Investigation of Cash Flow Profiles: Evidence From Turkey[*]

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ABSTRACT

The statement of cash flow has received increasing attention recently since it provides various information that may not be included in the balance sheet or income statement to keep track of the financial status of firms. Yet, cash flow-based information is still not popular as much as the other financial statements. Thepurpose of this study is to provide insights about the cash flow patterns of the firms and combine the cash flow profiles with life cycle theory by using the methods of Gup et. al. (1993), Bruwer and Hamman (2005) and Dickinson (2011). The research covers 206 non-financial firms from 4 different sectors in Borsa Istanbul (BIST) between the dates of 2008-2017. 1.793 firm-year observations are first grouped according to the signs, either positive or negative and assigned to the patterns and life cycle stages. Results reveal that 40% of the firm-year observations are at the mature stage which is pattern 2 (Successful Company) that is consistent with the literature. In addition, 23% of the firm-year observations are at the growth stage (Pattern 4, Growing Company), while 6% of are at the decline stage (Pattern 5 and 7). We also examine the traditional ratios in different cash flow profiles and the results prove that liquidity, profitability financial structure and dividend pay-out decisions are the functions of cash flow profiles.

***Keywords:** Cash Flow Profiles, Cash Flow Patterns, Life Cycle Stages*

***JEL Classification:** M40, M49*

Nakit Akış Profillerinin İncelenmesi: Türkiye Uygulaması
ÖZET

Nakit akış tablosu finansal tablo kullanıcılarına, finansal durum tablosu ve gelir tablosunda yer almayan birçok farklı bilgiyi sağlayabilmesi açısından son yıllarda artan bir popülariteye sahiptir. Ancak, nakit akış temelli bilgilerin ve nakit akış tablosunun kullanım sıklığı diğer finansal tabloların kullanım sıklığı ile karşılaştırıldığında son derece düşüktür. Dolayısıyla, bu çalışmanın amacı nakit akış bilgilerinin önemini ortaya koyarak işletmelerde nakit akış profillerinin değerlendirilmesidir. Bu kapsamda, Borsa İstanbul'da (BİST) 2008 – 2017 yılları arasında faaliyet gösteren 4 farklı sektördeki 206 finansal olmayan firma örneklem olarak belirlenmiştir. Gup vd. (1993), Bruwer ve Hamman (2005) ve Dickinson'un (2011)geliştirdiği nakit akış profili metodolojisine göre öncelikle, 1.793 firma-yıl gözlemi işaretlerine göre ilgili profillere sınıflandırılmıştır. Elde edilen sonuçlara göre, firma yıl gözlemlerinin 40%'ı olgunluk evresine, 23%'ü ise büyüme evresine atanmıştır. Buna ek olarak, çalışmada temel finansal oranların farklı nakit akış profillerindeki durumu incelenmiş ve likidite, kârlılık, sermaye yapısı ve temettü ödeme kararlarının nakit akış profillerinin bir fonksiyonu olduğu sonucuna ulaşılmıştır.

***Anahtar Kelimeler:** Nakit Akış Profili, Nakit Akış Örüntüsü, Yaşam Döngüsü Evreleri*

***JEL Sınıflandırması:** M40, M49*

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1. INTRODUCTION

Cash flow information plays a major role in determining an enterprise's ability to generate future positive net cash flows and the ability to meet its obligations and pay dividends, and its needs for external financing (Carslaw, 1991;63). The statement of cash flow is one of the most useful financial tools for evaluating the strategic use of corporate resources (Gentry et.al., 1990). It provides more reliable information about liquidity and the sources and uses of cash and it complements the information of balance sheet and income statement that are prepared with accrual basis. Thus, the statement of cash flow has become mandatory and a required part of the financial statement package since 2006.

Cash flow-based information is prepared in accordance with "IAS 7 Statement of Cash Flow". Although the cash flow statement can be reported through using either direct or indirect method according to IAS 7, accounting standard encourages to use the direct method for better reporting. Cash flows from operating activities (CFO), cash flows from investing activities (CFI) and cash flows from financing activities (CFF) are the main items of the statement of cash flow.

Cash flow from operating activities (CFO) denote the amounts generated that are available for acquiring assets, paying liabilities and paying cash dividends (Gup et. al. 1993;74). Since one of the main purposes of a company is to generate sufficient cash from the operations to pay loans, to pay dividends and to replace non-current assets, CFO should be positive (Bruwer and Hamman 2005;2). However, there are some exceptions that CFO is negative in the case of new companies that are not yet properly established (Hertenstein& McKinnon 1997). Cash flow from investing activities (CFI) is an item on the cash flow statement that reports the aggregate change in a company's cash position resulting from investment gains or losses. These changes are the result of amounts spent on investments in capital assets, such as plant and equipment. Due to the investments in new growth opportunities and the need for replacements in non-current assets, CFI is generally expected to be negative. Cash flow from financing activities (CFF) is the net amount of funding a company generates in a given time period and CFI accounts for inflows and outflows of cash resulting from sale or repurchase of stock, issuance or repayment of debt and payment of dividends, etc. There is no certain direction about the sign of CFF since it strictly depends on the company's policies.

Examining of cash flow statement in terms of the positive or negative signs of 3 items and link this to the certain characteristics called life cycle stages, profiles or patterns give a different perspective to evaluate the firms' financial position. Cash flow-based information is specifically vital when it comes to assessing the different phases of company and analysts tend to forecast cash flows (the operating, investing and financing characteristics) to better understand the viability of firms (DeFond and Hung, 2003).Thus, Gup et. al. (1993) developed a model that describe the eight possible cash flow patterns by considering the signs, either positive or negative. Dickinson (2011), on the other hand, developed a model that uses cash flows as a proxy to determine the life cycle stages parsimoniously. Both techniques use cash flows to assign firm-year observations into firm-specific cases called patterns or life cycle stages. Bruwer and Hamman (2005) also improved the existing model by combining cash flow patterns with the life cycle theory. Aktaşet.al. (2012), OrhanandBaşar (2015) and Kepçe (2017) are other similar studies that use Gup et.al. (1993) model for Turkish firms.

The purpose of this study is to provide insights about the cash flow patterns and profiles of the firms through using the methods that are developed by Gup et. al. (1993), Bruwer and Hamman (2005) and Dickinson (2011). This study contributes to the existing literature in two ways. First, we discuss the association between cash flow patterns and life cycle theory in detail with the different methods in the literature. Second, since the study covers 206 Turkish non-financial firms that operate in BIST between the dates of 2008 – 2017, this reveals the cash flow profiles of Turkish firms with a big data set and range.

Remaining sections of this paper as follows. Section 2 discusses the methodology by reviewing the different cash flow profile techniques. Research findings and industrial analysis are discussed in Section 3. The final section covers the limitations, conclusion, and suggestions for future research.

2. LITERATURE REVIEW

The statement of cash flow is a bridge between the income statement and the balance sheet by emphasizing the amount of cash and cash equivalents entering and leaving a company. It is one of the performance measurement tools to display how well the firm generates cash to pay liabilities and fund its operating expenses. The cash flow statement is a cash basis report that provides insights to the lenders, investors, managers or shareholders about liquidity, solvency and short-term viability of companies.

There are many studies that relate to the value relevance of cash flow-based information specifically focus on the cash flow profiles of firms in different time phases of firms. These studies mainly concentrate on the association of operating cash flows with accounting earnings, returns and accruals. Rayburn (1986), Barth et.al. (1999), Bartov et.al. (2001) or Kumar and Krishnan (2008) are the studies that examine the relative importance and incremental value relevance of cash flow from operations, accruals, earnings, and returns. However, there are few studies on cash flow profiles (patterns) and the association of profiles with life cycle stages in the literature. Kraus and Hefner (1972) used the concept of "cash-flow patterns" to determine the depreciation choice. Salamon (1982), Gordon and Hamer (1988) and Griner and Stark (1988) are some studies to use "cash recovery rate" concept to emphasize the power of cash flow-based information when evaluating profitability or returns. Yet, these studies did not examine the signs of cash flow items to assign firm-year observations into specific profiles or patterns.

Gup et. al. (1993) is a milestone study that frames the usage of signs for the 3 cash flow items (CFO, CFI, CFF) to examine the economic condition of a company. The study suggests that the statement of cash flow (SCF) is intended to complement the accrual basis accounting procedure by framing the signs of cash flow items with 8 different patterns as a "naive" or "first pass" approach. However, Gup et. al. (1993) state that potentially useful information could be obtained not only considering the signs but also analyzing the details of the cash inflows and outflows within each group. According to their study results, %46 of the 1.745 US firms are at the mature stage which is pattern 2 (+, -, -)and %35 of the sample belongs to growth stage that is pattern 4 (+, -, +).

Bruwer and Hamman (2005) is another modified version of Gup et. al. (1993) that examine the South African Companies' cash flow profiles. Results reveal that pattern 2, with a positive CFO, negative CFI, and negative CFF,occurred the most frequently over all the periods. In addition, while mature firms have higher net profit percentage, growth firms have the highest medians forsales growth, as well as growth in total assets. Dickinson (2011) develops a firm life cycle proxy using cash flow patterns. The study claims that using cash flow patterns provide a parsimonious indicator of life cycle stage that is free from a distributional assumption. The main contribution of the paper is to link cash flow patterns to economics and marketing disciplines and to explore the life cycle dynamics by focusing on other methodologies.

Aktaş et. al. (2011), Orhan and Başar (2015) and Kepçe (2017) also examine the cash flow profiles for Turkish firms. According to all studies' results, mature firms (pattern 2) is the most dominant profile in all years and industries. Some of these studies also focus on the significance level of traditional ratios in cash flow patterns and generally concluded that profit numbers change significantly. The patterns mentioned in Gup et.al. (1993), the profiles in Bruwer and Hamman (2005) and life cycle stages (profiles) according to Dickinson (2011) are given below in Table 1, Table 2 and Table 3 respectively. Since there are three main items in the cash flow statement as CFO, CFI, CFF, there are eight different possible cases according to the signs, all denominations are explained for the following sections.

Table 1. Cash Flow Patterns (Gup et. al., 1993)

MODELS	CASH FLOWS		
	CFO	CFI	CFF
Pattern 1	+	+	+
Pattern 2	+	-	-
Pattern 3	+	+	-
Pattern 4	+	-	+
Pattern 5	-	+	+
Pattern 6	-	-	+
Pattern 7	-	+	-
Pattern 8	-	-	-

Table 2. Cash Flow Profiles (Bruwer and Hamman, 2005)

MODELS	CASH FLOWS		
	CFO	CFI	CFF
Young Company	-	-	+
Growing Company	+	-	+
Successful Company	+	-	-
Dissolving (Unusual Situation)	-	-	-
Treasure Chest (Unusual Situation)	+	+	+
Restructuring Company	+	+	-
Declining Firm	-	+	+
Liquidation	-	+	-

Table 3. Cash Flow Life Cycle Stages (Dickinson, 2011)

MODELS	CASH FLOWS		
	CFO	**CFI**	**CFF**
Introduction	-	-	+
Growth	+	-	+
Mature	+	-	-
Shake-Out	-	-	-
Shake-Out	+	+	+
Shake-Out	+	+	-
Decline	-	+	+
Decline	-	+	-

Pattern 6 CFO (-), CFI (-), CFF (+) denotes that operating and investing activities are negative and these are partly financed by issuing additional debt or equity (Gup et. al. 1993). This profile is believed to be temporary since it might be the result of a fast-growing firm's expansion and it has a potential to generate positive cash inflows as long as it is financed by investors and creditors. This stage is described as "introduction" by Dickinson (2011).
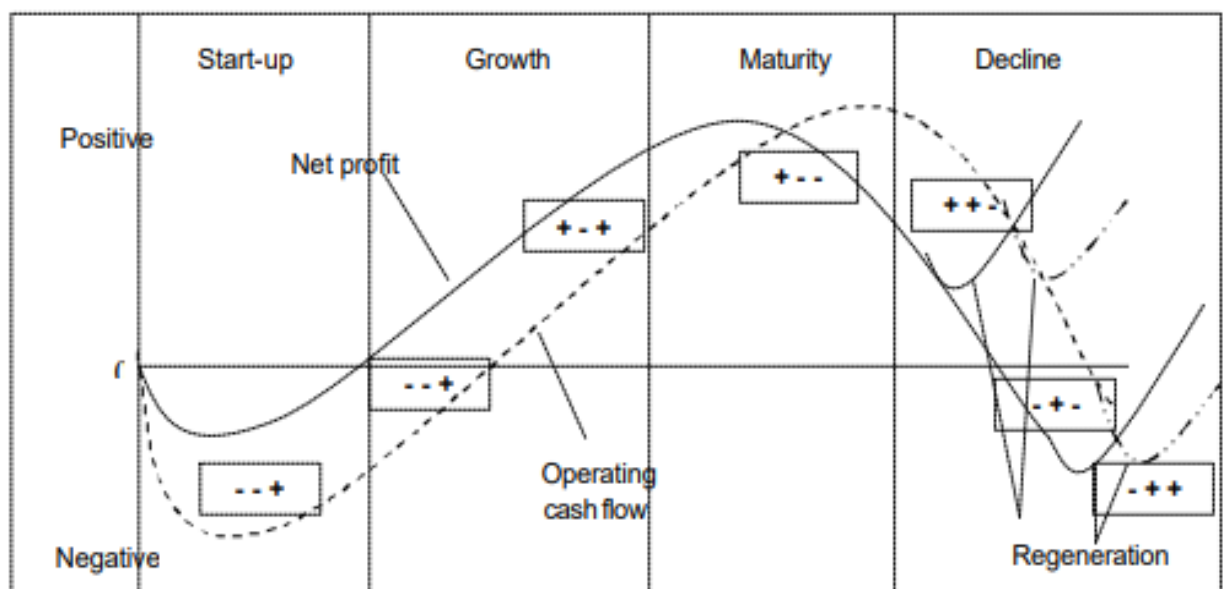
Pattern 4 CFO (+), CFI (-), CFF (+) explains such a company whose operating cash flow is not adequate to support investment and expansion activities and thus, the remaining amount is financed by the proceeds from the issuance of new debt or equity. It is believed that the firm with this cash flow profile is at the growth stage according to Dickinson (2011).

Pattern 2 CFO (+), CFI (-), CFF (-) refers to a mature and successful company which generates net positive cash flow from its operating activities and uses this fund in its investments and repayment of its debt. According to Gup et. al. (1993), pattern 2 should be relatively common and the firm can use its operating cash flow to finance internally a modest expansion, or at least the replacement of existing depreciated assets. Dickinson (2011) defines this stage as "mature" and assets for production are used more effectively and cash flows from earnings and operations are increasing more than previous stages at this stage (Güleç, 2017: 529).

Pattern 1 and Pattern 8 denote that all cash flows are positive CFO (+), CFI (+), CFF (+) and negative CFO (-), CFI (-), CFF (-) according to the Gup et. al. (1993). They state that the firm is generating a positive net cash flow from operating activities, and also selling its long-term assets and raising additional debt and/or equity capital in pattern 1. Pattern 8 is the case when all activities have negative cash flows and it proves a firm is in trouble because of the low asset and profit growth. Pattern 3 CFO (+), CFI (+), CFF (-) characterizes a profile where the positive operating cash flow is used and the proceeds from the sale of long-term assets are used to repay debt holders and/or shareholders which is also one of the unusual situations mentioned in Gup et. al. (1993) and shake-out stage for Dickinson (2011). Both cash flow profiles are quite unusual cases (Karğın and Aktaş, 2011).

Pattern 5 CFO (-), CFI (+), CFF (+) characterizes a company which tries to finance its operations by selling its long-term assets and by long term borrowing since it cannot generate enough cash from operations (Kepçe, 2017; 65). The decline in long term assets suggests reduced growth potential for the firm which is described as the decline stage in Dickinson (2011). Pattern 7 CFO (-), CFI (+), CFF (-) states that a firm has negative operating cash flow and it is either paying debts or distributing dividends to the shareholders. Payment to the shareholders and debt holders are financed by selling the long-term assets and that is another version of "decline" stage.

Bruwer and Hamman (2005) combine the life cycle theory and Gup et.al. (1993) cash flow patterns in figure 1 and according to their classification, patterns 1 and 8 are said to be unusual and they do not exist in the life cycle stages. Figure 1 is another version of the association between life cycle stages and cash flow patterns.

Source:Bruwer and Hamman (2005; 7) and Mulford and Comiskey (1996)

Figure1. Cash Flow Patterns with Life Cycle Stages

3. RESEARCH DESIGN

3.1. Sample Selection and Research Findings

The aim of this paper is to analyze the cash flow profiles of Turkish firms in terms of most used methodologies in the literature. Thus, the study covers 206 non-financial firms that operate in BİST continuously between the dates of 2008-2017. Since financial companies have different regulations, they are not included in the sample. Cash flow profiles are obtained from the financial statements of the firms that are published in the Public Disclosure Platform. The information about the number of firms in sectors is given in Table 4.

Table 4. Sectors of the Firms in Sample

Sectors	No. of Firm
Manufacturing Industry	156
Transportation Telecommunication and Storage	7
Technology	14
Wholesale and Retail Trade, Hotels and Restaurants	29

First, we determine the signs of three cash flows which is 1.793 firm-year observations for the analysis and assign them to the patterns and stages as described above inthe Cash Flow Patterns and Life Cycle Stages section. The assignments and the results are given in Table 5.

Table 5. Assignment of Cash Flow Items

Patterns (Gup et. al. 1993)	Profiles (Bruwer and Hamman 2005),	Life Cycle Stages (Dickinson 2011)	Obs.	Perc.
Pattern 6	Young Company	Introduction	344	19%
Pattern 4	Growing Company	Growth	414	23%
Pattern 2	**Successful Company**	**Mature**	**712**	**40%**
Pattern 8 Pattern 1 Pattern 3	Dissolving (Unusual Situation) Treasure Chest (Unusual Situation) Restructuring Company	Shake-Out	214	12%
Pattern 5 Pattern 7	Declining Firm Liquidation	Decline	109	6%

According to the research findings, 40% of the firm-year observations are assigned to Pattern 2 which is a successful company profile at the mature stage. This is consistent with the literature. For example, In Gup et al. (1993) study exhibits that almost half of 1745 enterprises exhibit the characteristics of Model 2 and Bruwer and Hamman (2005) also reveal the same results and most of the firm-year observations are assigned to the maturity stage. Growing Company profile which is pattern 4 (Growth Stage) is the second pattern with 23% while the decline stage has the lowest value with %6 and the results are consistent with the literature.

According to the Industry results given in Table 6, %38 of the manufacturing industry is in the pattern 2 (Successful Company) or at the mature stage while pattern 4 (Growth Stage)is 23% pattern 6 (Introduction Stage) is 20%. Transportation Telecommunication and Storage has the highest percentage for the mature stage with 67%. This is also valid for Wholesale and Retail Trade, Hotels and Restaurants sector with the value of 41%. Yet, The Technology sector has the highest percentage for the growth stage (24%) among the others as expected. Although, shake-out and decline stage have more than one cash flow profile, mature

and growth firms are relatively dominant for Turkish firms as stated in the other studies for different country samples.

Table 6. Industry Results

Patterns (Gup et. al. 1993)	(Dickinson 2011)	Manufacturing		Transportation Telecommunication and Storage		Technology		Wholesale and Retail Trade, Hotels and Restaurants	
Profiles (Bruwer and Hamman 2005), (Aktaş and Karğın 2011)	Life Cycle Stages	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.	Obs.	Perc.
Pattern 6 Young Company	Introduction	275	20%	3	5%	24	19%	42	18%
Pattern 4 Growing Company	Growth	320	**23%**	13	**21%**	30	**24%**	51	**21%**
Pattern 2 Successful Company	**Mature**	**520**	**38%**	**42**	**67%**	**51**	**40%**	**99**	**41%**
Pattern 8 Dissolving (Unusual Situation) Pattern 1 Treasure Chest (Unusual Situation) Pattern 3 Restructuring Company	Shake-Out	164	12%	3	5%	18	14%	29	12%
Pattern 5 Declining Firm Pattern 7 Liquidation	Decline	84	6%	2	3%	4	3%	19	8%

3.2. Cash Flow Ratios in Different Profiles (Patterns)

Cash flow profiles, patterns or life cycle stages approach suggests that companies at different stages are supposed to have different characteristics according to their, accounting numbers the degree of uncertainty that faces the entity, its assets in place and investment opportunities (Aharony et. al., 2006). Thus, we calculate 10 traditional ratios to demonstrate the performance of firms in terms of liquidity, financial structure or profitability at different profiles (patterns). We use;

Liquidity: Current Ratio, Acid-Test Ratio, Cash and Cash Equivalents / Current Assets

Tangibility: Plant Property and Equipment (PPE) / Total Assets

Financial Structure: Financial Leverage, Debt Ratio, Current Liabilities / Total Liabilities

Profitability: Return on Assets (ROA), Return on Equity

Dividend Probability: Retained Earnings / Equity

Table 7 displays the mean, median and the standard deviation of traditional ratios in different cash flow profiles. The theory for liquidity claims that firms are supposed to have higher liquidity ratios at the decline stage (patterns 5,7) since it is called the liquidation period. In the declining phase, while profits and investment projects with the positive net present value decrease, the collection of accounts receivable and the total assets are higher. In addition, firms may sell non-current assets to finance this difficult phase (Bruwer and Hamman, 2005). According to the results, the current ratio is 2,51 and the acid-test ratio is 1,88 at decline stage that is relatively highest values except forthe shake-out stage. In addition, the proportion of cash and cash equivalents in current assets has the highest value with 21% among the other profiles and quite consistent with the literature. When examining the plant property and equipment, the proportion of tangible assets in total assets has the highest mean and median values for the mature stage which is 35% and 36% respectively as expected.

Companies at the start-up or introduction phase are those with innovative ideas, a low amount of assets and extremely low levels of sales and profitability. Due to the risk, the persistence of earnings is the question mark for this phase so the borrowing cost is relatively higher. Yet, firms at the beginning of the life cycle have the lowest amounts of equity and financing needs are much higher than the other phases. Therefore, they obtain a large part of the financing requirement from external sources.According to the study results, the average value of financial leverage is 60% for the young firms at the introduction stage. While the debt ratio is the lowest (1.46), and the proportion of current liabilities in total liabilities is 77% for the start-up phase.

Studies deal with the profit numbers for different cash flow profiles affirmthat firms are more profitable at the mature stage since they enjoy the low borrowing cost and investment projects with the positive net present value. Cash flow from operations and the profit margin are the highest in this profile. Return on assets (ROA) and return on equity (ROA) numbers are also the highest for mature firms in pattern 2 with the values of 6,66% and 6,78% respectively. In addition, the probability of dividend payout is the highest in mature firms with an average 6% and the median 21% values.

Table 7. Traditional Ratios in Different Cash Flow Profiles

Author	Profiles	Obs.	Statistics	Current Ratio	Acid-Test Ratio	Cash Eq./ Cur. Assets	PPE/ Total Assets	Cur. Liab. / Total Liab.	Financial Leverage	Debt Ratio	ROA	ROE	Ret.Earni ngs/ Equity
Gup et. al. (1993)	Pattern 6		Mean	**1,80**	**1,20**	**9%**	**34%**	**77%**	**60%**	**1,46**	**-2,54**	**-6,74**	**-7%**
Bruwer and Hamman	Young	344	Median	1,31	0,83	5%	27%	81%	57%	0,78	0,48	1,64	0%
Dickinson (2011)	Introduction		St. Dev.	2,43	2,26	12%	30%	18%	47%	2,86	13,59	52,99	230%
Gup et. al. (1993)	Pattern 4		Mean	**1,80**	**1,33**	**19%**	**35%**	**70%**	**54%**	**1,64**	**3,11**	**2,97**	**1%**
Bruwer and Hamman	Growing	414	Median	1,39	0,99	14%	34%	73%	53%	0,90	2,80	6,48	13%
Dickinson (2011)	Growth		St. Dev.	1,53	1,34	18%	20%	20%	34%	2,64	7,28	36,34	110%
Gup et. al. (1993)	Pattern 2		Mean	**2,16**	**1,59**	**20%**	**35%**	**72%**	**49%**	**2,12**	**6,66**	**6,78**	**6%**
Bruwer and Hamman	Successful	712	Median	1,58	1,14	14%	36%	75%	44%	1,21	5,84	10,64	21%
Dickinson (2011)	Mature		St. Dev.	1,92	1,63	19%	20%	20%	41%	2,76	27,59	121,8	145%
Gup et. al. (1993)	Patterns 1,3,8		Mean	**2,84**	**2,20**	**19%**	**31%**	**75%**	**54%**	**2,89**	**3,30**	**3,52**	**-37%**
Bruwer and Hamman	Unusual	214	Median	1,63	1,19	11%	29%	79%	44%	1,27	3,98	6,79	7%
Dickinson (2011)	Shake-Out		St. Dev.	6,39	6,29	21%	24%	19%	71%	6,48	11,35	52,82	209%
Gup et. al. (1993)	Patterns 5,7		Mean	**2,51**	**1,88**	**21%**	**32%**	**73%**	**58%**	**2,59**	**4,10**	**3,29**	**-46%**
Bruwer and Hamman	Liquidation	109	Median	1,61	1,19	11%	31%	77%	45%	1,17	4,62	9,50	7%
Dickinson (2011)	Decline		St. Dev.	2,87	2,54	23%	24%	21%	82%	4,69	11,61	56,90	236%

3.3. The Transition of Traditional Ratios

The previous section puts forth that traditional ratios show major differences in the different cash flow profiles. The purpose of this section is to display whether the transition between two different profile is statistically significant. Therefore, we use only three profiles (patterns or stages) and these are Pattern 4 (Growing Company, Growth Stage), Pattern 2 (Successful Company, Mature Stage) and Patterns 5,7 (Liquidation Company, Decline Stage).

According to the t-test results, the transition from pattern 4 – pattern 2 which means growth to mature stages and the transition from pattern 4 – patterns 5,7 which means growth to decline stages are statistically significant for current ratio, acid test ratio and PPE / Total Assets in Table 7a. This is also consistent with the debt ratio while it is only significant for financial leverage with the transition from pattern 4 – pattern 2.Return on assets (ROA) is the only ratio whose values demonstrate significant changes between all profiles. This proves that profitability is also quite a distinctive element when evaluating the cash flow profiles in addition to the liquidity. However, Current Liabilities / Total Liabilities and Retained Earnings / Equity are the only ratios whose values do not significantly differ between the profiles and this situation is quite unexpected. The rest of the values and significance levels are presented in Table 8a and Table 8b.

Table 8a. Comparison of Cash Flow Profiles

Ratios	Gup. et. al. (1993)	Bruwer and Hamman (2005)	Dickinson (2011)	t	Sig.
Current Ratio	Pattern 4 - Pattern 2	Growing - Successful	Growth - Mature	-4,451	*0,000****
	Pattern 4 - Patterns 5 or 7	Growing - Liquidation	Growth - Decline	-1,897	*0,061**
	Pattern 2 - Patterns 5 or 7	Successful - Liquidation	Mature - Decline	,038	0,970
Acid-Test Ratio	Pattern 4 - Pattern 2	Growing - Successful	Growth - Mature	-3,800	*0,000****
	Pattern 4 - Patterns 5 or 7	Growing - Liquidation	Growth - Decline	-1,689	*0,094**
	Pattern 2 - Patterns 5 or 7	Successful - Liquidation	Mature - Decline	0,031	0,975
Cash Eq./ Cur. Assets	Pattern 4 - Pattern 2	Growing - Successful	Growth - Mature	0,064	0,949
	Pattern 4 - Patterns 5 or 7	Growing - Liquidation	Growth - Decline	1,951	*0,054**
	Pattern 2 - Patterns 5 or 7	Successful - Liquidation	Mature - Decline	1,527	0,130
PPE/ Total Assets	Pattern 4 - Pattern 2	Growing - Successful	Growth - Mature	-1,989	*0,047***
	Pattern 4 - Patterns 5 or 7	Growing - Liquidation	Growth - Decline	2,347	*0,021***
	Pattern 2 - Patterns 5 or 7	Successful - Liquidation	Mature - Decline	-0,968	0,335

***, **, * denote the 1%, 5% and 10% significance levels respectively.

Table 8b. Comparison of Cash Flow Profiles

Ratios	Gup. et. al. (1993)	Bruwer and Hamman (2005)	Dickinson (2011)	t	Sig.
Financial Leverage	Pattern 4 - Pattern 2	Growing - Successful	Growth - Mature	3,247	*0,001****
	Pattern 4 - Patterns 5 or 7	Growing - Liquidation	Growth - Decline	0,368	0,714
	Pattern 2 - Patterns 5 or 7	Successful - Liquidation	Mature - Decline	0,131	0,896
Debt Ratio	Pattern 4 - Pattern 2	Growing - Successful	Growth - Mature	-3,234	*0,001****
	Pattern 4 - Patterns 5 or 7	Growing - Liquidation	Growth - Decline	-2,390	*0,019***
	Pattern 2 - Patterns 5 or 7	Successful - Liquidation	Mature - Decline	-1,559	0,122
Current Liab./ Total Liab.	Pattern 4 - Pattern 2	Growing - Successful	Growth - Mature	0,831	0,406
	Pattern 4 - Patterns 5 or 7	Growing - Liquidation	Growth - Decline	-1,157	0,250
	Pattern 2 - Patterns 5 or 7	Successful - Liquidation	Mature - Decline	-0,498	0,620
ROA	Pattern 4 - Pattern 2	Growing - Successful	Growth - Mature	-3,091	*0,002****
	Pattern 4 - Patterns 5 or 7	Growing - Liquidation	Growth - Decline	2,964	*0,004****
	Pattern 2 - Patterns 5 or 7	Successful - Liquidation	Mature - Decline	4,744	*0,000****
ROE	Pattern 4 - Pattern 2	Growing - Successful	Growth - Mature	-3,286	*0,001****
	Pattern 4 - Patterns 5 or 7	Growing - Liquidation	Growth - Decline	,843	0,401
	Pattern 2 - Patterns 5 or 7	Successful - Liquidation	Mature - Decline	1,339	0,183
Ret.Earnings/ Equity	Pattern 4 - Pattern 2	Growing - Successful	Growth - Mature	-0,450	0,653
	Pattern 4 - Patterns 5 or 7	Growing - Liquidation	Growth - Decline	,321	0,749
	Pattern 2 - Patterns 5 or 7	Successful - Liquidation	Mature - Decline	0,849	0,398

***, **, * denote the 1%, 5% and 10% significance levels respectively.

4. CONCLUDING REMARKS

Cash flow-based information has received much attention since it provides valuable insights about the uses and sources of cash and the financial standing of the company to the related parties. Hence, the statement of cash flow is a mandatory financial statement with the regulation of International Financial Reporting Standards (IAS 7) since 2005 in Turkey. The aim of this study is to explore the cash profiles (patterns) of Turkish firmsby using 206 non-

financial firms between the dates of 2008-2017. We use 206 firms with 1.793 firm-year observations in 4 different sectors by using three classification procedures. The cash flow characteristics according to the signs are denominated differently by three authors and these are; Gup et.al (1993), cash flow patterns, Bruwer and Hamman (2005), cash flow profiles and Dickinson (2011) life cycle stages.

Cash flows, CFO, CFI, and CFF are first grouped according to the signs either positive or negative. Then, firm-year observations are assigned to the patterns or life cycle stages and according to the results, %40 of the firm-year observations are assigned to mature stage which is Pattern 2 (Successful Company). Pattern 4 (Growth) and Pattern 6 (Introduction) are the other profiles that are %23 and %19 respectively. We also examine the industries; Manufacturing Transportation Telecommunication and Storage Technology Wholesale and Retail Trade, Hotels and Restaurants. Industry results reveal that Pattern 2 (Successful Company), the mature stage is the most dominant profile among the others in all sectors. Pattern 4 (Growing Company), the growth stage is especially dominant in the technology sector as expected in the previous studies. We also examine the traditional ratios in different cash flow profiles by using 10 ratios in liquidity, financial structure, profitability, tangibility, and dividend payout. We also discuss whether the transition of ratios is statistically significant in the different profiles with t-test. The results are given below.

- Current ratio and acid test ratio bring about that firms at shake-out and decline stages are most liquid firms. For example, while the average current ratio for decline stage is 2,54, it is 1,80 for the growth phase and the difference is statistically significant. The proportion of cash and cash equivalents in current assets is the highest (21%) at the decline stage as well. This proves that liquidity changes dramatically in different cash flow profiles.

- Financial structure ratios such as financial leverage or debt ratio also state that firms in different patterns have relatively different financing options. While firms at the beginning of the life cycle phase generally prefer to use external finance, mature firms use internal sources. For example, the average financial leverage for introductory firms is 60%, it is 49% for the mature firms. The proportion of current liabilities in total liabilities is the highest (77%) inthe first phases as well. This proves that financial structure decisions are the functions of cash flow profiles.

- Profitability ratios such as return on assets (ROA) or return on equity (ROE) are the ratios to demonstrate how firms behave in different cash flow profiles in terms of profit numbers. Mature firms are the most profitable firms regarding average ROA (6,66%) and average ROE (6,78%) respectively as expected in the previous studies. Dividend distribution probability is also the highest in mature firms with an average 6% value of retained earnings/equity.

The results suggest that cash flow-based information is an alternative way to evaluate a company's financial situation and it gives a different perspective to assess the existing characteristics of firms. This study has some limitations. This research only covers the Turkish firms for a specified period and only reviews the main cash flow profiles. Further studies may concentrate on a larger dataset from different countries with different cash flow approaches.

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