TÜRK BANKACILIK SEKTÖRÜNÜN 2001-2015 DÖNEMİ İÇİN CAMELS YÖNTEMİYLE PERFORMANS ANALİZİ

* Türker ŞİMŞEK [†] Emre ASLAN [‡]Aziz ŞAHİN

Özet

Camels performans analizi modeli, özellikle ABD'de uzaktan denetimin önemli araçlarından biri olmakla birlikte, ülkemizin de aralarında bulunduğu birçok ülkede ulusal denetim otoriteleri tarafından kullanılan değerlendirme sistemidir. Camels analizinde Sermaye yeterliliğini C, varlık kalitesini A, yönetim yeterliliğini M, kazanç durumunu E, likiditeyi L temsil ederken, S piyasa risklerine duyarlılığı sembolize etmektedir. Uluslararası ekonomik birimlerce kabul gören Camels analizi yöntemiyle Türk bankacılık sektörünün 2001-2015 yılları arasındaki performansını değerlendirmek ve bu dönemde yaşanılan iktisadi krizlerin sektör üzerindeki etkisini görmek çalışmamızın temel amacını oluşturmaktadır.

Yapılan analiz neticesinde, kamu sermayeli mevduat bankalarının piyasa risklerine karşı daha duyarlı oldukları belirlenmiş, özel sermayeli mevduat bankalarının ise karlılık açısından önde oldukları ortaya çıkmıştır. Yabancı sermayeli mevduat bankalarının ise likidite ve aktif kalitesi açısından diğer bankalara göre bir adım önde oldukları gözlemlenmiştir.

Anahtar Kelimeler: CAMELS Analizi, Sermaye Yeterliliği, Türk Bankacılık Sektörü

TURKISH BANKING SECTOR PERFORMANCE ANALYSIS BY CAMELS METHOD FOR 2001-2015 PERIOD

Abstract

The Camels performance analysis model is an evaluation system used by national supervisory authorities in many countries, including our country, as well as being one of the most important tools for remote control in the United States. In the Camels analysis, capital adequacy is represented by C, asset quality A, management adequacy M, earnings status E, liquidity L, and S represents sensitivity to market risks. The main aim of our study is to evaluate the performance of the Turkish banking sector between 2001-2015 and to see the effect of the economic crises experienced in this period on the banking sector by using the Camels analysis method which is accepted as an international economic institutions/organizations.

As a result of the analysis, it is determined that public deposit banks are more sensitive to market risks and private deposit banks are leading in terms of profitability. It is observed that foreign deposit banks are one step ahead of other banks in terms of liquidity and asset quality.

Key Words: CAMELS Analysis, Capital Adequacy, Turkish Banking Sector

1. Introduction

In order to be able to speak of a strong economy, the size and solidity of financial markets, more particularly the banking sector, is essential (Kapucu-Şiriner, 2007: 164). With the banking sector having key roles in many industries such as agriculture, construction and textiles, the success of the sector or the negative developments in the sector are directly affecting the real sector and the country's economy (Dash and Das, 2009: 1).

After the liberalization process that started in the 1980s, crises in the sector have occasionally come to the fore. Along with these crises, both the real sector and the financial sector had to submit to serious costs. At the end of all these developments, control systems have been developed so that these situations do not happen again (Sen and Solak, 2011: 52).

^{*} Yrd. Doç. Dr., Gaziosmanpaşa Üniversitesi, İİBF, İktisat Bölümü E-mail: turker.simsek@gop.edu.tr

[†] Yrd. Doç. Dr. ,Gaziosmanpaşa Üniversitesi, İİBF, İşletme Bölümü E-mail: <u>emre.aslan@gop.edu.tr</u>

[‡] Gaziosmanpaşa Üniversitesi, SBE, İktisat Ana Bilim Dalı E-mail: <u>aaazizsahin7@gmail.com</u>

Camels system is an early warning system used for risk control. In our study, after the introduction of Camels analysis in general terms, literature review was given and finally an application was made in Turkish banking sector using Camels analysis.

2. Camels Analysis

The Camels rating system was developed in the 1970s by regulatory agencies in the United States to shape the inspections of banks. In the following years, the system has been accepted and financial institutions/organizations began to be widely used (Wirnk and Tanko, 2008: 3). The Camels system consists of six components starting with the first letters of the name. In terms of understanding the method, it is useful to briefly describe these components.

2.1.Camels Components

Capital Adequacy (C): The first component of the system. The capital adequacy of the bank is evaluated in terms of quality and quantity. The criteria taken into account when assessing capital adequacy and capital adequacy ratios used are shown in Table 1 and Graph 1.

Table 1: Criteria Used in the Assessment of Capital Adequacy



Graph 1: Capital Adequacy Ratios



Source: Banking Regulation and Supervision Agency, BRSA.

Asset Quality (A): The second component of the system. This component analyzes the bank's portfolio quality and portfolio risk. In measuring the quality of assets, the criteria such as the effectiveness of credit processes, the existence and amount of problem loans, credit provisions, collection capabilities, credit provisions are taken into consideration. The criteria used in the assessment of asset quality are shown in Table 2.

Table 2: Criteria Used in the Assessment of Asset Quality

	Status of internal audit and management information systems			
ATITA	The effectiveness of the credit extension process, the conditions, the managerial evaluation, whether or not the necessary risk assessment has been carried out			
Evaluation of credit and investment portfolio				
SET	Success in collection of troubled assets			
AS	Assessment of asset concentration			
	The status of the loan provisions, the allocation of sufficient probable loss provisions			

Management Quality (M): Management quality, which is the third component of the system, assesses management performance. The criteria considered when assessing performance are shown in Table 3.

|--|

Ŋ	Proper operation of the legislation			
QUALI	Supported by Board of Directors decisions taken by the Bank			
MENT (M)	Compliance with developments in the sector			
NAGEI	The Bank's competence in its fields of activity			
MA	Bank's success and risk appearance			

Earnings (E): It is the fourth component of the system. The stage in which the sources of earnings are tested for their quality of resources and their sensitivity to market risks. Table 4 below shows the criteria used in assessing Earnings.

 Table 4: Criteria Used in Assessing Earnings

	Earning resources and quality
()	Sensitivity of earnings to market risks
EARN (E	Evaluation of the budget system
	Stability status of earnings

Liquidity Status (L): In the fifth component of the Camels evaluation system, the bank is assessed in terms of liquidity. The criteria considered in this evaluation are shown in Table 5.

The Journal of Knowledge Economy & Knowledge Management / Volume: XII Fall

<u> </u>	Stability of deposits
	Level of dependence on short term funds
	Access to money markets
LIQUDITY	Bank's resource management
	Possibility of conversion of assets

Table 5: Criteria Used in Assessing the Liquidity Situation

Sensitivity to Market Risk (S): In the sixth and final component of the system, sensitivity to market risks is assessed by taking into consideration criteria such as bank interest rates, commodity prices and exchange rates.

 Table 6: Criteria Used in Market Risk Sensitivity

7 TO (S)	Success of the Bank's management to control market risks
SITIVIT' ET RISK	The sensitivity of the bank's earnings and capital position to changes in the market
SEN	The risk situation arising from the bank's commercial transactions

Camels evaluation system is evaluated with various criteria, while scaling is done with grades 1-5. After the first step, a score of 1 to 5 is given for 6 components (Cole and Gunther, 1998: 107). The weight of each component in the Camels analysis varies (Feldman and Schmidt, 1999: 13). Capital adequacy is 20%, asset quality is 20%, profitability is 15%, liquidity is 10% and market risk sensitivity is 10% (Sarker, 2008: 9).

Composite Camels ratings are defined as follows in the Commercial Bank Audit Manual issued by the Federal Reserve Board of Governors (Cole and Gunther, 1998: 107).

- ✓ Powerful banks in every direction '1'
- ✓ In general, strong banks '2'
- ✓ Banks who have problems with their performance are identified as '3'
- ✓ Banks with serious problems and poor performance '4'
- ✓ Banks whose financial or managerial problems are very serious represent a '5' notation.

At the end of the evaluation, deficiencies are resolved and a management report for preventive purposes is issued. The reports prepared to prevent the bank from suffering are not shared with the public (Hays et al. 2009: 7).

The supervisory board of the Banking Regulation and Supervision Agency (BRSA) is responsible for the supervision of the banking sector in our country. The BRSA fulfills its mission in the form of on-site and remote surveillance. The on-site supervision is carried out by the Sworn Bank Auditors and the remote supervision is carried out by the BRSA monitoring office (Özsoy, 2004: 9). Seeing the Camels rating system as part of the remote surveillance

task, the BRSA is preparing the 'Banking Sector Performance Analysis Report' according to the Camels components.

3. Literature

Studies of researchers who have studied Camels analysis are included in this section. While there have been many studies related to the subject, efforts have been made to include leading studies.

Camels analysis, consisting of six components, namely capital adequacy, asset capacity, management competence, earnings position, liquidity and sensitivity to market risks, is a method that enables the banking sector to remotely audit. Dincer et al. (2011) defined the analysis of the Camels as the most important of the performance indicators of the banking sector, while Kaya et al. (2001) defined it as a remote surveillance and auditing tool. Evidently, Nurazi and Evans (2005) defined the Camels analysis as a method for observing the quality of bank assets, while the Roman and Şargu (2013) pointed to the analysis of Camels as the best analysis of the banking system in terms of soundness.

Rozzani and Rahman (2013) included limited features in their work as well as positive aspects of analysis. According to the study, there is not enough information about the banks with high risk of bankruptcy. Another drawback is that future developments can be ignored. Kaya (2001) included 45 banks operating in the Turkish banking sector between 1997 and 2000, and determined that the likelihood of being taken into the Savings Deposits Insurance Fund (SDIF) decreased as the banks' Camels analysis rose. The study also highlights that Camels notes of large banks are high up to 2000, while in 2000 small banks are unable to protect the high grades they had in 1997.

Çinko and Avcı (2008) applied the Camels analysis between 1996 and 2000, and found that the transfer banks to the SDIF in 2001 had higher Camels ratings in the following years compared to other banks. Dincer et al. (2011) has conducted analysis of Camels between 2002 and 2009, reaching the conclusion that the banks that recovered after the 2001 crisis and went to correct the past mistakes were less affected than the 2008 crisis.

Sakarya (2010) according to the Camels analysis of banks operating in Istanbul Stock Exchange (ISE) between 2005-2007, the capital adequacy ratio is better for foreign banks and for liquidity it is found that the domestic banks are better.

Gupta (2014) has conducted a Camels analysis for banks operating in India, and stated that low grade banks need to improve their performance significantly. For banks operating in Romania, Mitrica et al. (2010) conducted a Camel analysis and found that all banks were deteriorating in their debt portfolio.

The literature review shows that the empirical studies that have been carried out have reached conflicting results. The reason for this is that the parties involved in the bank must have different perspectives on performance evaluation.

4. Purpose and Scope of the Study

It examines the development and change of Turkish banking sector, evaluates the activities of the banks in the sector, and compares the performance. 31 banks operating in the banking sector that we will examine in our work have been gathered in 5 categories.

-Public Banks

-Special Deposit Money Banks

-Turkish Foreign Deposit Money Banks

-Participation Banks

-Public Participation Banks

Banks will be treated in this grouping in order to make comparative analyzes of the performances of publicly administered banks with private banks and private deposit banks of foreign banks. With this grouping, participation banks operating in the interest free system and performance analysis of the banks operating in the interest rate system will also be found in our work.

In our study with data coverage period 2002-2015, the data declared by BRSA were used. In order to observe the effects of the financial crises in 2001 and 2008 on the financial data of the banks, these years' data were preferred. As a result of the ongoing economic crises, the control of the banks has been greatly increased. The effects of the 2001 and 2008 crises on the Turkish banking sector will be discussed extensively. The banks included in our analysis are shown in Table 7.

Public Deposits	Private Deposit	Foreign Deposits Established in Turkey	Participation	Public Participation
 T.C. ZİRAAT BANKI A.Ş. TÜRKİYE HALKBANK A.Ş. TÜRKİYE VAKIFLAR BANK T.A.O. 	 TÜRK EKONOMİ BANK A.Ş. AKBANK T.A.Ş. ŞEKERBANK T.A.Ş. TÜRKİYE İŞ BANK A.Ş. YAPI VE KREDİ BANK A.Ş. TURKISH BANK A.Ş. FİBABANK A.Ş. ANADOLU BANK A.Ş. 	 TÜRKİYE GARANTİ BANK A.Ş. ARAP TÜRK BANK A.Ş. CITIBANK A.Ş. ING BANK A.Ş. TURKLAND BANK A.Ş. ICBC TURKEY BANK A.Ş. FİNANSBANK A.Ş. DEUTSCHE BANK A.Ş. HSBC BANK A.Ş. HSBC BANK A.Ş. BURGAN BANK A.Ş. DENİZBANK A.Ş. ODEA BANK A.Ş. BANK OF TOKYO MİTSUBİSHİ UFJ TURKEY A.Ş. 	 ALBARAKA TÜRK KATILIM BANK KUVEYT TÜRK KATILIM BANK TÜRKİYE FİNANS KATILIM BANK 	 ZİRAAT KATILIM BANK A.Ş. VAKIF KATILIM BANK A.Ş.

Table 7: Banks Included in The Analysis

Source: BRSA

Performance analysis of Camels and banks operating in the Turkish banking sector between 2002 and 2015 will be examined comparatively and a separate weight ratio is determined for each Camels component used. Each weight is proportionate to its importance in itself. The

ratios included in our analysis are the most used indicators for the analysis of Camels and are shown in detail in Table 8.

Table 8:	Weighted	Ratios o	f Camels	Components
----------	----------	----------	----------	------------

Component and Rate name	Component Weight and Direction of Relationship
Capital Adequacy (0,20)	
• Equity (Credit + Market + Operational risk)	0.50(+)
• Equity / total assets	0,30(+)
	0,20(+)
• (Equity - Fixed assets) / Total assets	
Asset Ouality (0.15)	0,40(+)
Total loans and receivables / Total assets	0,30(-)
 Sub-loans / Total loans and receivables 	
• Sub-Ioans / Total Ioans and receivables	0,40(-) 0,30(+)
• Fixed assets / Total assets	0,30(+)
Management Quality (0.15)	
• Sub-loans (gross) / Total loans and receivables	
 Net profit per branch (Million TL) 	0,30(+)
	0,30(+)
• Total operating income / total assets	0,20(+) 0,20(+)
	0,20(1)
Profitability (0.15)	
• Net profit / (loss) / Total assets	0,35(+)
• Net profit for the period (loss) / Equity	
• Profit before tax / Total assets	0,35(+)
• Total Revenue / Total Expense	0,30(+)
Liquidity (0.20)	0,30(+)
• Liquid assets / (Deposite + Non Deposit Pasouross)	0,30(-)
• Eiquid assets / (Deposits + Non-Deposit Resources)	0,40(-)
• Liquid assets / Total assets	
• Liquid assets / Short-term liabilities	
Market Risk Sensitivity (0,15)	
• Interest income / total assets	
• FX Position / Equity	
• FX assets / FX liabilities	

Source: Wirnk and Tanko (2008), Kaya (2001), Sarker (2008) and Şen and Solak (2011)

In our research, firstly the selected ratios of the Turkish banking sector according to years have been provided and later reference values have been formed with these ratios. At the next stage, the banking data is based on sector data. Multiplied by the weight coefficients of the ratios that constitute each component, the last values were added. The resulting results specify the Camels notation of the component concerned.

5. Results of Analysis

As a result of the analysis we conducted in our research, the performances of public, private, foreign-funded deposits and participation banks are shown in the following tables. According to the Turkish banking sector, the scores of the banks with the better conditions were positive and the scores of the ones with the worse condition by the sector were negative.

5.1. Capital Adequacy

Capital Adequacy is the indicator of capital and relevant indicators such as the ratio of capital to assets and organization strenghts. The first component, which has a 20% share in the Camels analysis, is shown in Table 9 as a result of the capital adequacy analysis. In the calculation of the capital adequacy component which is one of the most important indicators of the financial structure of banks, 50% of the equity / (Loan + Market + Operational risk), Equity/ Total assets 30%, (Equity- Fixed assets) / Total assets 20% are determined.

YEARS	PUBLIC	PRIVATE-	PRIVATE-	PARTICIPATION
		DOMESTIC	FOREIGN	
2002	4,53	-1,90	11,20	-
2003	6,36	-2,15	9,54	-
2004	7,13	-1,85	2,32	-
2005	12,72	-3,52	-2,01	-
2006	10,20	-3,18	-2,05	-11,74
2007	5,16	-1,55	-0,55	-11,98
2008	3,07	-1,40	0,12	-10,31
2009	1,71	-0,63	0,38	-4,22
2010	1,51	-0,43	-0,37	-3,55
2011	1,65	-0,74	-0,83	-6,68
2012	1,52	-0,45	-0,99	-2,80
2013	0,87	-0,07	-1,02	-8,12
2014	-1,49	-1,39	-1,86	-4,65
2015	-0,82	-1,09	-0,84	-2,55

Table 9: Capital Adequacy (C)

According to the analysis made in our study, public banks got better scores than other bank groups in terms of equity and asset structure. While participating banks are rated worse than other bank groups in terms of capital adequacy, domestic private and foreign capital deposit banks perform close to each other.

5.2.Assets Quality

The assets quality encompasses the quality of an institutional loan that reflects the earnings of the institution. The weight of the asset quality, which is the most important indicator of credit quality in the banking sector, was determined as 15% in the Camels analysis. In the analysis of the second component, asset quality, total lending and receivables/total assets were included in the analysis, 40%, followed by loans/ total lending and receivables 30%, fixed assets / total assets 30% are determined. The results of active quality analysis are shown in Table 10.

YEARS	PUBLIC	PRIVATE- DOMESTIC	PRIVATE- FOREIGN	PARTICIPATION
2002	-9,01	5,37	8,17	3,00
2003	-2,65	5,92	8,36	3,00
2004	0,76	5,72	8,20	3,00
2005	2,12	5,75	7,00	7,30
2006	2,30	5,26	7,96	6,75
2007	3,02	4,96	7,23	5,84
2008	1,65	4,87	5,33	2,95
2009	1,79	5,05	5,22	4,59
2010	2,13	4,98	4,54	5,12
2011	2,48	4,79	2,62	2,59
2012	0,78	4,73	3,33	2,05
2013	1,83	4,76	2,91	1,04
2014	1,5	0,1	2,32	1,46
2015	0,88	0,24	1,5	0,96

 Table 10: Assets Quality (A)

In terms of asset quality, foreign capital deposit banks received better scores than other banks in the years examined in our study. According to this result, it can be said that the rates of return on loans given by foreign capital deposit banks are high. In the few years after the 2001 crisis, the state-owned banks were negative because they had a very low return on their loans. Domestic private banks have followed a steady course of asset quality in the years under review.

YEARS	PUBLIC	PRIVATE- DOMESTIC	PRIVATE- FOREIGN	PARTICIPATION
2002	-7,43	3,04	4,12	-
2003	-6,77	2,58	3,64	-
2004	-3,81	1,03	2,61	-
2005	-2,22	0,47	1,61	2
2006	-2,11	0,04	1,90	2,24
2007	-1,39	-0,44	1,29	0,57
2008	-1,22	-0,04	0,29	-0,58
2009	-0,16	0,01	-0,83	0,85
2010	-0,36	0,58	-2,01	0,23
2011	-0,55	0,47	-1,98	-0,79
2012	-1,53	1,11	-2,35	-0,19
2013	-0,62	0,69	-1,89	-0,92
2014	2,53	0,93	-1,65	-1,02
2015	4,64	1,14	0,04	-0,96

 Table 11: Management Quality (M)

5.3.Management Quality (M)

Management competence is a component of the Camels that shows how effectively banks are managed. In the analysis of the managerial competence component, the following loans / total credits and receivables 30%, primary income / non-interest expenses 30%, net profit per branch (Million TL) 20%, net profit per employee 10%, number of credits/total branches 10% are included in the analysis. The quality of management constitutes the third component of the analysis of the Camels and the weight of the analysis is determined as 15%. The management quality analysis is shown in Table 11. According to the analysis, in the years following the crises of 2001 and 2008 in public banks, there was a significant decrease in the management quality points. According to the scores in recent years, public banks improved and foreign deposit banks had worse scores in terms of management quality than other banks.

5.4. Earnings (E)

Earnings component, the fourth component of the Camels analysis, is the most important indicator used to measure the success levels of banks. The index weight in the Camels analysis of the earnings component is 15%. In the profitability analysis, net period profit (loss) / total assets 30%, net period profit (loss) / equity 30%, pre-tax profit / total assets 20%, total income / total expenditure 20% The analysis results are shown in Table 12.

YEARS	PUBLIC	PRIVATE- DOMESTIC	PRIVATE- FOREIGN	PARTICIPATION
2002	-6,53	4,03	-2,38	-
2003	1,20	-0,88	0,58	-
2004	2,57	-1,82	-1,22	-
2005	6,57	-4,51	4,52	-
2006	1,43	-1,06	-0,18	4,18
2007	0,15	0,41	-2,02	1,74
2008	0,13	0,33	-2,38	3,20
2009	-0,03	0,54	-2,54	-0,78
2010	-0,48	1,10	-3,31	-1,36
2011	-1,44	0,82	-1,09	-0,72
2012	-1,14	0,69	-1,38	-1,25
2013	-0,27	1,44	-4,34	-1,49
2014	-1,7	0,41	-5,16	-1,36
2015	-3,76	0,43	-2,50	-1,11

Table 12: Earnings (E)

As seen in Table 12, among the domestic private banking groups, the most successful banks were identified in their earnings composition performances. Public-owned banks are second only to domestic private banks and have performed more successfully than the other years between 2003 and 2008.

5.5. Liquidity (L)

The liquidity situation constitutes the fifth component of the Camels analysis and shows how safe the banks' current assets are and how successful they are in maintaining their activities in unexpected circumstances. Four criteria are used in assessing the liquidity situation. Liquidity

adequacy ratio is 40%, liquid assets / total assets 20%, loans / total assets 20%, liquid assets / short-term liabilities 20%. The ratio of the liquidity situation to the Camels analysis is 20%. The results of the liquidity situation assessment are shown in Table 13.

YEARS	PUBLIC	PRIVATE- DOMESTIC	PRIVATE- FOREIGN	PARTICIPATION
2002	-3,44	2,32	1,38	-
2003	-2,67	1,73	1,14	-
2004	-2,58	1,54	2,26	-
2005	-2,74	1,22	1,84	-
2006	-1,31	0,48	1,04	4,29
2007	3,00	-0,48	-1,42	2,13
2008	0,39	0,12	-0,11	4,03
2009	0,96	-0,23	0,08	3,47
2010	0,26	0,02	-0,13	-1,13
2011	-0,38	0,02	0,53	-0,84
2012	0,42	-0,26	0,41	0,18
2013	0,36	-0,29	0,21	-0,28
2014	-0,71	-0,38	1,1	-0,02
2015	-1,43	1,26	-0,53	0,12

 Table 13: Liquidity (L)

According to the results of the liquidity evaluation conducted in our study, it is seen that the banks with public institutions performed worse than the other bank groups between 2002 and 2006. In the analysis of liquidity situation, the bank group that received the best average score between 2002 and 2015 was defined as foreign deposit banks.

YEARS	PUBLIC	PRIVATE- DOMESTIC	PRIVATE- FOREIGN	PARTICIPATION
2002	-0,88	2,20	-4,62	-
2003	-4,79	4,96	-3,31	-
2004	12,13	-11,82	2,02	-
2005	3,84	-3,57	3,03	-
2006	-1,83	4,25	0,13	5,97
2007	-3,43	3,01	3,05	5,15
2008	-0,32	1,33	1,84	7,99
2009	0,01	0,58	2,50	5,30
2010	-2,70	-0,68	6,32	3,99
2011	1,81	-1,95	2,73	2,85
2012	0,27	0,52	1,94	3,48
2013	-0,24	0,92	2,24	4,12
2014	-1,27	0,22	7,77	3,96
2015	-1,79	0,99	3,30	4,05

 Table 14: Sensitivity to Market Risks (S)

5.6. Sensitivity to Market Risks

The sixth and final component of the Camels analysis is the sensitivity of banks to changes in sensitivity to market risks, stocks, commodity prices, currencies and interest rates. In the analysis of sensitivity to market risks, net interest income / total assets were taken as 30%, foreign exchange position / equity as 30% and foreign currency assets / foreign currency liabilities as 40%. The results of the market risk sensitivity analysis are shown in Table 14.

According to the analysis results, there are significant changes in the sensitivity of the bank groups to market risks, especially after the crises of 2001 and 2008. It was observed that the sensitivity of participation banks to market risks was higher than other bank groups in the evaluation years.

CONCLUSION

In this study, the banks operating in the banking sector between 2002 and 2015 were divided into four groups, namely public deposit banks, private deposit banks, foreign deposit banks established in Turkey and participation banks, and they were examined comparatively within the frame of Camels analysis model. In the years covered in study, public banks have a stronger picture than other bank groups according to their capital adequacy component. In terms of asset quality, foreign-capital deposit banks received high scores compared to the other banks and public-sector deposit banks were the last in the asset quality analysis. While the participation banks were behind other banks according to the component of capital adequacy, they were much better in the examination of the sensitivity of the market risks compared to the other banks.

As a result of the analysis, it was observed that the restructuring period after the 2001 crisis was spent with positive results in terms of all bank groups and measures against possible crises were taken. As a matter of fact, while the 2008 crisis created devastating effects throughout the world, our country had a limited impact on the banking sector; This has been the most important indicator of the restructuring process.

References

- Cole, R. A., & Gunther, J. W. (1998). Predicting bank failures: A comparison of on-and off-site monitoring systems. Journal of Financial Services Research, 13(2), 103-117.
- Çinko, M., & Avcı, E. (2008). CAMELS Derecelendirme Sistemi ve Türk Ticari Bankacılık Sektöründe Başarısızlık Tahmini. BDDK Bankacılık ve Finansal Piyasalar Dergisi, 2(2), 25-48.
- Dash, M., & Das, A. (2009). A CAMELS analysis of the Indian banking industry.
- Dincer, H., Gencer, G., Orhan, N., & Sahinbas, K. (2011). A performance evaluation of the Turkish banking sector after the global crisis via CAMELS ratios. Procedia-Social and Behavioral Sciences, 24, 1530-1545.
- Feldman, R., & Schmidt, J. (1999). What are CAMELS and who should know?.
- Gupta, P. K. (2014). An analysis of Indian public sector banks using CAMEL approach. IOSR Journal of Business and Management, 16(1), 94-102.
- Hays, F. H., De Lurgio, S. A., & Gilbert, A. H. (2009). Efficiency ratios and community bank performance. Journal of Finance and Accountancy, 1(1), 1-15.
- Kapucu, H., & Şiriner, İ. (2007). Kriz Sonrası Yabancı Sermaye Akımlarının Türk Bankacılık Sektöründeki Sermaye Yoğunlaşması Üzerine Etkisi (2000-2007). Marmara Üniversitesi Bankacılık ve Sigortacılık Yüksekokulu Uluslararası Finans Sempozyumu "Finans Sektöründe Yabancı Sermaye", 14, 163-182.
- Kaya, Y. T. (2001). Türk bankacılık sektöründe Camels analizi. Bankacılık Düzenleme ve Denetleme Kurumu MSPD Çalışma Raporu, (2001/6).

- Mitrică, E., Moga, L., & Stănculescu, A. (2010). Risk Analysis of the Romanian Banking System-an Aggregated Balance Sheet Approach.
- Nurazi, R., & Evans, M. (2005). An Indonesian study of the use of CAMEL (S) ratios as predictors of bank failure. Journal of Economic and Social Policy, 10(1), 6.
- Roman, A., & Şargu, A. C. (2013). Analysing the financial soundness of the commercial banks in Romania: an approach based on the Camels framework. Procedia economics and finance, 6, 703-712.
- Rozzani, N., & Rahman, R. A. (2013). Camels and performance evaluation of banks in Malaysia: conventional versus Islamic. Journal of Islamic Finance and Business Research, 2(1), 36-45.
- Sakarya, Ş. (2010). Camels Derecelendirme Sistemine Göre İMKB'deki Yerli ve Yabancı Sermayeli Bankaların Karşılaştırmalı Analizi. Akademik Araştırmalar ve Çalışmalar Dergisi (AKAD).
- Sarker, A. A. (2008). CAMELS Rating System in the Context of Islamic Banking: A Proposed 'S' for Shariah Framework. Islami Bank Training & Research Academy.
- Şen, A., & Solak, S. (2011). Ticari bankacılık sektörünün Camels analizi: Türkiye örneği. Finans Politik & Ekonomik Yorumlar Dergisi, 48 (554), 51-65.
- Wirnkar, A. D., & Tanko, M. (2008). Camels and banks performance evaluation: The way forward. Available at SSRN 1150968.