THE IMPACT OF THE 2008-2009 GLOBAL CRISIS ON RETAILERS' AND CORE INDUSTRY FIRMS' BANKING RELATIONSHIPS

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Abstract

In this study, we examine how retailers and core industry firms changed their banking relationships after the global crisis in 2008-2009. We use the BEEPS IV and BEEPS V (i.e. Business Environment and Enterprise Performance Survey) surveys to compare the pre- and post-crisis periods. Our results show that while there was no significant change with respect to retailers' use of checking or savings accounts, the core industry firms increased their use of these accounts. We also find that fewer firms in both groups had an overdraft facility or a line of credit or loan post-crisis, when compared to the pre-crisis period. Our results also show that, while there was no significant change in the type of the financial institution that a core firm deals with post-crisis, for retailers, it was a different story. Post-crisis, a higher percentage of retailers borrowed from a private commercial bank and a lower percentage borrowed from a state-owned bank/agency or from a non-bank financial institution. Overall, we conclude that, access to finance was harder for both groups in the region post-crisis (i.e. both overdraft facilities and lines of credit or loans went down). Also, post-crisis, more of the retailers were forced to borrow from a private commercial bank rather than a state-owned bank/agency or a non-bank institution.

Keywords: *loan, line of credit, overdraft, retailers, global crisis, eastern Europe, central Asia*

Clasificare JEL : *G01, G20, G21, G22, G23, G28*

1. INTRODUCTION

In this study, we examine the impact of the 2008-2009 Global crisis on retailers' and core industry firms' (Wholesalers, IT firms, Hotels and restaurants, Firms servicing motor vehicles, Construction firms, and Transportation firms) banking relationships. We use the BEEPS IV and BEEPS V surveys of European Bank of Reconstruction and Development-World Bank. These surveys were done in 32 countries in Central Asia and Eastern Europe. The BEEPS IV survey was done in fiscal year 2007, therefore we use the responses in this survey as our pre-crisis responses. The BEEPS V survey was done in fiscal years 2010 through 2014, therefore we use the responses in this survey as our post-crisis data.

With regard to these firms banking relationships, we focus on their checking and savings accounts, their overdraft facilities, their loans and lines of credit, and the type of financial institution that they dealt with. We test to see if there was any significant change in any of these after the crisis happened.

Previous papers like Liang (2012), Hüfner (2010), Maredza and Ikhide (2013), Bordo et al. (2015), Dungey and Gajurel (2015), and Lysandrou and Nesvetailova (2015) examine the issue and they explain why some countries' banking systems were more negatively affected compared to others. Based on these studies, we expect a negative impact on retailers' and core firms' banking relationships. We expect fewer firms to have an overdraft facility with their bank and we expect fewer firms to get a loan or line of credit post-crisis. It is also possible for us to see some changes in the type of financial institution that these firms dealt with after the crisis.

We find somewhat different results for retailers and core firms. We find that only core firms' checking/savings accounts were affected (i.e. more of these firms opened these accounts after the crisis). With regard to the type of the financial institution that these firms dealt with, we find a significant change only for retailers. Post-crisis, a higher percentage of retailers borrowed from a private commercial bank and a lower percentage borrowed from a state-owned bank/agency or from a non-bank financial institution. On the other hand, fewer firms in both groups had an overdraft facility or a line of credit or loan post-crisis, when compared to the pre-crisis period.

The paper's layout is as follows: Section 2 goes over the relevant previous literature. Section 3 details our data and methodology. Section 4 shows our empirical results. Section 5 shows our conclusions.

2. LITERATURE REVIEW

Previous papers including Liang (2012), Hüfner (2010), Maredza and Ikhide (2013), Bordo et al. (2015), Dungey and Gajurel (2015), and Lysandrou and Nesvetailova (2015) examine the impact of the 2008-2009 Global crisis on different countries' banking systems. These papers mainly explain why some countries' banking systems were more negatively affected compared to others. Liang (2012) argues that the Chinese banking system was different in many ways from the U.S. banking system and that this helped it to remain resilient during the crisis. Hüfner (2010) argues that while government support helped with the stability of the banking system in Germany in the short-run, more support is needed in the long-run. Maredza and Ikhide (2013) argue that South Africa's financial sector did well partly due to the country's sound regulatory framework and its solid macroeconomic policies. Bordo et al. (2015) argue that the Canadian banking system did well due to being more concentrated rather than more fragmented as in the case of the U.S. banking system. Dungey and Gajurel (2015) examine the systematic, idiosyncratic and volatility channels of contagion. They argue that the idiosyncratic channel is more important, therefore policymakers should take precautions in this area rather than focusing solely on systematic channel. Lysandrou and Nesvetailova (2015) discuss the role of shadow banking during the initial and later phases of the crisis. According to the authors, while shadow banking had more negative effects in the initial phase, in the later phase, it had different types of impact on the financial system.

There are other papers that look into the impact of the Global crisis on different aspects of the financial system. For example, Kaya (2021a) examines the impact of the Global crisis on the depth of the financial system and shows that there was a significant drop in stock market capitalization and also in gross portfolio equity liabilities. Kaya (2021b) shows that the Global crisis had a significant impact on return on assets and return on equity, which are efficiency (and/or profitability) measures. Also, Kaya (2016) shows that there was a significant impact on access to finance (i.e. more concentrated trading in the stock market). Finally, Kaya (2017) shows that some of the stability measures were also affected (banks' liquid assets went down and their non-performing loans went up), although other stability measures like bank capital, regulatory capital, bank Z-Score, bank credit, and provisions to non-performing loans were not affected significantly.

Vogjazas and Nikolaidou (2011), Provopoulos (2014), and Nikolaidou and Vogiazas (2014)) focus on the Greek crisis and its impact on European countries' banking systems. Besides all of these studies that examine the impact of the Global crisis or the Greek crisis on banking systems, there are other papers that focus on the impact of the Global crisis on the insurance industry (i.e. Njegomir et al. (2010), Bastürk and Sayin (2009), Balucha et al. (2011),

Kilic et al. (2014), Alzboon and Abu Orabi (2013), Njegomir et al. (2014)), and Afzal et al. (2013)).

Overall, the previous studies suggest that the 2008-2009 Global crisis had a negative impact on the financial systems (i.e. banking and insurance systems) of countries. In this study, we examine the impact on retailers' and core industry firms' banking relationships. We test to see if these firms' checking and savings accounts, their overdraft facilities, and their loan/line of credit activities were affected. We also test to see if these firms continued to deal with the same type of financial institution (i.e. private commercial bank, state bank, etc.) after the crisis.

Based on the previous papers, post-crisis, we expect retailers and core industry firms in the region to have problems in accessing credit. We expect fewer firms to have an overdraft facility with their bank and we expect fewer firms to get a loan or line of credit post-crisis. It is also possible for us to see some changes in the type of financial institution that these firms dealt with after the crisis.

3. DATA AND METHODOLOGY

In this paper, we use the World Bank's BEEPS IV and V survey data covering retailers and core industry firms (i.e., firms in sectors including wholesale, hotels, restaurants, transport, storage, communications, IT, and construction) in 32 countries from Eastern Europe and Central Asia. The BEEPS IV survey represents our pre-crisis period (i.e. 2017), while the BEEPS V survey represents our post-crisis period (i.e. 2010-2014).

The surveys ask these firms if they have a checking or savings account, an overdraft facility, or a line of credit or a loan. They also ask the type of financial institution that they borrowed their most recent loan from (options are private commercial bank, state-owned bank or government agency, non-bank financial institution, and other type of firm).

In order to compare the pre- and post-crisis responses, we use the Chi-square test. For each test, first we run the test for retailers, and then we run the same test for core industry firms.

4. EMPIRICAL RESULTS

Table 1 compares the pre-crisis and the post-crisis percentages of retailers that had a checking or savings account. Our chi-square test shows that there was no statistically significant change in this measure (p=0.2449). In the pre-crisis period, 89.63% of retailers had a checking or savings account. In the post-crisis period, this percentage was 90.43%.

Table 1. Did the Retailer Have a Checking or Savings Account?

	Pre-Crisis		Post-Crisis	
Variables	**N**	**%**	**N**	**%**
Yes	3,319	89.63	3,552	90.43
No	384	10.37	376	9.57
Total	3,703	100%	3,928	100%
Statistic	**df**	**Value**	**Prob**	
Chi-Square	1	1.3524	0.2449	

Table 2 does the same test for the core industry firms. We find that there was a statistically significant increase in this measure (p<0.0001) for these firms. In the pre-crisis period, 90.67%

of the core industry firms had a checking or savings account. In the post-crisis period, this percentage was 93.94%.

Table 2. Did the Core Firm Have a Checking or Savings Account?

	Pre-Crisis		Post-Crisis	
Variables	**N**	**%**	**N**	**%**
Yes	2,722	90.67	5,723	93.94
No	280	9.33	369	6.06
Total	3,002	100%	6,092	100%
Statistic	**df**	**Value**	**Prob**	
Chi-Square	1	32.4470	<0.0001	

Table 3 compares the pre-crisis and the post-crisis percentages of retailers that had an overdraft facility. Our test shows that there was a statistically significant decrease in this measure ($p<0.0001$) for retailers. In the pre-crisis period, 41.24% of retailers had an overdraft facility. In the post-crisis period, this percentage was only 33.16%. This finding indicates that financial institutions in the region significantly cut their credit facilities to retailers.

Table 3. Did the Retailer Have an Overdraft Facility?

	Pre-Crisis		Post-Crisis	
Variables	**N**	**%**	**N**	**%**
Yes	1,467	41.24	1,258	33.16
No	2,090	58.76	2,536	66.84
Total	3,557	100%	3,794	100%
Statistic	**df**	**Value**	**Prob**	
Chi-Square	1	51.4418	<0.0001	

Table 4 performs the same test for the core industry firms. Again, our test shows that there was a statistically significant decrease in this measure ($p<0.0001$) for core industry firms. In the pre-crisis period, 44.41% of these firms had an overdraft facility. In the post-crisis period, this percentage was only 27.92%. This finding indicates that financial institutions in the region significantly cut their credit facilities to core industry firms. Looking at both Table 3 and Table 4, we can argue that both retailers and core industry firms had suffered due to financial institutions' actions regarding overdraft facilities.

Table 4. Did the Core Firm Have an Overdraft Facility?

	Pre-Crisis		Post-Crisis	
Variables	**N**	**%**	**N**	**%**
Yes	1,275	44.41	1,662	27.92
No	1,596	55.59	4,291	72.08
Total	2,871	100%	5,953	100%
Statistic	**df**	**Value**	**Prob**	
Chi-Square	1	237.2063	<0.0001	

Table 5 compares the pre-crisis and the post-crisis percentages of retailers that had a line of credit or loan. Our test shows that there was a statistically significant decrease in this measure (p<0.0001) as well. In the pre-crisis period, 44.78% of retailers had a line of credit or loan. In the post-crisis period, this percentage was only 35.18%. This drop also supports our previous finding of a significant cut in credit facilities to retailers in the region.

Table 5. Did the Retailer Have a Line of Credit/Loan?

	Pre-Crisis		Post-Crisis	
Variables	**N**	**%**	**N**	**%**
Yes	1,695	44.78	1,360	35.18
No	2,090	55.22	2,506	64.82
Total	3,785	100%	3,866	100%
Statistic	**df**	**Value**	**Prob**	
Chi-Square	1	73.5392	<0.0001	

Table 6 does the same test for the core industry firms. Our test shows that there was a statistically significant decrease in this measure (p<0.0001) for core industry firms as well. In the pre-crisis period, 47.88% of these firms had a line of credit or loan. In the post-crisis period, this percentage was only 32.64%. This drop also supports our previous finding of a significant cut in credit facilities to core industry firms in the region.

Table 6. Did the Core Firm Have a Line of Credit/Loan?

	Pre-Crisis		Post-Crisis	
Variables	**N**	**%**	**N**	**%**
Yes	1,478	47.88	1,972	32.64
No	1,609	52.12	4,070	67.36
Total	3,087	100%	6,042	100%
Statistic	**df**	**Value**	**Prob**	
Chi-Square	1	201.8457	<0.0001	

Table 7 examines whether retailers significantly changed their borrowing source post-crisis. Our test shows that there was a statistically significant change in the type of financial institution that retailers deal with (p=0.0554). The crisis did change retailers' choice regarding their lending source.

Table 7. Type of Institution Granted the Most Recent Loan (to Retailer)

	Pre-Crisis		Post-Crisis	
Variables	**N**	**%**	**N**	**%**
Private Commercial Bank	1,354	79.88	1,129	83.57
State-Owned bank or Govt Agency	284	16.76	186	13.77
Non-Bank Fin. Institution	37	2.18	20	1.48
Other	20	1.18	16	1.18
Total	1,695	100%	1,351	100%
Statistic	**df**	**Value**	**Prob**	
Chi-Square	3	7.5844	0.0554	

Table 8 does the same test for the core industry firms. Our test shows that there was no statistically significant change in the type of financial institution that the core industry firms deal with (p=0.5134). The crisis did not change these firms' choice regarding their lending source (they continued to work with the same institution or with a similar institution).

Table 8. Type of Institution Granted the Most Recent Loan (to Core Firm)

	Pre-Crisis		Post-Crisis	
Variables	**N**	**%**	**N**	**%**
Private Commercial Bank	1,185	80.18	1,590	81.45
State-Owned bank or Govt Agency	243	16.44	306	15.68
Non-Bank Fin. Institution	30	2.03	39	2
Other	20	1.35	17	0.87
Total	1,478	100%	1,952	100%
Statistic	**df**	**Value**	**Prob**	
Chi-Square	3	2.2954	0.5134	

5. CONCLUSION

In this study, we examine the impact of the 2008-2009 Global crisis on the banking relationships of two types of firms: retailers and the core industry firms. We focus on firms in Eastern Europe and Central Asia.

We find that access to finance got harder for both groups of firms after the Global crisis. For both groups, the percentage of firms that had an overdraft facility or line of credit or loan went down post-crisis. While 41% of retailers had an overdraft facility pre-crisis, post-crisis this number went down to 33%. Similarly, while 44% of core industry firms had an overdraft facility pre-crisis, post-crisis this number went down to 28% (a bigger drop compared to retailers). In terms of line of credit or loans, while 44% of retailers had a line of credit or loan pre-crisis, post-crisis this number went down to 35%. Similarly, while 48% of core industry firms had a line of credit or loan pre-crisis, post-crisis this number went down to 33% (again a bigger drop compared to retailers). Overall, we can conclude that, access to finance got harder for both groups in the region post-crisis (i.e. both overdraft facilities and lines of credit or loans went down).

With respect to the use of checking or savings accounts by both groups, we find that while there was no significant change with respect to retailers' use of checking or savings accounts, the core industry firms increased their use of these accounts. 90% of retailers had a checking or savings account before or after the crisis (i.e. no change). On the other hand, 91% of core industry firms had a checking or savings account pre-crisis, post-crisis this number went up to 94%.

With respect to the choice of lender, we find that there was no significant change in the type of the financial institution that a core firm deals with post-crisis (both before and after the crisis, 80-81% borrows from a private commercial bank, 16% borrows from a state-owned bank or agency, and 2% borrows from a non-bank financial institution). For retailers, it was a different story. Post-crisis, a higher percentage of retailers borrowed from a private commercial bank and a lower percentage borrowed from a state-owned bank/agency or from a non-bank financial institution. The percentage of retailers borrowing from a private commercial bank climbed from 80% to 84%, while the percentage of retailers borrowing from a state-owned bank or agency

dropped from 17% to 14% and the percentage of retailers borrowing from a non-bank financial institution fell from 2% to 1%.

Overall, our study documents that, after the Global crisis, there was a significant deterioration in the financing environment for both retailers and core industry firms. Their access to finance was harder in terms of both overdraft facilities and lines of credit or loans.

References

[1] **Afzal, F., Masood, A., Khan, S. M., and Sajid, M.** (2013). Impact of financial crisis 2008 on financial institutions. *Research Journal of Finance and Accounting*, 4(2), 127-135.
[2] **Alzboon, A. A., and Abu Orabi, M. M.** (2013). The impact of global financial crisis (2008) on Jordanian insurance companies. *Interdisciplinary Journal of Contemporary Research in Business*, 5(3), 669-680.
[3] **Balucha, F., Mutengab, S., and Parsons, C.** (2011). Insurance, Systemic Risk and the Financial Crisis, *The Geneva Papers*, 2011, 36, 126 – 163.
[4] **Baştürk, F. H., and Sayın, E.** (2009). The effects of 2008 crisis on Turkish insurance industry. In *12th ınternational conference on Finance and Banking, structural and regional impacts of Financial crises*.
[5] **Bordo, M. D., Redish, A., and Rockoff, H.** (2015). Why didn't Canada have a banking crisis in 2008 (or in 1930, or 1907, or…)? *The Economic History Review*, 68(1), 218-243.
[6] **Dungey, M., and Gajurel, D.** (2015). Contagion and banking crisis – International evidence for 2007–2009. *Journal of Banking & Finance*, 60, 271-283.
[7] **Hüfner, F.** (2010). The German banking system: Lessons from the financial crisis. *OECD Working Paper* ECO/WKP(2010) 44.
[8] **Kaya, H. D.** (2016). The Impact of the 2008 Global Crisis on Access to Finance. *Annals-Economy Series*, 1, 6-12.
[9] **Kaya, H. D.** (2017). The impact of the global crisis on the stability of the financial system. *Journal of Applied Economic Sciences (JAES)*, 12(49), 698-708.
[10] **Kaya, H. D.** (2021a). The Impact of the 2008 Global Crisis on The Depth of The Financial System. *Annals-Economy Series*, 5, 86-97.
[11] **Kaya, H. D.** (2021b). The Impact of the 2008 Global Crisis on The Efficiency of The Financial System. *Annals-Economy Series*, 5, 86-97.
[12] **Kilic, O., Chelikani, S., and Coe, T.** (2014). Financial crisis and contagion: The effects of the 2008 financial crisis on the Turkish financial sector. *International Journal of Applied Economics*, 11(2), 19-37.
[13] **Liang, Y.** (2012). Development finance: China's banking system in light of the global financial crisis. *Chinese economy*, 45(1), 8-27.
[14] **Lysandrou, P., and Nesvetailova, A.** (2015). The role of shadow banking entities in the financial crisis: A disaggregated view. *Review of International Political Economy*, 22(2), 257-279.
[15] **Maredza, A., and Ikhide, S.** (2013). Measuring the impact of the global financial crisis on efficiency and productivity of the banking system in South Africa. *Mediterranean Journal of Social Sciences*, 4(6), 553-568.
[16] **Nikolaidou, E. and Vogiazas, S. D.** (2014). Credit risk determinants for the Bulgarian banking system. *International Advances in Economic Research*, 20(1), 87-102.
[17] **Njegomir, V., Marovic, B., and Maksimovic, R.** (2010). The economic crisis and the insurance industry: The evidence from the ex-Yugoslavia region. Economic Annals, 55(185), 129-162.

[18] **Provopoulos, G. A.** (2014). The Greek economy and banking system: recent developments and the way forward. *Journal of Macroeconomics*, 39, 240-249.
[19] **Vogiazas, S. D. and Nikolaidou, E.** (2011). Investigating the determinants of nonperforming loans in the Romanian banking system: An empirical study with reference to the Greek crisis. *Economics Research International*, 1-13.