*Eurasian Journal of Economics and Finance, 4(1), 2016, 41-55*
DOI: 10.15604/ejef.2016.04.01.003

**EURASIAN JOURNAL OF ECONOMICS AND FINANCE**

**http://www.eurasianpublications.com**

# FINANCIAL POLICIES OF TURKISH INDUSTRIAL COMPANIES DURING THE GLOBAL CRISIS

**Cenk Gokce Adas**
Corresponding Author: Istanbul University, Turkey. Email: cenkgokceadas@hotmail.com

**F. Yesim Kartalli**
INFORCE, Turkey. Email: yesim.kartalli@gmail.com

**Abstract**

Latest global financial crisis that shrank the credit market affected the companies' financial policies since the credit contraction led the firms to rely more on their own resources rather than external financing. The expectation during such crises is more equity issues along with less borrowing. In economic literature there are some evidence supporting this fact for developed countries. As an emerging country Turkey's case is different than that of advanced countries. The era commenced with Lehman turmoil by passed Turkish economy in the first years due to the solid, strong and healthy banking sector due to the measurements taken after 2001 banking crisis of Turkey. Therefore, international lenders did not hesitate directing their funds to Turkish banks. As a result, Turkish companies did not suffer in financing their investments through bank loans. Moreover, the growth policy of Turkey based on current account deficit supported Turkish economy and in turn the firms due to the abundance of liquidity after the peak of the crisis. In this work we examined 164 industrial firms that are traded on Borsa Istanbul to see if there happened to be a shift in their financing preferences during the recent global crisis. We found that the importance of borrowing had not decreased and that contradicts the expectations. As of equity issues, before and after 2009 no radical change has been observed. In 2009 where the crisis hit worst Turkish economy leading a 4.7% GDP decrease, the equity issues were doubled.

**Keywords:** Financial Crises, Financing Policy, Short-Term Capital Movement, Credit

## 1. Introduction

There are different theories in explaining the recent global financial crisis. One of them is the bank credit channel which says that losses from toxic assets forced banks to minimise the supply of loans to non-financial firms which reacted by halting investment that led to a steep decline in economic activity (e.g., Brunnermeier, 2009; Shleifer and Vishny, 2009). Another one is the flight to quality interpretation which says investors head towards to less riskier instruments when adverse conditions hold in the markets. Increased uncertainty causing higher risk premia and higher cost of raising capital again constrained firms to decrease or postpone their investment decisions (e.g., Caballero and Krishnamurthy, 2008).

Whatever the explanation is the crisis was an exogenous shock and this shock directed firms to review their financial policies. Macroeconomic conditions have unquestionable effects on firms' ability in raising capital. In case of an economic downturn firms are forced to slow down their business activities. In literature there are studies proving that macroeconomic

conditions affect firms' financial policies when they are shut out of the capital markets (Passov, 2003; Erel *et al.* 2011; Graham and Harvey, 2001).

In credit boom periods firms are expected to use the credit markets heavily where the credit is available in abundance. This means an increase in leverage levels. On contrary, credit contraction periods lead firms to use more of their internal sources. Equity finance is preferred in crisis years compared to debt finance of boom years. As credit shortage prevails in downturns firms are expected to buy less stock back and increase equity issues along with less dividend payments. Actually, the shift in financial policies is also dependent on the size of the firm. Small firms' access to credit and capital markets is quite limited in crisis years whereas larger firms can still use their credit lines at lower costs. So, firm size matters in financial policy change during crises. The work of Campello *et al.* (2010) reveals that during the crisis when firms have enough internal sources they do not prefer borrowing more. Firms tend to cheaper sources, i.e. internal source in the case of a financial crisis. The credit lines become more costly, especially for small firms.

Turkey is an emerging country and heavily needs foreign resource since the current account deficit has been the growth strategy for some time. Therefore, the global crisis impacts Turkish economy not only through the credit shortage felt worldwide but also through the impaired European economies since there is strong ties with Europe trade-wise. The turmoil in the Middle East makes Turkey more dependent on Europe. All affects the real sector corporations. We investigate whether there is a policy change in non-financial real sector companies' financing behaviour. We focused on cash holdings, debt levels and leverages, investment, equity issues and finally dividend payments. Stock repurchases is a new concept introduced fairly recently, therefore buy backs are out of the scope of our analysis.

In this work we use quarterly data to measure the effects of the global crisis on companies' financial policy decisions. We would like to examine before and after statuses to see if there is any shift. Annual data does not fit our purpose and would limit our investigation since only seven years have been past after the commencement of the crisis. We collected data from several sources. For corporate level data we utilised Financial Information News Network (Finnet)[1] and for macroeconomic level data we used Central Bank of the Republic of Turkey (CBRT) and Turkish Statistical Institute (TurkStat) databases.

We investigate data between 2005 and 2013. We start our period 2 years before the crisis. These are actually boom years observed throughout the world.[2] It is also a good time span for Turkish economy where a strong recovery was observed after the 2001 banking crisis of Turkey, i.e. 2005 and 2006 also represent a boom period for Turkish economy.

In the literature the beginning of August 2007 is assumed to be the start of the global crisis (e.g., Bernanke 2010; Covitz *et al.* 2009). The peak is considered to be the end of first quarter of 2009 after that the markets begin to stabilise (e.g. He *et al.* 2010; Kahle and Stulz, 2010).The waves of the turmoil did not reach Turkish economy until the second quarter of 2008. The worst hit happened in the first quarter of 2009 where the economy shrank 14.74%. Although the initial effects on Turkish economy were seen later than the global economy, the summits coincide. A quick interim recovery regarding the GDP growth monitored from the fourth quarter of 2009 to the fourth quarter of 2011 during that the expansionary monetary policies were implemented all around the world, especially in the US. For two years in question Turkish economy surpassed the long term average growth rate of 5% reaching 8.8% average. However, since then average growth rate is around 3% that is a way below the long term average (Figure 1).

[1] Finnet (www.finnet.gen.tr) is a Turkey based company that collects data mainly from Public Disclosure Platform (www.kap.gov.tr), data vendors and press.

[2] There is another reason choosing 2005 as a starting year. In 2003 and 2004 the corporations were allowed to adjust their financial tables to accommodate inflation. They issued both inflation adjusted and non-adjusted financials. Moreover, balance sheets have been organized according to IFRS since 2005. Therefore, for the sake of using a consistent data we started our analysis from 2005.

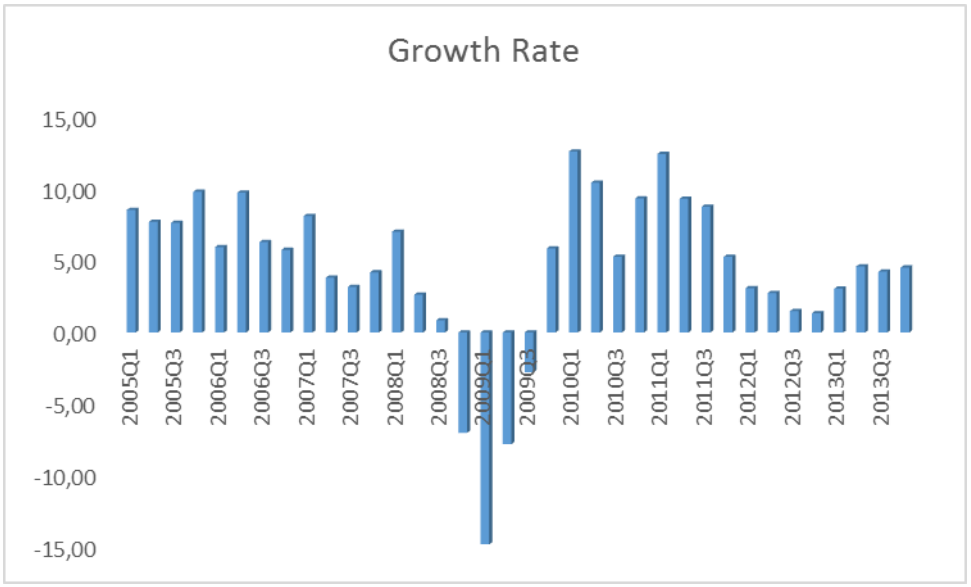



**Figure 1. GDP growth rate of Turkey**

The only reliable data publicly available at firm level is provided for the exchange listed companies. So, we focus on the industrial companies listed on the stock exchange, namely Borsa Istanbul (BIST). Turkish capital market legislation mandates public companies to disclose financial statements quarterly. Those statements are published through Public Disclosure Platform that is under the jurisdiction of the Central Registry.

We chose the corporations that are included in BIST Industrial Index (XUSIN). The number of firms in the index changes over time as the number of firms listed on BIST fluctuates with new initial public offerings and delistings. We did not want to include only the firms that are in the index continually for the whole period. That would restrict our results since we would be omitting data of some important and big corporations listed.

BIST Industrial Index is comprised of the stocks of industrial companies traded in the National Market and the Second National Market[3]. Therefore, the size of the firms is not similar in the index. Big and small companies are included together. This needs a special attention in terms of interpreting the outcomes. The number of small companies is much larger than the number of large companies. In 2013 data out of 164 firms only 34 have asset levels above the average level. The average and median asset levels for 130 small firms are $120.2 million and $91.9 million, respectively whereas the average and median asset levels for 34 large firms are $2.1 billion and $1.2 billion, respectively. This means the small companies may dominate the results in case of equal treatment. Therefore, we investigate the financial policies by using both equally weighted and asset weighted results. Although we investigate all firms both inequal weight and in asset weight, we believe that the asset weighted outcomes have the ability to represent the sector as a whole.

On Borsa Istanbul corporations may issue different types of shares. This means there may be more than one type of shares being traded on the exchange at the same time. In the index that comprises the companies we analyse, we come across different types of shares of the same corporation. Not to face misleading results we count those shares as one.

[3] Companies that fulfil Borsa Istanbul's listing criteria are traded on the National Market whereas small and medium sized companies, companies temporarily or permanently de-listed from the National Market, and companies that fail the National Market's listing criteria are traded on the Second National Market.

**Table 1. Asset-weighted outcomes**

| Quarter | N | Cash/Assets | ST Liabilities/Assets | LT Liabilities/Assets | Leverage [(ST Liab.+LT Liab.)/Assets] | Growth Rate |
|---|---|---|---|---|---|---|
| 2005Q1 | 130 | 0.1051 | 0.2918 | 0.1090 | 0.4008 | 8.53 |
| 2005Q2 | 130 | 0.0968 | 0.2950 | 0.1212 | 0.4162 | 7.70 |
| 2005Q3 | 130 | 0.0918 | 0.2910 | 0.1213 | 0.4123 | 7.63 |
| 2005Q4 | 133 | 0.0955 | 0.2934 | 0.1285 | 0.4218 | 9.79 |
| 2006Q1 | 133 | 0.0932 | 0.3021 | 0.1299 | 0.4320 | 5.95 |
| 2006Q2 | 133 | 0.0863 | 0.3410 | 0.1383 | 0.4794 | 9.74 |
| 2006Q3 | 133 | 0.0932 | 0.3189 | 0.1412 | 0.4601 | 6.29 |
| 2006Q4 | 135 | 0.0939 | 0.3044 | 0.1526 | 0.4571 | 5.75 |
| 2007Q1 | 133 | 0.0995 | 0.3065 | 0.1647 | 0.4712 | 8.10 |
| 2007Q2 | 133 | 0.0790 | 0.3133 | 0.1579 | 0.4712 | 3.81 |
| 2007Q3 | 133 | 0.0754 | 0.3029 | 0.1529 | 0.4559 | 3.18 |
| 2007Q4 | 138 | 0.0828 | 0.2980 | 0.1542 | 0.4521 | 4.19 |
| 2008Q1 | 133 | 0.0933 | 0.3348 | 0.1637 | 0.4985 | 7.01 |
| 2008Q2 | 133 | 0.0716 | 0.3467 | 0.1630 | 0.5097 | 2.63 |
| 2008Q3 | 134 | 0.0671 | 0.3282 | 0.1634 | 0.4916 | 0.86 |
| 2008Q4 | 150 | 0.1027 | 0.3374 | 0.1790 | 0.5164 | -6.97 |
| 2009Q1 | 134 | 0.1109 | 0.3579 | 0.1798 | 0.5377 | -14.74 |
| 2009Q2 | 134 | 0.1137 | 0.3560 | 0.1576 | 0.5136 | -7.77 |
| 2009Q3 | 135 | 0.1216 | 0.3449 | 0.1570 | 0.5019 | -2.77 |
| 2009Q4 | 157 | 0.1351 | 0.3242 | 0.1598 | 0.4839 | 5.86 |
| 2010Q1 | 136 | 0.1472 | 0.3424 | 0.1527 | 0.4950 | 12.59 |
| 2010Q2 | 139 | 0.1476 | 0.3402 | 0.1664 | 0.5066 | 10.42 |
| 2010Q3 | 139 | 0.1528 | 0.3271 | 0.1620 | 0.4891 | 5.28 |
| 2010Q4 | 162 | 0.1669 | 0.3424 | 0.1614 | 0.5038 | 9.34 |
| 2011Q1 | 144 | 0.1410 | 0.3635 | 0.1507 | 0.5143 | 12.42 |
| 2011Q2 | 149 | 0.1147 | 0.3673 | 0.1502 | 0.5175 | 9.30 |
| 2011Q3 | 147 | 0.1097 | 0.3515 | 0.1750 | 0.5265 | 8.74 |
| 2011Q4 | 163 | 0.1101 | 0.3442 | 0.1793 | 0.5235 | 5.26 |
| 2012Q1 | 155 | 0.1315 | 0.3595 | 0.1687 | 0.5282 | 3.09 |
| 2012Q2 | 159 | 0.1169 | 0.3690 | 0.1622 | 0.5312 | 2.75 |
| 2012Q3 | 157 | 0.1216 | 0.3647 | 0.1593 | 0.5239 | 1.50 |
| 2012Q4 | 163 | 0.1379 | 0.3198 | 0.1825 | 0.5023 | 1.35 |
| 2013Q1 | 158 | 0.1259 | 0.3450 | 0.1715 | 0.5165 | 3.05 |
| 2013Q2 | 162 | 0.1182 | 0.3413 | 0.1907 | 0.5320 | 4.61 |
| 2013Q3 | 160 | 0.1225 | 0.3426 | 0.1879 | 0.5305 | 4.23 |
| 2013Q4 | 164 | 0.1220 | 0.3159 | 0.2119 | 0.5278 | 4.52 |

**Notes:** The first 5 variables are related to company level data. The last column is dedicated to the growth rate of Turkish GDP. The second column includes the number of companies examined which are listed in XUSIN Index for the related quarter.

**Table 2. Equally-weighted outcomes**

| Quarter | N | Cash/Assets | ST Liabilities/Assets | LT Liabilities/Assets | Leverage [(ST Liab.+LT Liab.)/Assets] | Growth Rate |
|---|---|---|---|---|---|---|
| 2005Q1 | 130 | 0.0721 | 0.3058 | 0.1106 | 0.4163 | 8.53 |
| 2005Q2 | 130 | 0.0637 | 0.2982 | 0.1115 | 0.4096 | 7.70 |
| 2005Q3 | 130 | 0.0764 | 0.2981 | 0.1139 | 0.4120 | 7.63 |
| 2005Q4 | 133 | 0.0784 | 0.2971 | 0.1138 | 0.4109 | 9.79 |
| 2006Q1 | 133 | 0.0811 | 0.3113 | 0.1150 | 0.4263 | 5.95 |
| 2006Q2 | 133 | 0.0785 | 0.3313 | 0.1174 | 0.4487 | 9.74 |
| 2006Q3 | 133 | 0.0774 | 0.3092 | 0.1209 | 0.4301 | 6.29 |
| 2006Q4 | 135 | 0.0804 | 0.3029 | 0.1179 | 0.4208 | 5.75 |
| 2007Q1 | 133 | 0.0747 | 0.3165 | 0.1217 | 0.4382 | 8.10 |
| 2007Q2 | 133 | 0.0629 | 0.3151 | 0.1197 | 0.4348 | 3.81 |
| 2007Q3 | 133 | 0.0670 | 0.3174 | 0.1244 | 0.4418 | 3.18 |
| 2007Q4 | 138 | 0.0820 | 0.3131 | 0.1164 | 0.4295 | 4.19 |
| 2008Q1 | 133 | 0.0810 | 0.3594 | 0.1159 | 0.4754 | 7.01 |
| 2008Q2 | 133 | 0.0594 | 0.3599 | 0.1179 | 0.4778 | 2.63 |
| 2008Q3 | 134 | 0.0622 | 0.3395 | 0.1145 | 0.4540 | 0.86 |
| 2008Q4 | 150 | 0.0756 | 0.3740 | 0.1204 | 0.4944 | -6.97 |
| 2009Q1 | 134 | 0.0826 | 0.3660 | 0.1187 | 0.4847 | -14.74 |
| 2009Q2 | 134 | 0.0814 | 0.3467 | 0.1086 | 0.4553 | -7.77 |
| 2009Q3 | 135 | 0.0850 | 0.3321 | 0.1081 | 0.4402 | -2.77 |
| 2009Q4 | 157 | 0.0894 | 0.3415 | 0.1149 | 0.4564 | 5.86 |
| 2010Q1 | 136 | 0.0943 | 0.3249 | 0.1165 | 0.4414 | 12.59 |
| 2010Q2 | 139 | 0.0854 | 0.3313 | 0.1130 | 0.4443 | 10.42 |
| 2010Q3 | 139 | 0.0885 | 0.3232 | 0.1100 | 0.4332 | 5.28 |
| 2010Q4 | 162 | 0.0882 | 0.3383 | 0.1124 | 0.4507 | 9.34 |
| 2011Q1 | 144 | 0.0871 | 0.3528 | 0.1016 | 0.4544 | 12.42 |
| 2011Q2 | 149 | 0.0937 | 0.3514 | 0.1036 | 0.4550 | 9.30 |
| 2011Q3 | 147 | 0.0897 | 0.3492 | 0.1164 | 0.4655 | 8.74 |
| 2011Q4 | 163 | 0.0906 | 0.3444 | 0.1171 | 0.4614 | 5.26 |
| 2012Q1 | 155 | 0.0977 | 0.3414 | 0.1135 | 0.4549 | 3.09 |
| 2012Q2 | 159 | 0.0951 | 0.3505 | 0.1099 | 0.4604 | 2.75 |
| 2012Q3 | 157 | 0.0904 | 0.3460 | 0.1047 | 0.4507 | 1.50 |
| 2012Q4 | 163 | 0.0920 | 0.3239 | 0.1153 | 0.4391 | 1.35 |
| 2013Q1 | 158 | 0.0834 | 0.3399 | 0.1138 | 0.4537 | 3.05 |
| 2013Q2 | 162 | 0.0793 | 0.3364 | 0.1286 | 0.4650 | 4.61 |
| 2013Q3 | 160 | 0.0859 | 0.3362 | 0.1327 | 0.4689 | 4.23 |
| 2013Q4 | 164 | 0.0885 | 0.3247 | 0.1471 | 0.4718 | 4.52 |

**Notes:** The first 5 variables are related to company level data. The last column is dedicated to the growth rate of Turkish GDP. The second column includes the number of companies examined that are listed in XUSIN Index for the related quarter.

Table 1 and 2 show how cash holdings, short term and long term liabilities and leverage levels of firms change over time on a quarterly basis. In Table 1 the figures represent asset-weighted outcomes whereas Table 2 includes equally weighted results. Both tables have quarterly growth rates of Turkish economy to facilitate to follow how values fluctuate with the course of the economy. Since the sizes of the corporations vary greatly the variables are assessed as the ratio of assets.

We start our analysis with cash holdings that is followed by how debt levels and leverages are affected by the global crisis. Then we investigate how investment decisions are influenced. Lastly we focus on the progress of equity issues and dividend payments before and after the global crisis.

## 2. Cash Holdings

Liquid assets, financial investments and marketable securities items under current assets in balance sheets are classified as cash. In other words, the short term assets that can be liquidated immediately form the available cash in our analysis.

### 2.1. Asset Weighted Results

The years of 2005 and 2006 constitute a prosperous period for Turkish economy during that the average quarterly growth rate reaches 7.67%. The cash need of the industrial sector is roughly 9.5% of total assets for the same period. Having a productive two-year period, firms display a preference of flow level cash in the following year. We see cash holding is decreased to as low as 7.5% in 2007Q3. The onset of the global crisis leads industrial firms to enhance their cash positions as a precaution up to 9.33% in the first quarter of 2008 (Figure 2 and Table 1).

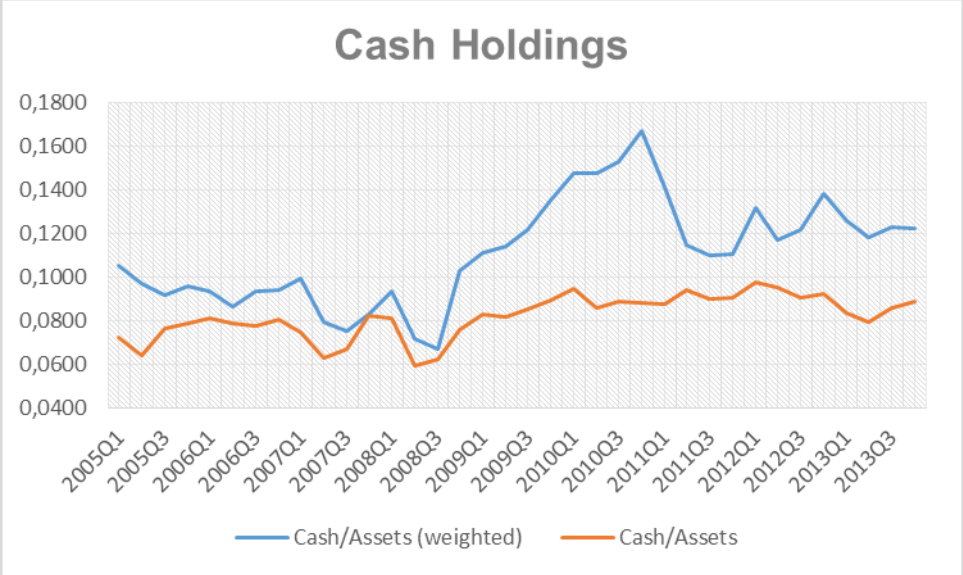



**Figure 2. Equally and asset weighted cash/asset ratios**

The first impact of US-originated crisis on Turkish economy was negligible. The influence of the crises on the Turkish economy in the first half of 2008 was too mild to be felt and Turkey still was experiencing the high growth rate. Thus, the industrial corporations did not see the need for extra cash accumulation and lowered the cash rate. Therefore once more they reduce cash/asset ratio down to 6.7% in 2008Q3. As mentioned earlier the effects of the global crisis reach Turkey in the second quarter of 2008. Industrial corporations affected adversely by shrinking economy implement a cash accumulating policy. We see a continuous increase in cash holdings reaching a level of 17% at the end of 2010. This is the highest level for the entire

period we examine. This shows that during crises firms are inclined to keep more cash. This finding coincides with Kahle and Shultz's (2010) results.

### 2.2. Equally Weighted Results

During the boom years, 2005 and 2006 the average cash holding is around 7.5% of total assets. The following two years the average is also the same but the fluctuation is greater with a minimum of 5.94% and a maximum of 8.20%. A comparison to asset weighted cash reveals that small firms have a tendency keeping less cash than larger firms, 7.5% against the sector average 9.5%. From 2009 to 2013 cash holdings increase to 8.84% on average (Table 2 and Figure 2).

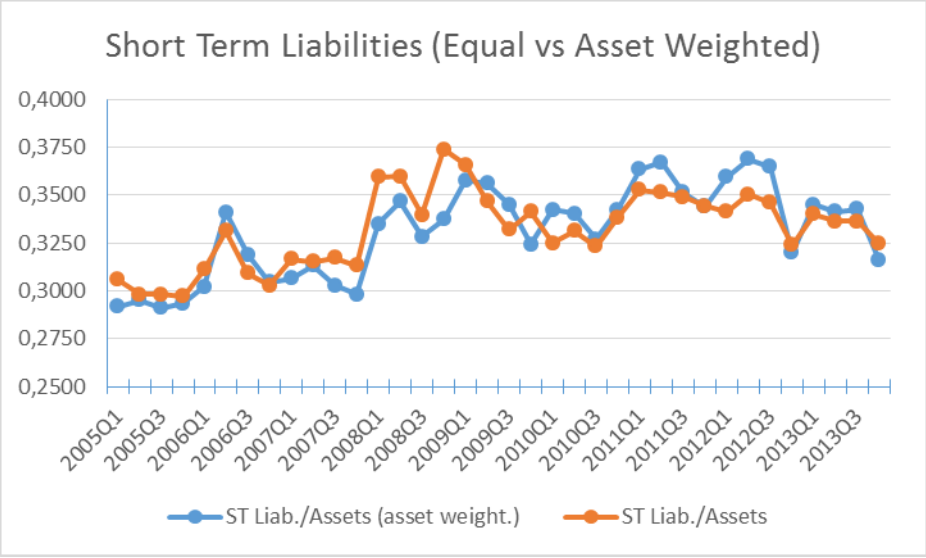
## 3. Debt Levels and Leverage

After cash holdings analysis we investigate how assets are financed. We tried to answer the following questions. Are they financed by foreign source, short term or long term or are they financed mostly by equity? How are leverages evolved during and after the crisis? While examining liabilities in general terms we also look for what constitutes short and long term debts, measuring the weights of financial and non-financial liabilities. Again we separated equally weighted and asset weighted results to distinguish the effects of small and large firms.

Before proceeding further we need to mention that bond issues by private industrial corporations are very rare in Turkey. Issuing bonds has never been a preferred way of finance for corporations. During the entire term we examine only in 2013 only one firm issued bonds to serve its financial needs. This has, off course a macroeconomic background. For a long time due to high public spending requirements and government borrowings corporations were crowded out from the capital markets in terms of bond issues. The dominance of bank financing is weakening slowly. Therefore bond issues are excluded in our analysis.

### 3.1. Asset Weighted Results

In general short term liabilities depict a volatile profile with a slight upward slope. Short term liabilities-assets ratio is 0.30 on average in boom years of 2005 and 2006 in contrast to 0.33 in the following three years. In the rest of the period the average is approximately 0.35. This data shows us that one-third of the assets are financed by short term debt (Table 1 and Figure 3).



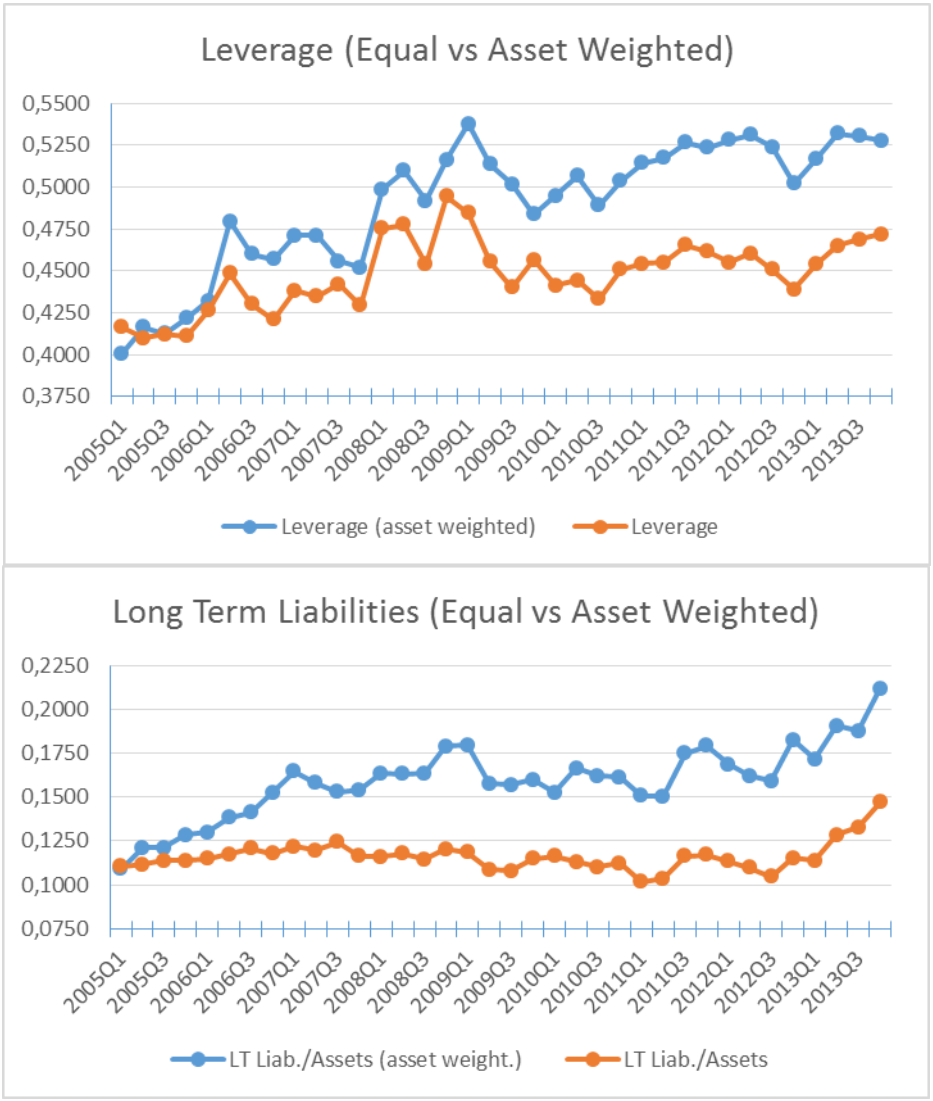



**Figure 3. Equal and asset weighted liabilities (short term and long term) and leverages**

The decomposition of current liabilities exhibits that on average 21% of current liabilities consist of financial loans until 2007Q4 (Figure 4). The weight of financial loans goes up and reaches a peak level of 42% at 2009Q4. Starting from 2010 it fluctuates around 32%. As for long term liability breakdown the financial loans seem dominant (Figure 4). We see a continuous upward progress in financial loans from 0.49 at 2005Q1 to 0.70 at the end of the period.

General expectation of rising liabilities in boom years is not satisfied in Turkish case regarding short term debt. On contrary, the level of current liabilities in boom years is lower than the crisis years.

The weighted long term liabilities-assets ratio, however, displays a pattern as expected (Figure 3) during boom years of 2005 and 2006.It jumps to 0.16 in 2007Q1 from 0.11 of 2005Q1. It increases steadily for 9 consecutive quarters. Until 2012Q3 the ratio in question fluctuates around 0.16. After 2012Q3 it shows an upward movement again.

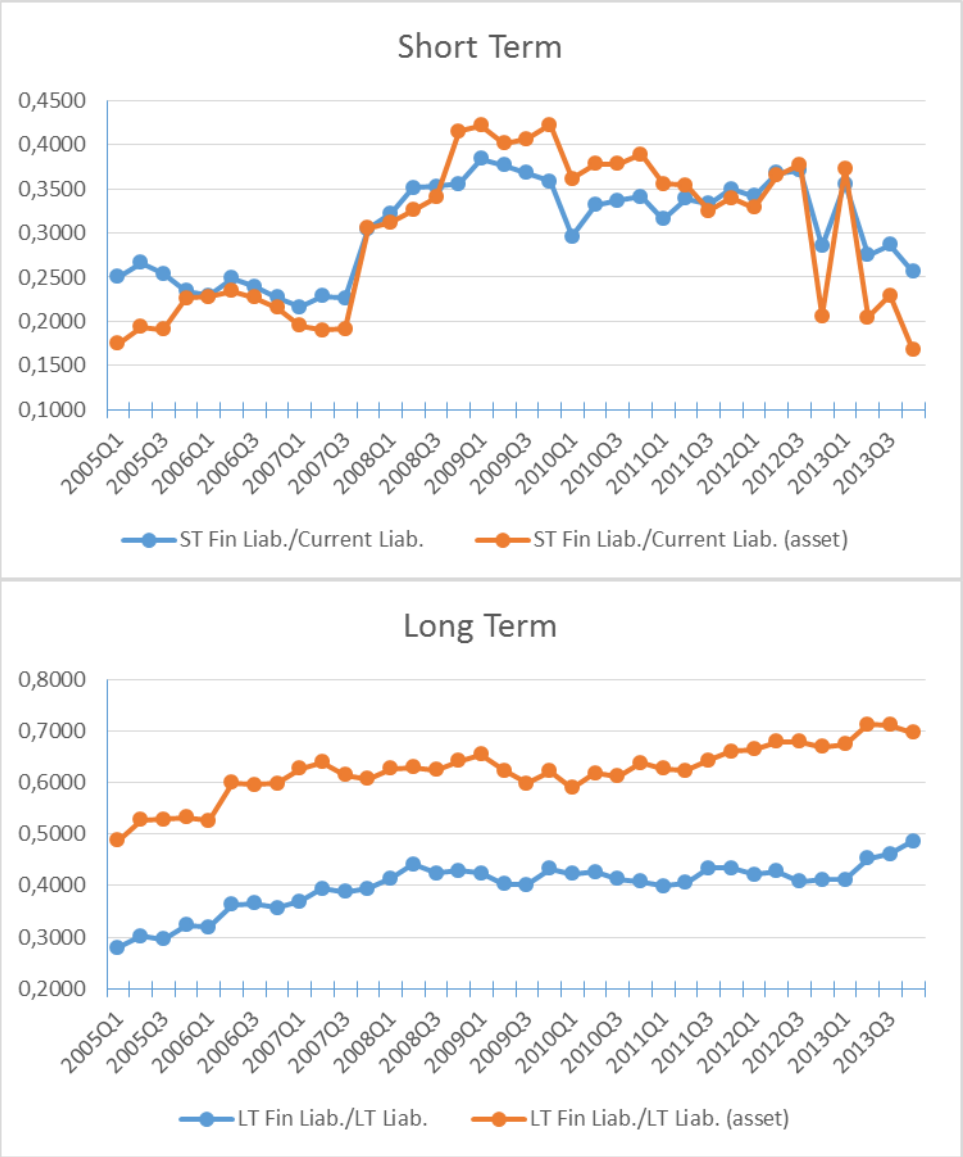



**Figure 4. Financial loans in equal and asset weighted liabilities (short term and long term)**

These findings are supported by the fact that Turkish industrial companies did not suffer in obtaining loans from abroad during crisis years.[4] In Figure 5 credits received from abroad by industrial companies are shown. The graph tells us that starting from the boom years of 2005 and 2006 until 2009 a continuous increase in external loans is observed. The following three years there is a slight decrease, but still above boom years' levels. Domestic loan levels of non-financial private sector that are depicted in the following graph (Figure 6) also back up the results.

[4] Please note that those data represent the whole industrial sector of Turkey, not the XUSIN index companies.


**Figure 5. Loans of industrial companies of Turkey received from abroad (USD)**
**Source:** Central Bank of the Republic of Turkey (2014).

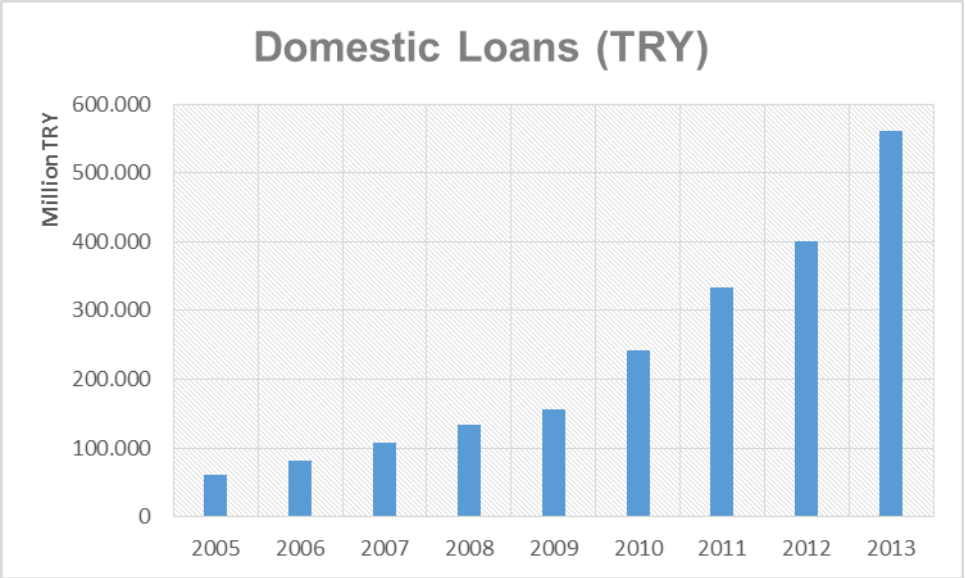



**Figure 6. Domestic loans of private sector non-financial firms (TRY)**
**Source:** Central Bank of the Republic of Turkey (2014).

Finally in this subsection we examine leverage ratios. The progress of current liabilities and long term debt is reflected on leverage ratios that are calculated as current liabilities plus long term debt against assets. With a leading effect of long term debts the leverage moves from 0.40 (2005Q1) to 0.46 (2006Q4) (Figure 3). In the first quarter of 2009 where the worst hit of the crisis to the economy experienced the leverage is peaked with 0.54, then it settles around 0.51 for the rest of the period.

### 3.2. Equally Weighted Results

Equal treatment of all firms regardless of their asset sizes reveals somehow different results than asset weighted results, especially for long term liabilities and leverage ratios. Current liabilities of small and large firms shows similar pattern over the years (Figure 3). We cannot say small firms dominate the averages. However, the same is not true for long term liabilities since the gap widens between equal and asset weighted long term loans as time passes. Small firms suppress the averages. That indicates small firms regarding assets have much lower long term finance compared to large firms.

The breakdown of current liabilities as financial and non-financial is similar to asset weighted results. In boom years financial loans hold 24% of current liabilities that is almost 3 percentage point is higher than asset weighted results (Figure 4). Actually, until 2008Q4 the equal weighted figures show that financial loans in current liabilities of small firms are higher than large firms. In 2008Q4 where the economy starts to shrink larger firms increase their short term financial loans beyond small firms.

The comparison of the weight of long term financial loans in long term finance shows that large firms have easier access to credits than small firms (Figure 4). Equal weighted figures indicate that small firms suppress the effect of long term financial loans by around 22% on average for the whole period.

As a result we can say that leverage wise decoupling between small and large firms is negligible in boom years of 2005 and 2006 (Figure 3). Along with the crisis the gap widens similar to long term finance.

## 4. Investment

As mentioned in the previous section access to credit markets either foreign or local was not a big problem for the corporations in Turkey. The question to be answered is where the new cash is allocated? To see whether increasing debt levels indicate new investments or rolling over existing loans we need to make our analysis extended to sector level rather than concentrating on the exchange listed industrial companies. The lack of available data and the difficulty of obtaining investment figures of individual firms for several years force us to analyse on a broader scale. Therefore to understand the desire to invest we investigate the industrial production index and capacity utilisation rates. In Figure 7 both are shown. Capacity utilisation ratios refer to the right hand scale and start from January 2007. From 2010 onwards this data has been calculated by the Central Bank of Turkey and adjusted backwards up to 2007. Because of the change in methodology we choose not to combine TurkStat and CBRT data.

Capacity utilisation rates start to decrease sharply in August 2008, make a deep in April 2009 and then rebound again, but not to before crisis levels. Under the light of these data we conjecture that there may not be new investments during crisis years. Industrial production index calculated by TurkStat also confirms that no new investment is urged. We see industrial production starts falling from May 2008 to February 2009. In July 2010 it catches up May 2008 level again.

If we interpret the change in both capacity utilisation rate and industrial production index as no new investment is made how shall we explain the increase in leverage levels? We believe firms in question utilised the new foreign source to roll over the existing debts and as operating cash to survive the global crisis. This inference, off course, needs further firm level investigation.

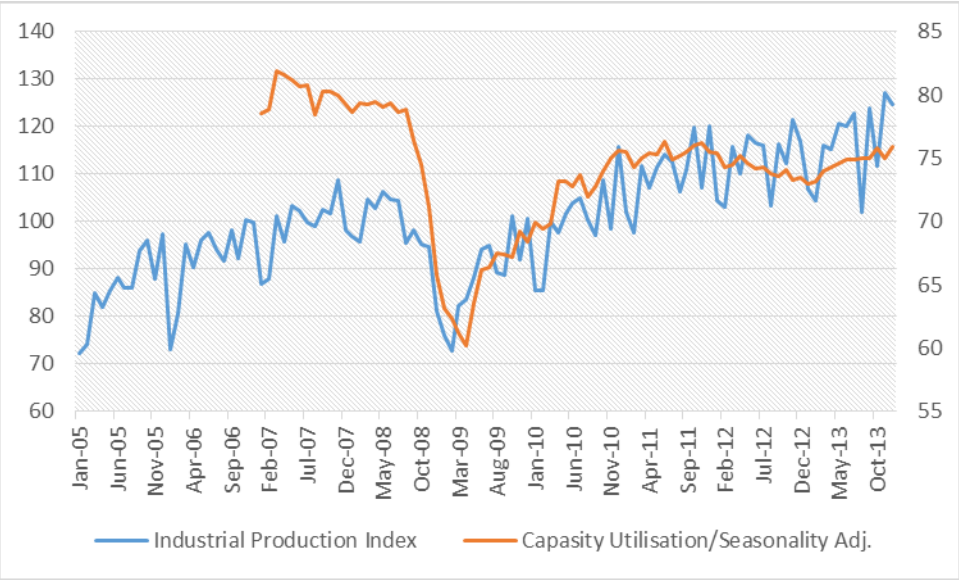



**Figure 7. Industrial production index and capacity utilisation ratios**
**Source:** Central Bank of the Republic of Turkey (2014).

## 5. Equity Issues and Dividend Payments

In Figure 8 the yearly amount and the breakdown of equity issues are shown. The amount is depicted on the right hand scale in thousand TRY. Rights issues and bonus issues are presented in percentages on the left hand scale. The amount of equity issues of industrial firms investigated exhibit a volatile pattern. However, we can say that in boom years finance need is not satisfied heavily by equity issues. The leverage level of 40% of the same period supports this finding. Whenever the economy slows down or shrinks equity issues go up. This can be followed from the equity issues graph and the growth rate chart (Figure 1). The Figure 8 also tells us that in general the corporations prefer increasing equity level by adding the internal sources to their capital, i.e. by issuing bonus shares. Only in 2009 where the Turkish economy down sized by 4.8%, the rights issues is tripled compared to previous year. This indicates that some of the cash raised by the companies is financed by issuing equities.

As for dividend payments we see that they are usually paid in cash. The dividend payment by bonus issues is rare. The dividends graph shows the total and cash paid amounts in thousands TRY. The figures represent dividend payments to take place in the following year. For example, 3.8 billion TL of 2007 is related to the profit of 2007 and yet to be paid in 2008. Keeping that in mind, in 2008 we see a big cut in dividend payments that is decided in 2009. Since the economic environment has adverse conditions in 2008 and 2009 corporations seem to prefer keeping profit, therefore cash inside.

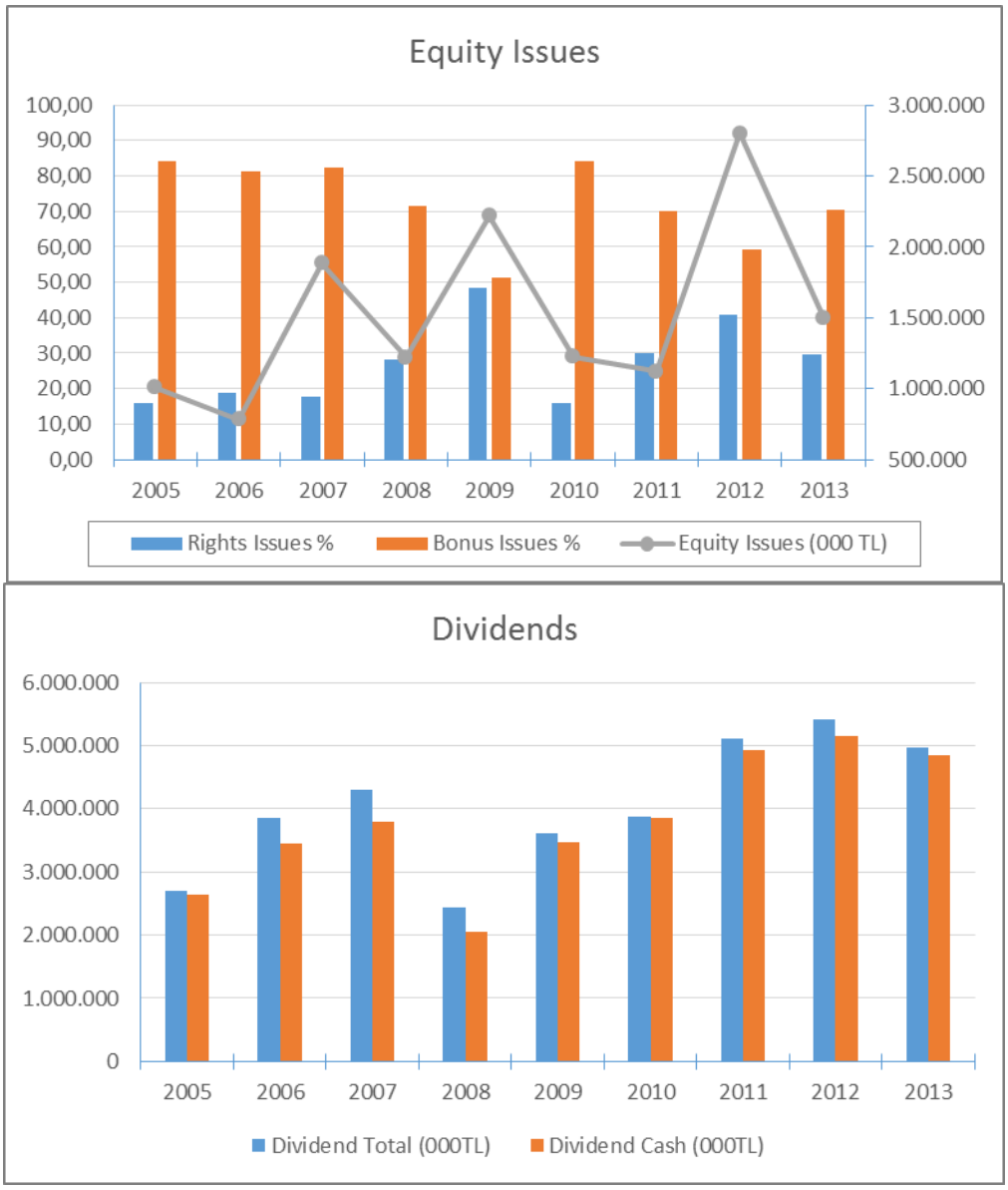



**Figure 8. Equity issues and dividend payments**
**Source:** Finnet.

## 6. Conclusion

We examined the financial policies of Turkish industrial firms listed on Borsa Istanbul to understand whether there is a shift in corporate finance stemmed from the recent global crisis compared to boom years. In our investigation we saw that the size of the firms matters. Large and small companies respond differently to changing economic environment. We focused our attention on cash holdings, debt levels and leverages, investment levels, equity issues and dividend policies of industrial corporations. We took the firm size into account in cash holdings, debt levels and leverage levels research. Due to problems in obtaining data at company level we analysed investment on a broader scale to make an inference about the shift in that variable. We excluded stock repurchases policies from our analysis since that option is newly introduced to Turkish capital markets.

We found that both large firms and small firms accumulate cash holdings in crisis years compared to boom years. We also discovered that large firms were more successful in increasing their cash holdings than small firms. A definite shift regarding the level of liquid assets is observed in the crisis years.

In our analysis of debt levels and leverages we tried to answer whether the operations and investments are financed by foreign or internal sources. We tried to understand if there is a change in the maturity (short term or long term) if the foreign source is preferred. We also investigated if the weights are shifted in favour of financial or non-financial liabilities. Firstly, we see a very volatile short term debt fluctuations. The asset-weighted data result a slight increase in short term debt. One third of assets are financed by short term borrowings both in boom years and in crisis years. On the other hand, the weight of financial loans is increased from 21% to half of the current liabilities. We can say that our results regarding debt levels are not consistent with the general anticipation of rising liabilities in boom years compared to crisis years. As for long term liabilities, we see an increase in boom years which is parallel to expectations. The weight of financial loans seems dominant at the end of the period with a continuous increase to 70% from 50%.We know from the industry level data that Turkish industrial companies did not suffer in gathering foreign loans during crisis years. Our findings support this fact. We also found out that small firms have difficulty in obtaining long term debts compared to larger firms. This is also reflected in leverage ratios. We see similar leverages of large and small companies in boom years. However, in crisis years the gap between leverages of large and small firms is quite noticeable.

An examination of capacity utilisation rates and industrial production index reveals that no new investment is made in crisis years. This drives us to question the increase in leverages. We conjecture that industrial firms utilised the new foreign source to roll over the existing debts and/or as operating cash to survive the global crisis. This interpretation needs a further investigation at firm level.

Lastly, we focused on equity issues and dividend payments. Although the equity issues of industrial firms exhibit a volatile pattern over 2005-2013 period we do not see that equity finance is dominant in boom years, this is parallel to expectations. In 2009 where the crisis hit worst the Turkish economy leading a 4.7% GDP decrease, the equity issues were doubled (as for rights issues the increase is threefold).As for dividend payments the impact of the crisis is quite visible. The adverse conditions in 2008 and 2009 forced the industrial corporations we examine keeping profit, therefore cash inside and reduce dividend payment.

## References

Bernanke, B.S., 2010. Causes of the recent financial and economic crisis. *Testimony before the Financial Crisis Inquiry Commission*, September 2, 2011. Washington DC, USA: Board of Governors of the Federal Reserve System.

Brunnermeier, M.K., 2009. Deciphering the liquidity and credit crunch 2007-2008. *Journal of Economic Perspectives,* 23, pp.77-100. http://dx.doi.org/10.1257/jep.23.1.77

Caballero, R.J. and Krishnamurthy, A., 2008. Collective risk management in a flight to quality episode. *Journal of Finance,* 63, pp.2195-2230. http://dx.doi.org/10.1111/j.1540-6261.2008.01394.x

Campello M., Giambona, E., Graham, J.R., and Harvey, C.R., 2010. Liquidity management and corporate investment during a financial crisis. *NBER Working Paper,* No.16309.

Campello, M., Graham, J.R., and Harvey, C.R., 2010. The real effects of financial constraints: Evidence from a financial crisis. *Journal of Financial Economics,* 97, pp.470-487. http://dx.doi.org/10.1016/j.jfineco.2010.02.009

Central Bank of the Republic of Turkey (CBRT), 2014. Statistical data. *Electronic Data Delivery System (EDDS)*, [online] Available at: <http://evds.tcmb.gov.tr/index_en.html> [Accessed 18 August 2014].

Covitz, D., Liang, N., and Gustav S., 2009. The evolution of a financial crisis: Runs in the asset-backed commercial paper market. *Working Paper,* No.2009-36. Washington DC, USA: Board of Governors of the Federal Reserve System.

Erel, I., Julio, B., Kim, W., and Weisbach, M.S., 2010. Macroeconomic conditions and the structure of securities. *Working Paper*, Ohio State University.

Graham, J.R. and Harvey, C.R., May 2001. The theory and practice of corporate finance: Evidence from the field. *Journal of Financial Economics*, 60(2), pp.187-243. http://dx.doi.org/10.1016/S0304-405X(01)00044-7

He, Z., Gu, K.I., and Krishnamurthy, A., 2010. Balance sheet adjustments during the 2008 crisis. *NBER Working Paper,* No.15919.

Kahle, K.M. and Stulz, R.M., 2010. Financial policies and financial crisis: How important was the systematic credit contraction for industrial corporations?. *NBER Working Paper*, No.16310.

Passov, R., 2003. How much cash does your company need?. *Harvard Business Review*, November Issue. [online] Available at: <https://hbr.org/2003/11/how-much-cash-does-your-company-need> [Accessed 3 July 2014].

Shleifer, A. and Vishny, R., 2009. Unstable banking. *NBER Working Paper*, No.14943.