



*Araştırma Makalesi / Research Article*

## An Investigation of Cash Flows: A Study on BIST 100\*

### *Nakit Akışlarının İncelenmesi: BIST 100 Endeksi Üzerine Bir Çalışma*

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#### Article Information

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#### Abstract

The aim of this study is to examine the cash flows generated by the companies in the BIST 100 Index as a result of their operating, investing, and financing activities. For this aim, the data of 79 companies from 2005 to 2021 have been used, and the relevant cash flows have been analyzed according to the sectors. Despite the fact that cash flows in the manufacturing sector have increased and decreased over the years, the most obvious break in all cash flows occurred in 2009, with a sharp decrease. Cash flows in the holding and investment sector have not followed a trend over time. Over the years, all cash flows in technology sector' companies have not followed a regular trend. Although similar trends have been discovered in some cases based on the type of cash flows (from operating, investing, and financing activities) in the sectors examined, it has also been determined that there are some cases with opposite cases. Lastly, regardless of the industry in which companies operate, cash flow is critical, and companies will struggle to continue operations without sufficient cash flows.

*Keywords: Cash Flow from Operating Activities, Cash Flow from Investing Activities, Cash Flow from Financing Activities, BIST100*

#### Makale Bilgisi

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#### Öz

Bu çalışmanın amacı BIST 100 Endeksi'nde yer alan işletmelerin işletme, yatırım ve finansman faaliyetlerinden sağlamış olduğu nakit akışlarını incelemektir. Bu amaç doğrultusunda toplam 79 işletmenin 2005-2021 yılları arasındaki verileri dikkate alınmış olup ilgili nakit akışlar sektörlerine göre analiz edilmiştir. İmalat sektöründeki işletmelerin nakit akışları yıllar itibarıyla dalgalanma göstermekle birlikte tüm nakit akışlarında en belirgin kırılma 2009 yılında yaşanmış olup sert bir azalış yaşanmıştır. Holding ve yatırım şirketleri sektöründe nakit akışlar yıllar itibarıyla düzenli bir eğilim göstermemiştir. Teknoloji sektöründeki işletmelerinde tüm nakit akışları yıllar itibarıyla düzenli bir seyir izlememiştir. İncelenen sektörler itibarıyla nakit akışlarının türüne (işletme faaliyetlerinden, yatırımdan, finansmandan) göre bazı durumlarda benzer eğilimler tespit edilse bile bazı durumlarda da birbirinin aksine durumların da olduğu belirlenmiştir. Son olarak, işletmelerin hangi sektörde faaliyet gösterirse göstereceği nakit akışı oldukça önemli olduğu ve işletmelerin nakit akışlarının iyi olmadan faaliyetlerini sürdüremeyecekleri söylenebilir.

*Anahtar Kelimeler: İşletme Faaliyetlerinden Nakit Akışları, Yatırım Faaliyetlerinden Nakit Akışları, Finansman Faaliyetlerinden Nakit Akışları, BIST100*

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## **1. Introduction**

Cash flows are particularly important in the management of companies. Managers want the business to be able to meet the cash flows that it needs or will need with the cash inflows earned or will be earned from ordinary operations because they estimate the cash inflows and outflows for the coming months. Managers must plan ahead of time for converting short-term investments (stocks, bonds, etc.) into cash or making short-term loans if their cash requirements exceed their estimated cash inflows. In the opposite case, when cash inflows are expected to exceed cash withdrawals, managers prefer to make strategies such as shifting to short-term investments or paying off short-term debts (Peker, 1980: 272). Therefore, knowing a company's cash flow accurately helps them plan ahead and take ensures on a variety of difficulties, including short- and long-term financing. Furthermore, one of the concerns that both business managers and consumers of financial information are now focusing on is cash flow analysis. Accurately calculating and presenting cash flows in firms is crucial for this reason. Users of financial information are provided with a cash flow statement that represents the cash flows of firms.

A cash flow statement shows the inflows and outflows of cash for a specific period. It provides information on the sources and uses of a company's cash, such as financing, investment, and operational activities (Er et al., 2017: 182; Çoban Çelikdemir, 2019: 224). The cash flow statement details the company's investments for a specific time period, the sources of financing used, and the cash flows associated with those investments. Furthermore, the cash flow statement informs shareholders and creditors about the operation. The information in question concerns the period for which the investments will be returned to the shareholders, as well as the timely payment of the principal and interest on investments made to investors (Şamiloğlu and Akgün, 2015: 158; Akdoğan and Tenker, 2007: 358). This is because the Cash Flow Statement is prepared on a cash basis, providing financial information users to examine companies' future cash flows (Elmas, 2015: 72).

Cash flows for the period are classified and reported in the Statement of Cash Flows within the scope of IAS 7 Statement of Cash Flows Standard according to operating, investing, and financing activities (IAS 7). Cash flows arising from operating activities generally consist of the main income-generating activities of the business and arise from transactions and events included in the determination of net profit or loss (IAS 7, paragraph 14; Özerhan and Yanık, 2015: 88). Operating activities are critical in determining and implementing a company's investment decisions. Because cash flows are essential indicators of a company's capacity to make payments on loans, maintain operations, and pay dividends without the need for external financing (IAS 7, paragraph 13: Er et al., 2015: 193). Investing activities include long-term asset growth and losses in a company's tangible and intangible assets like as buildings, machinery and equipment, and property (Şamiloğlu and Akgün, 2015: 180). Presenting cash flows resulting from investing activities under different headings; It is vital to reflect the degree of expenditures paid for resources that are projected to generate benefits to the company in the future, in other words income and cash flow (IAS 7). Lastly, cash flows from financing operations help users of financial information predict how much of the company's future cash flows investors will need (IAS 7, paragraph 17; Örtten et al., 2019: 74).

It is critical for each stakeholder of the company to classify and provide the activities from which cash is obtained and for which it is used in the Cash Flow Statement. The aim of this research is to examine at the cash flows generated by the operating, investing, and financing operations of 79 companies in the BIST 100 Index between 2005 and 2021. When examining the cash flows of companies, the sectors in which they operate have been taken into account and the cash flows have been interpreted accordingly. The rest of the paper is structured as follows: literature review, methodology, findings, and conclusion.

## **2. Literature Review**

This section summarizes the studies in the literature on cash flows.

Aktaş et al. (2012) analyzed the cash flow statements of 176 publicly traded companies in Turkey between 2007 and 2010 within the scope of the "Cash Flow Patterns Method". According to the study's findings, the cash flow characteristics of 176 publicly traded companies in Turkey have been classified into three business models: successful firm, young firm, and growing firm. Karadeniz (2017) used the "Cash Flow Generating Activities Method" to examine the cash flow statements of 207 hospitality companies (25 in the Americas, 51 in Europe, and 131 in Asia-Pacific) between 2013 and 2015. As a result of the research, it has been determined that the cash flow characteristics of hospitality companies are as follows: successful business, young firm, and regressing or restructuring firm. Beyazgül and Karadeniz (2019) used the "Cash Flow Patterns Method" to investigate the cash flow statements of 29 football clubs in Turkey and Europe between 2013 and 2018. The study determined that the cash flow profiles of football teams are successful business, young business, and growing business, in that order. Furthermore, European football clubs generated negative cash flows from financing and investing activities but positive cash flows from operating activities. Football clubs in Turkey, on the other hand, have been discovered to generate positive cash flows from the financing activities while generating negative cash flows from operating and investing activities. In addition to these studies, there are studies on the evaluation of method choice in the presentation of cash flows in Turkey (Bayrakçolu and Bayri, 2019), the effects of cash flows on stock returns and

return on equity in the Turkish Insurance Index (Güvemli et al., 2021), the importance and functioning of cash management in Turkey (Önal, 1996), and value relevance of cash flows and earnings (Güleç, 2017).

This study differs from previous research in that it analyzes the cash flows of the companies in the BIST 100 Index while taking into account the sectors in which they operate. The situation of cash flows from operating, investing and financing activities according to sectors between 2005 and 2021 is revealed. In this way, it is aimed to guide investors who will make decisions according to the sector. The study is expected to both contribute to the literature and guide practitioners.

### 3. Methodology

Data on the cash flows of companies traded in the BIST 100 Index between 2005 and 2021 has been obtained from Refinitiv's Thomson Reuters ASSET4, EIKON, and DataStream databases. The US Dollar has been used as the currency in cash flows. The data of 79 companies with full access to their data have been selected as samples. Quantitative content analysis has been considered as a method. The sector distribution of the 79 companies in the BIST 100 Index is shown in Table 1.

**Table 1: Sectoral Distribution of the Companies**

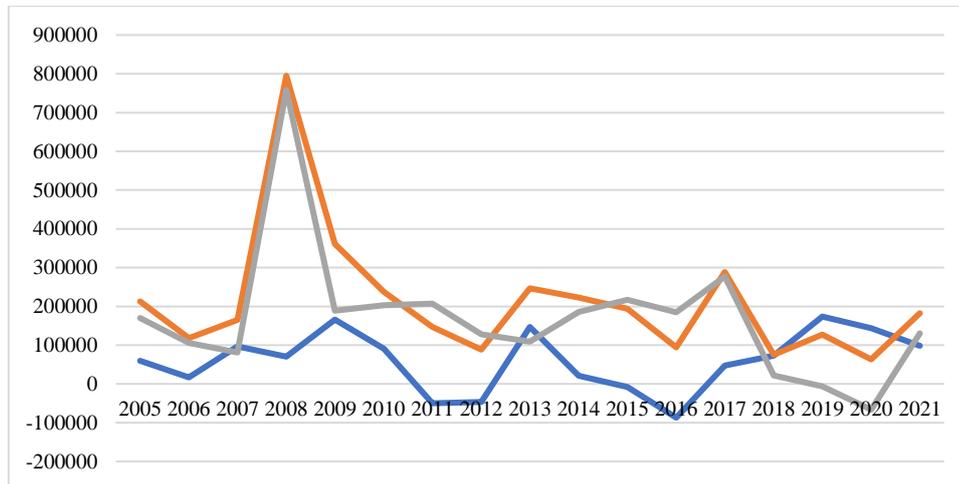
Sector Number	Sectors	Number of companies	Percentage (%)
1	Electricity Gas, and Water	2	3
2	Manufacturing	31	39
3	Construction and Public Works	1	1
4	Mining and Quarrying	3	4
5	Technology	3	4
6	Telecommunications	2	3
7	Wholesale and Retail Trade	4	5
8	Transportation and Storage	1	1
9	Holding and Investment Companies	10	12,5
10	Financial Institutions	22	27,5
	<b>Total</b>	<b>79</b>	<b>100</b>

### 4. Findings

This section examines and categorizes the cash flows generated by the operating, investing, and financing activities of 79 BIST 100 Index companies between 2005 and 2021.

Figure 1 shows the cash flows of the Electricity, Gas, and Water sectors.

**Figure 1: Cash Flows in the Electricity, Gas, and Water Sector (Thousand \$)**



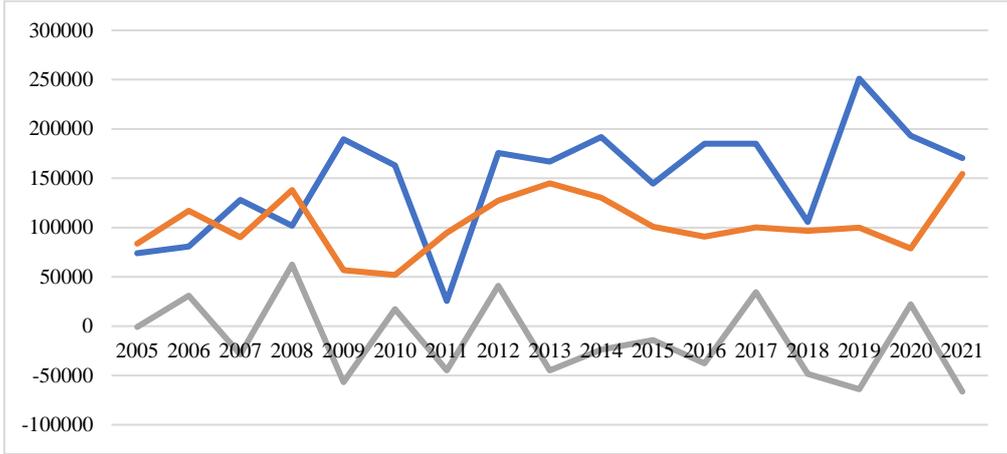
(Blue: Cash Flows from Operating Activities, Red: Cash Flows from Investing Activities, Green: Cash Flows from Financing Activities)

It has been shown that the cash flows from financing and investing operations had the highest fluctuation, as shown in Figure 1. Even while operating cash flows have fluctuated less, it has been shown that in 2011–2012 and 2015–2016, they have been lower in amount and even resulted with a negative balance.

Furthermore, it may be stated that the peak of financing and investing activities had been reached in 2008, but that the global financial crisis of 2008 had a significant negative influence in 2009, leading to a dramatic fall in these activities.

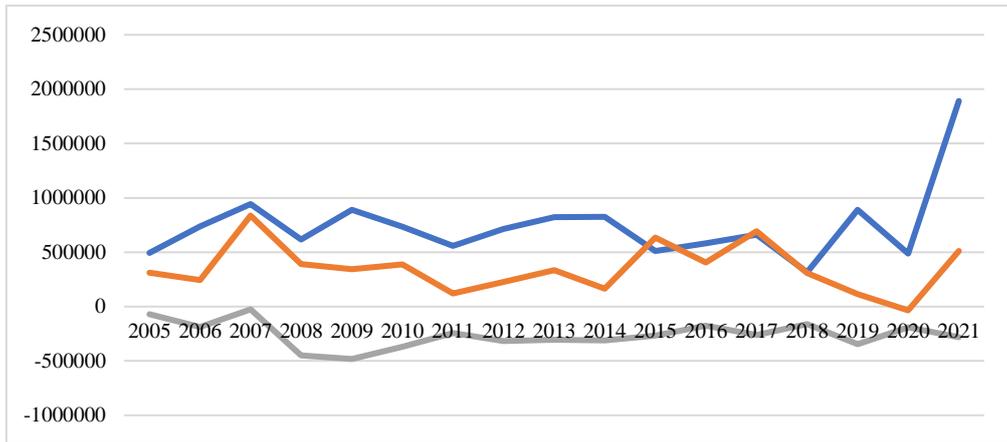
The manufacturing sector's cash flows are shown in Figure 2.

**Figure 2: Cash Flows in Manufacturing Sector (Thousand \$)**



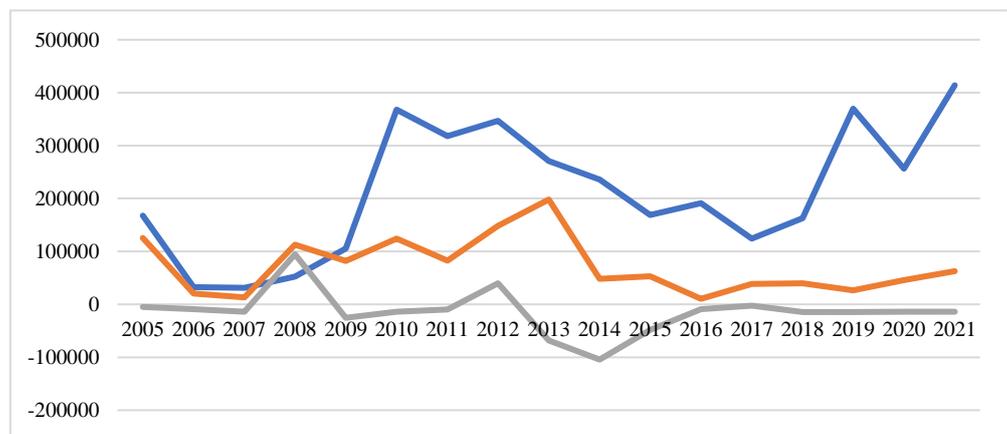
According to Figure 2, the majority of cash flows in the manufacturing sector are from operating activities. Furthermore, cash flows from operating and investing operations are positive between 2005 and 2021. The same cannot be said for cash flows generated by financing activities, which, unlike other cash flows, have been ending with a negative balance for many years. Figure 3 shows the cash flows of the Construction and Public Works sector.

**Figure 3: Cash Flows in Construction and Public Works Sector (Thousand \$)**



As shown in Figure 3, cash flows from operating activities in the Construction and Public Works sector have historically been positive, and cash flows from investing activities have also been positive, with the exception of 2020. However, cash flows from financing activities have been shown to be negative in every year examined. Figure 4 shows the cash flows for the Mining and Quarrying sector.

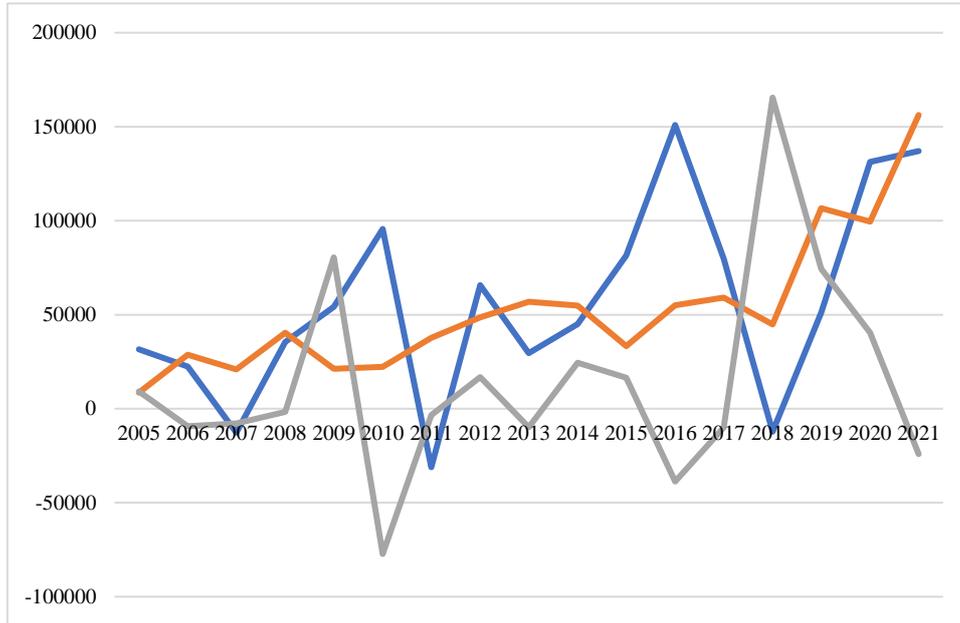
**Figure 4: Cash Flows in Mining and Quarrying Sector (Thousand \$)**



As shown in Figure 4, all years provided a positive cash flow from operating and investing operations. Furthermore, cash flows from operating activities surged after the 2008 financial crisis and even after 2020, when

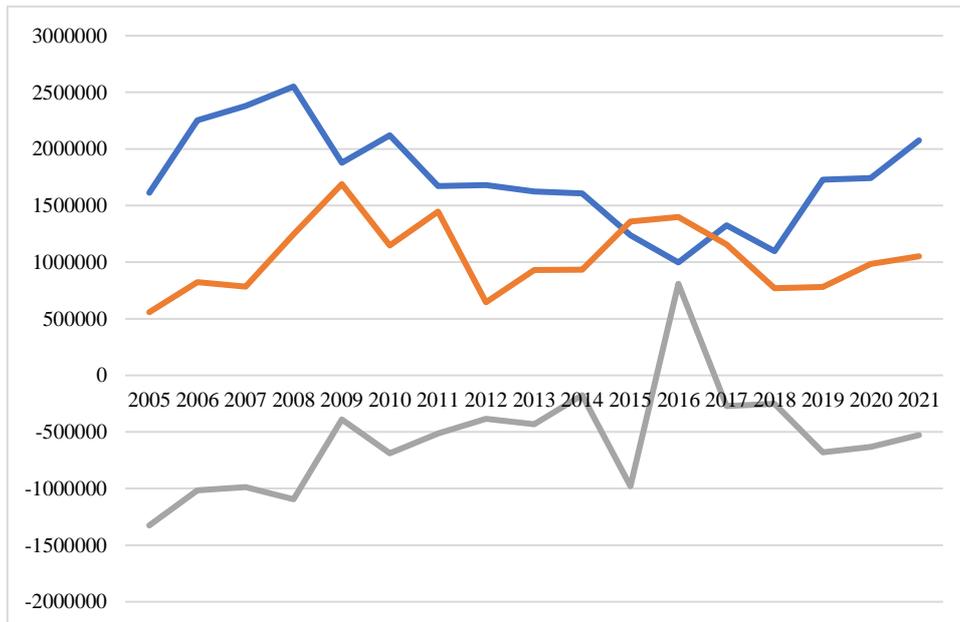
Türkiye has been impacted by the COVID-19. Taking a look at the cash flows generated by investing activities, we can see that the highest amount has been reached in 2013 and has not been surpassed since. Finally, the highest amount of cash flows produced by financing activities has been observed in 2008, before decreasing to a negative value in 2009. The Technology sector's cash flows are shown in Figure 5.

**Figure 5: Cash Flows in Technology sector (Thousand \$)**



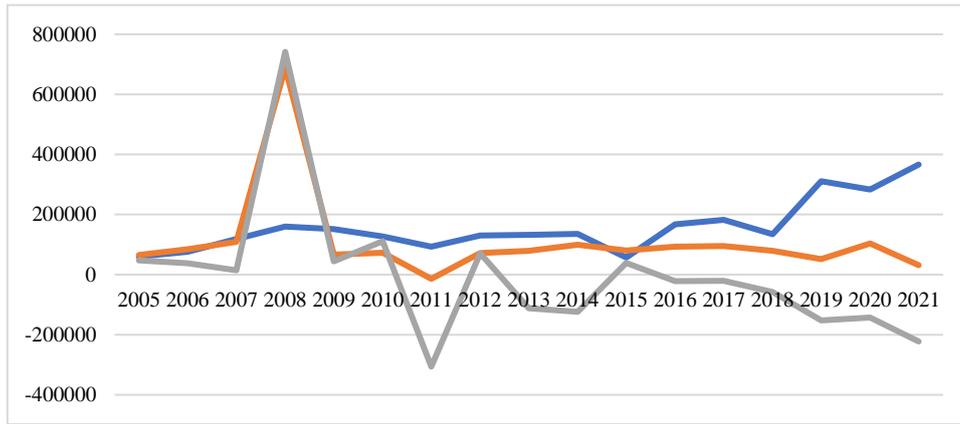
As seen in Figure 5, whereas cash flows from operating and financing activities followed the same trend until 2015, there is an opposing tendency after that year. In other words, after 2015, cash flows from operating and financing activities show an opposite trajectory. When looking at the cash flows generated by investing activities, we can observe that, while there is no unidirectional trend over time, it tends to increase as a result and reaches its peak in 2021. The cash flows of the Telecommunications sector are shown in Figure 6.

**Figure 6: Cash Flows in Telecommunications Sector (Thousand \$)**



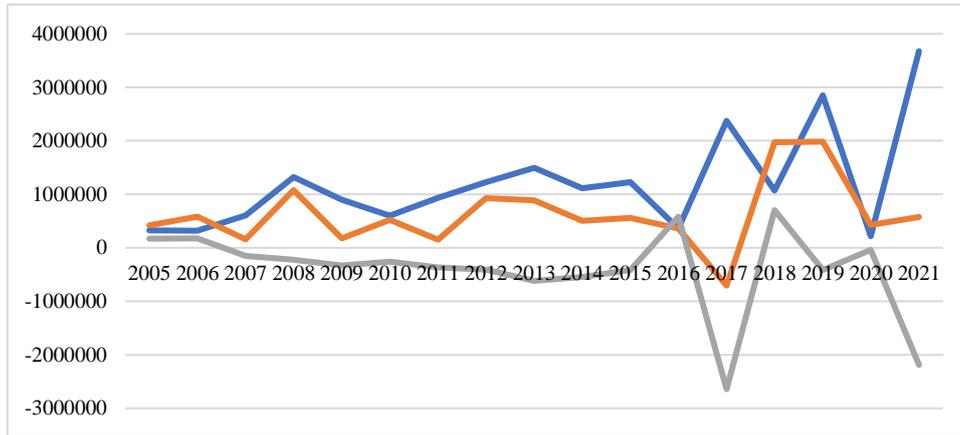
In Figure 6, cash flow from operating activities in the Telecommunications sector peaked in 2008 and subsequently began to fall. As can be seen, the cash flows generated by operating and investing activities are approximately equal in 2009. Cash flows from all activities relatively close to each other in 2016. Cash flow from financing activities generally has a negative value. The cash flows of the Wholesale and Retail Trade sector are shown in Figure 7.

**Figure 7: Cash Flows in Wholesale and Retail Trade Sector (Thousand \$)**



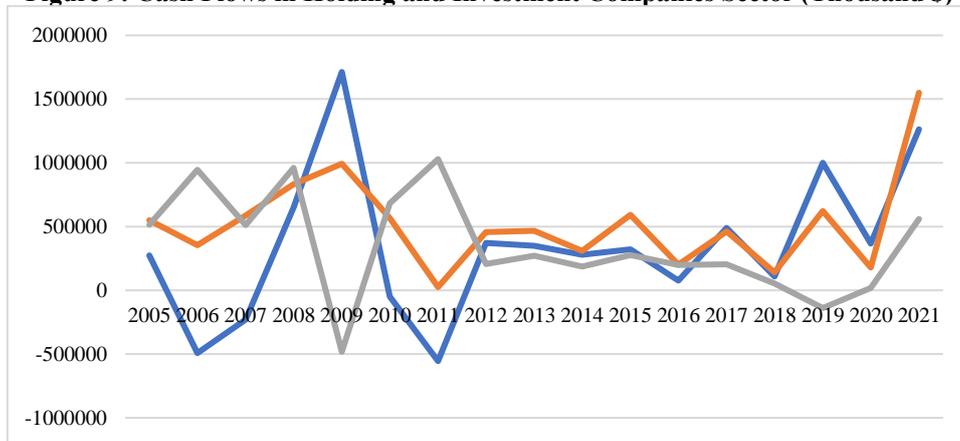
As shown in Figure 7, cash flow from operating activities in the Wholesale and Retail Trade sector has usually increased. Cash flows from investing and financing activities had a more volatile path, with the highest amounts in both occurring in 2008 and not being repeated in subsequent years. Furthermore, 2015 represented the year in which the values generated from the three cash flows were closest to each other. The Transportation and Storage sector's cash flows are seen in Figure 8.

**Figure 8: Cash Flows in Transportation and Storage Sector (Thousand \$)**



According to Figure 8, cash flows from operating and investing activity shifted in the same trend over the years, but only in the reverse trend from 2016 to 2017, resulting in a negative value for the decrease in investing activities. When cash flows from financing activities have been investigated it has been found that just four years ended with a positive value, while the remaining years ended with a negative value. The cash flows of the Holding and Investment Companies sector are shown in Figure 9.

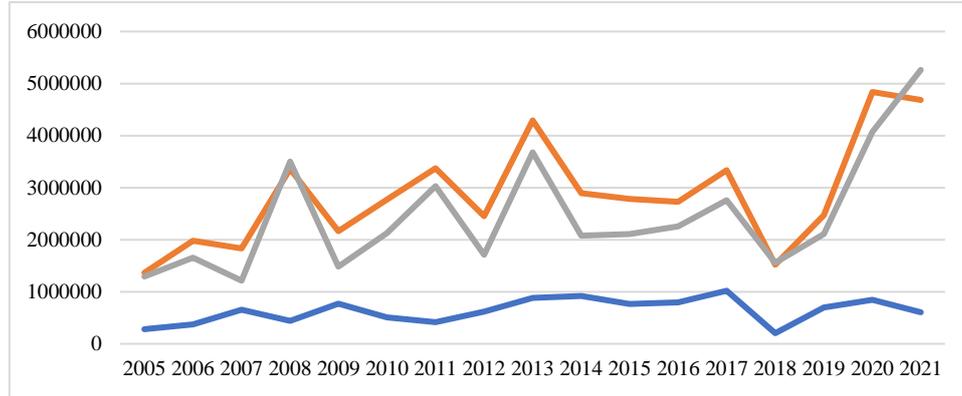
**Figure 9: Cash Flows in Holding and Investment Companies Sector (Thousand \$)**



As shown in Figure 9, cash flows from financing activities and cash flows from operating and investing activities tend to exhibit an inverse trend. Despite a high increase in cash flows from operating activities, especially

between 2007 and 2009, there is a similarly sharp decrease in cash flows from financing activities. The Financial Institutions sector's cash flows can be seen in Figure 10.

**Figure 10: Cash Flows in Financial Institutions Sector (Thousand \$)**



As seen in Figure 10, the Financial Institutions sector has consistently generated positive cash flow from operating, investing, and financing. The amounts and fluctuations of cash flows generated by operating and investing operations are roughly comparable year after year. Table 2 shows the companies and their values with the lowest cash flow values throughout time.

**Table 2: Companies with the Lowest Cash Flows by Years**

Year	Share Code	Cash flow from operating activities	Sector Nr.	Share Code	Cash flow from investing activities	Sector Nr.	Share Code	Cash flow from financing activities	Sector Nr.
2005	GARAN	-5626733	10	GARAN	-729674	10	TTKOM	-2208553	6
2006	SAHOL	-4120188	9	SAHOL	-1057965	9	TTKOM	-1653677	6
2007	SAHOL	-4510370	9	ECILC	-491639	9	TTKOM	-1737630	6
2008	KCHOL	-3627572	9	KCHOL	-128186	9	TTKOM	-1801163	6
2009	AGHOL	-226117	9	ECILC	-235598	9	SAHOL	-2356929	9
2010	SAHOL	-926437	9	DOHOL	-866108	9	TTKOM	-1069099	6
2011	KCHOL	-4568849	9	SAHOL	-1898121	9	EREGL	-1275894	2
2012	HALKB	-3245452	10	ULKER	-233743	2	TTKOM	-594866	6
2013	SKBNK	-237741	10	AGHOL	-279500	9	EREGL	-1188447	2
2014	EKGYO	-1151897	10	EKGYO	-175059	10	THYAO	-546828	8
2015	SKBNK	-296788	10	GSDHO	-125442	10	TCELL	-1619028	6
2016	SAHOL	-3212373	9	AGHOL	-265980	9	TAVHL	-395988	9
2017	EKGYO	-782988	10	THYAO	-705083	8	THYAO	-2641477	8
2018	SAHOL	-1213103	9	DOHOL	-479009	9	AKBNK	-1038948	10
2019	SKBNK	-459816	10	SKBNK	-192619	10	SAHOL	-1427187	9
2020	SKBNK	-322849	10	KCHOL	-1735636	9	KCHOL	-954341	9
2021	AKBNK	-864029	10	SKBNK	-160677	10	THYAO	-2186803	8

*Note: Information on Sector Numbers is included in Table 1.*

As shown in Table 2, the companies with the lowest cash flow from operating activities generally to be in the holding or financial institution sectors. Ten of the companies with the lowest cash flow from investing activities over time are financial institutions, five are holding companies, one is in manufacturing, and one is in transportation and storage. Finally, seven of the companies with the lowest value of cash flows obtained from financing activities are in the telecommunications sector, four are in the holding sector, three are in transportation and storage, two are in manufacturing, and one is in financial institutions.

Table 3 shows the companies with the highest cash flow values and their values over time.

**Table 3: Companies with the Highest Cash Flows by Years**

Year	Share Code	Cash flow from operating activities	Sector Nr.	Share Code	Cash flow from investing activities	Sector Nr.	Share Code	Cash flow from financing activities	Sector Nr.
2005	AKBNK	6382989	10	AKBNK	12497430	10	AKBNK	7353936	10
2006	TTKOM	2492097	6	ISCTR	10813199	10	GARAN	9681484	10
2007	ISCTR	4210888	10	GARAN	13383081	10	GARAN	10680966	10
2008	SAHOL	8198234	9	ISCTR	15157749	10	GARAN	14920555	10
2009	SAHOL	12038704	9	ISCTR	13868645	10	ISCTR	9817037	10
2010	GARAN	2989486	10	GARAN	14852867	10	YKBNK	11607577	10
2011	ISCTR	3175981	10	ISCTR	17510375	10	ISCTR	14072869	10
2012	YKBNK	6193968	10	AKBNK	10281471	10	AKBNK	8994849	10
2013	ISCTR	6935685	10	GARAN	20352665	10	GARAN	18409006	10
2014	HALKB	5017039	10	YKBNK	14814764	10	YKBNK	11055724	10
2015	ISCTR	4074144	10	YKBNK	12595797	10	GARAN	10482231	10
2016	ISCTR	5404443	10	HALKB	12731207	10	HALKB	10601228	10
2017	HALKB	5583365	10	HALKB	14450628	10	VAKBN	13032152	10
2018	GARAN	2015413	10	HALKB	11467580	10	HALKB	10063040	10
2019	SAHOL	4989264	9	VAKBN	14986138	10	VAKBN	15133858	10
2020	ISCTR	7018056	10	VAKBN	29912110	10	VAKBN	32597948	10
2021	ISCTR	6056006	10	GARAN	25973019	10	GARAN	31522740	10

*Note: Information on Sector Numbers is included in Table 1.*

According to Table 3, only the telecommunications sector generated the most cash flows from operating activities in 2006, while firms in the holding or financial institutions sectors generated the most in previous years. Banks in the financial institutions sector have acquired the highest value of cash flows from financing and investing activities in all years. Because the financial institutions sector mostly performs its operations using cash assets, it is logical for it to have the highest value in all three cash flow categories.

## 5. Conclusions

The cash flow statement is prepared on a cash basis, as opposed to the balance sheet and other statements that are prepared on an accrual basis. When a company's cash flow statement is examined, it is possible to determine the amount of cash generates and repayments in the company within a period, as well as the source and usage areas of such collections and payments. Because it shows the cause of changes in the companies' cash worth over time, the cash flow statement is crucial to a wide range of stakeholders, including managers, shareholders, investors, and creditors. The cash flows from the operating, investing, and financing activities of 79 companies in the BIST 100 Index have been examined in this study based on the sectors in which they operated from 2005 to 2021. It has been discovered that the companies included in the analysis have operations in ten different sectors.

When cash flows have been examined by sector, it has been found that the levels of impact from the 2008 economic crisis differed. While some sectors (such as technology, mining and quarrying, construction and public works) are mildly impacted, others are severely impacted. In terms of cash flows from financing and investing activities, the sectors most affected by the crisis include energy, gas and water, manufacturing, wholesale and retail trade, and financial institutions. Transportation and storage, as well as holding and investment companies, represented the sectors most affected by the 2008 crisis in terms of cash flows from operating and investing activities. Without a doubt, the COVID-19 pandemic, which impacts all sectors around the world, particularly human health, has had devastating consequences on various sectors. In terms of cash flows from operating activities, the COVID-19 pandemic has most negatively impacted the manufacturing and mining and quarrying sectors, the construction and public works sector in terms of cash flows from investment activities, and the transportation and storage sector in terms of cash flows from both operating and investment activities.

The research further shows that each sector's cash flows have a distinct structure. For instance, cash flows from financing and investing operations typically exceed cash flows from operating activities in the electricity, gas, and water sectors. In the technology industry, for example, the cash flows from financing activities achieved their greatest value in 2018 despite the operating activities' cash flows being in negative balance. For the telecommunications sector, cash flows from investing activities exceeded cash flows from operating and financing activities for the first time in 2016 compared to all years. For the telecommunications sector, cash flows from

investing activities exceeded cash flows from operating and financing activities for the first time in 2016 compared to all years. The last finding is that companies in the financial institutions, holding, and investment companies have the highest and lowest levels of cash flow value.

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## Declaration of Researcher’s Conflict of Interest

There are no potential conflicts of interest in this paper.

## Declaration of Research and Publication Ethics

This paper which does not require ethics committee approval and/or legal/specific permission complies with the research and publication ethics.

## Researcher’s Contribution Rate Statement

The authors declare that they have contributed equally to the article.