferred that the entry of foreign banks helps to increase the availability of funds. Similarly, it is necessary to emphasize that funds provided by foreign banks provide better investment power in international markets, which fosters its reputation.

In addition, the increase in the negative impact of the ratio of operating expenses among foreign-owned banks can be explained by the fact that the banks in question are newly established and are thus exposed to a lot of restructuring expenses. and upgrading (such as employee training, setting up a new communication system ...). It must be emphasized that this entry phenomenon of foreign banks is recent for Tunisia. All these reasons explain the negative impact of costs on the performance of banks.

4. Conclusion

Through this study, we have been able to build the rooting process of foreign banks in the banking market and their roles in intensifying competition in order to verify the theory of competition efficiency.

In fact, in the theoretical literature, we have posed two contradictory theories: competition efficiency and competition-inefficiency. The first support the current authors who have shown that the intensification of competition characterized by the weakness of the banking concentration makes improve the banking performance by the good control of the productive costs of information and their good pricing and diversification. The second trend shows that competition leads to banking inefficiency and deterioration in performance, since the opening of the national banking market to the private sector does not give them the information advantage.

Our results confirm the two currents under market constraints. The entry of foreign banks leads competition to maximize performance from a threshold of 25% when these banks are sufficiently capitalized in the market. The capitalization of foreign banks encourages informational productive capacity to avoid information asymmetry between borrowers and banks and better control of costs.

The limit of this article is not to mention the real causes that led competition to maximize performance with the entry and capitalization of foreign banks. These causes are multiple: the nature of the loans granted to customers, the strategy of penetration of banks in the market. Other than these limits, this article could contain leverage to better mediate between bank capitalization and their ability to cope with competition.

This article opens up future horizons to highlight the performance-based spending economy based more on banking efficiency and its relation to competition and foreign bank entry by giving more importance to Strategic qualitative factors.

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