Conversion From Shadow Banking to Regular Banking an Emperical Analysis

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CONVERSION FROM SHADOW BANKING TO REGULAR BANKING; AN EMPERICAL ANALYSIS

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ABSTRACT

Shadow banking became a trendy topic of argument for restructuring the financial system after the global financial crisis. Shadow banking is handled in conceptual manner in this thesis, and the conversion of special finance houses in Turkey to participation banks as a more important actor in the financial system is proved to be a shadow banking experience by an empirical analysis. Moreover, the findings of the econometric model have shown that the selected performance criteria were negatively affected after the conversion. The findings on the negative effects of the conversion are also supported by the tendencies that are inclined downwards.

Key Words: Shadow banking, perfect shadow banking, hidden shadow banking, special finance houses, participation banks, deposit banks, regression, comparative performance analysis.

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SHADOW BANKING

Shadow banking is known as a combination of financial instruments and non-banking financial institutions. Definition of the shadow banking differs according to the viewpoints of the researchers. Singh and Aitken defines shadow banking as non-banking institutions. This definition does not tell us whether non-financial institutions are included or not?

So Singh and Aitken give some examples of institutions for shadow banking like hedge funds, money market mutual funds, pension funds, Bank of New York and State Street, etc.[1] Shadow banking itself is dynamic. It changes through regulatory arbitrage all the time. Static definitions for shadow banking will be useless.

Pozsar and others defines shadow banking as market-based financial intermediation.[2] Adrian and Ashcraft describe shadow banking through activities; financial intermediation without deposit and credit guarantees.[3] In the same paper, Adrian and Ashcraft give the definition of shadow banking as financial institutions that intermediate credit, maturity, and liquidity without deposit insurance and no access to liquidity window of central bank. This definition is very similar to the Financial Stability Board (FSB) of European Central Bank's shadow banking definition. FSB simply defines shadow banking as non-banking financial intermediation.[4] Shadow banking is a result of a need. The need for alternative funding channels and investment vehicles is the motive of shadow banking services. Shadow banking uses alternative investment tools and funding channel services as competitive advantage. The competitive advantages of shadow banking are service for shorter investment opportunities and longer funding services. That means the same motive for the services of banking are also true for shadow banking; maturity mismatch.

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[1]   Singh, Manmohan, Aitken James, "The Sizable Role of Rehypothecation in the Shadow Banking System", **IMF Working Paper**, 172, 2010, p.6.

[2]   Pozsar, Z., Adrian, T., Ashcraft, A. B., Boesky, H., "Shadow Banking", **Federal Reserve Bank of New York Staff Report**, No. 458, Available at SSRN 1640545., 2010, p.4.

[3]   Adrian, T., Ashcraft, A. B., "Shadow Banking Regulation", **FRB of New York Staff Report**, (559)., 2012, p.2.

[4]   FSB, **Shadow Banking: Scoping the Issues**, 2011, p.1.

Shadow banking is an alternative for the investors that are looking for higher yield and also an alternative for them who are looking for very short investment opportunities. FSB is responsible for observing and regulating shadow banking in Europe. FSB defines shadow banking as non-banking credit intermediation and activities in in the same 2011 Shadow Banking Report.[5] In the same report, FSB puts a frame for shadow banking. According to that, shadow banking includes credit intermediation institutes and activities beyond conventional banking that offers leverage and risk transfer by maturity and liquidity match or regulative arbitrage.[6] FSB's shadow banking definition may cause confusion on involving some institutions that are not shadow banks like leasing, factoring, forfaiting companies etc.[7]

European Commission (EC) refers to FSB's definition for political analysis.[8] EC includes fund collection and utilization and widens definition. System approach for shadow banking definition includes both institutions and instruments. Shadow banking system combines institutions and activities for wider political analysis.

Ericco et al. considers FSB's definition on shadow banking as shortly expressing definition as non-bank credit intermediation. Shadow banking is mostly referred to as market-based financial figures on their paper. [9] Although Classens et al. express that shadow banking is beyond banking and financial markets when growing figures for shadow banking data in time series is beyond banking and financial markets.[10]

Definitions with current shadow banking examples can never be enough for policy making. Because shadow banking is an area for regulative arbitrage and this specification brings dynamism to develop new instruments and activities and also new institutions.

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[5]   FSB, **Shadow Banking: Scoping the Issues**, s.1.

[6]   FSB, **Shadow Banking: Scoping the Issues**, s.3.

[7]   Claessens, S., Ratnovski, L.," What is Shadow Banking?", **IMF Working Paper**, 2014, s.3.

[8]   **European Commission Report**, Shadow Banking, Brussels, 102 Final, 2012, s.3.

[9]   Errico, Luca, et al., "Mapping the Shadow Banking System Through a Global Flow of Funds Analysis.", **IMF Working Paper** No.14/10, 2014, p.4.

[10]   Claessens, What is Shadow Banking., s.3.

Singh and Aitken define shadow banking as the institutions besides regular banking institutions. Singh and Aitken count banking conglomerates as shadow banking, too.[11] Researchers try to put a frame for shadow banking with a list of institutions. Even strictly regulated investment banks are accepted as shadow banks. Hedge funds, money market mutual funds, insurance companies are other shadow banks that are commonly included in many researches. This approach is risky. Because the main motive of shadow banking is the highly developing technology that easily creates new instruments and institutions.

Compared to regular banking, shadow banking services are diversified, discussable, and more innovative. Regular banks have disadvantages in offering new services with a more reasonable cost.[12] Effective use of technology brings competitive advantage to shadow banking. According to Langevoort, shadow banking has advantage of technology when developing short-term instruments for money markets which are traditionally compensated by conventional banks.[13]

Financial Crisis Inquiry Commission (FCIC), which is supported by Stanford Law School, mentions shadow banking characteristics in their current reports as non-regulated or less-regulated financial activities besides conventional banking.[14]

Another characteristics for shadow banking is regulative arbitrage that is offered by deregulation.[15] Regulative arbitrage reduces transaction costs and increases profit.[16] Third characteristics of shadow banking is decentralization. Shadow banking spreads the risks and eliminates intermediation of conventional banking.

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[11] Singh, Manmohan, Aitken James, "The Sizable Role of Rehypothecation in the Shadow Banking System.", **IMF Working Paper**, 172, 2010, p.5.

[12] Schwarcz, Steven L., "Regulating Shadow Banking.", **Review of Banking and Financial Law** 31.1 (2012)., p.626.

[13] Langevoort, Donald C., "Global Securities Regulation after the Financial Crisis." **Journal of International Economic Law,** 13.3: 799-815, 2010, s.799.

[14] **Fin. Crisis Inquiry Comm'n, Preliminary Staff Report**: Shadow Banking and the Financial Crisis 7, 2010, available at http://fcicstatic.law.stanford.edu/cdn media/fcic-reports/2010-0505-Shadow-Banking.pdf (emphasis added).

[15] Schwarcz, **Regulating Shadow Banking**, s.624.

[16] Schwarcz, **Regulating Shadow Banking**, s.624.

These characteristics of shadow banking cause systemic risk.

Shadow banking's function is completely same with conventional banking. Both of the financial actors intermediate credit and liquidity. The difference is hidden in the numbers of institutions and activities that make the same function. Conventional banks make their intermediation function as only one institute and with only one financial instruments; i.e. the deposits. On the other hand, shadow banking runs the same function with a bunch of institutes and financial instruments. The whole shadow banking system works like departments of a conventional bank.

A systematical approach for shadow banking may bring better understanding for policy makers. Systematical approach considers shadow banking as a whole system with institutions and activities that contain financial instruments. System approach does not spare financial activities from shadow banks, and does not count certain financial conduits as shadow banking while the system easily develops new conduits for regulative arbitrage. These are the advantages of the systematical approach.

Shadow banking is highly integrated with regular banking or vice versa. When a regular bank is perfectly integrated to shadow banking, system approach may keep this probability beyond policy making. This can happen when a regular bank invests only in shadow banking instruments. Mainly, conventional banking converts deposits to credits; on the other hand, shadow banking converts credits to securities.[17] This is the main point that involves regular banking with shadow banking. Actually, Lehman Brothers' case was an example of perfectly integrated regular bank. This is the main disadvantage of the systematical approach.

Perfect Shadow Banking

There are perfect shadow banks besides modern shadow banking. *Perfect shadow banks* are shadow banks that function like a perfect bank. Perfect shadow banks collect money and intermediate credit and liquidity under only one institution. Modern shadow banking has the

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17   England, R.S., **Black Box Casino: How Wall Street's Risky Shadow Banking Crashed Global Finance**, ABC-CLIO, Westport,CT, USA, 2011, s.3.

same function but operates the whole banking process with a collection of institutions and financial instruments. On the other hand the differences of perfect shadow banks from conventional banks are the legislative framework, deposit insurance and liquidity window of the central banks. Claessens and Ratnovski highlights the need for public or special guarantee for non-bank financial institutions.[18]

Generally, on institution side, definitions in literature put a frame for shadow banking. This frame includes three characteristics for shadow banking institutions. Firstly, shadow banking institutions perform banking function in a less regulated or unregulated environment. Secondly, shadow banking as financial intermediaries, has no access to central banks' liquidity window. Lastly, shadow banking has no public or private credit and deposit guarantees.

SPECIAL FINANCE HOUSES OF TURKEY

Turkey has initial examples of perfect shadow banks. The First example of Turkish perfect shadow banks are bankers that failed with a liquidity crisis in 1980s. Bankers were private institutions mostly one person businesses without capital requirements and strict license requirements. Bankers were financial intermediaries of 1980s that intermediated liquidity and credit. The motive behind the need for bankers was the interest limitation of government in the money markets. Governmental restriction on money markets produced bankers to satisfy the need for high interest expectation of investors and the need for liquidity of firms as a perfect shadow bank that collected money and allocated credits.

Bankers failed with a liquidity crisis in mid-1980s because of inappropriate legislation and supervision.

Another important example of perfect shadow banking is the Turkish special finance houses. Turkey's Special Finance Houses offered Sharia-compliant financial services based on a decree of December 1983 on the "Establishment of Special Finance Houses".

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[18]   Claessens, **What is Shadow Banking**, p.4.

Special Finance Houses (SFH) started to appear in the market in 1985. SFHs were interest-free banks operating with Islamic finance principles which banned the interest. In the past three decades, the Turkish financial sector developed with the help of liberalization, mergers, technological innovations and new financial institutions. One of these important developments is the SFHs. SFHs were providing financial products and services based on Islamic principles.

Okumus (2005) defines SFHs as the institutions providing financial products and services based on Islamic principles. Following the liberalization process of the Turkish economy in the early 1980s, the financial sector was reconstructed through liberalization that also brought in innovations to financial markets. In this context, the SFHs, providing financial products and services based on Islamic principles, were introduced to the Turkish financial markets. This constituted a "dual banking" system in Turkey in which interest-based banking and interest-free banking run their operations side by side.

It has been suggested that the introduction of interest-free financial products and services to the Turkish financial markets was more of a political strategy rather than an economic or religious move at that time.[19] Hanif mentioned that Islamic banking is not as foreign to business world as it is perceived by certain quarters.[20] It is a business very much like conventional banking within certain restrictions imposed by Islamic law.

SFHs were nothing different from Islamic banks. The business model of SFHs was based on profit sharing. Mainly, the pricing process is the biggest difference between the two banking model. Islamic banks start the whole process of pricing of conventional banks from the end of funding for deposits. Conventional banks first collect money and offer a certain interest rate then create credits. Islamic banks first create credits then make profit, and then share a certain percentage of the profit whatever they gain from funding with their depositors. Pricing the collected funds at the end is very similar to modern shadow banking business model.

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[19] Okumus, H.S., Interest-free Banking in Turkey: A Study of Customer Satisfaction and Bank Selection Criteria, **Journal of Economic Cooperation**, 26(4), 2005.

[20] Hanif, M., Differences and Similarities in Islamic and Conventional Banking, **International Journal of Business and Social Science,** 2(2), 2011.

As mentioned above the SFHs was founded based on a decree of December 16th, 1983 on the "Establishment of Special Finance Houses" and the number of the SFHs reached 6 till 2000, after the initial founding. Ihlas Finance House was founded in 1995 as the last SFH but soon became the biggest in the market in a 5 years period.

Ihlas Finance House was founded based on a decree of November 1994 on the 'Establishment of Ihlas Finance House' and started its operations in April 1995. In the foundation, paid capital of the Bank was TRL 1 million, and 90% of the shares were belonging to Ihlas Holding. Ownership structure was changed significantly over time. As of November 11th, 2000, 34.59 % of the total shares were publicly listed.

Some major figures extracted from the announced financial statements are listed here below;

Table 1: Figures from Balance Sheet in TRL terms.*

Date	Asset Size	Funds Collected	Funded Credits	Net Profit
31.12.1995	9,206,711	6,766,380	7,660,526	166,030
31.12.1996	43,775,490	36,262,750	37,858,552	952,650
31.12.1997	122,853,042	105,926,592	103,219,035	2,202,341
31.12.1998	252,192,211	214,098,371	225,572,393	5,066,596
31.12.1999	633,561,397	543,669,411	542,312,870	9,762,342
30.09.2000	900,799,287	75 4,881,148	754,842,411	6,595,753

*Source: Independent Auditors Reports of Ihlas FH

As of September 30th, 2000 total asset size of the Ihlas reached TRL 901 million and total collected funds increased to TRL 755 million in this period. Total assets rose by 42 % and total collected funds increased by 39 % during nine month period December 1999 to September 2000. Despite the fast growth asset quality and financial structure were

deteriorated and official authorization of the Ihlas was abolished based on authorities' February 2001 decree.[21]

The given reasons behind this abolishment with the decree are here below;

- Levied on the EFT, swap account and blockade in the Central Bank of the Republic of Turkey, and day-by-day these foreclosures increased,

- Authority instituted legal proceedings according to the Law No. 6183 on the Procedure of Collection of Public Receivables because Ihlas Finance was not able to fulfill of its legal obligations against Resource Utilization Support Fund (KKDF)

- Could not meet the withdrawals of the collected funds belongs to participation and current account holders.

- Limited ability to meet its commitments due to deterioration in the financial structure.

- Unsuccessful attempts to solve liquidity problems though precautions to reinforce financial structure.

- Funding Group firms over legal limits.

Balance sheet deterioration caused poor financial structure and a steady run started. Ihlas could not meet the withdrawals and inevitably failed.

Ihlas' sell off was subject to the Turkish Commercial Code because Banking Law did not cover it. The SFHs were the non-bank financial intermediaries that collect funds, give credits, and use leverage like perfect shadow banks. It was important not to being subject to the Banking Law for authorities because it meant limited ability for regulation.[22]

Banks were at the center of the Turkish financial system and regulative actions was mostly focusing on them so the non-bank institutions were partially out of regulated environment and

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[21] Hayali, A., Sarili, S., Dinc, Y., Turkish Experience in Bank Shareholders' Fraud and Bank Failure: Imar Bank and Ihlas Finans Case, **The Macrotheme Review**, October 2012 1(1), p.125

[22] Hayali, A., Sarili, S., Dinc, Y., Turkish Experience in Bank Shareholders' Fraud and Bank Failure: Imar Bank and Ihlas Finans Case, **The Macrotheme Review**, October 2012 1(1), p.125

were not covered by deposit insurance. The exact need was an overall regulative implementation. There was one way to do an overall regulation; to convert SFHs as banks. This action has taken with 5411 Banking Act in 2006.

Hidden Shadow Banking

As motioned in the first section, to consider an institution as a regular bank, it must perform financial intermediation under banking legislative frame, must have access to liquidity window of the central banks, and public or private credit and deposit guarantees. In other words, financial intermediaries that do not meet all of these characteristics are considered as shadow banking institutions. Special finance houses were not meeting any of the regular banking characteristics. They were perfect shadow banks that were performing banking under one institutional roof though they did not have access to liquidity window nor public or private guarantees. Moreover, they were operating under a unique legislative frame that was separate from regular banking. From 1985 to 2001, the operations of the SFHs were perfectly shadow banking. In 2001, SFHs were included in the 4491 Turkish Banking Act but deposit insurance was not available for SFHs' participation accounts. Because participation accounts were not considered as deposits in the Act.[23]

SFHs were meeting only one of the characteristics of regular banking with 4911 Banking Act till 2006. In 2006, the 5411 Turkish Banking Act was enacted. 5411 is the current banking act in Turkey now. SFHs changed their names as 'participation banks' with the 5411 Banking Act. The same act brought deposit insurance and access to the liquidity window of the central bank for participation banks. Since then, SFHs are accepted as regular banks under the name of "participation banks" in theory.

However, in practice, participation banks did not cover all the three characteristics of regular banking. Participation banks had the exact legislative framework with regular banks and deposit insurances offered for participation accounts same as bank deposits. The third

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[23]   Yahşi, Fahrettin, Özel Finans Kurumları'nın Mevzuat Serüveni -

   http://www.tkbb.org.tr/Documents/KoseYazilari/20130724152628.pdf

characteristics for regular banking as liquidity window access was also brought for participation banks with the regulation in theory, but in practice, the participation banks were not able to access liquidity window.

From 2006 to 2012, participation banks experienced 'hidden shadow banking'. *Hidden shadow banking* occurs as a form of regular banking, when a regular bank in theory cannot meet all the three characteristics of regular banking in practice.[24]

Liquidity window access of Turkish Central Bank is available if banks have bonds to discount. Participation banks, successors of SFHs, had access with 5411 Banking Act to liquidity window, but in practice, the situation was opposite. There were not Sharia-compliant financial instruments that participation banks could invest. Since participation banks had no bonds in their portfolio to discount, they could not have access to liquidity window.

In 2012, Turkish Treasury issued first Sukuk (rent certificate) as Sharia-compliant bond. Soon participation banks invested in Sukuk. Sukuk opened access to liquidity window of the central bank as a discountable bond. There were one more detail to access liquidity window and an interest-free contract should be signed between Turkish Central bank and participation banks. Soon after Sukuk issuance, Turkish Central Bank accepted to prepare and sign an interest-free contract.

Since 2012, participation banks have been accepted as regular banks. There is no other example that converts from shadow banking to regular banking. The transition of SFHs to participation banks, from shadow banking to regular banking is important for policy making. This unique case of transition can be proved with an econometric model while the performance of shadow bank forms and regular bank forms can be compared.

This paper models the performance of SFHs and participation banks. The model also compares SFHs and participation banks with conventional banks as control group.

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[24] Dinc, Yusuf, **Gölge Bankacılıktan Regüler Bankacılığa Geçiş; Türkiye'deki Özel Finans Kurumları Örneği**, PhD Thesis, Istanbul, 2015, p.73

METHOD AND ECONOMETRIC MODEL

There are many econometric researches on performance of banks.

No	Writer	Title	Method	Time/Place	Results	Year
1	Bashir, Abdel Hameed	Risk and Profitability Measures in Islamic Banks; The Case of Two Sudanese Banks	Panel Data Regression	Sudan, 1979-1993	*Increasing scale increasing profitability *Increasing scale decreasing operational risk.	1999[25]
2	Kunt, A., Huizinga	Financial Structure and Bank Profitability	Regression	OECD, 1990-1997	*Developing financial system decreasing profitability.	2000[26]
3	Claessen, S., Kunt, Huizinga	How Does Foreign Entry Affect Domestic Banking Markets	Regression	80 Countries, 1988-1995	*Foreign banks are less profitable in developed countries. *Foreign banks are more profitable in developing countries.	2001[27]
4	Boyd, J., H., Levine, Smith,	The Impact of Inflation on financial Sector Performance	Simple Linear Regression	97 Countries, 1960-1995	*Banks and financial markets are inversely correlated with inflation. *Inflation over %15 decrease performance of financial markets.	2001[28]

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[25] Bashir, Abdel-Hameed M., "Risk And Profitability Measures in Islamic Banks: The Case Of Two Sudanese Banks." **Islamic Economic Studies** 6.2: 1-24, 1999.

[26] Demirgüç-Kunt, Asli, and Harry Huizinga, "Financial Structure And Bank Profitability**", World Bank Policy Research Working Paper** 2430, 2000.

[27] Claessens, Stijn, Aslı Demirgüç-Kunt, Harry Huizinga, "How Does Foreign Entry Affect Domestic Banking Markets?", **Journal of Banking & Finance** 25.5: 891-911, 2001.

[28] Boyd, John H., Ross Levine, Bruce D. Smith, "The Impact Of Inflation On Financial Sector Performance." **Journal of Monetary Economics** 47.2: 221-248, 2001.

No	Writer	Title	Method	Time/Place	Results	Year
5	Bashir, Abdel Hameed	Assessing the Performance of Islamic Banks: Some Evidence from the Middle East	Regression	Middle East, 1993-1998	*High leverage and higher rates for credits brings higher profitability. *Foreign banks are more profitable than domestic banks.	2001[29]
6	Vennet, Rudi V.	Cost and Profit Efficiency of financial Conglomerates and Universal Banks in Europe	Regression	EU, 1990-1998	*Financial conglomerates are more income efficient than specialized competitors. *Multinational banks are more cost and profit efficient than domestic banks.	2002[30]
7	Hassan, K.,M., Bashir	Determinants of Islamic Banking Profitability	Regression	21 Countries, 1994-2001	*Profitability performance of Islamic banks is positive correlated with equities on the other hand correlation with credit ratios are negative. *Consumers attitude, maturity and non-profit share income are indicators of profitability. *Tax are efficient, provisions are inefficient on profitability of Islamic banks. *Economic conjuncture effects higher profitability.	2003[31]

[29] Bashir, Abdel-Hameed M., "Assessing the performance of Islamic banks: Some evidence from the Middle East", **Topics in Middle Eastern and North African Economies**, electronic journal, Volume 3, 2001.

[30] Vander Vennet, Rudi, "Cost And Profit Efficiency Of Financial Conglomerates And Universal Banks in Europe." **Journal of Money, Credit, and Banking** 34.1: 254-282, 2002.

[31] Hassan, M. Kabir, Abdel-Hameed M. Bashir, "Determinants Of Islamic Banking Profitability", **10th ERF Annual Conference**, Morocco, 2003.

No	Writer	Title	Method	Time/Place	Results	Year
8	Naceur, Samy B.	Determinants of The Tunisian Banking Industry Profitability: Panel Evidence	Panel Data Regression	Tunisia, 1980-2000	*Characteristics of bank explain interest margin and net profitability. *Macro-economic indicators are ineffective on interest margin and profitability. *Concentration on financial markets benefit less compared to competition of conventional banks.	2003[32]
9	DeYoung, R., Rice,	Noninterest Income and Financial Performance at U.S. Commercial Banks	Regression	USA, 1989-2001	*Well governance causes focus on core banking business. *Marginal increases in non-interest income do not require risky transactions.	2004[33]
10	Berger, A., Hasan, Klapper,	Further Evidence on the Link Between Finance and Growth: An International Analysis of Community Banking and Economic Performance	Panel Data Regression	49 Countries, 1993-2000	*Small scale, private, domestic banks produce better economic performance. *Relatively healthy small scale banks mostly depend on high GDP growth.	2004[34]

[32] Naceur, Samy Ben, "The Determinants Of The Tunisian Banking Industry Profitability: Panel Evidence." **Universite Libre de Tunis Working Papers**, 2003.

[33] DeYoung, Robert, Tara Rice, "Noninterest Income And Financial Performance At US Commercial Banks." **Financial Review** 39.1: 101-127, 2004.

[34] Berger, Allen N., Iftekhar Hasan, Leora F. Klapper, "Further Evidence On The Link Between Finance And Growth: An International Analysis Of Community Banking And Economic Performance", **Journal of Financial Services Research** 25.2-3: 169-202, 2004.

No	Writer	Title	Method	Time/Place	Results	Year
11	Samad, Abdus	Performance of Interest-Free Islamic Banks vis-a-vis Interest-Based Conventional Banks of Bahrain	Financial Ratio Analysis Mean and *t*-test	Bahrein, 1992-2001	*No significant difference between Islamic and conventional banks' profitability and liquidity. *Even Islamic banks last comers to the market, they perform as well as conventional banks. *Islamic banks are subject to less credit risks than conventional banks.	2004[35]
12	Yudistira, Donsyah	Efficiency in Islamic Banking: an Empirical Analysis of Eighteen Banks	Data Envelopment Analysis	18 Banks, 1997-2000	*Islamic banks are less efficient compare to conventional banks as competitors. *Islamic banks suffered in crisis but performed very well soon after the crisis. *Diseconomies of scale is true for Islamic banks. *Mergers should be supported.	2004[36]
13	Haron, Sudin	Determinants of Islamic Bank Profitability	Panel Data Regression	Islamic Banks	*Balance sheet factors is determining on profitability. *Market and scale value are effective on profitability. *Current accounts, equity and profit share ratio are effective on profitability.	2004[37]

[35] Samad, A., "Performance of Interest-free Islamic Banks *vis-à-vis* Interest-based Conventional Banks of Bahrain", **IIUM Journal of Economics and Management12**, no.2, 2004.

[36] Yudistira, Donsyah, "Efficiency in Islamic Banking: An Empirical Analysis Of Eighteen Banks." **Islamic Economic Studies** 12.1: 1-19, 2004.

[37] Haron, Sudin, "Determinants Of Islamic Bank Profitability." **Global Journal of Finance and Economics** 1.1: 11-33, 2004.

No	Writer	Title	Method	Time/Place	Results	Year
14	Chantapong, Saovanee	Comparative Study of Domestic and Foreign Bank Performance in Thailand:The Regression Analysis	Panel Data Regression	Thailand, 1995-2000	*Foreign banks are performing better compared to average domestic banks. *Both foreign and domestic banks' performance increased soon after the crisis.	2005[38]
15	Bonin, John P., Hasan, Wachtel	Privatization Matters: Bank Efficiency in Transition Economies	Regression	Transition Economies (Emerging EU), 1994-2002	*Foreign banks are more efficient. *Public banks are less efficient.	2005[39]
16	Berger, A., Patti,	Capital Structure and Firm Performance: A New Approach to Testing Agency Theory and an Application to the Banking Industry	Regression	USA, 1990-1995	*High leverage and less capital adequacy ratio bring more profit. *Shareholder structure determines profitability efficiency. *Efficient profitability dominates agency problem.	2006[40]
18	Hassan, Kabir M.	The X-Efficiency in Islamic Banks	Data Envelopment Analysis	21 Countries, 1995-2001	*Islamic banks are less efficient than conventional banks. *ROA and ROE ratios are highly correlated for calculating efficiency.	2006[41]

[38] Chantapong, Saovanee, "Comparative Study Of Domestic And Foreign Bank Performance in Thailand: The Regression Analysis", **Economic Change and Restructuring** 38.1: 63-83, 2005.

[39] Bonin, John P., Iftekhar Hasan, Paul Wachtel, "Privatization Matters: Bank Efficiency in Transition Countries", **Journal of Banking & Finance** 29.8: 2155-2178, 2005.

[40] Berger, Allen N., Emilia Bonaccorsi Di Patti, "Capital Structure And Firm Performance: A New Approach To Testing Agency Theory And An Application To The Banking Industry." **Journal of Banking & Finance** 30.4: 1065-1102, 2006.

[41] Hassan, M. Kabir, "The X-efficiency in Islamic Banks." **Islamic Economic Studies** 13.2: 49-78, 2006.

No	Writer	Title	Method	Time/Place	Results	Year
20	Cihak, M., Hesse,	Islamic Banks and Financial Stability: An Empirical Analysis	Regression	20 Countries, 1993-2004	*Small scale Islamic banks are financially stronger than small scale conventional banks. *Large scale conventional banks are stronger than large scale Islamic banks. *Small scale Islamic banks are financially stronger than large scale Islamic banks. *Islamic banks market share is inefficient on conventional banks financial sustainability.	2008[42]
22	Beck, T., Demirgüç-Kunt, Merrouche	Islamic vs. Conventional Banking Business Model, Efficiency and Stability	Panel Data Regression	141 Countries, 1995-2007	*There is very little significant differences between Islamic banking and conventional banking in business orientation, efficiency, asset quality or stability *Islamic banks are more cost-efficient. *Conventional banks are more cost-efficient but less stable in Islamic banking dominated markets. *Strong equity structure of Islamic banks support higher liquidity and brings better performance in crisis period.	2010[43]

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[42] Cihak, Martin, Heiko Hesse, "Islamic Banks And Financial Stability: An Empirical Analysis." **IMF Working Papers**: 1-29, 2008.

[43] Beck, Thorsten, Asli Demirgüç-Kunt, Ouarda Merrouche, "Islamic vs."Conventional Banking Business Model, Efficiency and Stability", **The World Bank**, Washington DC, 2010.

1. Data and Methodology

In this study, SFHs and its successors, the participation banks, are compared as 1998-2006 and 2006-2014 periods to understand differences in performance. 1998-2006 period covers shadow banking period for Turkish Islamic banks and 2006-2014 period covers regular banking period. Also, for 1998-2014 period, Islamic banking group is compared to conventional banking as control group, to prove transition of SFHs from shadow banking to regular banking and to research significant differences.

There are researches in the summary literature table that use the same method for control group. Iqbal used conventional banks as control group for his research on Islamic banking. Beck et al. compared Islamic banks and conventional banks, too. Many research on Islamic banking include Turkish banks. Some of the research are given in literature table.

In this research, the main point is the break in the time period in 2006 when 5411 Turkish banking Act was enacted. 2006 is the year when SFHs became regular banks as participation banks.

Banking performance analysis mostly use financial ratios for data sets. ROA and ROE ratios are the common dependent variables for econometric models on bank performance. Almost all of the researches on the given literature table use ROA and ROE as the key financial performance criteria.

Bashir, Naceur, Hassan, Cihak, Hesse and Beck, Demirgüç-Kunt and Merrouche consider the ROA and/or ROE as independent variables for financial performance criteria.

Petekkaya and Curuk found in their research on Turkish financial market that using ROA and ROE as performance criteria for empirical researches on financial ratios was applicable. In this research, ROA and ROE are selected as performance criteria and dependent variables.

Monthly balance sheet and income statement data were received from Banking Supervision and Regulation Agency (BRSA) archives. 198 observation points cover July 1998 - December 2014 period.

198 observation points are regressed for SFHs and participation banks. ROA and ROE are used as dependent variables and regressed separately. Boyd et al. used more than one regression for their research on financial markets.

In this research, the least squares multi variable regression method has been applied. General equality model that Haron referred in his research is diversified in this research. Haron used dummy variable in his model while referring to Griffiths et al. Haron also used EQTA (equities/total assets), TDTA (total deposit/total assets), and CoR (Cost of Risk) as other independent variables. Same variables used in this research are, NPL (non-performing loans/total loans) and NPLCoverage (NPL/provisions) ratios from Beck et al's research. Other independent variables, TLTA (total loans/total assets), LITA (liquid assets/total assets), and LITD (liquid assets/total deposit) are also used in Samad's paper. The selected ratios used in 3 different researches explain profitability. Before setting the model, the SECTA (securities/total assets) ratio was applied, because securities are mostly involved in shadow banking in literature.[44] To explain shadow banking with an econometric model securities ratio must not be excluded from the model.

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[44]   Dinc, Yusuf, **Gölge Bankacılıktan Regüler Bankacılığa Geçiş; Türkiye'deki Özel Finans Kurumları Örneği**, PhD Thesis, Istanbul, 2015, p.160

Table 1: Table Showing the Variables Used in the Model

No	Financial Ratio	Group	Source	Formula
1	NPL	Risk	Balance Sheet	Non-performing loans/Total Assets
2	NPL Coverage	Risk	Balance Sheet	Non-performing loans/Provisions
3	Cost of Risk (CoR)	Risk	Balance Sheet	Provisions/Total Credits
4	TLTA	Risk	Balance Sheet	Total Loans/Total Assets
5	TDTA	Liquidity	Balance Sheet	Total Deposits/Total Assets
6	EQTA	Liquidity	Balance Sheet	Equities/Total Assets
7	LITA*	Liquidity	Balance Sheet	Liquid Assets*/Total Assets
8	LITD	Liquidity	Balance Sheet	Liquid Assets/Total Deposits
9	SECTA**	Liquidity	Balance Sheet	Securities Portfolio**/Total Assets
10	ROA	Profitability	Balance Sheet	Net Profit/Total Assets
11	ROE	Profitability	Balance Sheet	Net Profit/Equities
12	Shadow Variable (D)	Dummy		0 for SFHs 1 for participation banks

* Cash values, Receivables from CB, Interbank Money Mark. Op. Receivables, Receivables from Banks, Stocks and Bonds Ready to be Sold, Stocks and Bonds Receivables from Borrow Market, Reverse Repo Receivables are included in the calculation.

** Stocks and Bonds book, Receivables to be Sold, Fixed Assets, Stocks and Bonds to be Held at Hand until Due Time are included in the calculation.

Constants for variables are excluded from Haron's model since Haron used the panel data regression. General equality of this research is shown below;

$$ROA_t = \alpha + \beta 1 \ NPL_t + \beta_2 NPLCov_t + \beta_3 CoR_t + \beta_4 TCTA_t + \beta_5 TDTA + \beta_6 EQTA_t + \beta_7 LITA_t + \beta_8 LIKF_t + \beta_9 MKTA_t + \sigma ROA_{t-1} + \gamma D + \mu_t$$

ROA and ROE ratios are dependent variables. For each dependent variable, the same model is regressed and the results are reported. Symbols in the model represent;

α constant for the model

β vector for the coefficients

σ coefficient for the dynamic variable

γ coefficient for the dummy variable (shadow variable)

µ vector for the error vector.

Shadow variable (D) is also the dummy variable. Dummy takes '0' value for July 1998 - December 2005 and '1' for January 2006 - December 2014 period. This method is used to prove the transition from shadow banking to regular banking. The given periods represent shadow banking and regular banking periods in theory. Results of the model will show whether transition happened or not. Model set dynamic to reduce high correlation of dependent variables. To regress the dynamic model, the dependent variable is included in the model as ROA_{t-1} with σ coefficient as independent variable. Same is done for ROE.

Regression 1: Islamic banking performance
The comparison of special finance houses and participation banks based on 1998-2005 and 2006-2014 data.

Regression 2: Conventional banking performance
Comparison of control group based on 1998-2005 and 2006-2014 data.

2. Estimations and Findings

Descriptive statistics, correlation matrixes, and regression results are driven. Descriptive statistics and the results of the correlation matrices are given below.

2.1. Definitive Statistics and Correlation Matrix

Table 2A: 1998-2014 Definitive Statistics For Participation Banks

	NPL	NPLCOV	CoR	TCTA	TDTA	EQTA	LITA	LITD	SECTA	ROA	ROE	ROA (t-1)	ROE (t-1)
N of cases	197	197	197	197	197	197	197	197	197	197	197	197	197
Minimum	0.028	0.329	0.016	0.453	0.614	0.043	0.048	0.059	0.014	-0.035	-0.809	-0.035	-0.809
Maximum	0.312	0.845	0.103	0.821	0.860	0.145	0.215	0.265	0.182	0.028	0.261	0.028	0.261
Mean	0.071	0.597	0.038	0.695	0.767	0.102	0.119	0.156	0.066	0.008	0.065	0.008	0.065
Standard Dev	0.064	0.107	0.024	0.077	0.062	0.026	0.031	0.040	0.044	0.009	0.125	0.009	0.125
SE Skewness	0.173	0.173	0.173	0.173	0.173	0.173	0.173	0.173	0.173	0.173	0.173	0.173	0.173
Kurtosis(G2)	2.690	-0.361	0.444	0.827	-0.019	-0.733	0.154	-0.321	-0.091	4.632	17.431	4.652	17.402
SE Kurtosis	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.345	0.345
SW Statistic	0.642	0.956	0.736	0.905	0.914	0.944	0.991	0.993	0.903	0.877	0.679	0.876	0.678
SW P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.227	0.535	0.000	0.000	0.000	0.000	0.000

Table 2B: 1998-2014 Definitive Statistics For Deposit Banks

	NPL	NPLCOV	CoR	TCTA	TDTA	EQTA	LITA	LITD	SECTA	ROA	ROE	ROA (t-1)	ROE (t-1)
N of cases	197	197	197	197	197	197	197	197	197	197	197	197	197
Minimum	0.000	0.286	0.010	0.196	0.545	0.071	0.173	0.312	0.112	-0.112	-1.508	-0.112	-1.508
Maximum	0.373	0.909	0.195	0.620	0.681	0.146	0.420	0.696	0.516	0.035	0.406	0.035	0.406
Mean	0.074	0.734	0.05	0.415	0.617	0.112	0.286	0.462	0.284	0.009	0.080	0.009	0.080
Standard Dev.	0.074	0.177	0.042	0.129	0.036	0.015	0.053	0.078	0.107	0.012	0.146	0.012	0.146
SE Skewed	0.172	0.173	0.173	0.173	0.173	0.173	0.173	0.173	0.173	0.173	0.173	0.173	0.173
Kurtosis(G2)	5.376	-0.089	2.508	-1.395	-1.077	0.293	-0.215	-0.331	-0.602	46.460	72.562	46.225	72.200
SE Kurtosis	0.343	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.344	0.345	0.345
SW Statistic	0.645	0.824	0.703	0.928	0.934	0.982	0.962	0.971	0.929	0.660	0.530	0.661	0.531
SW P-Value	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Descriptive statistics for participation banks are given above in the Table 2A. Standard deviations of ratios are less than 10%. Applied normality test for variables shows that variables are normally distributed except LITA and LITD ratios for participation banks.

Descriptive statistics for conventional banks are shown in Table 2B. Standard deviations are less than 10% like participation banks. Normality test shows that the variables are normally distributed except EQTA ratio.

Skewed and low values are between 0.172 and 0.355. Variables are slightly skewed left and squared mean for both regressions.

Correlation matrices for participation banks and conventional banks are given below in Table 3A and Table 3B. Results show high correlation between ROA and ROE ratios. The results are normal since the same denominator for calculation of ROA and ROE ratios is the same. Hassan had the similar results for ROA and ROE ratios in his work.

Table 3A: 1998-2014 Correlation Matrix For Participation Banks

	NPL	NPL COV	CoR	TCTA	TDTA	EQTA	LITA	LITD	SECTA	ROA	ROE	D	ROA (t-1)	ROE (t-1)
NPL	1													
NPLCOV	-0.708	1												
COR	0.956	-0.537	1											
TCTA	-0.869	0.539	-0.850	1										
TDTA	0.297	-0.141	0.341	0.046	1									
EQTA	-0.151	0.190	-0.090	0.080	-0.312	1								
LITA	0.398	-0.082	0.354	-0.458	0.026	0.341	1							
LIKF	0.271	-0.026	0.214	-0.444	-0.295	0.408	0.945	1						
SECTA	0.727	-0.424	0.795	-0.836	0.034	-0.104	0.048	0.027	1					
ROA	-0.461	0.365	-0.423	0.390	-0.068	0.505	0.025	0.039	-0.390	1				
ROE	-0.465	0.369	-0.447	0.347	-0.029	0.322	-0.022	-0.014	-0.339	0.928	1			
D	-0.566	0.308	-0.637	0.433	-0.664	0.574	0.140	0.342	-0.584	0.318	0.205	1		
ROA (t-1)	-0.498	0.392	-0.449	0.423	-0.064	0.494	-0.012	0.005	-0.397	0.844	0.798	0.340	1	
ROE (t-1)	-0.506	0.398	-0.471	0.394	-0.015	0.304	-0.096	-0.086	-0.346	0.809	0.870	0.219	0.927	1

Number of Observations: 197

Table 3B: 1998-2014 Correlation Matrix For Deposit Banks

	NPL	NPL COV	COR	TCTA	TDTA	EQTA	LITA	LITD	SECTA	ROA	ROE	D	ROA (t-1)	ROE (t-1)
NPL	1													
NPLCOV	-0.354	1												
COR	0.952	-0.110	1											
TCTA	-0.725	0.500	-0.695	1										
TDTA	0.544	0.222	0.639	-0.530	1									
EQTA	-0.159	0.628	0.059	0.164	0.211	1								
LITA	0.171	-0.087	0.227	-0.669	0.513	0.013	1							
LIKF	0.025	-0.194	0.050	-0.594	0.248	-0.075	0.957	1						
SECTA	0.050	0.583	0.308	-0.235	0.604	0.681	0.464	0.304	1					
ROA	-0.301	0.050	-0.282	0.149	-0.039	0.226	-0.064	-0.062	0.128	1				
ROE	-0.255	-0.020	-0.262	0.126	-0.051	0.150	-0.088	-0.083	0.059	0.981	1			
D	-0.582	0.592	-0.536	0.905	-0.256	0.171	-0.583	-0.581	-0.141	0.129	0.108	1		
ROA (t-1)	-0.252	0.090	-0.235	0.133	-0.015	0.215	-0.039	-0.042	0.134	0.134	0.045	0.148	1	
ROE (t-1)	-0.215	0.014	-0.225	0.111	-0.024	0.154	-0.060	-0.062	0.070	0.091	0.017	0.127	0.982	1

Number of Observations: 197

NPL ratios for participation banks are negatively correlated with both of the dependent variables. Negative correlation of NPL ratios with profitability ratios is comprehensible. NPLCov ratio is positively correlated with dependent variables. Negative correlation of NPLCov ratios with NPL ratio put across positive correlation of NPLCov with dependent variables. It needs to be highlighted that the negative correlation of CoR ratio with dependent variables is similar to the correlation results of NPL ratio.

TCTA ratio is positively correlated with both dependent variables. Results for TCTA correlation of TCTA ratios is positively correlated for conventional banks, too. TDTA ratio for participation banks and conventional banks is negatively correlated with dependent variables.

Contrary to TDTA ratio, EQTA ratio is positively correlated with dependent variables for both bank groups. LITA is also positively correlated with dependent variables for conventional banks. On the other hand, LITA is positively correlated with ROA ratio while it is negatively correlated with ROE ratio for participation banks. LITA is a ratio for idle sources for participation banks that shows inactive assets. The situation for conventional banks is opposite when LITA is on the table. LITA is positively correlated with dependent variables for conventional banks because conventional banks invest short term securities as liquid assets.

While liquid assets are idle for participation banks and less profitable for conventional banks, LITD ratio is negatively correlated for both banking groups since total deposits are expensive sources.

One of the reasons for high correlation of TCTA ratio with dependent variables for participation banks is the negative correlation of the SECTA ratio. Because there were no securities for participation banks to invest. The SECTA ratio is positively correlated for conventional banks while conventional banks gain yields from wide variety of securities.

2.2. Regression Findings

A two-Step process was followed in estimating the multi-variable regression models. Firstly, the reference model that included all the variables was estimated, and then the variables that produced meaningless coefficient estimations were eliminated one-by-one, and the model that gave the most meaningful coefficient values was achieved. Since almost all of the models that were estimated gave extremely high r-square values, it is observed that the explanation power of them is high. High F values, and the F values at 1% significance level indicate that the general significance of the models is also high. The first delay of the dependent variable was used as the additional explanatory variables in order to consider the dynamic effects of the time on profitability performance in the models. For this reason, the issue of whether the successive autocorrelation is a problem or not was tested with Durbin-h Test instead of Durbin-Watson Test. Although the results of this test show that there is a successive regression problem in some models, this is not a problem in many other situations. However, it was also observed that the coefficient estimations of the models with or without successive regression problem were consistent at an important level. In this context, no drawbacks were considered in estimating the meaningful model coefficients. The model which had the most meaningful variables was used. The findings in Table 4 for Participation Banks reached the meaningful model with similar variables for the ROA and ROE values, which were selected as performance criteria. For the 1998-2014 period, the NPL and NPLCov ratios in the regressions of both dependent variables were not at a meaningful level, and these two independent variables were not included in the most meaningful model.

The regression results of these ratios could not be associated with the correlation results; however, it is clear for the deposit banks that the effects of the negative correlation value in NPL on the dependent variables is more limited than those of the Participation Banks. This situation may be explained with the fact that the active distribution of the deposit banks consists of less credits than the Participation Banks. Participation Banks are more willing to convert their resources into credits because there are limited interest-free stocks and bond access in the market. Deposit Banks canalizing their investments to fixed-yield securities in an environment in which the inflation is decreasing ensures that the increase in the NPL is absorbed. Moreover, Deposit Banks packing their defaulter credits and selling them to Asset

Management Companies make it possible for them to decrease their losses that stem from NPL. Until recently, this option has not been possible to implement for the Participation Banks due to the ratification conditions. The positive correlation of the NPL Cov ratio with dependent variables being lower for Deposit Banks may be explained with the Deposit Banks traditionally allocating lower provisions for non-performing loans, and holding less idle resources under this item. The CoR ratio, parallel to the NPL ratio, is negatively correlated with dependent variables.

In the model that was established with the ROA dependent variable, the additional TDTA, LITA, and LITD ratios could not find a place in the most meaningful model.

Table 4: 1998-2014 Multi-variable Regression estimations of Participation Banks

Independent Variables	Dependent Variables											
	ROA(t)						ROE(t)					
	Coefficient	t Test		Coefficient	t Test		Coefficient	t Test		Coefficient	t Test	
Constant	0.075	2.145	**	0.085	2.822	***	1.069	2.570	**	1.346	3.720	***
NPL	0.027	0.575					0.759	1.363				
NPLCOV	0.005	0.645					0.110	1.138				
COR	-0.226	-2.184	**	-0.174	-3.450	***	-4.539	-3.563	***	-3.053	-4.623	***
TCTA	-0.043	-1.730	*	-0.044	-2.168	**	-0.531	-1.725	*	-0.641	-2.564	**
TDTA	-0.054	-1.396		-0.062	-1.695	*	-0.882	-1.895	*	-1.041	-2.362	**
EQTA	0.153	5.016	***	0.146	5.124	***	1.553	4.378	***	1.365	4.212	***
LITA	0.290	1.273		0.344	1.634	*	5.145	1.900	*	6.420	2.546	**
LIKF	-0.244	-1.418		-0.281	-1.750	*	-4.002	-1.963	**	-4.932	-2.570	**
SECTA	-0.068	-2.492	**	-0.069	-2.781	***	-0.514	-1.586		-0.602	-2.039	**
Shadow Val.	-0.009	-3.946	***	-0.009	-4.158	***	-0.121	-4.619	***	-0.113	-4.583	***
ROA(t-1)	0.622	11.289	***	0.621	11.537	***						
ROE(t-1)							0.697	14.408	***	0.696	14.803	***
R Square	0.761			0.760			0.803			0.801		
Flat R Square	0.746			0.749			0.791			0.791		
F Test	53.454			65.841			68.572			83.666		
	[0.000]			[0.000]			[0.000]			[0.000]		
Durbin Watson Test	1.686			1.670			1.596			1.575		
Std. Error (1)	0.005			0.005			0.057			0.057		
Durbin-h Test	2.209			2.322			4.726			4.971		
Observation Number	197			197			197			197		

(1) Standard error of the delayed variable.

Meaningful t tests at (***) %1, (**) %5, (*) %10 levels.

Among the findings of the model, the effect direction of the Independent Variables for both dependent variables is the same as negative or positive. For the most meaningful model, the percentage change of the CoR ratio is negatively influential on both variables. 1% change in CoR influences the ROA in -0,174%. The influence of the same variable on ROE is -3,053%. The negative influence of the increase in the ratio of non-performing loans to total credits being negatively influential on ROA and ROE is the expected result. The increase in CoR ratio represents the increase in NPL ratio indirectly. The increase of the share of the NPL ratio in total credits, on the other hand, means that the profitability of the participation banks that will be obtained from the basic investment instrument will decrease. The negative influence of the CoR ratio on profitability may not be merely presented indirectly. The increase in CoR ratio also represents some of the idle funds of the bank. The funds that are idle influence the profitability ratios directly by limiting the potential credit investment, and show their influence with the decrease of the possible incomes that might have otherwise been received from offering new credits and with the potential increase in the total credits.

According to the findings obtained from TCTA ratio, 1% change in the models established with ROA Dependent variable have an extremely low influence with -0.044%. According to the findings obtained, 1% change in the models established with ROE dependent variable of the TCTA ratio has the value of -0.641%. The increasing values of the TCTA ratio having negative values for participation banks although they are expected to produce positive results in profitability ratios shown in the data obtained from the correlation matrix may be explained with the reverse correlation shown in the correlation matrix of the TCTA ratio with NPL ratio. In other words, the rate of the total credits to total active assets being negatively correlated with the rate of the non-performing loans to total active assets is the result of the risk of the increasing credit level and, parallel to this, having negative influence on profitability ratios. The positive influence of the increase in the total credits in the correlation matrix of the profitability of the participation banks is directly related with the working style of Islamic banking system. The increase in total credits for participation banks, which influences the profit share income profitability level of the participation banks, which invest mainly on credits more than stocks and bonds, may explain the positive relation with the credit quality, which is protected with low NPL level. It is expected that the increase in TCTA ratio increases the quality with the decrease in NPL. Contrary to this, the profit shares received

from credits being shared with participation pools explains the negative correlation between the TDTA ratio and dependent variables. The increase in the participation funds gives rise to an increase in profit share expenses and thus influences the profitability ratios. The realization of high profits to participation pools in the decrease trend of the inflation also explains the negative correlation with the increase in the participation funds and dependent variables.

According to the findings, it has been determined that the model results of the TDTA ratio have negative influences on the profitability ratios that are selected as the performance criteria. 1% change in the TDTA ratio has become -0.062% in the model that was established with ROA dependent variable. This value produced the -1.041% value in the model that was established with ROE dependent variable. The rate of the participation funds that are evaluated as expensive resources to total active assets producing negative influences on performance criteria as parallel to the negative influences on the performance criteria in correlation matrix is a natural result.

1% change in the EQTA ratio which gives positive relation in the correlation matrix has an influence in the same direction at a rate of 0.146% when compared with the ROA dependent variable model results. According to the model findings that was established with ROE dependent variable, 1% change in EQTA ratio shows an influence in the same direction at a rate of 1.365%. In other words, 1% increase in EQTA ratio brings increase in profitability ratios as well. The resources that are provided instead of participation funds being employed as the source of the investment has a positive influence on profitability and give the *Cheap Resource Effect*. The importance of the increase in the use of resources for participation banks is revealed by the model results. Meanwhile, the increase in EQTA ratio will have a positive influence on the capital adequacy ratio. The increase in the capital adequacy ratio will strengthen the financial statement structure. The reinforcement of active growth by resources rather than participation funds in the assets part will provide a strong relation between the growth and profitability increase.

1% increase in LITA and LITD ratios influences the ROA dependent variable at 0.344% and -0.281% levels, respectively. 1% of the same ratios influences the ROE dependent variable at 6.420% and -4.932% rates, respectively. The increasing share of the liquid assets in active assets ensures that the funds are placed in more efficient areas in a more easily manner with

the elasticity they have and thus have positive influences on profitability ratios. This finding is similar to the findings reported by Beck et al. which is given in the Literature Summary Table. However, the increasing values of the rates of the liquid assets to total deposits have negative influences on profitability ratios in a strong manner due to the expensive resources being held in idle position. The liquid assets which are the most important factors supporting the liquidity by decreasing the resource costs after providing product ratification in a wider spectrum that will make it possible to employ participation fund alternative in the resources part establishing the structure that will hold the profitability/liquidity balance at an optimal level will produce positive influences. Participation banks whose major resources consist of participation funds collect funds in *participation in both the profit and loss* method, i.e. the Community of Interest Method. In present situation, the rate of the liquid assets in total active assets may be increased by increasing current accounts, which are cheap assets, and decreasing the share rates, which are applied to the participation accounts, in favor of the bank; because the rate of liquid assets to total active assets is in a positive relation with profitability ratios. In ideal situation, on the other hand, the diversification of resources with new interest-free instruments and increasing the balance sheet share of the resource employment will have a positive influence on profitability.

According to the model findings established with ROA dependent variable, the effect of 1% change in the SECTA ratio is at -0.069%. The findings obtained from the model established with ROE dependent variable are also in the negative direction. The influence of 1% change in SECTA ratio on ROE dependent variable is at -0.602% rate. The acquisition of stocks and bonds being new and some parts of the portfolio of participation banks not being reimbursed are among the important reasons of the negative influence of this ratio. The weight of the risks in calculating the capital adequacy ratio being lower for the government-exported stocks and bonds brings an indirect positive influence.

The basic feeder of the growth is the high capital adequacy ratio. Another important factor leading to the negative influence of the SECTA ratio is the fact that there are no interest-free markets in which the participation banks in our country can make use of their stocks and bonds portfolios in such a way that will bring yield in a relatively short period. This finding shows that there might be different investment area preferences contrary to the shadow

banking practices that are mentioned with stocks and bonds in the world. This may be considered as an evidence for the *investment decision liberty* which constitutes the basis of shadow banking.

The model results of the Control Group banks are given in Table 5, respectively, for the wide and narrow exemplification periods. Contrary to the model results obtained for participation banks, the NPLCov ratio has found a place in the most meaningful models. However, the constant variable like NPL has not been obtained at a meaningful level in the models. The LITA ratio has not been detected in the most meaningful models. The TCTA ratio has not given results at a meaningful level except for one of the models that were established with different variables.

Table 5: 1998-2014 Multivariable Regression Estimations of Deposit Banks

Independent Variables	Dependent Variables											
	ROA(t)						ROE(t)					
	Coefficient	t Test		Coefficient	t Test		Coefficient	t Test		Coefficient	t Test	
Constant	0.001	0.009					0.906	0.760				
NPL	-0.031	-0.298					0.821	0.683				
NPL COV	-0.034	-2.608	***	-0.039	-5.768	***	-0.389	-2.535	**	-0.376	-3.424	***
COR	-0.168	-0.951		-0.177	-7.268	***	-4.210	-2.041	**	-2.857	-6.026	***
TCTA	-0.037	-1.216					-0.702	-1.952	*	-0.336	-1.710	*
TDTA	0.078	0.496		0.058	3.447	***	-0.366	-0.200		1.093	4.580	***
EQTA	0.229	2.723	***	0.171	2.493	**	2.535	2.595	***	2.284	2.621	***
LITA	-0.019	-0.059					2.046	0.551				
LITD	-0.048	-0.243		-0.053	-4.424	***	-2.092	-0.910		-0.885	-5.080	***
SECTA	0.042	1.816	*	0.058	4.983	***	0.660	2.475	**	0.478	2.632	***
Shadow Val.	0.005	0.989					0.103	1.678	*			
ROA(t-1)	-0.104	-1.549										
ROE(t-1)							-0.237	-3.549	***	-0.213	-3.275	***
R Square	0.278			0.549			0.289			0.466		
Plain.R Square	0.236			0.538			0.247			0.446		
F Test	6.490			39.013			6.841			20.581		
	[0.000]			[0.000]			[0.000]			[0.000]		
Durbin Watson Test	1.635			1.825			1.573			1.587		
Std. Error (1)	0.010			0.011			0.121			0.121		
Durbin-h Test	2.587119			N/A			N/A			N/A		
Observation Number	197			198			197			197		

(1) Standard error of the delayed variable.

Meaningful t tests at (***) %1, (**) %5, (*) %10 levels.

The NPLCov ratio has given negative results in the models that were established with ROA and ROE dependent variables. According to the findings, 1% increase in the NPLCov ratio influences the ROA dependent variable at a rate of -0.039%, and the ROE dependent variable at a rate of -0.376%. The increase in the non-responding receivables, which are the idle funds, influences the profitability ratios in a negative and direct manner. Since the increase in NPLCov ratio will also indicate an increase in the NPL ratio indirectly, the increase in non-responding receivables influencing the profitability ratios in a negative way is an expected result. The same results may also be obtained via the CoR ratios.

The CoR ratio has negative influence at a rate of -%0.177 in the model established with ROA dependent variable; and -2.857% in the model established with ROE dependent variable. The increasing rates of the credits being allocated as the counterpart for the non-responding receivables change the direct profitability ratios negatively with the *Idle Fund Effect*, meanwhile, they also indicate a negative result with the increase in the NPL rate in an indirect manner.

The only model that has given meaningful TCTA ratio is the model that was established with ROE dependent variable. According to the findings, 1% increase in the TCTA ratio influences the ROE dependent variable at a rate of -0.336%. The negative influence of the increase in the investment to the credits on the profitability ratio is a result of the deposit banks receiving traditionally high yields from stocks and bonds and derivative tool investments. The positive influence of the SECTA ratio according to the model findings may be considered as the evidence proving this situation. The fact that the SECTA ratio gives a result that is in the opposite direction for participation banks is included in the model findings. Participation banks not receiving profits from this field is the result of the interest-free financial instruments being relatively new. This situation may be summarized as the deposit banks allocating less resources to the credits when compared with the participation banks, their providing active variety with stocks and bonds, their profits being enriched with stocks and bonds as well as credits, and the correlation between the increase in credits and the increase in profitability ratios being stronger than the participation banks.

Contrary to the participation banks, another interesting finding obtained from the control group is the positive influence of the TDTA ratio on dependent variables. The fact that the TDTA ratio of deposit banks which is the counterpart of the TDTA for participation banks having a negative results on dependent variables which are the expensive resources is also included in the findings. The TDTA ratio in the wide exemplification group for the control group has an influence of 0.058% in the model established with ROA dependent variable, and has an influence of 1.093% in the model established with ROE dependent variable. This situation is a function of the resource acquisition variety for the control group banks. Meanwhile, it is also understood from the findings that the resources acquired by the deflationist period being in a disadvantageous position when compared with the control group which benefits from the deposits in the beginning of the credit period instead of the participation banks which accrue profits at the end of the credit period. However, this situation being disadvantage stems from the fact that the majority of the deposit holders in participation banks have interest sensitivity instead of interest sensibility. The part of the society avoiding interest due to Islamic rules forming the basic funds of the participation banks eliminates their sensitivity to the interest rates that are paid to the deposits.

The EQTA ratio has a positive influence for control group banks as it is the case in participation banks. These findings show the importance of obtaining resources concept of the Turkish banking system in the resources part. Resources may be made more use of as more efficient sources with the adequate capital ratio and the participation fund and deposits coming to the front line as more expensive sources. The influence of the resources on the capital adequacy ratio explains the positive support for profitability ratios with its supportive side for growth.

The LITA ratio gave negative results in control group models just like it is the case in participation banks with its representing the idleness of great parts of the expensive resources. According to the findings of the study, the optimization of the liquidity/profitability balance must be one of the most important interest areas of the managers of the banks in Turkish banking system. The presence of liquidity management positions may be expected as a part of risk management, or as a separate organizational structure, or as a management board committee in the coming periods.

The most important finding of this study is the fact that the shadow variable having no place in the most meaningful models that were established for the control group consisting of regular banks throughout the period that was handled by the study. This finding is important in that it has given meaningful results in all the models that were established for shadow variable participation banks which represent the conversion of participation banks from special finance houses. This situation is the proof of the transition from shadow banking to regular banking.

Another important finding is the result produced by the shadow variable for ROA and ROE dependent variables, which are the performance criteria. According to the results, the shadow variable has had the value of -%0.009 in the model established with ROA dependent variable, and -%0.113 in the model established with ROE Dependent variable, which means it influences the performance of the transition from shadow banking to regular banking in a negative way. The regulated environment increasing the costs is the most important reason for this. These results are similar to the findings of the empirical study conducted by Barth et al. covering 107 countries.[45] Obtaining a more limited increase when compared with the increase in the costs may explain this situation. Our results showing that the regulations for banks have negative influences on profitability due to extra costs are parallel to the results reported by the previous studies in the literature. However, the findings suggesting that the performance-decreasing influence of the regulation of shadow banks is among the pioneer findings for the literature. This situation has been supported with the trend graphics showing the ROA ve ROE ratios inclination.

The strong increasing inclination in the ROA and ROE ratios of the special finance houses despite the 2001 crisis may be observed in the graphics. However, it may also be observed that the profitability ratios, which have been selected as the performance criteria of the special finance houses, which were called as participation banks from-then-on, increased strongly after the regular banking period which started in January 2006. This situation is the indicator showing that the transition to regular banking influenced the performance in a negative way.

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[45]   Barth, James R., Gerard Caprio, Ross Levine. "Bank Regulation And Supervision: What Works Best?", **Journal of Financial Intermediation** 13.2: 205-248, 2004
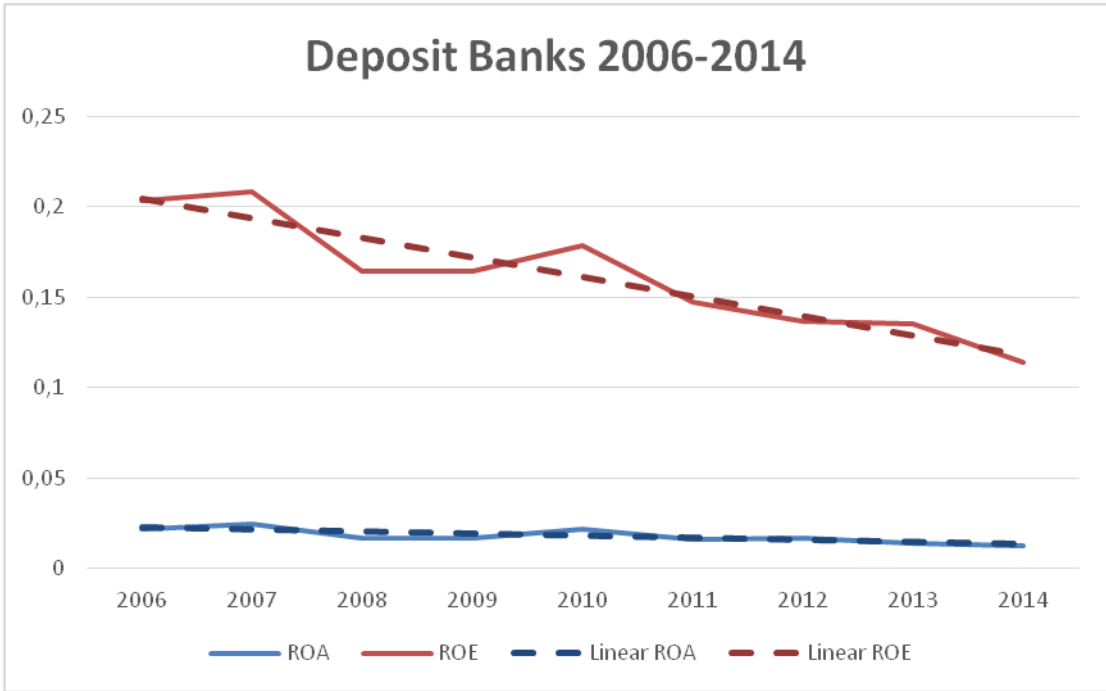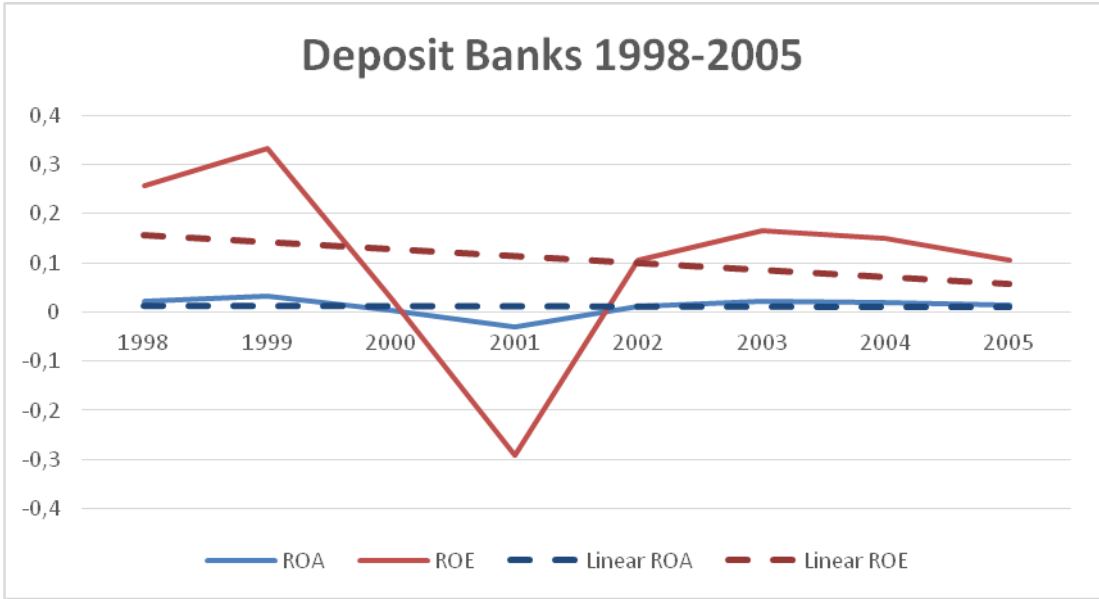
**Graphics 1:   Participation Banks (Special Finance Houses) 1998-2014 ROA
             and ROE Trends**
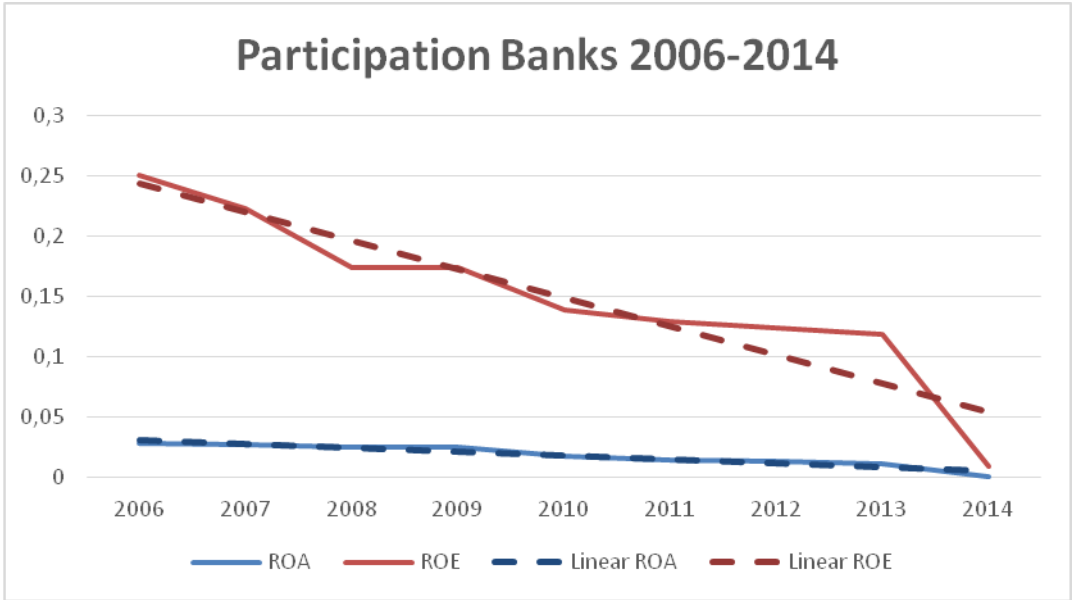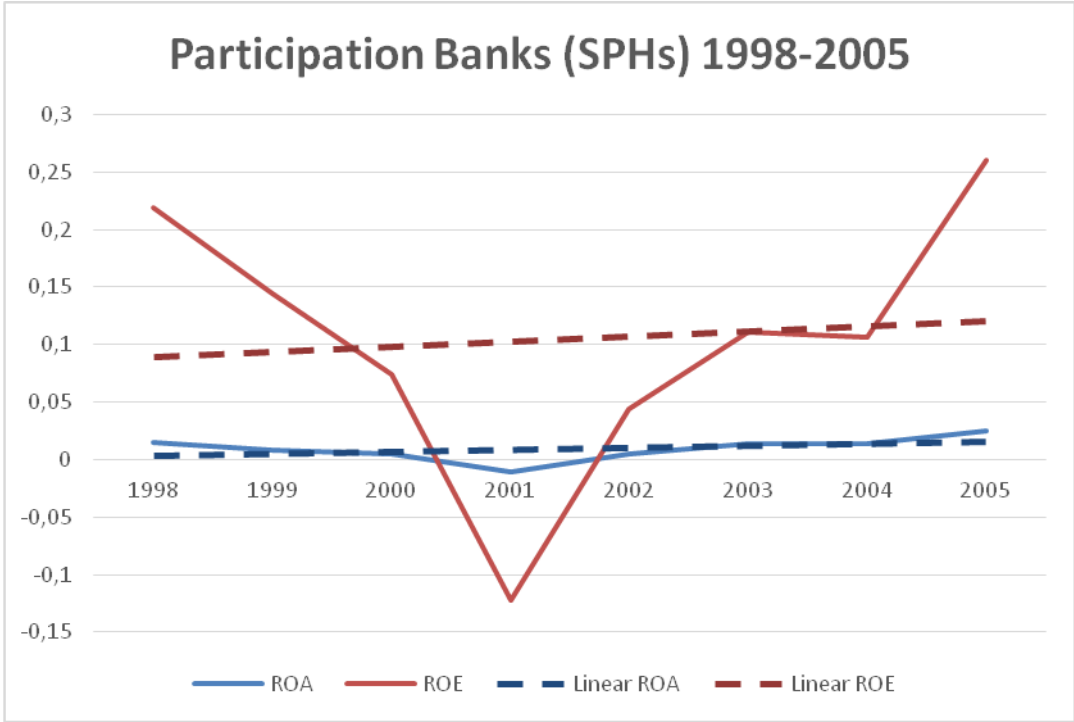
The slightly increasing inclination in the profitability ratios, which are the performance criteria for Control Group banks for the period before 2005 has been converted into a slightly decreasing inclination with the January 2006 period. The literature showing the negative

effect of the increasing costs of additional regulations on banks have been supported with these findings.

Graphics 2: Deposit Banks 1998-2014 ROA and ROE Trends

The increase or decrease in the curve lines of the control group banks, which does not have shadow/regular passes, being in a much limited level when compared with the special finance houses and participation banks reveals the power of the shadow variance. The ROE values surpassing the ROA values in 2013 for both groups for the first time is an interesting finding.

In the period after 2005 the inclination for a decrease of profitability ratios for both groups in the Turkish banking system may be considered as similar findings with the findings of the study conducted by Kunt and Huzinga suggesting that the development of the financial system decreasing the profitability; if, and only if, it is considered that the participation banks being included in the system as regulated actors develops the financial structure.

The other findings obtained in the study are the graphics showing the distribution of the residues according to the estimation.

CONCLUSION

In the recent period, the concept influencing almost everybody from household to big-scale investors, from small-scale banks to central banks, and to policy-makers is the *shadow banking*, which is frequently mentioned among the important actors of the economy and in the literature.

The system, which has benefits such as becoming specialized, transferring the funds in an efficient manner, distributing the risks, and producing investment alternatives, also has some risks like being possibly subjected to attacks, working with high leverage, and regulative arbitrage. The center of the debates has gathered around the regulation of the shadow banks and shadow banking system in terms of laws and practices and eliminating the possible risks that may appear for national and global economy.

Although many institution types of various size are accepted within the shadow banking system in the world, many different instruments are categorized as the elements of the shadow banking system. In our country, there are past and present models that comply with the shadow banking characteristics surrounded with the literature.

Financial actors collecting deposit-like funds and that are not subject to banking regulations and do not have access to liquidity window are called as *shadow banks* in the literature. The bankers of the 1980 period may be categorized under the title of shadow banks as one of the most prominent models of this type of activity. The most important model is the special finance houses of the past that are active today under the title of participation bank. This study has been conducted to reveal the transition from shadow banking to regular banking with an econometric model; and to determine the direction of the effects of such a transition on the selected performance criteria.

As the application model, the special finance houses, or with the name they are called today, *the participation banks*, which are the sole national models that have been transformed from shadow banking to regular banking, have been chosen. No such transition models have been found in the literature in international level. Special finance houses have also been selected as the application model of this thesis in terms of data collection. In this context, 198 observations which include the 1998 July - 2014 December period have been provided from the BRSA archives. In order to determine the desired results for the period before and after January 2006, which is the date of the special finance houses being converted into participation banks with the 5411 Banking Law, the dependent and independent variables, which were provided from shadow variable financial statements, have been placed in the econometric model. The shadow variable has been represented as the *dummy factor* with the values 0 and 1 for the period before and after January 2006. The dependent and independent variable ratios have been taken as the reference from the studies that were conducted on banking performances in the literature. In addition to the reference ratios, the MKTA ratio, which represents the ratio of the stocks and bonds to the total active assets, have been added to the model since shadow banking is intensely associated with the securitization in the world. As the Control Group, the deposit banks, which are common in the literature, have been selected. The model has been regressed for participation banks (special finance houses) and deposit banks.

In this context, as the most important finding of the study, in the end of the model that was regressed with profitability dependent variables, it has been proven that special finance houses have been converted into regular banks. The shadow variable has given a result that is

at a significant level for the participation banks, and it has been revealed that the significance level for deposit banks is *not* within acceptable limits. This situation has revealed that deposit banks were in the regular area in both periods, and that special finance houses were converted into regular banks.

In addition, it has also been revealed with the trend graphics curve line of the coefficient value and dependent variables of the shadow variable that the effects of such a transition on the selected performance criteria have been in the negative direction.

Results that are similar to those of the previous studies that compared Islamic banks with conventional ones in the literature have also been obtained. The total results are parallel to the results reported after the study conducted by Beck et al. suggesting that there are no significant differences between participation banks and deposit banks in terms of job orientation and active quality. No signs have been obtained pointing out to the results of the study conducted by Yudistra and Hassan claiming that Islamic banks are less active. The TDTA and SECTA ratio that are calculated for participation banks, and the findings obtained from the TDTA ratio that was calculated for the conventional banks are similar to the result of the study conducted by Naceur suggesting that the banking characteristics is definitive on profitability. Contrary to the results of the empirical study of Hassan claiming that the profitability criteria of Islamic banks are in negative correlation with capital and positive credit ratio, our results suggest that bot variables are positively influential on profitability. In addition to this, our results are similar to those obtained in the study conducted by Samad suggesting that there are not important differences between the profitability and liquidity Islamic banks and conventional banks.

Since there are no clear principles or legal regulations defining the separation between the preference of the resources or the participation funds to be used in acquiring liquid assets for both banking systems, and because the resources obtained are used freely to acquire liquid assets, the normally negative correlated ratio for ROE in participation banks being positively correlated for ROA may be used in similar further studies. The LITA ratio being negatively correlated with both dependent variables as idle resources for deposit banks is a natural result. No previous studies were found in the literature on the source of the difference in participation banks.

The LITD Ratio also gave a negatively-correlated result with both dependent variable for deposit banks. The LITD Ratio being in negative correlation with the ROA and ROE values is normal because of the idle position of a majority of the deposits, which are expensive resources. However, in the participation banks side, the negative correlation between the LITD Ratio with the ROE dependent variable is normal; and the positive correlation with the ROA dependent variable deserves further studies, just like it is the case in the correlation results of the LITA ratio.

In the model of our country, taking precautions to limit the interest rates by excluding the market system, avoiding the recording of the stocks and bonds in some way, limiting the liquid asset concept with *money* and the excluding of the belief system from the financial system may be considered as the elements that lead to shadow banking and risk-bearing factors. In addition, intensifying the regulations merely on the banks and ignoring the other elements of the financial system or regulating them in a loose manner leads to the way to regulative arbitrage.

Instead of public limitations on the interests relying on the market system, recording the stocks and bonds that are exported without permission in an urgent way and applying the regulations on exporters to protect small investors and accepting the liquid asset concept with its broadest meaning will prevent the possible risks. In addition, the integration of the financial actors that represent the belief systems with the system, and behaving in an encouraging and proactive manner in order to define the similar actors and/or instruments within the regulations will eliminate the risks.

Offering private sector guarantees instead of public guarantees may be a successful solution just like it is the case in housing projects in campaign in our country.

One of the important and preventive regulation suggestions is the use of the request ratios that will be applied to the stocks and bonds which are the subject matter of the export as an important means of monetary policy. The experiences that will be obtained by using this element, which is the most important monetary policy of the future, in an active way may be transferred to the future.

The most important regulation suggestion must be ensuring an adjustment that will integrate all the elements of the financial system.

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