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The Relationship between Bank Profitability and Micro Variables with Particular Emphasis on Bank Type: The Case of Northern Cyprus

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Abstract

Given the fact that profitability is vital for sustainability, the main aim of this study was to determine the relationship between bank profitability and micro variables, with particular emphasis on bank type for the banking sector of Northern Cyprus. Cross-tabulation was applied to examine whether different bank types reveal similar levels of profitability. The profitability of the Northern Cyprus banking sector was profitable, even though real growth rates were negative during the periods concerned. However, the profitability of branch banks and foreign-capitalized banks was found to be higher for structural, managerial, technical and economic reasons. The banking sector of Northern Cyprus has stable profitability. Because of their unique characteristics, different bank types naturally have dissimilar profitability structures. Furthermore, equity, personnel expenses, non-performing loans and total deposits are negatively correlated with profitability, while total loans are positively correlated with profitability.

Key words

Bank Profitability, Bank Types, Micro Variables, Relationship, Northern Cyprus

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1. Introduction

Profitability is vital for the banking sector, as for other commercial sectors. However, the factors influencing profitability differentiate the banking sector from others. For the banking sector, the operational revenues that are the prerequisite for sustainability come mainly from financial activities, while for other commercial sectors; capital budgeting decisions are the vital factor for operational revenues. However, financial activities affecting profitability are not consistent for all sectorial positions and conditions in the banking sector. The integration of the banking sector into foreign markets, institutionalization-professional management and the technical and intellectual structure can differentiate financial factors that have a particular effect on the profitability of bank types. Therefore, all banking sectors and banks should determine the critical factors that have a significant relationship with profitability. This will enable banks to take corrective and proactive measures towards stabilizing their profits, which are crucial for their competitiveness.

The main aim of this study is to determine the relationships between bank profitability and micro variables, with particular emphasis on the bank types in the banking sector of Northern Cyprus. After 1974, Cyprus is divided into North and South Cyprus TRNC was established in November 1983 and is not recognized by countries other than Turkey. TRNC exposes developing Small Island which is located in the

Eastern Mediterranean with limited natural resources and is under embargoes and political isolations. Turkey is the only linkage for Northern Cyprus economy to the world. This is the main disadvantages of Northern Cyprus economy as well as financial sector. However, the isolations could be beneficial during the global crises. Northern Cyprus has a population over 314,000 with a 13,457 US$ per capita income (SPO, 2015). In recent year years, the Northern Cyprus banking sector has experienced substantial changes in its structure. The reforms applied after the 2000 crisis increased the sustainability in the Northern Cyprus banking sector.

2. Conceptual framework and research model

Conceptually, bank profitability is explained by macro (external) variables, such as legal and economic factors, and micro (internal) internal variables, which are the bank's balance sheet and income statement items (Gülhan and Uzunlar, 2011; Güngör, 2007; İslatince, 2015; Petria *et al.,* 2015; Rahman *et al.,* 2015). The main micro factors affecting the bank's profitability are liabilities that make up the bank's sources, assets representing the uses (investments) of resources, and income statement items arising from the movement of balance sheet items.

This paper focuses on micro factors to determine their relationships with profitability; macro factors were excluded from the scope of the study. In this framework, dependent and independent variables related to the research model are explained. The dependent variables of the study are return on equity and return on assets. Return on assets – the rate of return obtained from assets and the efficiency of asset usage within a specific time period – is calculated as net income divided by total assets (Okka, 2009; Casu *et al.*, 2006; Vatavu, 2015). Return on equity – the relationship between capital and profitability – is also referred to as "financial rantability" (Akgüç, 1998; Wanzenried, 2011; Horne *et al*., 2013). Return on equity, that is, the net gain arising from the capital contributed by owners or shareholders, is considered to be the basic criterion, together with the risk, for evaluating alternative investments (Rose, 2002).

Given the structure of the banking sector in Northern Cyprus, as described in Section 2, the following micro variables that can be correlated with the profitability of the sector were selected (Gülhan and Uzunlar, 2011; Kaya, 2002; Ali *et al*., 2011; Doğru, 2011; Demirhan, 2010; İslatince, 2015; Gutu, 2015; Shahidul *et al.*, 2015) equity/assets ratio, liquid assets/total assets ratio, personnel expenses/assets ratio, non-performing loans (net)/total loans ratio, total loans/total assets ratio, total deposits/total assets ratio and total assets/total sector assets ratio. The model used in the study is shown in Figure 1.

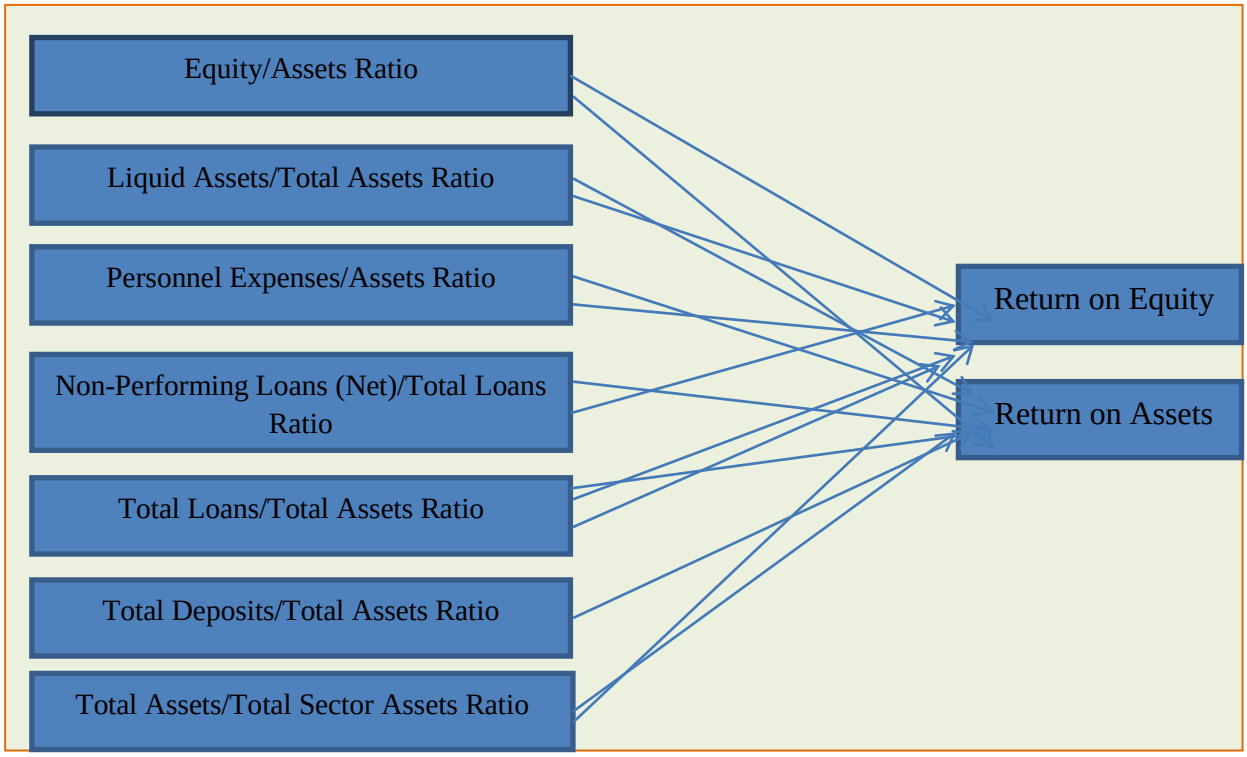

Figure 1. Research Model on the Micro Determinants of Bank Profitability in Northern Cyprus

3. Literature review

The main studies based on the research model that take into account the correlations between banking sector profitability and micro variables are shown in Table 1.

Table 1. Main Literature on Micro Variables Determining Bank Profitability

Micro Variables	Direction of Correlation	Study
Equity/Assets Ratio	Negative correlation with return on equity	Berger, 1997; Sayılgan and Yıldırım, 2009
	Positive correlation with return on equity	Berger, 1995; Demirhan, 2010; Naceur, 2003;Gweyi and Karanja, 2014;Islam and Nishiyama, 2015.
	No systematic correlation with profitability	Ngo, 2006
Total Loans/Total Assets Ratio	Positive correlation with profitability	Abreu and Mendes, 2002; İşcan and Oransay, 2011; Naceur, 2003
	Negative correlation with profitability	Doğru, 2011
Total Deposits/Total Assets Ratio	Positive correlation with profitability	Smirlock, 1985; İşcan and Oransay, 2011
Personnel Expenses/Assets Ratio	Positive correlation with profitability	Bourke, 1989; Molyneux and Thorton, 1992
	Negative correlation with profitability	Kaya, 2002; Islam and Nishiyama, 2015.
Total Assets/Total Sector Assets Ratio	Positive correlation with profitability	Athanasoglou *et al.*, 2006; Pasiouras and Kosmidou, 2007; Demerguç-Kunt and Huizinga,1999; Dietrich and Dietrich andWanzenried., 2011; Smirlock, 1985; Ayadi and Boujelbene , 2012; Pilloff and Rhoades, 2002; Rahman, 2015
	Negative correlation with profitability	Stiroh and Rumble, 2006; Naceur and Goaied, 2010; Aladwan, 2015.
	No correlation with profitability	Cihangir, 2009
Non-Performing Loans(Net)/Total Loans Ratio	Negative correlation with profitability	Athanasoglou *et al.*, 2006; Ali *et al.*, 2011; Kaya, 2002; Aydoğan, 1990; Ramlall, 2009; Rababah, 2015; Jumono et al., 2016.
Liquid Assets/Total Assets Ratio	Positive correlation with profitability	Bourke, 1989; Kaya, 2002; Lartey, Antwi and Boadi 2013.
	Negative correlation with profitability	Molyneux and Thorton, 1992; Islam and Nishiyama, 2015; Vintila and Nenu, 2016.

As can be seen in Table 1, the relationship of factors explaining bank profitability is not always in the same direction. These differences can be affected by factors such as the level of competition in the sector, economic conjuncture, sectoral institutionalization, investment climate, activity of the financial intermediation function, the risks to which the sector is exposed, the economy's sector-specific fragility, the degree of resilience of the sector against external shocks, and the development level of the finance sector. However, it is essential to identify each kind of relationship that can be determined within a scientific framework, in line with economic theory.

A few academic studies have been made on the banking sector in Northern Cyprus. Çaplı (2012) concluded that non-performing loans decrease bank profitability, and an increase in liquid assets makes a positive contribution to the profitability. Ünal (2011) found that liquid assets and asset profitability of loans and return on equity have a positive effect on profitability.

4. Current status of northern Cyprus's banking sector and its profitability

4.1. Role in Finance Sector

The financial institutions are the banking sector, international banking units, insurance companies, cooperatives and exchange offices. The assets of each of these are shown in Table 2.

Table 2. Value of Northern Cyprus Finance Sector Assets (2014)

Institution	Assets (million TL)	Distribution (%)
Banking Sector	14,836.1	84.91
International Banking Units	1,473	8.43
Insurance Companies	2,42.5	1.39
Cooperatives	9,06.6	5.19
Exchange Offices	14.9	0.09
Total	***17,473.1***	***100.00***

Sources: 1. TRNC Central Bank, 2015/III: 38–39, 59; 2. http://www.bigpara.com/doviz/merkez-bankasi-doviz-kurlari/[Accessed December 31. 2014]

The total assets of the finance sector were 17.48 billion TL (Turkish lira) at the end of 2014. The banking sector accounted for the largest proportion of assets, with international banking units ranked second. The banking sector's contribution to the finance sector was 84.91%, international banking units' contribution 8.43%, cooperatives' contribution 5.19%, and insurance companies' contribution 1.39%.

4.2. Asset Structure, Financial Deepening and Concentration

In December 2014, the total assets of the banking sector were 14,836.1 million TL. Total gross loans created 64.42% of these assets, while liquid assets constituted 22.31% (TRNC Central Bank, 2015/III: 21). In terms of financial deepening, by the end of the 2014, banking sector assets created 181.4%, total loans116.9 % and deposits 144% of the gross domestic product (GDP) of Northern Cyprus respectively (TRNC Central Bank, 2014/IV:17).

Table 3. E.U Member Countries and Turkey's Financial Deepening Ratios in 2014 (%)

	Total Asset/GDP(%)	Loan/GDP(%)	Deposits/GDP(%)
Luxembourg	1,969	792	922
Malta	664	184	305
Ireland	571	172	185
Cyprus	521	372	279
Denmark	420	248	118
U.K	399	181	170
France	383	205	187
Netherland	370	200	173
E.U	311	164	157
Sweeden	290	162	94
Spain	286	166	192
Finland	282	133	91
Belgium	275	119	155
Portugal	271	150	164
Germany	268	150	155
Austria	267	161	153
Italy	249	149	145
Greece	222	132	136
Crotia	134	101	83
Letonia	130	83	59
Czech	126	74	82

	Total Asset/GDP(%)	Loan/GDP(%)	Deposits/GDP(%)
Slovenia	117	77	81
Turkey	114	71	60
Bulgaria	111	73	74
Hungary	109	75	61
Estonia	107	93	74
Poland	92	63	59
Slovakia	85	57	62
Lithuania	70	59	50
Romania	60	41	37

Source: European Central Bank financial deepening ratios (%), https://www.ecb.europa.eu/pub/pdf/other/bankingstructuresreport201410.en.pdf [Accessed 18 Feb. 2017].

Based on European Central Bank data for 2014 shown in Table 5, it must be emphasised that, in comparison with E.U members and Turkey. Northern Cyprus has relatively a lower financial deepening ratio than E.U member countries. Northern Cyprus banking sector rank is 20th among these member countries. The countries which have high financial deepening ratios are developed countries as well as member of high level income countries. E.U's average is calculated as %311 %164 % for total assets, loan/GDP and deposit/GDP respectively.

With regard to the concentration of the banking sector, by the end of the 2014 the top five banks accounted for 54.18% of the sector's assets, and the top ten banks 78.74% of these assets (TRNC Central Bank, 2014/IV: 22). Banking concentration ratios for the top five banks are 94%, 82%, 63%, 47, %32 for Greece, Malta, Cyprus, EU and Luxembourg respectively in 2014 (European Central Bank, 2015).

4.3. Importance of the Banking Sector for the Economy

By 2014 the percentage contribution to GDP of financial institutions, including the banking sector, was reported as 4.1% (SPO, 2015: 7). In 2014, 2,845 people were employed in 22 active banks in the sector. Employment in the banking sector represents about 3% of total employment in the country (TRNC Central Bank, 2014/IV: 23; SPO, 2015: 3).

4.4. Bank Types

In 2014 there were 22 active banks in Northern Cyprus, and these can be classified in terms of ownership and fund dependence. As can be seen in Table 4, there were two public banks, thirteen private equity banks and seven branch banks (TRNC Central Bank, 2014:21).

Table 4. Ownership Status (2014)

NO	Public Banks	Private Banks	Branch Banks
1	Kıbrıs Vakıflar Bankası Ltd.	Türk Bankası Ltd.	T.C. Ziraat Bankası
2	K. Türk Koop. Merkez Bankası Ltd.	Limasol Türk Koop. Bankası Ltd.	Türkiye Halk Bankası A.Ş.
3		Asbank Ltd.	HSBC Bank A.Ş.
4		Kıbrıs İktisat Bankası Ltd.	Türkiye İş Bankası A.Ş.
5		Nova Bank Ltd.	Ing Bank A.Ş.
6		Creditwest Bank Ltd.	Türkiye Garanti Bankası A.Ş.
7		Yakın Doğu Bank Ltd.	Türk Ekonomi Bankası A.Ş.
8		Şekerbank (Kıbrıs) Ltd.	
9		Akfinans Bank Ltd.	
10		Kıbrıs Kapitalbank Ltd.	
11		Universal Bank Ltd.	
12		Viyabank Ltd.	
13		Kıbrıs Faisal İslam Bankası Ltd.	

Source: TRNC Central Bank, 2014/IV: 19.

In Table 5, bank types are shown according to fund dependence. As can be seen from the table, half of the 22 are Turkish-Cypriot-financed banks, and the remaining 11 are classified as foreign-financed banks.

Table 5. Nationality of Bank Capital (2014)

NO	Domestic Capital	Foreign Capital
1	Kıbrıs Vakıflar Bankası Ltd.	T.C. Ziraat Bankası
2	K. Türk Koop. Merkez Bankası Ltd.	Türkiye Halk Bankası A.Ş.
3	Limasol Türk Koop. Bankası Ltd.	HSBC Bank A.Ş.
4	Asbank Ltd.	Türkiye İş Bankası A.Ş.
5	Kıbrıs İktisat Bankası Ltd.	Ing Bank A.Ş.
6	Nova Bank Ltd.	Türkiye Garanti Bankası A.Ş.
7	Creditwest Bank Ltd.	Türk Ekonomi Bankası A.Ş.
8	Yakın Doğu Bank Ltd.	Şekerbank (Kıbrıs) Ltd.
9	Akfinans Bank Ltd.	Kıbrıs Faisal İslam Bankası Ltd.
10	Kıbrıs Kapitalbank Ltd.	Viyabank Ltd.
11	Universal Bank Ltd.	Türk Bankası Ltd.

Source: TRNC Central Bank**2.5 Asset Quality**

As previously mentioned, loans create a clear majority of the assets belonging to the banking sector of Northern Cyprus. Hence, asset quality is directly associated with credit risk. The most important indicator of credit risk is non-performing loans. According to TRNC Central Bank data, at the end of 2014, the non-performing loans/gross loans ratio was 6.9% (TRNC Central Bank, 2014/IV: 36, 58). Based on the World Bank data for 2014 shown in Table 6, it must be emphasised that, in comparison with financially developed countries with powerful baking sectors, Northern Cyprus has a high non-performing loan ratio that requires precautions. In the countries with the lowest non-performing loan/gross loans ratio, the figure is between 0.1% and 0.6%. As seen in the table, the non-performing loan ratio in these countries is below 1%. In Turkey, this ratio is 2.7%, which is fairly well below the world average. While the ratio is 6.9% in Northern Cyprus, the world average is calculated as 7.5%. The countries that have the highest non-performing loans ratio are Southern Cyprus (44.9%), San Marino (43.1%), Greece (33.8%), Sierra Leone (33.4%), and Yemen (24.7%).

Table 6. Selected Ratios of Non-performing Loans to Total Gross Loans in 2014 (%)

Macao SAR, China (lowest ratio)	0.1
Uzbekistan (second lowest)	0.4
Canada (third lowest)	0.5
Hong Kong SAR, China (fourth lowest)	0.5
Korea, Rep. (fifth lowest)	0.6
Switzerland	0.7
Sweden	1.2
United Kingdom	1.8
Japan	1.9
United States	1.9
Turkey	2.7
Russian Federation	6.7
Northern Cyprus	6.9
World Average	7.5
Yemen, Rep. (fifth highest)	24.7
Sierra Leone (fourth highest)	33.4
Greece (third highest)	33.8
San Marino (second highest)	43.1
Southern Cyprus (highest ratio)	44.9

Source: World Bank, Bank nonperforming loans to total gross loans (%), http://data.worldbank.org/indicator/FB.AST.NPER.ZS;[Accessed 16 Feb. 2016].

4.5. Profitability comparison of Northern Cyprus banking sector with Turkey and other small island countries

The banking sector of Northern Cyprus is observed to be highly profitable. Despite the fact that the real growth rate was reported to be negative during the mortgage crisis, the banking sector managed to be profitable during that period (Figure 2).

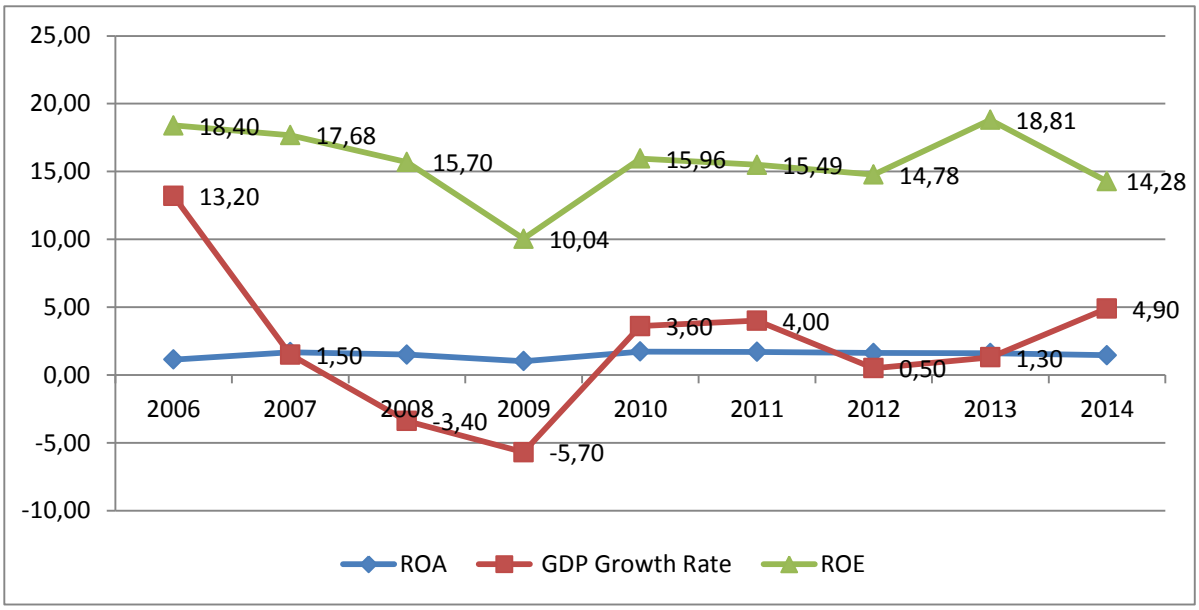

Figure 2. Comparison between Return on Banking Assets, Return on Equity and Real Growth Rate of Northern Cyprus (2006–2014)

Source: State Planning Organization; TRNC Central Bank.

When the correlative relationships are examined, utilizing monthly values from 2006 December to 2015 May (102 observations), the following statistically significant relationships are observed, as shown in Table 6.

- There is a positive correlation between total assets and total equity.
- There is a negative correlation between total assets and return on equity.
- There is a negative correlation between equity and return on equity.
- There is a very high positive correlation between return on assets and return on equity.

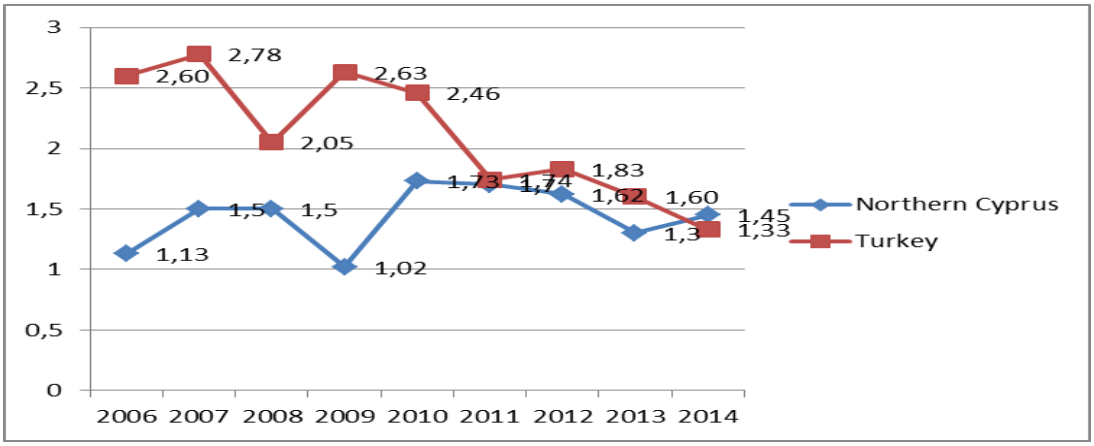

Figure 3. Comparison of Return on Banking Assets of Northern Cyprus and Turkey (2006–2014)

Source: State Planning Organization; TRNC Central Bank. Central bank of the Republic of Turkey

Firstly Turkish Lira has been legal tender in Northern Cyprus economy since 1976. Secondly seven Turkish commercial banks have branches in Northern Cyprus. In this fact comparison of two countries banking profitability is vital.

After the 2001 economic crises, Turkish banking sector has faced tight regulations and structural changes. New rules and regulations had positive effects on stability of banking sector. ROA was relatively higher in Turkey between 2006 and 2013. ROA has been decreasing in Turkey since 2006. ROA has decreased 48.85% in Turkey and has increased 28.32% in Northern Cyprus and ratio has become greater in Northern Cyprus in 2014.

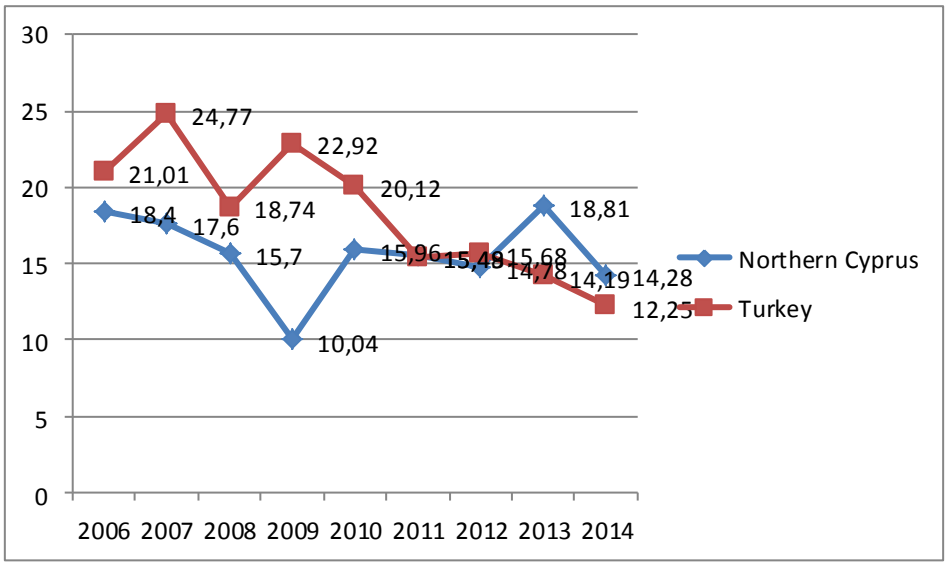

Figure 4. Comparison of Return on Banking Equity of Northern Cyprus and Turkey (2006–2014)

Source: State Planning Organization; TRNC Central Bank. Central bank of the Republic of Turkey

ROE has been floating since 2006 both in Northern Cyprus and Turkey. ROE has decreased 29.52% and 22.39 % in Turkey and Northern Cyprus respectively.

Table 7. Comparison of Northern Cyprus Banking Sector's ROA with Turkey's and 10 Small Island

Northern Cyprus is a small island economy and Turkey is the only linkage to reach to world markets. We have selected following countries ROA performances to compare with Northern Cyprus.

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Dominica	-1.46	2.46	1.53	-0.38	-0.25	0.35	0.22	0.63	0.71
Jamaica	2.71	3.00	3.10	2.57	2.82	4.81	1.28	0.62	1.95
Guyana	1.58	1.91	2.19	2.19	2.21	2.10	2.12	2.22	1.73
Barbados	3.31	1.98	2.20	1.78	1.39	0.74	0.83	1.58	1.29
Mauritius	1.63	1.78	3.08	1.45	2.38	2.03	1.17	1.56	0.92
Bahrain	1.25	0.65	1.22	0.49	0.90	1.17	1.43	1.89	1.58
Malta	1.52	0.77	-1.51	2.04	0.93	0.54	1.64	1.02	0.54
Singapore	1.55	1.27	1.28	1.05	1.29	1.06	1.27	1.06	0.93
Cyprus	1.10	1.91	-0.64	0.69	0.71	-4.01	0.96	0.68	-0.38
Bahamas	2.85	3.10	1.71	2.26	1.23	1.71	2.61	0.36	-2.92
Papua New Guinea	3.68	5.68	4.02	4.01	4.02	4.83	4.38	2.06	3.22
Turkey	2.60	2.78	2.05	2.63	2.46	1.74	1.83	1.60	1.33

Source: Federal Reserve Bank of St Louis https://fred.stlouisfed.org/tags/series?t=roa%3Bworld+bank

ROA indicates how profitable a commercial bank is relative to its total assets. It illustrates how well bank management uses its total assets to make a return. The higher the ratio illustrates the more efficient

management is in utilizing its asset base. Return on assets has floated between 1.13 and 1.45 in Northern Cyprus and never experienced loss in this period. Among these countries highest ratio and lowest ratio was realized by Jamaica and Cyprus respectively in 2011. Dominica, Malta, Cyprus and Bahamas have experienced loss in several years. ROA has been decreasing in many countries since 2006 on the other side ROA is more stable in Northern Cyprus during this period.

Table 8. Comparison of Northern Cyprus Banking Sector's ROE with Turkey's and 10 Small Island

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Dominica	-9.52	17.44	11.23	-3.13	-2.17	3.13	2.06	6.00	6.70
Jamaica	22.68	25.92	28.49	22.32	21.64	31.21	7.57	3.92	13.45
Guyana	19.73	23.29	25.84	23.98	22.32	20.93	20.74	21.35	15.90
Barbados	50.43	27.02	24.94	17.45	12.55	6.71	7.49	13.13	10.47
Mauritius	9.79	13.91	25.94	11.41	17.76	13.75	7.65	10.19	6.20
Bahrain	9.11	5.41	9.51	3.82	7.39	9.90	12.42	15.99	12.82
Malta	13.85	5.06	-13.28	17.91	7.91	4.75	13.53	8.03	5.04
Singapore	19.59	12.31	12.92	9.87	11.30	9.64	11.79	10.56	9.74
Cyprus	15.35	21.81	11.93	4.82	8.23	-54.28	13.42	7.20	-3.83
Bahamas	35.63	15.30	7.74	9.41	4.91	8.21	15.63	1.70	-15.66
Papua New Guinean	9.37	54.60	37.87	33.27	31.38	34.81	31.39	16.55	30.08
Turkey	21.01	24.77	18.74	22.92	20.12	15.48	15.68	14.19	12.25

Source: Source: Federal Reserve Bank of St Louis https://fred.stlouisfed.org/search?st=ROE

Return on equity is the ratio which indicates amount of net income returned as a percentage of shareholders equity. It measures a commercial bank's profitability by disclosuring the amount of profit a commercial bank creates with the amount of money shareholders have invested. Among twelve countries Barbados had the highest ratio in 2006 and Cyprus had the lowest ratio in 2010. Dominica, Malta, Cyprus and Bahamas have experienced negative ROE in some years between 2006-2014. It is obvious Northern Cyprus' ROE is more stable than many small island economies.

Table 9. Correlations between Assets, Equity and Profitability

	Total Assets (TL)	Total Equity (TL)	Return on Assets (%)	Return on Equity (%)
Total Assets (TL)	1			
Total Equity (TL)	.361**	1		
Return on Assets (%)	−.182	−.135	1	
Return on Equity (%)	−.288**	−.281**	.967**	1**

** Correlation is significant at the 0.01 level (two-tailed).

Source: TRNC Central Bank.

As can be seen from Table 8, a statistically significant correlation between total assets and return on total assets is not observed.

5. Methodology of research

The latest available data relating to the profitability of banks in Northern Cyprus is for 2014. We used the balance sheet and income statements of the 22 banks listed in Table 3 and Table 4, according the model in Figure 1. The ratios we considered are equity/assets ratio, total loans/total assets ratio, total deposits/total assets ratio, personnel expenses/assets ratio, total assets/total sector assets ratio, non-performing loans (net)/total loans ratio and liquid assets/total assets ratio.

The data were input into the SPSS programme and all necessary statistical analyses were used. We applied cross-tabulation to analyse the correlation of the micro factors and ownership status with the profitability of banks in Northern Cyprus.

6. Results

As shown in Table 10, banking sector profitability differs according to ownership status. The profitability of branch banks is better in terms of both return on assets and return on equity. Private banks and state banks are second and third, respectively, in terms of profitability.

Table 10. Profitability of the Banking Sector in Northern Cyprus According to Ownership Status

Profitability Criteria	Bank Type	N	Mean (%)
Return on Assets	State Banks	**2**	**.4021**
	Private Banks	**13**	**1.6551**
	Branch Banks	**7**	**2.1028**
	Total	**22**	**1.6836**
Return on Equity	State Banks	**2**	**4.9880**
	Private Banks	**13**	**10.8265**
	Branch Banks	**7**	**17.1249**
	Total	**22**	**12.2997**

When the origin of capital is considered, foreign banks are more profitable than Turkish Cypriot banks in both respects. Foreign banks' average return on equity is 14.9%, while Turkish Cypriot banks' equivalent ratio is 9.6%. Similarly, foreign banks' average return on assets is almost twice that of Turkish Cypriot banks. According to İslatince (2015), Waleed (2015) and Azzam (2012) findings are foreign banks are more profitable than domestic banks.

Table 11. Profitability of the Northern Cyprus Banking Sector According to Origin of Capital

Profitability Criteria	Origin of Capital	N	Mean (%)
Return on Equity	Turkish Cypriot	**11**	**9.6108**
	Foreign	**11**	**14.9886**
Return on Assets	Turkish Cypriot	**11**	**.7398**
	Foreign	**11**	**2.6274**

The correlations between profitability and micro variables are shown in Table 9. The following statistically significant correlations are revealed.

- There is a positive correlation between return on assets and return on equity.
- There is a negative correlation between the equity/asset ratio and return on assets.
- There is a negative correlation between the personnel expenses/assets ratio and return on equity.
- There is a negative correlation between the non-performing loans (net)/total loans ratio and return on equity.
- There is a positive correlation between the total loans/total assets ratio and return on equity.
- There is a negative correlation between the total deposits/total assets ratio and return on assets.

Table 12. Correlations between Profitability and Micro Variables (Financial Ratios)

	Return on Assets	**Return on Equity**
Return on Assets	**1**	
Return on Equity	**.659****	**1**
Liquid Assets/Total Assets Ratio	**−.260**	**−.337**
Equity/Assets Ratio	**−.260****	**−.337**
Personnel Expenses/Assets Ratio	**−.238**	**−.622****
Non-Performing Loans(Net)/Total Loans Ratio	**−.352**	**−.480***
Total Loans/Total Assets Ratio	**.352**	**.434***
Total Deposits/Total Assets Ratio	**−.576****	**−.153**
Total Assets/Total Sector Assets Ratio	**−.091**	**.121**

** Correlation is significant at the 0.01 level (two-tailed).

* Correlation is significant at the 0.05 level (two-tailed).

7. Discussions

In accordance with the purpose of this study, the profitability of the banking sector in Northern Cyprus is determined by bank types. When the status of ownership was examined, branch banks clearly perform better than the other bank types. Concordantly, when the focus was fund dependence, foreign-financed banks, including branch banks, have higher profitability than Turkish-Cypriot financed banks. The root causes of these results overlap with the findings of the studies by Şafaklı and Ertannın (2013) and Şafaklı and Kutlay (2013): the fact that branch and foreign-financed banks are more institutional, are administered more professionally, have a technological structure, finance markets and are more integrated and causes them to be more profitable. A large numbers of studies investigating the determinants of banking profitability around the World according to ownership status and same results have obtained from other researches (Reddy, 2011; Kosak and Cok, 2008).

Data showing that branch banks and foreign-financed banks are more institutional and professional, and are administered efficiently and actively can be seen in Tables 10 and 11.

As can be seen in Table 10, branch banks have the lowest personnel expenses/assets ratio in the sector. Furthermore, branch banks also have the lowest non-performing loans (net)/total loans ratio 1.05%, while this ratio is 6.7% and 4.3% for state and private banks, respectively. Although the total deposits/total assets ratio of branch banks is 15% lower than for other bank types, their total loans/total assets ratio is about same as for other bank types. This apparently shows the higher earning capacity of branch banks.

Table 13. Financial Ratios of the Northern Cyprus Banking Sector According to Ownership Status

Ratios	Bank Type	N	Mean (%)
Equity/Assets Ratio	State Banks	**2**	**23.5216**
	Private Banks	**13**	**21.2122**
	Branch Banks	**7**	**26.1480**
	Total	**22**	**22.9926**
Personnel Expenses/Assets Ratio	State Banks	**2**	**1.8353**
	Private Banks	**13**	**2.0386**
	Branch Banks	**7**	**1.5642**
	Total	**22**	**1.8692**
Non-Performing Loans(Net)/Total Loans Ratio	State Banks	**2**	**6.7682**
	Private Banks	**13**	**4.3966**
	Branch Banks	**7**	**1.0568**
	Total	**22**	**3.5495**
Total Loans/Total Assets Ratio	State Banks	**2**	**56.6438**
	Private Banks	**13**	**58.4794**
	Branch Banks	**7**	**58.4756**
	Total	**22**	**58.3113**
Total Deposits/Total Assets Ratio	State Banks	**2**	**80.6913**
	Private Banks	**13**	**80.6478**
	Branch Banks	**7**	**65.4917**
	Total	**22**	**75.8294**
Total Assets/Total Sector Assets Ratio	State Banks	**2**	**14.0573**
	Private Banks	**13**	**3.1429**
	Branch Banks	**7**	**4.4326**
	Total	**22**	**4.5455**

When origin of capital is considered, a similar picture emerges to that observed for ownership status. Foreign capital banks are notably more profitable than Turkish Cypriot banks. Furthermore, their personnel expenses/assets ratio, non-performing loans (net)/total loans ratio, total deposits/total assets ratio and total loans/total assets ratio show broadly the same structure as that of branch banks (Table 11).

Table 11. Financial Ratios of the Northern Cyprus Banking Sector According to Origin of Capital

Ratios	Origin Of Capital	N	Mean (%)
Equity/Assets Ratio	Turkish Cypriot	**11**	**22.3310**
	Foreign	**11**	**23.6542**
Personnel Expenses/Assets Ratio	Turkish Cypriot	**11**	**1.9092**
	Foreign	**11**	**1.8291**
Non-Performing Loans (Net)/Total Loans Ratio	Turkish Cypriot	**11**	**5.4451**
	Foreign	**11**	**1.6540**
Total Loans/Total Assets Ratio	Turkish Cypriot	**11**	**58.7031**
	Foreign	**11**	**57.9196**
Total Deposits/Total Assets Ratio	Turkish Cypriot	**11**	**86.0879**
	Foreign	**11**	**65.5708**
Total Assets/Total Sector Assets Ratio	Turkish Cypriot	**11**	**5.5726**
	Foreign	**11**	**3.5183**

The final results to be discussed are the significant relationships that exist between profitability and micro variables, as seen in Table 9. The theoretical foundations of these associations can be described as follows:

- Return on equity and return on assets are important ratios in the financial sector for evaluating a firm's performance. As previously mentioned, a positive relationship was found between these two variables.
- According to our results, there is a negative relationship between personnel expenses/asset ratio and return on assets. We can accept that this ratio is a proxy for management efficiency (Shuremo, 2016). Many studies in the literature have found that expense management is one of the most important factors for commercial bank profitability (Said and Tumin, 2011). Expense management produces lower costs and may create opportunities for higher profits. Conventional wisdom proposes that if there is an increase in the staff expenses ratio, it is obvious that assets have started to be used inefficiently (Kumbirai and Webb, 2010).

8. Conclusions

The sustainability and stability of the banking sector are essential for the efficient functioning of other sectors, and of the economy as a whole. Predictably, the sustainability and stability of the banking sector depend on its profitability, and this is influenced by both macro and micro factors. Inflation, interest rates, political factors, and global and national economic crises are the main macro variables that can affect the profitability of the banking sector. These macro factors are also called systematic risk factors, and are beyond the control of sector. However, micro or internal factors allow the sector take reactive and/or proactive measures to influence profitability. Therefore, determining the main micro variables that can potentially affect profitability should be a priority for banks.

The main aim of this study was to determine the relationship between bank profitability and micro variables, with particular emphasis on bank types, for the banking sector of Northern Cyprus. In this respect, the following conclusive remarks can be made.

- The banking sector of Northern Cyprus as a whole has a stable level of profitability.
- Because of their unique characteristics, different bank types naturally have different profitability structures. Higher levels of institutionalization and professionalization, together with more efficient and effective structures, mean that branch banks and foreign-capitalized banks have proved to be more profitable.
- The study revealed crucial relationships between profitability figures and balance sheet items. Thus, equity, personnel expenses, non-performing loans and total deposits are negatively correlated with profitability, while total loans show a positive correlation with profitability.

It can be concluded that the authorities should take the institutional, administrative and financial factors cited in this study into account in order to stabilize profitability and achieve sustainability in the banking sector.

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