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The Evaluation of Working Capital in Airline Companies Which Proceed in BIST

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Abstract. The working capital such as cash and liquid assets runs the facilities and supports daily activities of firms. This kind of capital is essential for the continuity of the activities, increasing the volume, maintaining credibility, reducing impacts of risks and for overcoming extraordinary situations. The working capital's management is very important for making profits from activities, especially for dynamic sectors such as aviation.

The aviation industry in which the airline companies operate is a very dynamic sector. In this sector, the working capital has to be managed very professionally and carefully by airline companies. This study aims to assess the airline companies' working capital in terms of effectiveness. Airline companies whose shares are traded on BIST will be the sample of this study.

Keywords: working capital, airline companies, BIST.

JEL Codes: G14, G19

1. Introduction

The working capital whose importance managers focus on and try to manage successfully has become an important concept for all corporations, because a management's success or failure is evaluated through the activity of the working capital.

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Making profit is located among prior targets of all corporations. They are planning all their activities to fulfil this goal. But, managements are not acting in a stable environment. In a becoming global world economy, corporations try to adapt to changing and developing conditions. Therefore, they have to manage and finance the activities very well to obtain their objectives. Even though the conditions are difficult, the corporations can achieve their goals and take leading positions on the market with an effective management of the working capital.

2. The Concept of Working Capital

The corporations give special attention to the fixed assets during the installation phase. They make the investments which are needed to complete the installation activities, regarding the characteristics of the products or services they will offer. After the completion of the installation process, they switch to the production of goods or services and want to make the business work. From the moment the business starts, corporations need working capital in order to continue their activities at every stage.

For corporations, the working capital is essential for the continuity of the activities, for maintaining the highest performance, increasing the production volume, keeping the credibility steady, reducing impacts of risks and dealing with the extraordinary situations (Akgüç, 1998: 201).

The elements of the working capital are located under named current assets such as: liquid assets (cash, banks, etc.), marketable securities which can be converted to cash at any time (share certificates, bonds, etc.), short term receivables (customers, notes receivables, etc.), inventories (products, raw materials, etc.) and prepaid expenses (Aydın and others, 2004: 116).

2.1 The Importance of Working Capital Management

The working capital management is essential for all corporations (no matter which size) to survive and develop. It includes the policies about current assets investments and payments of liabilities during one year period. Due to the importance of the working capital management for corporations, the managers spend a lot of time to deal with it (Baghiyan, 2013: 13) but, it is possible to increase liquidity and profitability through a successful working capital management. Thus, the time spent can be recovered (Rehn, 2012: 6).

The working capital management help managers keep a balance between investments and liquid assets which can be convert into cash in one year and fixed assets which are transformed into money in more than one year (Çelik ve Boyacıoğlu, 2013: 81). The administrators manage working capital very cautiously, because it can vary depending on the size of the investments in current assets, increases in the business volume, incurred risks and desired profits. The decisions can lead the market value through positive or negative directions (Akgüç, 1998: 204-205). For example, more than needed investments in working capital (current assets) increase the financing costs.

Especially the financial resources obtained from liabilities increase the financing costs because of the interest payments. Financing with shareholders equity may be deprived from incomes which come from other using areas of equities. Therefore, keeping a high amount of working capital may negatively affect



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profitability. If the working capital is less than required, then it causes the disruption of production due to the lack of raw materials, products in stock and cash. Because the corporation cannot operate at its full capacity, the costs of the product may increase and profit may decreases. The orders may not be delivered in time. This situation has some consequences such as loss of customers and reputation. The risk of not being paid on maturity of the liabilities may also arise. For this reasons, institutions such as banks or vendors, and investors who will receive company's stocks or bonds are engaged in business-related assessments to scrutinize the adequacy of working capital (Aydın and others, 2004: 116-118).

The business success is obtained by managing effectively the main items of working capital such as cash, receivables, and inventories. Because the working capital directly affects the liquidity and profitability, it behaves as a key feature for the finance and accounting department (Ammons and others, 2012: 12).

However, the working capital management should consider not only these departments', but also the entire organization's characteristics and needs. Administrators should be informed about current issues constantly during the production, and educated about new technologies and developments. The research should be done on finding new resources. In addition, through regular and timely payments, it is possible to conclude low-cost sales contracts with suppliers of new orders, the new costs generating higher profits. Inventories should be exactly what the business needs, should not be incomplete or more than necessary. In collecting receivables, facilitating and encouraging recommendations should be presented for customers (Bartram, 2013: 42-43). Through these and other similar applications, changing liquidity and profitability ratios in a positive way is possible with increasing the effectiveness and efficiency of working capital.

2.2 Working Capital Policies

Due to direct effects on company's financial structure, various approaches have been developed on financing strategies of working capital, such as conservative, aggressive and moderate working capital policies (Apak ve Demirel, 2013: 216).

In aggressive working capital policy, less current assets investments are made, liquidity is kept at a low level, and high profitability is targeted by taking higher risks. Long term assets are financed with long term liabilities, current assets are financed with short term liabilities. Current ratio is less than 1. In conservative working capital policy, more current assets investments are made, liquidity is kept at a high level, and profitability is targeted by taking lower risks. Equities and long term liabilities are preferred for working capital financing. The risk and profitability are low; cost is high in this financing form. Current ratio is more than 2. In moderate working capital policy, managers identify a target level in the middle of the other strategies, and stay at this "optimum" level. Current ratio is between 1 and 2 (Aydın and others, 2004: 118-121).

3. Literature Review

The various studies have been made in literature in order to identify relationship between working capital management and profitability.



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In a study conducted by Lizaridis and Tryfonidis (2006), the data of 131 firms which traded on the Athens Stock Exchange, between years 2001-2004, were evaluated. It is stated that corporations holding the optimum level of working capital items can increase profitability.

In another study conducted by Coşkun and Kök (2001), the relationships between profitability and working capital policies in 74 companies, which traded on Istanbul Stock Exchange between years 1991-2005, were examined. According to this study, if the inventory and receivables collection period are reduced, and the debt payment period is increased, the aggressive working capital policy could increase the firm's profitability.

In a study by Şahin (2011), the data of 140 companies between the years of 2005-2010 from the Turkish manufacturing sector and listed on the Istanbul Stock Exchange were analyzed, based on the working capital policy. Especially, the years of 2008-2010 were assessed as crisis period and the crisis factors were included in the analysis. According to this study, in the manufacturing sector, whether or not in crisis, it was evaluated that increasing the business performance by conservative working capital is possible.

In another study by Aygün (2012), 107 companies' data between years 2000-2009 in the Turkish manufacturing sector and listed on the Istanbul Stock Exchange were examined. The impact of working capital on business performance was analyzed in this study. The fact that long cash conversion cycle of the firms can reduce the profitability and performance was identified. The author expressed the idea that managers who want to increase profitability should lessen the cash conversion period.

The study realized by Muhammad and his colleagues (2012) based on 25 textile companies which traded in Pakistan's Karachi Stock Exchange between 2001-2006 stated that there is a positive relation between profitability and accounts receivable and a negative relation between profitability and liabilities. Additionally, the raises in cash, inventories and receivables increase the profitability of the companies. Therefore, effective working capital management could increase the profitability.

Poyraz (2012) studied the impacts of working capital on profitability. He examined data of a firm which is operating in banking sector between 1998-2011 years. As a result of the conducted analysis, Poyraz identified the fact that changes in short-term liabilities payments affect the profitability of the firm. A moderate working capital policy is useful for firms in banking sector to stay away from risky transactions.

In another study conducted by Saldanlı (2012), the relationships between profitability and working capital policies in manufacturing sector companies, which traded on Istanbul Stock Exchange, were examined. As a result of this study, the optimum working capital should be low enough not to reduce profitability, but high enough to maintain without any problems the activities.

In a study conducted by Baghiyan (2013), the data of 134 companies from 2005 to 2011 were evaluated. The study stats that there is a meaningful relationship between working capital management



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and business performance, and evaluates that the selection of aggressive working capital policy can contribute to the development of business.

Another study conducted by Caballero and his colleagues (2014) based on the companies in UK indicates that optimal working capital policy has a significant effect on companies – it increases firms' market value by balancing their revenues and costs.

According to obtained results from literature review, most of the researchers found similar results and conclusion that there is a meaningful correlation between working capital and profitability. The changes in working capital directly affect profitability. Managers should take into consideration this fact while they are making decisions and producing policy on working capital.

4. Study Purpose, Scope and Method

The findings of existing studies in the literature reviewed demonstrate that working capital has an important impact on the profitability. In the research conducted, for the data used in these analyses were generally preferred companies from the manufacturing sector. However, the airline companies (THY & Pegasus) from the service industry were preferred for this study in order to obtain appropriate and meaningful data.

Airline companies are operating in a very dynamic sector. They are affected very quickly by economic crises and terrorist incidents. Especially, terrorist attacks such as the Gulf crisis, and September 11th in US. Furthermore, increases in fuel prices all over the world increase constantly the cost of airline companies (Morrell, 2007: 1). Because of high costs, the working capital must be managed carefully and professionally in order to sustain its operations, overcome the effects of crisis without troubles and gain profit.

The relations between working capital and profitability of Turkish Airlines Inc. and Pegasus Airlines Inc., companies traded in Istanbul Stock Exchange (BIST), are examined in this research. The data were obtained from the financial statements between the years 2009-2013. The desire was to measure the liquidity of corporations by using current ratio (%), acid-test ratio and cash ratio (%). The accounts receivable turnover (days), inventory turnover (days), net working capital turnover rate, and return on assets indicators were used to measure the effectiveness of the working capital management.

4.1 The Ratios Used

The ratios and formulas, which are used in this study to measure the efficiency of liquidity and working capital management, are mentioned on following paragraphs. (Akgüç, 1998: 28-59), (Türko, 1999: 104-114), (Ercan ve Ban, 2005: 37-47):

• Current Ratio: It shows the ability to pay short-term and long-terms liabilities with current assets of the business. It is the ratio that indicates whether it has or not adequacy for sustaining its operations, in case unexpected situations occur. The ratio is desirable to be 2:1. However, this ratio is close to 1.5:1 in developing countries because liquidity is not too high. Therefore, it is considered sufficient.



rate is desirable.

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Constant Datio	Current Assets		
Current Ratio = —	Current Liabilities	_	
	1:1 ratio is the best for th	-	ith current assets but without 1 is also acceptable because of
	Current Assets - Inve	entories	
Acid-Test Ratio =	Current Liabilities		
Cash Ratio: It po are not collected.	oints out the ability to rep	ay short-term debts when	the sales stop, and receivables
	Liquid Assets + Marketab	le Securities	
Cash Ratio (%) =		x 100	
	Short-Term Liabiliti	es	
	rable Turnover: It shows th unts receivable turnover ir		s of the business. A high ratio is
	Net Sales		365
A.R. Turnover =		A.R. Turnover (Days) =	
Av	erage Accounts Receivable		A.R. Turnover
-	over: It shows how effecti 5 days divided by inventory	-	s. The time of conversion into
	Cost of the Sales		365
Inventory Turnov	er =	Inventory Turnover (Days) =	
	Average Inventory		Inventory Turnover
 Net Working Ca 	pital Turnover: This ratio	is used to evaluate the wo	orking capital efficiency. A high



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	Net Sales		
Net Working Capital Turnover =			
	Average Working Capital		

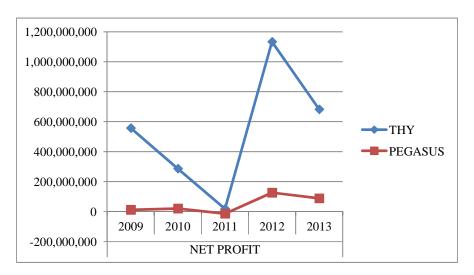
• Return on Assets: This ratio reflects the company's efficiency at using the assets to generate earnings.

5. The Analysis and Comments

This study is based on the financial statements of the Turkish Airlines and Pegasus Airlines Inc., which are traded at Istanbul Stock Exchange (BIST), between 2009 and 2013 (five years).

Graphics on the basis of the net profit of the airlines are generated as follows:

	NET PROFIT				
	2009	2010	2011	2012	2013
THY	557,506,884	286,443,361	18,516,632	1,133,367,233	682,707,427
PEGASUS	12,102,999	20,237,310	-14,085,900	126,303,516	88,312,006





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When analyzing the graph of the net profit, similar fluctuations can be seen. It can be demonstrated as a reason that the aviation industry operates worldwide and all kinds of global crisis can affect the sector. Especially in 2011, it was observed that the airlines were affected significantly by the economic crisis, which affects the whole world. However, the effects of this crisis have reduced in subsequent years and the increase of businesses' profitability with sales is seen.

In terms of corporations' profitability, in order to measure the efficiency of the working capital, the current ratio, acid-test ratio, cash ratio, accounts receivable turnover (days), inventory turnover (days), net working capital turnover and return on assets are calculated from the financial statements. The tables are obtained from the calculated data in order to evaluate the effectiveness of the working capital.

	TURKISH AIRLINES				
	2009	2010	2011	2012	2013
Current Ratio	1,44	1,37	1,03	0,86	0,68
Acid-Test Ratio	1,36	1,31	0,97	0,80	0,63
Cash Ratio (%)	56,23	32,03	39,21	29,90	20,13
Accounts Receivable Turnover (Days)	21	22	21	19	19
Inventory Turnover (Days)	9	9	8	8	7
Net Working Capital Turnover	7,74	9,35	22,02	-54,96	-13,57
Return on Assets (%)	6,50	2,69	0,11	6,03	2,69

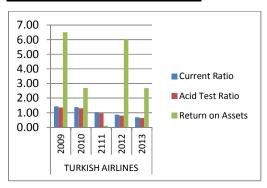
	PEGASUS AIRLINES				
	2009	2010	2011	2012	2013
Current Ratio	0,25	0,28	0,36	0,63	1,76
Acid-Test Ratio	0,25	0,28	0,35	0,63	1,75
Cash Ratio (%)	2,57	12,61	3,51	39,06	129,49
Accounts Receivable Turnover (Days)	12	9	12	12	18
Inventory Turnover (Days)	0,1	0,1	0,1	0,3	0,6
Net Working Capital Turnover	-7,21	-4,20	-4,63	-6,88	15,26
Return on Assets (%)	1,76	1,64	-0,77	3,61	2,52

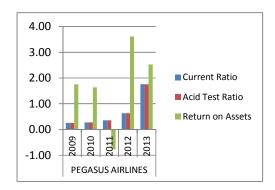


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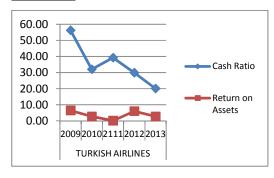
Current Ratio and Acid-Test Ratio:

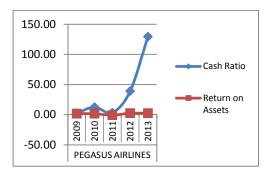




When considering the current ratio and acid-test ratio, THY has a declining trend and there is an increasing trend for Pegasus. The reason for the decreasing trend in the return on assets ratio of THY is the increasing rate of short-term liabilities, which is higher than the current assets. In view of Pegasus, current assets growth rate is faster than that of the short-term liabilities. The current ratios are less than 2 for both companies. It shows that aggressive working capital policy is applied. Considering the high costs to be effective in the aviation industry, both of the company's working capital management is considered efficient and companies can maintain the activities without experiencing any debt payment difficulties.

Cash Ratio:





Analyzing the graphs, the cash ratio of Turkish Airlines (THY) is descending, on the other hand, a fact that shows the increasing trend for the Pegasus. It is interesting that the cash ratio of both companies was over 20% for years. The aviation industry obtains loans from banks in order to meet the high cost due to the fact that high cash ratio has been evaluated and accepted as ordinary.

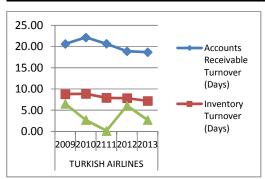
It is pointed out that THY carried out the optimum ratio of cash in 2013. Pegasus' high cash rate (129.49%) of in 2013 is related to the public offering during the year. When considering the cash ratio based on the year 2013, in case of both companies inability to make sales and collect receivables, the fact that they have the ability to pay short-term liabilities was assessed.

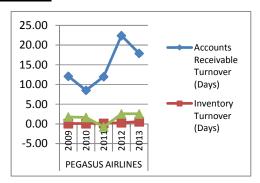


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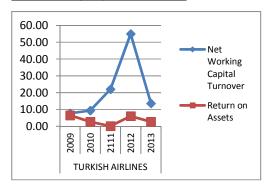
Accounts Receivable Turnover and Inventory Turnover:

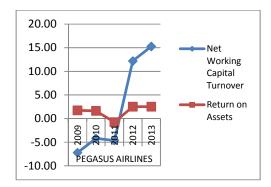




Wee can seen that the accounts receivable turnover in days of the two airline companies were not exceeded – 22 days for THY and 18 days for Pegasus. This is an indication that the accounts receivable are managed with great care. The low number of days of inventory turnover rate is a requirement of the service sector. Both companies have small quantities in stock and are immediately involved in production.

Net Working Capital Turnover:





When the graphs were analyzed in terms of net working capital turnover rate of THY, an increase until 2011, a decrease in 2012 and then later on an upward trend in 2013 can be seen. Similar evaluation was revealed for Pegasus, the working capital turnover rate is increasing until 2011, declining slightly in 2011 and then again an increasing trend appearing. The increasing sales are considered to be the cause of the upward trend. However, the negative values took part in the net working capital turnover rates of both companies; this indicates that the short-term liabilities of the companies are higher than the current assets. This points out that the long term assets of the companies are financed with the short-term liabilities.

The negative value of the net working capital shows the liquidity problem that comes into prominence. However, the current ratio and the acid-test ratio point out that these companies do not have debt payment difficulties. Therefore, even during the periods when the net working capital is negative, these

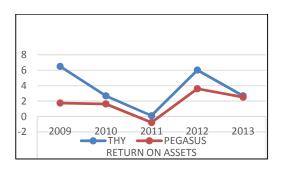


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companies do not face the liquidity problem because of the upward trend of ticket sales, and the short time of receivables collection.

Return on Assets:



When analyzing it, the return on assets ratios, in both companies, decreased from 2009 to 2011, increased from 2011 to 2012 and seemed to have a descending trend from 2012 to 2013 again. A similar trend is seen through different rates for both companies. Being in a dynamic structure such as the aviation industry, the negative impact of economic crisis on sales, costs of personnel salaries, high fuel costs are considered as factors of reducing the profitability. Giving the impression of this perspective, lower return on assets rate indicates that profit from the current assets is not too high. It is noticeable that accounts receivable turnover ratio and net working capital turnover are negatively associated with each other.

6. Conclusion

The working capital has an important role in sustaining company's activities. If managed effectively, that increases the profitability of the business and makes a positive impact. Airline companies, which operate in the aviation industry, cope with changing the economic conditions by effective working capital management policies.

In this study, the financial statements, between years 2009-2013, of two airline companies (Turkish Airlines and Pegasus Airlines), traded on Istanbul Stock Exchange, were studied. The working capital efficiency was evaluated by calculating the current ratio, the acid-test ratio, the cash ratio (%), the accounts receivables turnover (days), the inventory turnover (days), the net working capital turnover rate, and the return on assets.

As worldwide operating airline companies, Turkish Airlines and Pegasus Airlines had overcome the significant impacts of the 2011 economic crisis which were felt all over the world (even THY makes profit); in the following years, they succeeded in sustaining their profitability. According to the evaluated analysis, these companies managed working capital effectively and showed a tendency to increase their profitability.

7. References



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URL: http://jedep.spiruharet.ro e-mail: office_jedep@spiruharet.ro

- [1] Akgüç, Öztin. 1998, Finansal Yönetim, İstanbul: Avcıol Basım-Yayın.
- [2] Ammons, Janice L. Martin L. Gosman. 2012, "Cautions When Using Working Capital Metrics to Assess Firms' Financial Health", *Journal of the International Academy for Case Studies*, V. 18, N. 3, pp. 11-14.
- [3] Apak, Sudi. Engin Demirel. 2013, Finansal Yönetim Cilt 2: Finansal Tablolar Analizi ve Yatırım Yönetimi, İstanbul: Papatya Yayıncılık.
- [4] Aydın, Nurhan. Coşkun, Metin. Bakır, Hasan. Ceylan, Ali. Başar, Mehmet. 2004, *Finansal Yönetim*, Eskişehir: Anadolu Üniversitesi Yayınları.
- [5] Aygün, Mehmet. 2012, "Firma Performansı Üzerinde Çalışma Sermayesinin Etkisi: Türk İmalat Sektörü Üzerine Bir Uygulama", *Ege Akademik Bakış*, V. 12, pp. 215-223.
- [6] Baghiyan, Fatemeh. 2013, "The Impact of Working Capital Management on Management Performance." *Journal of Behavioural Economics Finance Entrepreneurship Accounting and Transport*, V:1(1), pp.1 3-14.
- [7] Bartram, Peter. 2013, "8 Ways to Improve Working Capital", Financial Management, July/August 2013, pp. 42-43.
- [8] Caballero, Sonia Banos. Pedro J. Garcia Teruel. Pedro Martinez Solano. 2014, "Working Capital Management, Corporate Performance and Financial Constraints", *Journal of Business Research*, V.67 (3), pp. 332-338.
- [9] Coşkun, Ender. Dündar Kök. 2011, "Çalışma Sermayesi Politikalarının Karlılık Üzerine Etkisi: Dinamik Panel Uygulaması", Ege Akademik Bakış, V. 11, pp. 75-85.
- [10] Çelik, İsmail. Namıka Boyacıoğlu. 2013, "The Impact of Fixed Assets Expenditures on Working Capital Management: An Application on Manufacturing Corporations In Istanbul Stock Exchange", Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, Y.1, V:17 pp. 81-99.
- [11] Ercan, Metin. Ünsal Ban. 2005, Değere Dayalı İşletme Finansı, Finansal Yönetim, Ankara: Gazi Kitapevi.
- [12] Garanti Bankası, Report Para Garanti, "Mali Tablolar", http://report.paragaranti.com/malitablo/MaliTablolar_3.

 aspx?hisse=PGSUS (Accessed on: 28 March 2014).
- [13] Kamuyu Aydınlatma Platformu (KAP), "Finansal Tablolar", Kaynak: http://www.kap.gov.tr/ (Accessed on: 28 March 2014).
- [14] Lazaridis, Ioannis. Tryfonidis, Dimitrios. 2006, "Relationship Between Working Capital Management and Profitability of Listed Companies in the Athens Stock Exchange", *Journal of Financial Management and Analysis*, V.19(1), pp. 26-35.
- [15] Morrell, Peter. 2007, Airline Finance, Oxon: Ashgate Publishing.
- [16] Muhammad, Malik. Wassem Ullah Jan. Kifayat Ullah. 2012, "Working Capital Management and Profitability an Analysis of Firms of Textile Industry of Pakistan", *Journal of Managerial Sciences*, V. 6 N. 2, pp. 155-165.



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URL: http://jedep.spiruharet.ro e-mail: office jedep@spiruharet.ro

- [17] Poyraz, Erkan. 2012, "İşletme Sermayesi Finanslama Stratejilerinin Karlılık Oranları Üzerindeki Etkisi (Akbank T.A.Ş. Uygulaması)", *Dokuz Eylül Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, V:27, N. 1, pp. 47-56.
- [18] Rehn, Eric. 2012, Effects of Working Capital Management on Company Profitability, Helsinlki: Department of Accounting Hanken School of Economics.
- [19] Saldanlı, Arif. 2012, "Likidite ve Karlılık Arasındaki İlişki-İMKB 10 İmalat Sektörü Üzerine Ampirik Bir Çalışma", Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi V.16 (2), pp. 167-176.
- [20] Şahin, Osman. 2011, "İMKB'ye Kayıtlı İmalat Şirketlerinde Çalışma Sermayesi Politikaları ve Firma Performans İlişkileri", *EskişehirOsmangazi Üniversitesi İİBF Dergisi*, V.6(2), pp. 123-141.
- [21] Türko, R.Metin. 1999, *Finansal Yönetim*, İstanbul: Alfa Basım Yayım Dağıtım. http://report.paragaranti.com/malitablo/MaliTablolar 3.aspx?hisse=PGSUS (Accessed on: 28 March 2014).
- [22] http://www.kap.gov.tr/ (Accessed on: 28 March 2014).