Banking Concentration Impact on Market Structure of Post-Soviet Country – Armenia

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Abstract

The new wave of mergers and acquisitions after the global financial crisis intensified the interest of policy makers and academics in bank concentration and competition and the role of the state in competition policies and regulations (policies and laws that affect the market structure and degree of competition). It is important to not only make sure that banking sector is competitive, transparent and efficient, but also stable.

The purpose of the study was to investigate and analyze the degree of concentration in Armenian banking market and its impact on competition and market structure of financial markets over the period of 2013-2017. Both the structural and the non-structural measurement approaches of concentration and competition, along with the desk research, a case study and interviews with the financial sector professionals and independent expert was employed to address research purpose.

The findings of the study indicate that, in the developing country such as Armenia high concentration implies low or moderate competition levels and relationship between concentration and stability seems to be negative, meaning that high concentration results low stability of this banking market. The banks in Armenia have ability of extracting monopolistic profits from big interest rate spreads by setting less favorable prices to customers based on collusive and non-competitive behavior in highly concentrated market. Competition level and market structure of this country results in high prices of financial product and low access to finance. Armenian financial markets are bank dominated, characterized with monopolistic banking structure, with leading roles of a few universal profile banking institutions, dominating not only banking sector, but whole financial market.

Keywords: banking, competition, concentration, financial market, stability

JEL: G1, G2, G21, D4, G14

Introduction

Both academics and policy makers perceive and underline the essence of a smoothly functioning financial system for an economy (Levine, 2004; Bodie & Merton, 2005). The structure of the banking sector has long been a subject of policy interest centered mainly around a presumed tendency towards concentration and its effects upon competition, economic efficiency, bank profitability, financial and consequently macroeconomic stability.

The degree of banking market structure that shapes out competition and performance has been a "seriously debated topic". The global financial crisis intensified the interest of policy makers and academics in bank concentration and competition and the role of the state in

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competition policies and regulations (policies and laws that affect the market structure and degree of competition). Some argue that increases in competition and financial innovation in markets such as subprime lending produced the financial turmoil. Others worry that the crisis and government support of the largest (big) banks raised banking concentration, correspondingly reducing competition and access to finance, and conceivably contributing to future instability as a result of moral hazard problems associated with "too big to fail" institutions.

Competition in the banking system is desirable for efficiency, effectiveness and maximization of social welfare. Nonetheless, due to its significant roles and functions, there are some properties that distinguish banking from other industries. It is important to not only make sure that banking sector is competitive, transparent and efficient, but also stable.

The outcomes of plentiful researches have resulted in the existence of various bank concentration theories in the literature. These theories could be classified into pro concentration and cons concentration theories.

The literature covering the relationship between the structure of the banking sector and level of competition and financial stability is classified according two separate views with absolutely contradictory conclusions. They are positioned according to either they back the theory that banking concentration has a destabilizing effect (concentration-fragility or competition- stability hypothesis) or either on the opposite it has a stabilizing effect (concentration-stability or competition-fragility hypothesis).

Concentration indicates the degree of control of economic activity by big companies (Sathye, 2002). The increase in concentration levels could be because of significant size enlargement of the dominant firm(s) and/or significant size contraction of the non-dominant firm(s). Conversely, decrease in concentration levels could be because of significant size contraction of the dominant firm(s) and/or significant size enlargement of the non-dominant firm(s) (Athanasoglou, Brissimis, & Delis, 2005).

Supporters of banking sector concentration state that, enhancing of economies of scale is main trigger of realizing bank mergers and acquisitions resulting in increasing concentration. Such increased concentration promotes efficiency improvements (Demirguc-Kunt & Levine, 2000). Based on theoretical assumptions and research results of country comparisons, low concentrated banking sector containing many small banks is deemed highly vulnerable to financial crises than highly concentrated banking sector with a several large banks. According to the "concentration-stability" and "competition-fragility" theory, high concentration in a banking sector lowers competition between banks and consequently decreases additional risk taking incentives of those institutions, resulting low risk of default and vice-versa. Besides, they argue that larger banks are having better diversification abilities, so banking markets composed by several large banks tend to be less fragile than banking markets with many small banks (Allen & Gale, 2004).

Concentrated banking markets are mainly characterized by high profitability, which decreases fragility of the whole system. High profits act as a buffer mechanism toward adverse shocks and perils in difficult times. Beside, monitoring of several large banks are more easier, than many small banks and corporate control mechanism will be more effective of larger banks, resulting decreasing risks of contagion in a concentrated banking system (Beck, Demirguc-Kunt, & Levine, 2003).

According to the opposite view, high concentration in banking market increases the prices of financial services for consumers. In concentrative and less competitive environment banks charge high interest rates on loans and low interest rate on deposits, maintaining high interest rate spreads and enjoying with high profits. Also there is evidence connecting high concentration to reductions of credit supply and access to finance for firms.

If concentration empowers banks with ability of influence on the market, such circumstances will have impact on riskiness of bank assets and will rise both the expected rate of return on assets

and the standard deviation of those returns (Beck, Demirguc-Kunt, & Levine, 2004). The rationalize of this connotation is that high power of influence of banks sourced by higher market concentration creates basis for low socio-economic welfare and, consequently, high concentration is eminently undesirable. Aside, concentrated banking market rises bank fragility incentives, due to larger banks usually are granted by support subsidies from government, based on "too big to fail" policies that small banks do not receive (Boyd & Runkle, 1993).

Supporters of the "concentration-fragility" view do not agree with the statement, that easier to monitor several large banks, than many small banks. As generally the size of such conglomerates is presented in complexity, monitoring and supervising of activities of large banks becomes much difficult than small banks. This type of relationship underlines and rises positive connection between concentration and fragility. Theoretical results highlight that financing activities of larger banks become more expensive due to their monopolistic market power increases the opportunity costs of capital (Smith, 1998). Thus, lack of proper competition in banking market negatively affects economic development.

There is a continuing dispute in academic literature on the relationships between competition, concentration and stability in the banking sector. According to the "concentration-stability" or "competition-fragility" theory, there is positive relationship between concentration and stability, but negative relationship between concentration and competition, and competition and stability. On the one hand, there are academics and policy makers who believe that more competition in banking results in greater instability and more market failures, other things being equal. This theory suggests that banks operating in a highly concentrated market (or in a market that restricts entry) will earn profits that can serve as a buffer against fragility, and as an incentive against excessive risk taking. More competition, which puts more pressure on profits, is thought to create higher incentives for banks to take greater (potentially excessive) risks, resulting in greater instability. This theory

predicts that deregulation, resulting in more entry and competition, would ultimately lead to more fragility. It also holds that a more concentrated banking system might reduce the supervisory burden of regulators, thus enhancing overall stability.

The opposing view is that a more concentrated banking structure in fact results in more bank fragility, supported by concentration-fragility or competition-stability theory. According to this theory, there is negative relationship between concentration and competition and concentration and stability, but positive relationship between competition and stability. In such environment fragility of the market is increased due to banks power to boost the interest rates they charge to firms rising firms default riskiness connected to a higher probability of non-performing loans, which will result in expensive financial product and limited access to finance, consequently affecting economic processes. Beside, high concentration of larger firms is precondition for increased contagion or systematic risk. In the highly concentrated markets, huge conglomerates become very important for the sustainability of the market and is presumed that such banks will receive larger subsidies via "too big to fail" policies, thereby intensifying moral hazard problems by additional risk-taking incentives and consequently increasing banking system fragility. This intension destroys the argument of less need for supervision of big banks in a highly concentrated market with the evidence that highly concentrated banking systems with conglomerates offering a wide array of services, makes them more complicated and difficult to monitor. On the same line high level of competition makes banking institutions behavior more transparent and conventional with increased attention to the risk management, thus ensuring sustainability of the financial system.

As shown in the recent financial turmoil, regulation affects the resilience of financial institutions to a crisis. Countries with strong regulatory and institutional frameworks have been less prone to financial distress. A well-designed regulatory framework can also help reduce the potential detrimental effects of

competition on financial stability in particular by improving banks' risk taking incentives. In other words, regulation can make banks less inclined to take on excessive risk. At the same time, ensuring transparency and equally treatments of all participants will promote high performance of overall sector and economic development.

Research Methodology and Data Analysis Instruments

The research is empirical by nature and it shaped the logic and instruments through which objective and measurable data was collected and analyzed. Intensive and comprehensive review of existing theories enabled us to formulate research questions and hypothesis, define relevant data and the tools and methods for quantitative analysis. Positivist paradigm employed in the research implies the existence of reality independently from the researcher. Based on those assumptions, objective reality observable through secondary data about levels of concentration and market structure of post-Soviet countries banking sectors is estimated. Having shown a positivist epistemology of the research based on, what can also be referred to as scientific approach (Sekaran & Bougie, 2016), we need to explain that the research is not purely quantitative, but employs qualitative research paradigm as well. Thus, through this perspective, the study follows pragmatism consideration and uses mixed methodology approach. The mixed methodology, or pragmatist approach, enabled the researcher, one the one hand to define the link between the variables through quantitative research, and on the other hand, qualitative approach gave an opportunity to study the research problem deeper and from different perspectives presenting views and interests of various stakeholders.

Considering research questions, the study utilizes quantitative and qualitative research methods. But research is mainly based on quantitative methods of analysis. Concentration ratios and Herfindahl - Hirschman index is employed to measure concentration levels. Panzar and Rosse's model is employed for measurements of competition. The "H-statistic"

is computed on two stages. First stage includes, employing regression model based on of the logarithmic form of total revenues on logarithmic form measures of banks' input prices. Input prices consist of the price of deposits (commonly measured as the ratio of interest expenses to total deposits), the price of personnel (measured by the ratio of personnel expenses to assets), and the price of equipment and fixed capital (approximated by the ratio of other operating and administrative expenses to total assets). Second stage includes computation the sum of the estimated coefficients for each input price for drawing type and level of competition on the banking markets. The Z score is used for measuring stability levels of banking markets. The Z score envoys the number of standard deviations of return on assets the bank is away from bankruptcy, consequently a higher value of Z-score implies a higher banking stability. Beside, descriptive statistics and correlation analysis are used for assurance of data validation.

The qualitative study mainly includes desk research, case study and interviews with the financial sector professionals and independent experts for fulfilling the whole picture about the structure and levels of competition of banking sectors and draw precise recommendations.

Several variables will be researched using the secondary data. Such as: interest revenues, price of deposits (commonly measured as the ratio of interest expenses to total deposits), the price of personnel (as captured by the ratio of personnel expenses to assets), and the price of equipment and fixed capital (approximated by the ratio of other operating and administrative expenses to total assets), ROA, CAR.

Results of Analysis

Concentration Level in Armenian Banking Sector

Banking sector concentration level has been quite low since 2013 year in Armenia, accounting 30% for top three and respectively 47% for top 5 banks. At the end of 2014, the Armenian Central Bank decided to increase the minimum amount of the total capital requirements of commercial banks from 1 January 2017 to 30 billion drams, instead of the previous 5 billion drams (World Bank, 2016). Partly due to this tendency, the process of replenishment of capital, as well as mergers and acquisitions began in the banking market of Armenia. Several banks have merged and large groups of the banks have developed. As a result, 17 banks actually remained from 21 banks at the end of 2017(see Table 1).

Table 1. Concentration Level in Armenian Banking Sector

Country-Armenia	CR$_3$	CR$_5$	HHI	Number of Banks
2013y	30%	47%	673	21
2014y	34%	52%	751	21
2015y	37%	54%	864	21
2016y	42%	56%	924	21
2017y	42%	55%	874	17

Source: Researcher's calculations

Chronology of mergers and acquisitions in Armenian banking sector are the follow: In May 2016, ProCredit Bank CJSC ceased operations in Armenia and its legal successor became Inecobank CJSC. With the same line, BTA Bank closed its operations in Armenia on August 25, and Armeconombank became its legal successor. On December 20, the same year, the Armenian CB approved the merger agreement concluded by the Armenian Development Bank and Araratbank. On January 10, 2017 year, the merger of Areximbank-Gazprombank Group's with Ardshinbank was approved by the CB of Armenia (Armbanks, 2018).
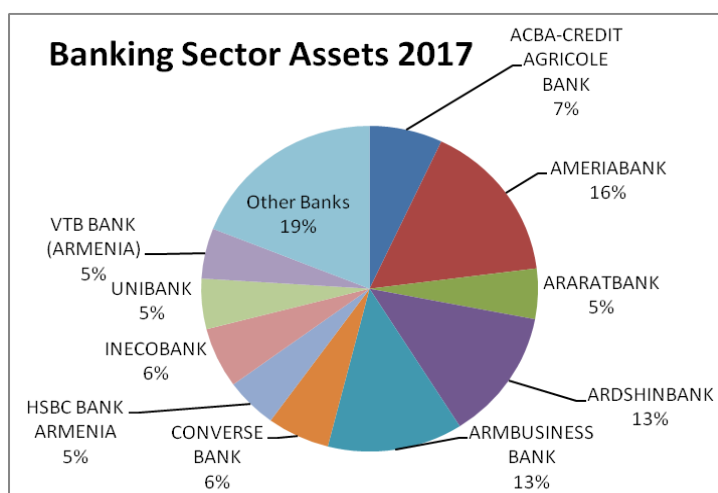

Figure 1. Asset Volume of Armenian Banking Sector

Source: Composed by Researcher; CBA Statistics 2018

Based on the previous years' mergers and optimizations sourced by the CB's decision, concentration level has increased in the Armenian banking sector, but with the small

portion. Top 3 banks currently account for 42% of assets resulting with moderate level of concentration. Ameria Bank with 16% of assets, Armbusinessbank with 13% of assets and Ardshinbank with also 13% are leaders of banking sector. The five largest banks control 55% of the market in Armenia (see Figure 1). The influence of other banking institutions on the market is quite strong, which is confirmed by HHI index with 874 points, showing un-concentrated

level of Armenian banking sector according to the standards. During five years period percentage of market share controlled by top five banks increased just by 8% from 47% in 2013 to 55% in 2017, indicating moderate level of concentration of banking sector. HHI index increased from 673 points in 2013 to 874 points in 2017 assuring Armenian banking sector with un-concentrated status.

Competition on Armenian Banking Market

According to the results of (Hausman, 1978) test by comparing the coefficients of fixed and random effects models, the random effects

model was not rejected in favor of fixed effects, indicating that random effects model is appropriate in Armenian case.

Table 2. H statistics of Armenian Banking Sector

Dependent Variable: LOG(TR/TA)						
	Panel Least Squares Pooled OLS			Panel EGLS (Cross-section random effects)		
Variable	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.
C	-2.164116	-3.990154	0.0002	-0.754029	-1.092588	0.2782
LOG (IntExp/TD)	0.331682	7.777468	0.0000	0.385653	8.336243	0.0000
LOG (PersExp/TA)	0.282887	4.534629	0.0000	0.294855	4.671929	0.0000
LOG (OthOperAdmExp/TA)	0.057513	1.493762	0.1395	0.060533	1.709049	0.0917
LOG (TC/TA)	0.069387	1.277563	0.2055	0.067391	1.254826	0.2135
LOG (NetLoans/TA)	0.031568	0.285522	0.7761	0.167409	1.548354	0.1259
LOG(TA)	0.119391	3.977169	0.0002	0.062157	1.552313	0.1249
H Statistics	Adjusted R-squared 0.717313 H=0.331682+0.282887+0.057513=0.672082 0<H<1, monopolistic			Adjusted R-squared 0.737496 H=0.385653+0.294855+0.294855=0.741041 0<H<1, monopolistic		

Source: Researcher's calculations

The adjusted R-squared is having high value, accounting 0.74, implying that, the independent variables in a high extent explain the dependent variable. The adjusted R-squared is reported instead of unadjusted one, due to the adjusted R-squared describes more precisely the picture of fit in case of the models consisting of many explanatory variables (Gujarati & Porter, 2009).

The independent variables: price of funds ($W1$), the cost of labor ($W2$) and the cost of capital ($W3$) are positive determinants of the dependent

variable, the total revenue. The price of funds or funding rate with 0.39 value, is the highest contributing coefficient to the H-statistic. This result founds to be very reasonable, as funding amounts one of the main portion in banks production functions. The same results are discovered by Bikker J. A. (2004). The positive interconnection between interest expenses and revenues is sourced by borrowing and lending rates' coordinated movements, the same findings are highlighted by Coccorese (2009)

and especially in Armenian case any increase of deposits level and consequently interest expenses, 0.4 times increases banks revenue, mainly interest revenue as opportunity of more issued loans and income from those loans increases. Both variables, the cost of labor ($W2$) and the cost of capital ($W3$) are having positive values, which can be explained by the fact that, rising in costs of production increases the revenue, but till the point where marginal cost equals marginal revenue. All variables $W1$, $W2$, and $W3$ are statistically significant, meaning that they contribute to the H-statistic (see Table 2).

The values and signs of the control variables are coherent with both anticipations and results of related researches. The equity to total assets, denoted as risk factor, has positive correlation with total revenue, which can be explained with decision of CB of Armenia, increasing capital requirements for optimization capital levels. Increased total capital levels discarded disproportion between large and small banks capital level; maintained or matched them approximately on the same level. Those changes supported stability of banking institutions, which in turn promoted increasing

interest income of Armenian banks. As implied by Bikker and Haaf (2002), capital adequacy requirements rising proportionally with the risk on loans and investment portfolios, expecting a positive coefficient. The coefficient of net loans over total assets is having positive sign, as expected more loans suggest more interest income. Total assets are positive contributor to total income as it represents source of potential future income.

The value of H-statistic is 0.74. According to the results of Wald test, the H-statistic coefficient is not equal zero or one, confirming that the banking sector is neither a monopoly nor perfectly competitive. Therefore, Armenian banking market is characterized by monopolistic competition. Obtained value of the H-statistic is positive and significant, implying that banking institutions' revenues are derived in monopolistic competition environment of the Armenian banking sector. As competition coefficient is 0.74, quite near more to 1 than 0, can be concluded, that banks in Armenian are operating in a monopolistic market structure with increasing level of competition.

Stability in Armenian Banking Sector

Table 3 represents results of Z score of each individual banks and whole banking sector of Armenia. Mellat Bank is excluded from stability

calculations as it owns less than 1% of assets, consequently its influence on the results is minor.

Table 3. Z score of Armenian Banks

N	Bank	Z score 2013	Z score 2014	Z score 2015	Z score 2016	Z score 2017	Bank Average 5 year	Forecasted Z score 2018
1	ACBA-CREDIT AGRIC. BANK	24.49	20.78	21.80	22.85	23.44	22.67	23.10
2	AMERIABANK	28.78	25.08	25.18	19.88	23.20	24.42	23.25
3	ANELIK BANK	9.75	8.49	9.23	7.55	19.55	10.91	13.10
4	ARARATBANK	22.24	21.72	21.74	28.12	21.53	23.07	22.24
5	ARDSHINBANK	13.18	9.78	8.84	11.97	8.93	10.54	9.55
6	ARMBUSINESSBANK	28.20	26.57	23.76	20.74	16.43	23.14	12.12
7	ARMECONOMBANK	59.17	48.18	53.09	71.76	59.70	58.38	59.52

8	ARMSWISSBANK	206.54	148.31	148.45	154.54	158.05	163.18	154.05
9	ARTSAKHBANK	4.64	3.22	2.34	9.00	7.84	5.41	8.37
10	CONVERSE BANK	20.69	21.55	16.24	22.75	20.19	20.28	20.69
11	HSBC BANK ARMENIA	5.94	5.25	6.49	5.63	4.47	5.56	5.94
12	INECOBANK	31.41	27.96	27.89	29.78	28.77	29.16	28.78
13	UNIBANK	60.24	53.63	63.52	80.79	76.95	67.03	78.68
14	VTB BANK ARMENIA	5.67	1.19	4.82	4.36	6.79	4.56	5.24
15	EVOCABANK	70.05	58.22	59.57	63.52	55.31	61.33	55.81
16	BYBLOS BANK	8.51	6.11	3.45	14.22	11.76	8.81	12.31
	Country Z score by year	37.47	30.38	31.03	35.47	33.93	33.65	33.30

Source: Researcher's calculations

The most important thing that can be highlighted related to the Armenian banking sector is that top 3 leading banks of the market are not the most stable banks; vice versa they fall in category with low stability. This fact can be explained with high competition between Armenian banks forcing them to take additional risks for future profitability. The most stable bank is Armswissbank with 163 point of Z score as an average for 5 years period. Then come 3 banks with moderate level of stability, ranging Z scores from 58 to 67 points. All resting banks come with low level of stability, including top five banks according to the assets volume (see Table 3).

Although maintaining banks their stability score steadily, average level of stability for whole banking sector for five years is low, accounting 33 scores. According to the last changes in capital requirements by CB, increasing total capital levels by 500% from 1 January 2017 to 30 billion drams, instead of the previous 5 billion drams. Stability of banks in last year has increased. In spite of above mentioned changes stability of Armenian banking market is on quite low level.

Conclusion

Banking Concentration Impact on Market Structure of Armenian Financial Market

The results show that Armenian banking market faces quite moderate level of concentration with top 3 banks controlling 42% of the market. Concentration level was much low before the Armenian Central Bank decided to increase the minimum amount of the total capital requirements of commercial banks by 500% which triggered the process of replenishment of capital, as well as mergers and acquisitions. Several banks have merged and large groups of the banks have developed. As a result, 17 banks actually remained from 21 banks at the end of 2017. Ameria Bank with 16% of assets, Armbusinessbank with 13% of assets and Ardshinbank with also 13% are the leaders of banking sector enjoying highest profits. The five largest banks control 55% of the market in Armenia. The influence of other banking institutions on the market is quite strong, which is confirmed by HHI index with 874 points, showing un-concentrated level of Armenian banking sector according to the standards.

In contrast to the concentration, the banking sector in Armenia operates under monopolistic market structure with increasing level of competition. The competition measure accounts 0.74, which is quite good, as Armenia is developing country. Armenian banking institutions' revenues are derived under conditions of monopolistic competition, in such environment any new entry will lead to the "contestable markets equilibrium", where percentage increase of revenues will always be less than percentage increase in the input prices, as the demand for banking products facing individual banks is inelastic. Armenian banks offer wide array of products to their customer. The product and services having the distinctive features are not perfectly homogenous, which is very important and valuable for customers, resulting in reduction the competitive pressures on the market, whereas such characteristics can include some imperfections and may adversely impact competition on the market. At the same time banking market competes with capital market, which puts additional challenge for the banks to offer quality product to the perspective customer.
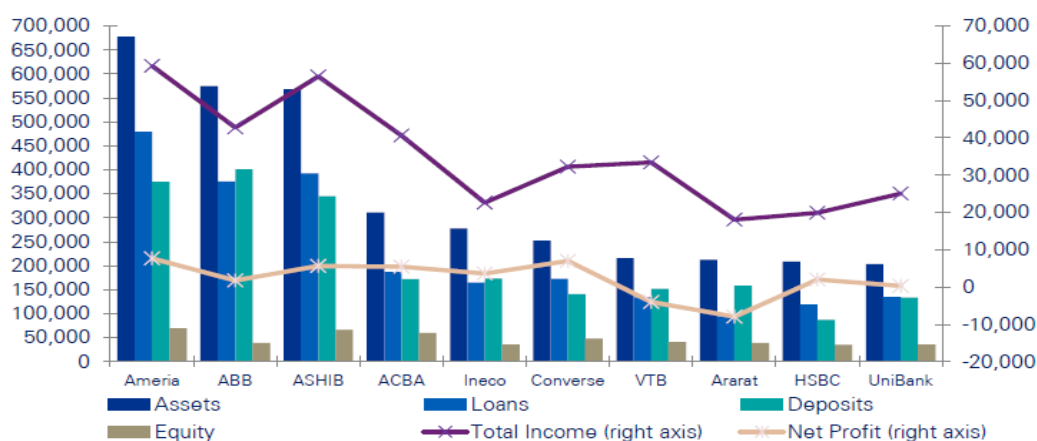

Figure 2. Top 10 Banks of Armenia, 2017, in million AMD

Source: KMPG-Armenia 2017

During the period ended 31 December 2017, the banking system had total income of AMD 439 billion, which exceeded the total income for the same period of 2016 by 8.5%. For the same period the return on equity (ROE) for the Armenian banking system was 7.7% and the return for assets (ROA) was 1.2% which are very small increase related to previous year but quiet significant related to 2015 years in which both indices accounted negative values (KPMG-Armenia, 2018). Armenian economy highly depends on Russian economy, 2015 sanctions against Russia, had also negative effect on Armenian economy and subsequently on Armenian banking sector (see Figure 2 and 3).
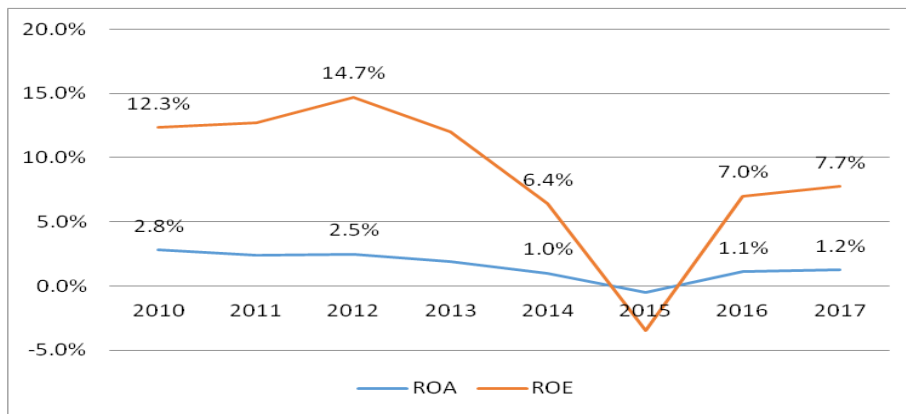
Figure 3. Profitability of Armenian Banking Sector

Source: Composed by Researcher; CBA Statistics 2018

Situation and the structure of Armenian banking market is compatible with the "concentration-fragility" view, implying that, high concentration results in low competition on the market. As the Armenian banking sector is low concentrated consequently competition level intends to be higher, which is supported with the empirical findings. High competition increases credit supply, sets the competitive price levels for financial services, increases companies and households access to the finance. The decreasing tendency on interest rate spreads is evidence for competition in Armenian banking market. 10.7% interest rate spread in 2009 has

more than half decrease in 2017 to 4.85% (CBA, Statistics, 2018).

However, initiative of regulatory authorities about increasing minimum capital levels may trigger intensive trends of mergers and acquisitions between banks, resulting in rising level of concentration in the market. Subsequently, a banking market designated with high entry barriers, where a few large institutions dominate the industry, unlikely will be characterized by high competition (see Figure 4).
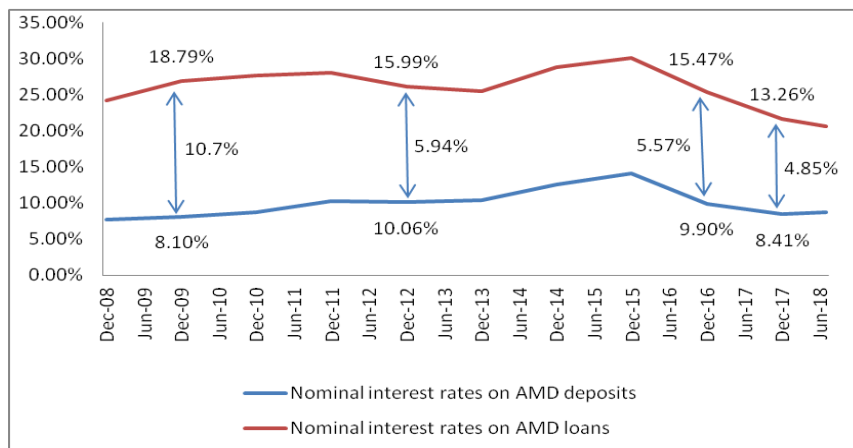

Figure 4. Interest Rates on AMD Loans and Deposits

Source: Composed by Researcher; CBA Statistics 2018

Unlike Georgian banks, competition degree forces Armenian banks to credit businesses. Based on the latest data, consumer loans and mortgages accounted for about one third of total

outstanding bank lending, down from 42% in 2008. The industry and trade sectors held 20 and 17 percent of outstanding commercial loans, respectively. Totally, loans extended to business

sector exceed 60% (World Bank-Armenia, 2017)
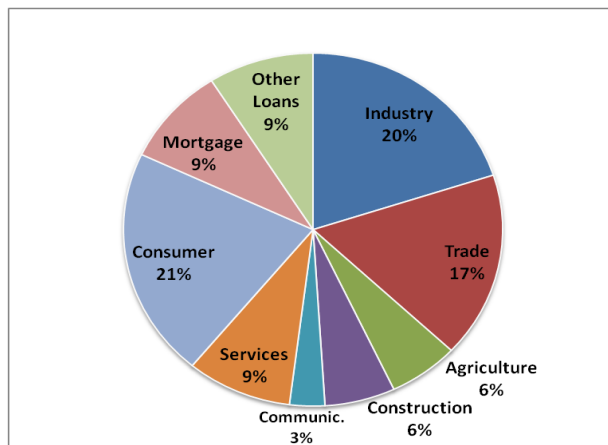(see Figure 5)

Figure 5. Loan Structure of Armenian Banks Sept, 2017

Source: World Bank-Armenia 2017

The banking system in Armenia is sound and well-regulated, but Armenia's financial sector is not highly developed. The banking sector assets account about 86% of total financial sector assets and 80% of country's GDP (CBA, Statistics, 2018). Financial intermediation is poor. In spite of NASDAQ OMX Group is 100% owner of Armenian stock exchange since January 7, 2008; Armenia's securities market is not well developed and has only minimal trading activity through the stock exchange. Liquidity for the transfer of large sums is very difficult due to the small size of Armenia's financial market and overall economy. As a result of the 2014 pension reform, which brought two international asset managers (Amundi and C-Quadrat) to Armenia, the capital market will play a more prominent role in the financial sector of the country. Beside capital market includes 9 investment companies, 1 investment fund, 7 insurance companies, 2 pension funds and 32 credit organizations (CBA, 2018). Despite presence of diverse participants, the role of the capital market in country's GDP formation is quite modest and not comparable with bank's power (see Figure 6).
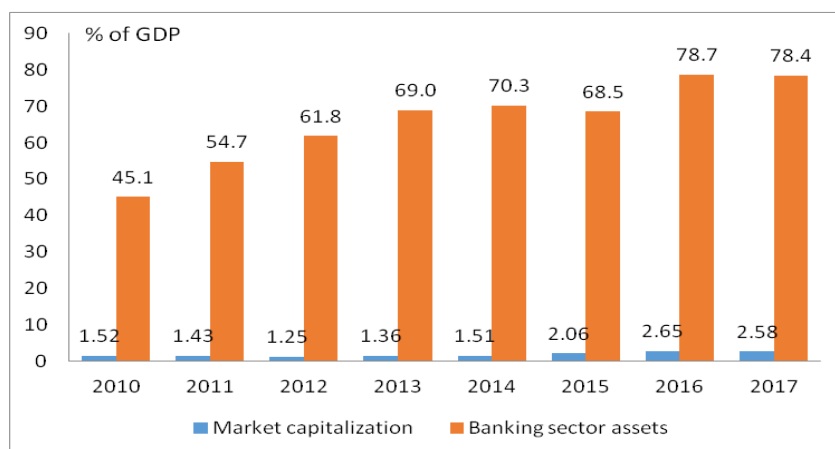

Figure 6. Market Capitalization and Banking Sectors Assets as % of GDP

Composed by Researcher; CBA Statistics 2018

Access to finance remains one of the key challenges for businesses and is perceived as the most or second most important obstacle to doing business by companies in Armenia according to the World Bank/EBRD survey, especially for SMEs. Bank lending remains the main source of finance for SMEs in Armenia, although the global financial and economic crisis has seen lending generally tighten. Alternative sources of financing, such as leasing, factoring and venture capital, remain limited. Because Armenian banks charge service and other fees, the actual interest rate paid by the customer may be higher than the nominal interest rate quoted by the banks. As banking institutions are having large collateral requirements and demand collateral located in Armenia, such attitude impedes potential borrowers from entering the market. This remains the main barrier for SMEs and start-up companies. Based on results, demand for credit of SMEs varies between 50 and 70%, but had need for credit and was refused/discouraged from applying 35% of firms. Share of SME credit slightly increasing over the past 2 years (see Figure 7). Access to credit by individuals also seems to in line with peer group (OECD, 2017).
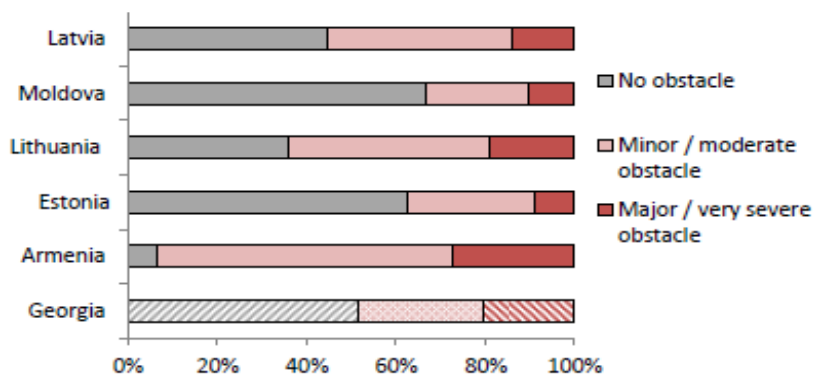

Figure 7. Access to Finance as an Obstacle for SME in Armenia

Source: OECD, 2017

The stability measure of the Armenian banking sector seems to be on low level. The most important thing that can be highlighted related to the Armenian banking sector is that top 3 leading banks of the market are not the most stable banks; vice versa they fall in category with low stability. This fact can be explained with intense level of competition between banks, forcing them to take additional risks for future profitability.

The relationship between competition and stability can be explained with the "charter value" view, pointing to a negative relationship between competition and stability in the Armenian banking sector. Increased competition diminishes banks' charter value due to high competition has negative influence on banks' market power. Banks with higher charter values face higher opportunity costs of going bankrupt.

Competition between banks in the deposit market tends to increase the interest expenses of banking institutions. This is related with increased competition, forcing them to attract depositors offer slightly higher interest rates than their competitors. This kind of competition leads, ceteris paribus, to an erosion of profitability and thus a decline in a bank's charter value. This provides an incentive to engage in risk taking and might further be enhanced by competition in the loan market. Last years tendency of reduction interest rate spreads in Armenian banking supports the explanations. High competition in banking enhances a decrease in stability and thus more fragility in banking. This fragility is caused by the fact that if banks lose market power due to high competition, they will take on more risk in order to increase return.
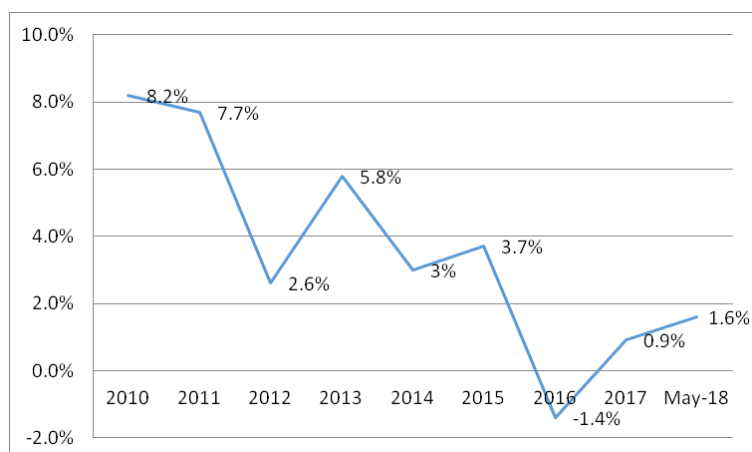
Figure 8. Inflation Rate of Armenian Economy

Source: ARMSTAT, 2018

Beside, several researchers, observing banking crises, point out, that stability issue does not only dependent on the degree of competition. Rather, monetary policy has quite strong impact on stability in a certain market structure. According to the results of those researches, monopolistic banking systems are found to be more fragile if the rate of inflation is below a certain threshold, whereas more competitive banking markets are more vulnerable if inflation is above this threshold. As Armenian banking market is characterized with monopolistic market structure, 2015 years recession and dropping inflation rate from 3.7% to -1.4% in 2016 had serious impact on soundness of banking market (see. Figure 8). Deflation in Armenia decreased stability of banking sector. (ARMSTAT, 2018).

However, stability of banks in last year has increased after changes in capital requirements by the CB. In spite of above mentioned changes stability of Armenian banking market remains on quite low level.

Finally, Armenian banking system is characterized with low concentration level which results in moderate competition and low market stability. Monopolistic market structure of Armenian banks, with entry barriers and high service fees due to weak competition from capital market participants, dominate the whole financial market. Exclude alternative sources of financing. Such "good" competition level is fake and do not promotes pure competition circumstances on the market, increases adverse selection and moral hazard problems, increases vulnerability of system and results with expensive and limited access to finance. In spite of existence diverse financial institutions and normal regulation framework, Armenian banking and financial system lacks desire volume of investment and institutional investors that will stimulate full range of financial activities aimed for development of Armenian economy.

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