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THE INFLUENCE OF COMPANY SIZE, COMPANY PROFIT, SOLVENCY AND CPA FIRM SIZE ON AUDIT REPORT LAG

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ABSTRACT

Purpose – To reveal the effect of each of company size, company profit, solvency and the size of public accountant on audit report lag for the infrastructure, utility and transportation sectors listed on the Indonesian Stock Exchange.

Methodology – The population of this research are infrastructure, utility and transportation companies that are listed on and supervised officially by the Indonesian Stock Exchange from 2013–2015. The technique used for choosing the sample was purposive sampling. The sample consisted of 57 companies chosen from the population. The data was analysed using double regression analysis.

Findings – The study finds that *first*, company size has a negative and significant effect on audit report lag. *Second*, company profit has a negative and significant effect on audit report lag. *Third*, solvency has no significant effect on audit report lag, and *fourth*, the size of public accountant has no significant effect on audit report lag.

Conclusion – The magnitude of a company has a significant negative influence on audit report lag. This case can be interpreted as the bigger the company is, the smaller the audit report lag will be.

Keywords: Company size, company profit and loss, solvency, size of public accountant, audit report lag.

JEL Codes: M41, M12

1. INTRODUCTION

The purpose of a financial report (IAI, 2012:4) is to give useful information for the financial report users that relates to financial position, performance and company cash flow, and to show the results of management performance with respect to managing resources in the company. Financial reports must fulfil four characteristics, which are it can be easily understood, it is relevant, it can be relied on and it can be compared. If the financial report cannot be submitted on time, the information in the financial report will lose value, and the report will lose its relevance (Wijaya, 2012).

A report is said to be timely if the information is presented to the users of the financial report as ready to use before the information loses its meaning and while it still has the capacity to be useful in making a decision (IAI, 2009 cited in Wiguna, 2012). The timeliness of submitted financial reports and audit reports is most important in terms of increasing the stock market price of those companies that have gone public. If those companies are behind schedule in submitting their reports, according to the rules set by Badan Pengawas Pasar Modal-Laporan Keuangan (BAPEPAM-LK) (the Indonesian Capital Market Supervisory Agency and Financial Institution), they will be given an administration sanction according to the law. This is as decreed by BAPEPAM-LK, under chairman's decree No. KEP-431/BL/2012 regarding the Annual Report Submission of Issuer or Public Company, and Otoritas Jasa Keuangan (OJK) (the Indonesian Financial Services Authority) Regulation No. 6/POJK.03/2015 regarding Bank Report Transparency and Publication.

In 2016, PT Bursa Efek Indonesia (BEI) (the Indonesian Stock Exchange) gave fine sanctions and suspended stock trading of 18 registered companies because they had not completed their audited financial report for the period up to 31st December

2015, based on regulation II.6.3 Number I-H regarding sanctions (CNN Indonesia, 2016; Kompas, 2016). The factors that caused the companies to take a long time to finish the audit were not only internal factors, but also external factors. The internal factors are usually influenced by profitability, the age of the company, profit or loss, and solvency. The external factors are usually influenced by the quality of the certified public accountant (CPA) / public accounting office that audited the financial report of the related company (Kompasiana, 2015).

With respect to the financial reports of companies registered on BEI, for the periods ending on 31st December 2013, 2014 and 2015, there are ten, five and twelve issuers, respectively, that did not obey their duty to submit the financial reports for the years 2013–2015 punctually. (IDX, 2013; 2014; 2015). Some research projects regarding audit report lag are influenced by factors such as the company size. Megayanti and Budiarta (2016) indicate that the size of the company has a negative influence on audit report lag. Meanwhile, different results are pointed out by Dura (2017), who reveals that the size of the company impacts audit report lag. Another factor related to audit report lag is the profit and loss of the company, for which profit has a negative effect on audit report lag (Aristika et al., 2016; Sumartini and Widhiyani, 2014; Puspitasari and Sari, 2012). Ratna Sari (2014) states that solvency influences audit report lag, even though the size of the public accounting firm/CPA firm (kantor akuntan publik [KAP]) does not impact audit report lag (Sumartini and Widhiyani, 2014).

Based on the previous explanation, the purpose of this research is to analyse and determine the following: How does company size influence audit report lag? How does company profit and loss influence audit report lag? How does solvency influence audit report lag? How does CPA firm size influence audit report lag?

The first part of the paper started with the research backgrounds, followed by the theoretical frameworks which can help to develop the hypotheses. Moreover, it is continued by research methodology section which covers the data gathered and proxies used as measurements in this study. The statistical results explained in the findings section as the basis for answering the research questions and provide analysis in the discussion section. Finally, the paper is sum up, any implication raised along with recommendation for future research is also detailed.

2. LITERATURE REVIEW

2.1. The Timeliness of Financial Reporting

According to Subekti and Widiyanti (2004:02), audit report lag is the time difference between the financial report date and the audit opinion date for a financial report, which indicates the duration of the completion of the audit by the auditor. Audit report lag, which is called audit delay in some research, can be explained as the duration of the completion of the audit, which is from the date of closing the book to the date the audit report is published (Utami, 2006:04). Ahmad and Kamarudin (2003:7) define audit report lag as the number of days between the date of the financial report and the date of the audit report. According to Iskandar and Trisnawati (2010), the time duration to finish an audit is called the audit report lag and will influence the timeliness of the information published in an audited financial report referring to BAPEPAM-LK No. KEP-431/BL/2012 the longest time allowed for financial reports that have been audited is 120 days.

Knechel and Payne (2001 cited in Arifa, 2013) divide audit reporting lag into three types: (1) scheduling lag, which is the time difference between the close of the company book year and the start of the auditor's fieldwork; (2) fieldwork lag, which is the time difference between the start of the fieldwork and the end of the fieldwork; and (3) reporting lag, which is the time difference between the end of the fieldwork and the publishing date of the audit report.

2.2 Company Size

Generally, a large company is monitored by investors, a capital supervisor and the government, so they have a tendency to be faster in finishing their audit process decrease their audit report lag. A large company also has adequate internal control systems, which ease the audit process. BAPEPAM-LK regulation No. KEP-11/PM/1997 states that small and medium-sized companies, based on assets, are legal entities that have total assets not exceeding Rp 100 hundred billion, while a large company is legal entity for which total assets are worth more than Rp 100 billion.

Dyer and McHugh (1975 cited in Ahmad et al., 2003) explain that company management with a substantial value of total assets has a greater incentive to decrease audit report lag and accelerate the publishing of financial reporting to the public because there are controls from investors, regulators and society. Higher external pressures force them to report on time. A large company has stronger internal controls, which are able to reduce the number of errors on financial reports, and mean the report can be relied on and trusted by the auditor, so it does not need intensive checking.

2.3 Company Profit

Profit, as explained by Pradhono and Yulius (2004), is net profit during one year before extraordinary accounts are added, as stated on the profit and loss report. Extraordinary accounts or items are events or transactions that have a material

effect, are expected to occur less often and do not come from any repetitive factors in normal company activity (APB Opinion No. 9 in Ghozali and Chairiri, 2007).

According to Febrianto and Widiastuty (2005), the three types of accounting profit, which are gross profit, operating profit and net profit, are useful for measuring the efficiency of the manager in managing the company. Investors and creditors are certain that the measurement of performance is an indication of the better conditions and prospects of the company in the future. The assessment of a company's performance is based on the information on the profit and loss reports which presents the information on gross profit, operating profit and net profit.

2.4. Solvency

Solvency is defined as the ability of a company to fulfil its financial obligations in either the short term or the long term (Rahardjo, 2005:121). According to Kasmir (2010: 151), the solvency ratio is used to measure how far the assets of company would go towards paying the company's debt. Incurring a high amount of debt will affect the future of the company because the company could be stuck with a high level of debt, which can be difficult to pay off. Therefore, a company must balance the amount of company debt and pay attention to the sources that could be used to guarantee the payment of the debt.

There are five measurements that can determine solvency in a company, according to Fahmi (2012: 62), which are debt to total assets ratio, debt to equity ratio, times interest earned, fixed charge coverage and times interest earned. However, according to Kasmir (2010: 155), there are seven kinds of solvency ratio, which are the debt to assets ratio (DAR) (or debt ratio), debt to equity ratio, long-term debt to equity ratio, tangible assets debt coverage, current liabilities to net worth, times interest earned and fixed charge coverage. This research is in line with Andika's (2015) research, which states that the indicator used to measure the solvency of a company is the DAR because this ratio can indicate the health of a company.

2.5. Public Accountant Size

In order to increase the quality and credibility of its financial reports, a company will hire an auditor who comes from a well-known public accountant office, which also has a good reputation. CPA firm is a public accountant organization, which has obtained its permission to operate in accordance with legislation and provides professional services as a public accountancy practice (Rachmawati, 2008). A public account office that meets such criteria consists of CPA firm affiliated with a large public accountant office, which is universally recognized by the Big Four worldwide accounting firms. The Big Four CPA firms have several branches, a sizeable number of clients and more than 25 professional staff (Arens et al., 2009).

Hence, it can be concluded that a company collaborating with a large public accountant office tends to deliver their audited financial report to the public on time.

3. DEVELOPMENT OF HYPOTHESES

3.1. Influence of Company Size on Audit Report Lag

The research results of Megayanti and Budiarta (2016) explains that company size negatively affects audit report lag. This is because companies that have gone public or large companies have good internal control systems, which can reduce the number of errors in presented financial reports, making it easier for the auditor to audit the financial reports. Aristia et al. (2016) also confirms that company size negatively affects audit report lag, and describes that this means the bigger the company size, the shorter the delays in the auditing process.

H₁: Company size negatively affects audit report lag.

3.2. Influence of Company Profit and Loss on Audit Report Lag

The research result from Megayanti and Budiarta (2016) stated that the company size affect negatively on audit report lag. The cause is the go-public company or big company which has good internal control system so that it could reduce errors in presenting financial report to make ease for the auditor in auditing the financial report. Then, Aristia et al (2016) stated that company size affect negatively on audit report lag which means the bigger the company size, the slower the delays of auditing process.

H₂: Company profit and loss negatively affects audit report lag.

3.3. Influence of Solvency on Audit Report Lag

The research of Artaningrum et al. (2017) shows that solvency positively affects audit report lag. High solvency reflects a high level of risk in company finances. The high level of risk of a company indicates that the company has been struggling financially. The public being aware of financial problems in a company is bad news, and may cause management to delay the financial report.

H₃: Solvency negatively affects audit report lag.

3.4. Influence of Public Accountant Office Size on Audit Report Lag

According to Arifin et al. (2016) CPA firm size negatively affects audit report lag. This is because a company has used an independent auditor service that is part of the Big Four and so has less audit report lag compared to a company that has used an independent auditor service that is not one of the Big Four firms.

H₄: CPA firm size negatively affects audit report lag.

4. DATA AND METHODOLOGY

The population of this research are infrastructure, utility and transportation companies that were listed and supervised officially by OJK from 2013–2015. The technique used to choose the sample was purposive sampling. The sample includes 57 observations from 19 companies during the period from 2013–2015, which were analysed using multiple regression analysis. Previously, classical assumption tests were conducted to ensure the data is free from problems such as normality, multicollinearity, autocorrelation and heteroscedasticity. SPSS version 22 (2017) is used to run the above statistical tests.

a. Descriptive Statistics

The most important characteristic of the samples is explained as follows. The variable of audit report lag (Time) has the widest standard deviation for 13.76 days needed to release the audit report. These include samples like Eka Sari Lorena Transport PLC (120 days) and Tower Bersama Infrastructure PLC (48 days). Meanwhile, the solvency variable (Solva) using debt to assets ratio (DER) shows the least standard deviation for 0.20. Pelayaran Nelly Dwi Putri PLC has lowest DER for 0.14 in 2015 whilst Tower Bersama Infrastructure PLC relies higher to debt with the DER ratio of 0.93 in 2015.

Results for Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
TIME	57	48.00	120.00	82.0702	13.76312
SIZE	57	5.00	8.00	6.4737	.70976
PL	57	-6.00	7.00	2.5789	4.43584
SOLVA	57	.14	.93	.5405	.20377
CPAF	57	.00	1.00	.3158	.46896
Valid N (listwise)	57				

b. Normality Test

The level of normality was determined using the Kolmogorov-Smirnov test (K-S test). The normality level of the variables in a study can be seen from the value of Asymp. Sig. (two-tailed) on the Kolmogorov-Smirnov table. The 0.200 Asymp. Sig. (2-tailed) value which is higher than the 5% level of significant shows that the data used in this study is normally distributed.

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		57
Normal Parameters ^{a,b}	Mean	.0000000
	Std Deviation	11.42596542
Most Extreme Differences	Absolute	.100
	Positive	.100
	Negative	-.085
Test Statistic		.100
Asymp. Sig. (2-tailed)		.200 ^{c,d}

c. Multicollinearity Test

The level of normality can be determined using the variance influence factor (VIF). All four independent variables score less than 10, meaning that there is no multicollinearity among independent variables in this study regression model.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std Error	Beta			Tolerance	VIF
1 (Constant)	134.201	15.414		8.706	.000		
SIZE	-6.482	2.440	-.334	-2.657	.010	.837	1.194
PR	-1.206	.362	-.389	-3.336	.002	.976	1.024
SOLVA	-13.081	8.360	-.194	-1.565	.124	.865	1.156
CPAF	.047	3.747	.002	.012	.990	.813	1.230

a. Dependent variable: TIME

d. Autocorrelation Test

The autocorrelation test used in this research was the Durbin-Watson test. The DW score of 1.909 is more than upper bound score of 1.725 and concluded that there is no positive autocorrelation.

Model	R	R Square	Adjusted R Square	Std Error of the Estimate	Durbin-Watson
1	.557 ^a	.311	.258	11.85728	1.909

a. Predictors: (Constant), CPAF, PL, SOLVA and SIZE

b. Dependent variable: TIME

e. Heteroscedasticity Test

The heteroscedasticity test used in this research was the Glejser test. Since each variable has sig value more than 0.05, thus, there is no heteroscedasticity problem occurred.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std Error	Beta		
1	(Constant)	1.058	10.354		.102	.919
	SIZE	1.257	1.639	.115	.767	.446
	PL	.083	.243	.048	.342	.733
	SOLVA	-2.617	5.616	-.069	-.466	.643
	CPAF	.999	2.517	.060	.397	.693

a. Dependent variable: abs_res

4. FINDINGS AND DISCUSSION

4.1. Findings

After all the data was obtained for the selected samples using the SPSS application, the data was found to be free from problems, such as normality, multicollinearity, autocorrelation and heteroscedasticity, based on the results of the multiple regression analysis as follows:

$$\text{TIME} = 134.201 - 6.482 \text{ SIZE} - 1.206 \text{ PL} - 13.047 \text{ SOLVA} + 0.047 \text{ CPAF} + e$$

Where:

TIME = Audit report lag

α = Constant

β_1 - β_4 = Regression Coefficient

SIZE = Company Size

PL = Income Statement

SOLVA = Solvency Level

CPAF = CPA Firm Size

e = Error

The following table reveals the results of the t test:

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std Error	Beta			Tolerance	VIF
1 (Constant)	134.201	15.414		8.706	.000		
SIZE	-6.482	2.440	-.334	-2.657	.010	.837	1.194
PL	-1.206	.362	-.389	-3.336	.002	.976	1.024
SOLVA	-13.081	8.360	-.194	-1.565	.124	.865	1.156
CPAF	.047	3.747	.002	.012	.990	.813	1.230

a. Dependent variable: TIME

With a significance level of 5%, the company size variable negatively and significantly affects the audit report lag, which can be seen from the result $t_{\text{calculated}}$ is greater than t_{table} ($2.657 > 1.67469$). For the constant significance testing and independent variable, the previous table shows a value of $0.010 < \alpha$ (0.05). Therefore, H_0 is rejected and H_a is approved. In conclusion, when company size increases then audit report lag decreases.

The next variable is company profit and loss, which is assessed using comprehensive income, which negatively affects audit report lag statistically. It is seen that $t_{\text{calculated}}$ is greater than t_{table} ($3.336 > 1.67469$), which has a significance of 0.002. This significance level is smaller than the significance level, which is 5% or 0.05. Therefore, H_0 is rejected and H_a is approved. In conclusion, when company size increases, then audit report lag decreases.

The third variable is the solvency variable, which is assessed using the debt to total asset ratio. The total for t_{table} is smaller than for $t_{\text{calculated}}$ ($1.565 < 1.67469$). As this has a significance of $0.124 > \alpha$ (0.05), H_0 is approved and H_a is rejected. In conclusion, solvency has no significant effect on audit report lag.

The CPA firm size variable is assessed using a dummy variable with a value of 1 for the Big Four CPA firms and a value of 0 for CPA firm other than the Big Four. The total value of t_{table} is smaller than for $t_{\text{calculated}}$ ($0.12 < 1.67469$), and has a significance of $0.990 > \alpha$ (0.05). Therefore, H_0 is approved and H_a is rejected. In conclusion, CPA firm size has no significant effect on audit report lag.

The coefficient of determination (R^2) is used to measure how well the independent variable is able to explain the dependent variable. The following is the table of the test results for the coefficient of determination:

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.557 ^a	.311	.258	11.85728	1.909

a. Predictors: (Constant), CPAF, PL, SOLVA, SIZE

b. Dependent variable: TIME

The total for R^2 is 0.311 or 31.1%. It means that 31.1% of the independent variable is audit report lag; this can be explained using four independent variables, which are company size, income summary, solvency and CPA firm size. The remainder of 68.9% (100% - 31.1%) can be explained by other variables outside this research.

4.2. Discussion**4.2.1. The Influence of Company Size on Audit Report Lag**

Company size is assessed using the total assets, and is found to negatively affect audit report lag. Generally, a large-scale company is put under the spotlight by actors such as investors, stock supervisors and the government. Therefore, a large company is under high pressure to quickly publish its financial reports so they can be used for business decision-making. A large company will also allocate a greater amount of finances for audit fees in order to have a shorter audit report lag. This means that, regarding the time taken to publish the financial report of a company, a large-scale company will always have a shorter audit report lag compared to a small-scale company. In this research, Hypothesis 1 is accepted.

4.2.2. The Influence of Company Profit and Loss on Audit Report Lag

The company profit and loss is found to negatively affect audit report lag. The higher the income of a company, the fewer the number of days of audit report lag. The audit report lag is shorter because the company wants to more quickly inform the stock holders of 'good news'. Profit is one of the important indicators for shareholders in the company. In this research, Hypothesis 2 is accepted.

4.2.3. The Influence of Solvency on Audit Report Lag

Solvency has no influence on audit report lag. This can be seen from the stable company solvency number, which has no relation to the diverse audit report lag values. It shows that, regardless of whether the company has big or small debts, the auditing process for the financial report of a company will not be affected by the level of debt. This is because the auditor will certainly have allowed sufficient time and has the skill to complete the auditing process taking into account the company's debt. The result is not consistent with the theories. Therefore, the level of debts that a company has will not affect the time taken to audit the financial report of company. In this research, Hypothesis 3 is rejected.

4.2.4. The Influence of CPA Firm Size on Audit Report Lag

The results show that Big Four and Non-Big Four CPA firms have spent relatively the same period of time for completing an audit. The experience and understanding of the industry by any CPA firm is shown by the number of clients they have audited. While the Big Four CPA firms itself is a group of international accountancy offices that deals with the biggest audit projects for public companies, has branches with a great number of clients and has more than 400 professional staff. However, the companies that are working in the infrastructure, utility, and transportation sectors often use firms other than the Big Four CPA firms with variety of results for audit report lag. This shows that choosing the Big Four CPA firms does not have a significant effect on audit report lag. In this research, Hypothesis 4 is rejected.

Rank	Firms	Revenue (\$ millions)	Partners	Professionals	Total Employees
1	Delloite	16,147.00	3,033	55,552	70,603
2	PwC	12,200.00	2,892	35,350	49,000
3	Ernst & Yo	11,190.00	3,000	30,600	39,400
4	KPMG	7,889.00	1,960	22,994	30,903

The following is the list of international CPA firms in Indonesia:

No.	Firms	Affiliation
1	Haryanto Sahari & Rekan	PricewaterhouseCoopers
2	Osman Bing Satrio & Rekan	Deloitte Touche Tohmatsu
3	Purwantono, Sarwoko & Sandjaja	Ernst & Young Global
4	Siddharta & Widjaja	KPMG International
5	Aryanto, Amir Jusuf, Mawar & Saptoto	RSM International
6	Doli, Bambang, Sudarmadji & Dadang	BKR International
7	Hadori Sugiarto Adi & Rekan	HLB International
8	Hendrawinata Gani & Rekan	Grant Thornton International
9	Johan, Malonda, Astika & Rekan	Baker Tilly International
10	Kanaka Puradiredja, Suhartono	Nexia International
11	Mulyamin Sensi Suryanto	Moore Stephens International Limited
12	Paul Hadiwinata, Hidajat, Arsono, Ade Fatma & Rekan	PKF International
13	Santoso Harsokusomo, Irwan & Rekan	Crow Horwath International
14	Tjiendradjaja & Handoko Tomo	Mazars
15	Rama Wendra	Parker Randall International
16	Tanubrata Sutanto & Rekan	BDO Global Coordination

5. CONCLUSION

The size of a company has a significantly and negatively influences audit report lag. This can be interpreted to mean that the larger the company is, the shorter the audit report lag will be. A big company usually has an appropriate internal control system, which makes it easier for the auditor their job. A large-scale company may be placed under the spotlight of many parties, including the investors, the capital supervisors and the government, all of which demanded that the financial report of the company is published soon enough that it can be used to make decisions on the business.

- The profit and loss of a company plays a significant role in terms of negatively influencing audit report lag. This means that the higher the profit of a company will reduce the number of days of audit report lag. Audit report lag will be shorter because the company will want to inform the investors of the 'good news' as soon as possible. Profit is one of the important indicators that can often receive the attention of the parties involved with the company.
- In this research, solvency was not found to have a significant influence on audit report lag. Whether the company has a large or small total amount of money will not affect the auditor's process for working on and completing the audit of the financial report of the company. This is because the auditor that was appointed has allowed time and has the ability to progress audit based on the debt.
- The CPA firm size studied on this research does not have a significant influence on audit report lag. The time for the completion of the audit is not much different regardless of whether the audit is performed by one of the Big Four CPA firms or a firm other than the Big Four CPA firms. The number of clients that a CPA firm has in one industry reflects their experience and understanding of the environmental conditions of the companies that have been audited; this is not only true for the Big Four CPA firms, but firms other than the Big Four CPA firms.

The implications are as follows:

- The company size, which is an internal factor, has a negative influence on audit report lag. This means that the management of a big company is encouraged to deliver the financial report on time; the reason being that these companies are being monitored strictly by investors, capital supervisors and the government. Also, a big company usually has a complete organization structure; for example, they have an internal guard unit, which is more professional, and the audit committee can hasten the process of the audit that is conducted by the external auditor.
- The profit and loss of a company is another internal factors that plays a significant negative role in the audit report lag. This means that an increase in the profit for a company will lessen the audit report lag. The reason why the audit report lag is shorter for a company that faces increasing profit is because the company wants to inform the investors of the 'good news' as soon as possible, so they wish to make the audit period as short as possible. Thus, the company must pay attention to the company's performance so that the company can create a high profit for itself.

The suggestions for future research are as follows:

- a. For the next researchers, it is recommended to dig further not only into what is limited by the variables but also by adding more variables to be investigated. This is simply because, in this study, the variables that were considered only covered 31.1% of the factors that could affect the audit report lag. This means that 68.9% of factors that could affect audit report lag, such as liquidity, auditor's opinion, meetings of audit committee, company type and other factors, have not yet been researched.
- b. For the next researchers, it is suggested that they study companies that works in field other than infrastructure, utilities and transportation, whether the company has been listed on the BEI or not; for example, a company that operates in mining or banking.
- c. For the next researchers, it is suggested that they extend the period of investigation, such as using a five-year period of investigation or perhaps more than five years, which could give a tangible result.
- d. For the auditors, it is suggested that they work in a field in which they are as experienced as possible. This is so that the work can be done effectively and efficiently. Furthermore, it will help the auditor deliver an audit results report that is appropriate to the auditing procedure and standards that have been issued by the Institute of Indonesian Public Accountant. This will mean the audit report meets the requirement of BAPEPAM-LK No. KEP-431/BL/2012, which stipulates the delivery of the yearly financial report to BAPEPAM-LK not longer than four months after the end of the last year's book or 120 days after the book was closed.
- e. For the company, it is recommended that the management should monitor and evaluate the company's performance so that it produces profit for the ongoing period, and may even grow the profit from the previous period. In addition, they should provide the financial report on time and to meet what is required in paragraph 43 of the applicable Financial Accounting Standard Statement No. 1 regarding the presentation of the financial report. If there are unnecessary delays to the delivery of the report, the information that is produced will lose its relevance. One of the indicators for relevance is the report being delivered on time (timeliness).
- f. For the future investors or the investors whose duty is to determine the financial data of the company, making an accurate consideration or prediction is used to establish the investment. Investors should be careful if the company exhibits any tardiness in delivering the financial report that has been audited for BAPEPAM-LK and the financial firm because the fact that a report has been produced does not guarantee its relevance.

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THE DETERMINANTS OF EMPLOYEE PERFORMANCE IN JORDANIAN ORGANIZATIONS

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ABSTRACT

Purpose - The study aims to explore the determinants of employees' performance in Jordanian industrial sector specifically exploring the impact of employees' satisfaction, management standards and trainings on employee's performance while exploring the mediating impact of employees' engagement.

Methodology - Thus, a sample of 100 administrative and executive managers is selected from industrial sector of Jordan through convenient sampling. Primary data is collected, distributing 2 questionnaires to each organization; one for the administrative manager and one for the executive manager individually. Quantitative data analysis technique is adopted while implementing structural equation modelling through AMOS.

Findings- The study found that employees satisfaction, management standards and trainings are significant factors for employees' performance; having significant impact on employee engagement that ultimately leads towards employees' performance. But the most significant among these three is the employee satisfaction.

Conclusion- Organizations should focus on employee satisfaction, management standards and trainings to enhance their engagement towards work, hence improving their performance.

Keywords: Employees Performance, Employees Satisfaction, Management Standards, Trainings, Employee Engagement

JEL Codes: L61, J83, J89

1. INTRODUCTION

Business sector is facing fierce competition across the globe thus organizations being aware about the importance of their human resource as a competitive advantage of organization. Employees create competitive advantage for organization through their performance thus organizations are mostly busy in finding out ways to attain highest possible levels of employees' performance (Liao and Chang, 2004). Managers are aimed at achieving corporate goals through enhanced employee performance in an effective and efficient way. Employees' performance may be enhanced through focusing on the factors that significantly influence their performance like their satisfaction (Harter, Schmidt and Hayes, 2002), management standards (Mackay et al, 2004) as well as trainings Liao and Chang, 2004). Due to fierce competition, organizations also try to attract others' best performing employees so that they may capture the competitive advantage in the market thus it has also become crucial for the organizations to retain their existing employees (Ellinger, Ellinger and Keller, 2003). Because organizations spend their resources to bring out the best from their employees like through trainings and developments etc. thus the trained employees are an asset for the organization and no organization wants to give their assets to anyone else. Such assets retain with the organization unless they are satisfied from their jobs (Gitongu, Kingi and Uzel, 2016). Thus, organizations are required to focus on such factors like employees' satisfaction, their trainings etc. to have an enhanced performance from them (Gruman and Saks, 2011). Moreover, the management standards to achieve their goals are also among the factors that are required to be analysed through their role in employees' performance (Mackay et al, 2004).

Thus, organizations are required to focus on the factors that contribute well in enhancing employees' performance because employees' performance has a direct link with the goal attainment of the organization. Employees' performance indicates

their efficiency as well as their productivity leading towards organizational goal achievement through their positive contribution as employees' performance will ultimately result in the overall performance of the organization (Markos and Sridevi, 2010). Thus, organizations have realized the importance of enhanced employees' performance as organizations' goals cannot be achieved unless employees' performance is up to the marks (Anitha, 2014). They are required to focus on the factors that contribute in enhancing employees' performance.

Current research aimed at finding out the impact of such factors on employees' performance through their engagement towards work. Relationships among variables is analysed through structural equation modelling using AMOS because structural equation modelling best explains the relationship among independent and dependant variables in the presence of mediating variable.

2. LITERATURE REVIEW

The fierce competition in the business market, emerged due to globalisation, has forced organizations to create a competitive advantage for their survival or to move away from the market. thus, due to such emerging competition the importance of human resource has also been emerged as employees are the important source of competitive advantage (Rich, Lepine and Crawford, 2010). Organizations can enjoy the benefits of such competitive advantage if employees are performing up to the required levels i.e. contributing positively in the organizational growth and goal attainment (Liao and Chang, 2004). Thus, organizations are required to focus on the factors that may contribute positively in enhancing employees' performance to develop and retain the competitive advantage for them.

2.1 Employee Performance

Performance incorporates the resulting outcomes of the performed actions of employees based on their expertise and skills. In organizational settings, employees' performance is the accumulates result of the skills, efforts and abilities of all the employees contributed in organizational improved productivity leading towards its goal achievement. Improved organizational performance indicates the efforts towards goal achievement while requiring more efforts in terms of improved employee performance (Ellinger et al, 2003).

Employee performance is among the critical factors that contribute significantly in organizational success. Learning organizations play important role in enhancing employee performance through providing trainings and developments for their employees (Gitongu et al, 2016). Moreover, management standards to evaluate employee performance also play critical role in improving employee performance as they provide the picture of actual performance and its alignment with the benchmarks. If discrepancies found, then these standards help bringing the outputs again towards their required levels (Mackay et al, 2004). Employees performance also depends on their internal satisfaction towards their job. If employees are satisfied from their jobs as well as the organization than they are more keenly interested to perform well towards organizational goal achievement (Harter et al, 2002).

2.2 Employees' Satisfaction

Employees satisfaction indicates the happy and contented employees as they can fulfil their own desires and requirements through their jobs. Employee satisfaction leads towards their motivation and high morale to perform well enough to achieve the organizational goals (Harter et al, 2002). If organizational goals are aligned with the employees' personal goals than employees feel happier and contented towards their jobs and organizations. Thus, organizations are required to align the organizational goals in terms of employees' personal goal achievement as their satisfaction will lead them to enhance their contribution towards organizational goal achievement (Liao and Chang, 2004). Employee satisfaction can also be gained through treating them with respect, providing them with recognition in the organization, offering benefits beyond industry averages, offering employee perks and empowering them. These factors will contribute well in attaining employee satisfaction that will engage them more towards their work and ultimately improving their contribution towards goal attainment (Ellinger et al, 2003).

2.4 Management Standards

Management standards indicate traditional proven frameworks and methods based on comprehensive models and practice that are up-graded with the evolvement of industry, society and technology over time. Such standards are developed and retained by well-known industry bodies and facilitate organizations to attain success in repeatable manners by providing a consistent approach of evaluation. Management standards are a collection of conditions that illustrate good actions through step by step approach and facilitates the evaluation of current position based on pre-existing techniques, data and surveys (Mackay et al, 2004).

Management standards facilitate identifying the underlying risk factors for the organization and facilitate the employers to focus the basic causes and the ways to prevent such risks. Such standards also facilitate the organization to evaluate its goal achievement through evaluation of its employees' performance by making its comparison with the benchmarks (Gitongu et

al, 2016). Management standards serve as a bench mark for evaluating employee performance thus having a direct relation with the employee performance. Management standards are also associated with the employee engagement as when addressed clearly to the employees, these provide a self-evaluation criterion for the employees thus motivating them to be more engaged towards their work to achieve their personal as well as organizational goals (Mackay et al, 2004).

2.5 Training

The success and failure of organizations' employees depends on their performance and it is considered that winning organizations are mostly more concerned about the training and development of their employees knowing that it will aid in employees; knowledge ultimately improving their performance in the organization (Liao and Chang, 2004). Training requirements amplify with the advancement in industry as well as the global markets. Training improves employee performance through developing a sense of teamwork among employees as well as contributing positively towards their knowledge and information about their job (Gruman and Saks, 2011). Trainings providing information about innovation aid more to the employees' knowledge and helps improving employees' performance aligning with the changing requirements of organization, industry and the market. Trainings influence employee performance in a positive manner, thus organizations are more focused about employees' training and development to improve their performance and gain the competitive advantage in the market (Ellinger et al, 2003).

2.6 Employee Engagement

Employees' engagement incorporates the willingness of individuals to completely invest their selves into an organizational role. It is found that when employees are contended with their jobs as well as organizations, they are motivated to contribute in the organization at their maximum level. They provide their complete efforts to attain the organizational goals. Such engagement of employees helps them improving their performance in the organization (Saks, 2006).

Organizations are striving for improving their performance as now enhanced efficiency and productivity is required by the organizations to survive in the market. Thus, management is facing challenges to cope with the fierce competition of the market, hence focusing on improving employees' engagement towards their work ultimately improving their performance (Anitha, 2014). According to Sharma and Anupama (2010) employee engagement is driven by the employee satisfaction because employees are not ready to be engaged with their work unless they are satisfied from their jobs. Organizations providing trainings to their employees are also successful in engaging their employees with their work as trainings help them improve their knowledge and skills and being more skilful towards their jobs they are even more engaged towards them (Mehrzi and Singh, 2016).

Management standards are found to be significantly associated with employee engagement as they provide a benchmark for organization to evaluate employees' performance as well as providing such benchmarks for employees for self-assessment. Employees' self-assessment motivates them to be more engaged towards their work so that they can perform up to the mark (Mackay et al, 2004).

2.7 Employees' Satisfaction and Employee Engagement

According to Harter et al (2002) employees' when satisfied for their jobs and their organization are found to be more engaged towards their work, thus employee satisfaction leads towards employee engagement. Organizations requiring enhanced performance should focus on satisfying their employees. Employees are satisfied when organizations successfully align their individual goals with the organizational goals, such alignment also attracts them to be more engaged towards their jobs because they are satisfied that organizational goal achievement will ultimately result in their own goal attainment (Mokaya and Kipyegon, 2014).

2.8 Management Standards and Employee Engagement

As management standards are the benchmarks and proven frameworks adopted by the organizations to evaluate performance at different levels. Such standards not only provide benchmarks for the management, but also for the employees to evaluate and compare themselves to improve their contribution towards organization (Mackay et al, 2004). Thus, comparing themselves with the management standards employees are motivated to be more engaged towards their work. While employee engagement ultimately leads them towards improved performance. Management standards also highlight the discrepancies and differences between the required and the actual performance thus facilitate employees to know that how much they are required to be further engaged towards their work to attain their individual and organizational goals (Rich et al, 2010).

2.9 Training and Employee Engagement

Organizations focus on training and development of their employees as they have realised the significance of employees as an important source generating competitive advantage for the organization. Trainings contribute positively in enhancing

employees' knowledge of their jobs as well as enhance their skills required for the job (Saks, 2006). When employees get all the required skills and knowledge required for their jobs, they are more confident performing it, hence enhancing employee engagement (Mehrzi and Singh, 2016).

2.10 Employees' Engagement and Employee Performance

More engaged employees are found to be more performing ones as it is found that when employees are engaged towards their jobs they try their best to perform up to their maximum possible levels (Anitha, 2014). Hence employee engagement is among one of the major factors influencing employee performance in the organization. When employees are engaged towards their job, they contribute positively in attaining organizational goals, but it only happens when organizations are successful in attaining employees' satisfaction (Rich et al, 2010). According to Markos and Sridevi (2010) satisfied employees are more engaged towards enhancing their performance and contributing well in organizational goal attainment.

The review of previous studies has highlighted the relationships among variables of current study. The literature review indicates that all factors under study are explored in different previous studies, but their combined impact is not studied yet. Thus, current study not only examines their combined impact as well as their relationships in quite different manner. Thus, the proposed conceptual framework is given below that highlights the proposed relationships among all variables of study.

Figure 1: Conceptual Framework

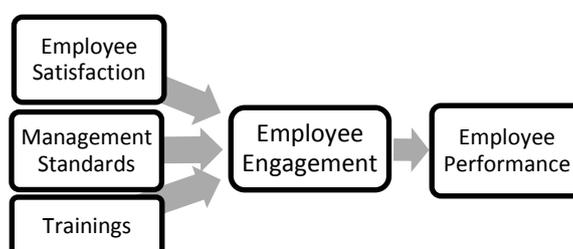


Figure 1 indicates the hypothesised relationship among the variables of study. The conceptual framework indicates that employee satisfaction, management standards and training are the independent variables that influence employee engagement. Employee engagement is the mediating variable of study that being influenced by the independent variables, has an impact on employee performance.

3.1 Proposed Hypothesis

Current study tests the following hypothesis:

Ho1: Employee Satisfaction has significant influence on Employee engagement.

Ho2: Management Standards has significant influence on Employee engagement.

Ho3: Training has significant influence on Employee engagement.

Ho4: Employee engagement has significant influence on Employee Performance.

3. DATA AND METHODOLOGY

Current study adopts quantitative research method collecting data from administrative managers and executive managers of 50 manufacturing firms from Jordanian industrial sector; delivering 2 questionnaires to each firm where one for the administrative manager and one for the executive manager individually. They were asked different questions about employee satisfaction, management standards, trainings, employee engagement and employee performance. Following questions are asked through questionnaire on a five-point Likert scale indicating 1 for strongly agree to 5 strongly disagree:

1. Employees satisfaction is necessary to get them engaged towards their work.
2. Satisfied employees are more engaged towards their tasks in the organization.
3. Employees' satisfaction engages the employees towards their jobs more keenly, hence resulting in their improved performance.
4. Management standards provide the bench mark to evaluate employee performance.
5. Management standards provide the benchmark for employees for their self-assessment.

6. Employees when find discrepancies among their performance and management standards, become more engaged towards their jobs.
7. Employee training provide them with the necessary skills and knowledge required for their job performance.
8. Employee training makes them more confident towards their jobs.
9. Employee training enhances employees' interest towards their jobs, thus being more engaged towards it.
10. More engaged employees perform well comparatively.
11. Employee engagement enhances employee performance.

Data collected through this questionnaire is organized in SPSS and then analysed through structural equation modelling in AMOS. Descriptive analysis and structural equation modelling are implemented to find out the results of study.

4. FINDINGS AND DISCUSSIONS

The reliability of the measurement scales of study are tested through alpha having minimum acceptable level of 0.7 while alpha values for employee satisfaction, management standards, training, employee engagement and employee performance are 0.86, 0.72, 0.81, 0.79 and 0.84 respectively, hence indicating the internal consistency of the scales.

Descriptive statistics, tested through SPSS, for demographics indicate the following results:

Table 1: Demographics of Study

Gender	Male	Female		
Frequency (%)	69.6%	31.4%		
Age	20-30	30-40	40-50	
Frequency (%)	47%	30.5%	22.5%	
Experience	1-5	5-10	10-15	15+
Frequency (%)	21.3%	34.8%	26%	17.9%

The proposed relationships among variables according to the model of study are analysed through structural equation modelling in AMOS while results are drawn based on different fit indices like GFI, CMIN, NFI, RMSEA and chi-square. The null hypothesis proposed by chi-square indicates that estimated model is good fit, indicating that the proposed relationships of variables of study are true. Chi-square value of estimated model is 0.005 with a p-value of 0.932, indicating that chi square has insignificant results, hence could not reject the null hypothesis. Thus, the results obtained from chi-square indicate that the proposed relations are good. The results are further validated by other badness and goodness fit indices. Results are drawn on different criteria like for goodness of fit of the model, CMIN should have lower value, GFI and NFI should have values near to 1. While RMSEA having greater value like near to 1 shows the badness of fit of the estimated model. the results obtained for these indices are as follows:

Table 2: Model Fit Indices

CMIN	GFI	NFI	RMSEA
0.004	0.92	0.93	0.000

The results of indices, shown in table 2 illustrate that the estimated model has goodness of fit according to all indices. Hence, the proposed relationships among the independent, dependant and mediating variables are accurate. Following g regression weights are obtained for the estimated model of study:

Table 3: Regression Weights of Estimated Model

	Estimate	S. E	P
Employee Satisfaction → Employee Engagement	.668	.053	***
Management Standards → Employee Engagement	.197	.028	***
Training → Employee Engagement	.568	.074	***
Employee Engagement → Employee Performance	.178	.039	***

Table 3 illustrates that significant relationships are found among the variables of study. Thus, employee satisfaction, management standards and training have significant positive impact on employee engagement while employee engagement has significant positive impact on employee performance. The obtained results indicate that all the proposed hypothesis of study is supported and can be summarised as follows:

Table 4: Results of Hypothesis

Hypothesis	Result
Ho1: Employee Satisfaction has significant influence on Employee engagement.	Supported
Ho2: Management Standards has significant influence on Employee engagement.	Supported
Ho3: Training has significant influence on Employee engagement.	Supported
Ho4: Employee engagement has significant influence on Employee Performance.	Supported

Current study explored the determinants of employee performance. Employee satisfaction, management standards and training are the significant factors influencing the employee performance while having direct impact on employee engagement that ultimately results in enhancing employee performance. The results obtained from empirical testing of data indicate that the variables of study have significant positive relationships among each other. It is found that employee satisfaction has significant positive relationship with employee engagement while employee engagement has significant positive relationship with employee performance. Similarly, management standards and trainings also have significant positive relationship with employee engagement and employee engagement significantly influences employee performance positively. The current study found that employee satisfaction, management standards, and trainings influence employee performance through their engagement towards their work. Thus, employee satisfaction, management standards, trainings and employee engagement are the influencing factors of employee performance. Thus, current study found these four determinants of employee performance.

5. CONCLUSION

Fierce competition in business world has forced the organizations to generate and retain any competitive advantage that is vital for their survival in the market. All economies across the world are facing similar situations due to emergence of globalisation and same is the case with Jordan. Thus, to cope with such situations, organizations have realised the value of human resource as one of the important source generating competitive advantage for the organization. Employees are an important asset of the organization as they contribute positively in organizational goal attainment through their performance. Thus, organizations always try to enhance their performance to lead them towards goal attainment. For this purpose, they are required to find out the factors that contribute positively in enhancing employees' performance. Current study explored such factors and found that employee satisfaction, management standards, trainings and employee

engagement are the determinants of employee performance. Satisfied employees are more engaged towards their jobs thus try to improve their performance and their engagement towards work helps them enhancing their performance. Management standards through providing benchmarks leads towards employee engagement. Similarly, trainings contribute in enhancing skills and knowledge of the employees and being more confident after trainings they become more engaged towards their jobs, ultimately focusing on enhancing their performance in the organization. The study found that employee satisfaction, management standards and trainings have significant positive impact on employee engagement that ultimately have significant positive impact on employee performance.

Current study significantly contributes to the knowledge and practice of management through highlighting the determinants of employee performance. The study highlights the importance and positive contribution of different factors towards employee performance. Researchers can further validate the impact of these factors in different aspects. While managers can focus on these factors to enhance their employees' performance to attain their organizational goals. The sample size for study is small as only 100 respondents are involved in the study while such study can be conducted on a large sample to obtain more reliable results. Moreover, the model may incorporate few other factors like employee motivation, employee evaluation etc. it may also explore the mediating role of other factors as well as the direct and indirect impacts of factors can be explored that are not investigated by the current research.

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ENVIRONMENTAL DISCLOSURE IN THE ANNUAL REPORTS OF THE JORDANIAN MINING AND EXTRACTION COMPANIES

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ABSTRACT

Purpose – This study tries to evaluate the status of environmental disclosure in the financial reports of the Jordanian mining and extraction listed shareholding companies. In addition, the study focuses on identifying the barriers, which are facing these companies.

Methodology – Thus, to attain the aim of this study, the needed data have been collected through using a questionnaire as well as a set of secondary data, which are available in the annual reports of the study's sample.

Findings – As a result, the study showed that though all companies are presenting the environmental disclosure technique in their annual reports, however, the usage of this technique is uneven between the companies.

Conclusion – The study concluded that the Jordanian industrial companies do not pay attention to the forms of environmental disclosure.

Keywords: Environmental disclosure, annual reports, environmental disclosure problems, Jordanian mining and extraction companies.

JEL Codes: M41, L61, Q56

1. INTRODUCTION

Since the environment has got the priority for countries, many countries have established ministries and high authorities to preserve their environments. Globally, various bodies, associations and organizations have been established to preserve the environment; such as, Greenpeace, friends of the environment societies or the Friends of Earth, which carries out important activities to highlight this important subject. Anyway, the interest in the environment has become a critical demand in most countries, as it is a global trend resulting in the emergence of environmental accounting due to its importance in providing information relates to environmental costs to assist the management in planning and control. Many governmental and non-governmental organizations are interested in exploring the environmental impacts of companies in their annual reports (Abdul Hussain, 2014, 292).

Relative studies indicated the increasing number of companies, which include environmental disclosure in their annual reports to meet the desires of investors and the other users of annual reports. The evidence on that is the increase in the content of disclosure of environmental information from mere a paragraph in the annual report to the preparation of independent environmental information reports, which are published by companies. Such disclosure appears in many forms; such as the descriptive data, quantitative facts, numbers and notes in the financial statements (Darwish, 2009; Suttipun & Stanton, 2012; Jariya, 2015).

The early eighties of the 20th century have witnessed the real beginning of the official interest in the environment in Jordan, when the Government decided to create a department of environmental connected with the Ministry of Municipality and Rural Affairs. Hence, Jordan started to focus on environmental planning and management due to the development of official conviction that the protection of environment is a part of the developmental area, which must be taken into consideration to reach to environmental balance that allows progress and growth. In addition, the protection and

preservation of the environment is an essential requirement to ensure a sustainable development. Therefore, in Jordan there are many administrative and technical bodies were established, to care about environment. The Ministry of Environment in Jordan is deemed as the competent authority in the protection of the environment (Environmental Protection Law, 2006).

The environmental disclosure is a method by which companies could inform the society, with all its spectra, on their various activities concerning the environmental content. The annual reports are deemed an appropriate tool to achieve that. Today, the environmental disclosure in the annual reports of industrial companies is seen as one of the most important subjects. Thus, due to this importance, this study examines the level of environmental disclosure in the annual reports of the companies for the period 2016, as well as identifying the problems that impede the mining and extraction companies in Jordan from the environmental disclosure in their annual reports. To attain the aim of this study, the paper is including five sections. The first section includes the introductory, the study's problem, the study's objectives and the study's hypotheses. In the second section the study discusses the previous related studies as well as the definition of the environmental disclosure. Section number three explains the methodology of this study. The fourth section discussing the study findings and the fifth section presents the conclusion and recommendation of this study.

The subject of the environmental disclosure in the annual reports of the Jordanian industrial companies is still at the early stages. Additionally, the studies in this area are relatively few. Therefore, it is imperative to conduct further researches that could contribute to maximize the use of the annual reports and expanding the areas of disclosure. Thus, this study seeks to identify the problems that prevent the companies from presenting an environmental disclosure in their annual reports. To attain that the study copes with answering the following two questions:

1. Do the Jordanian mining and extraction companies present the environmental disclosure in their annual reports?
2. What are the problems that impede the Jordanian mining and extraction companies from presenting the environmental disclosure in their annual reports?

Today, the environmental disclosure in the annual reports is found as one of the most important and up-to-date subjects because the companies are no longer aimed to realize profits only, but to avoid some aspects that harm the community and damaging the environment. Therefore, the purpose of this study is to provide an appropriate scientific contribution, through exploring the level of the environmental disclosure in the annual reports as well as identifying the external and internal problems of the environmental disclosure in the annual reports of the Jordanian mining and extraction companies during the 2016.

This study aims to achieve the following two objectives:

1. Examining the level of environmental disclosure in the annual reports of the Jordanian mining and extraction companies.
2. Identifying the external and internal environmental disclosure problems in the annual reports of Jordanian mining and extraction companies.

The study is based on the following two hypotheses:

H₀₁: The Jordanian mining and extraction companies don't present the environmental disclosure in their annual reports.

H₀₂: There are no external and internal problems would prevent the Jordanian mining and extraction companies from presenting the environmental disclosure in their annual reports.

2. LITERATURE REVIEW

For the purpose of this study, the researchers revised some previous studies, which are relevant to the subject of this study. A study of Welbeck, et al. (2017) examined the type of environment-related information firms disclose mostly in Ghana, and investigate the determinants of environmental disclosures by firms in Ghana. Using the Global Reporting Initiative (GRI) index as a benchmark, a content analysis of the corporate annual report of (17) firms listed on the Ghana Stock Exchange (GSE) was conducted over a 10-year period (2003 to 2012) to determine the total environmental disclosure scores of the sampled firms. The determinants of environmental disclosure practices of the firms were ascertained by means of a regression analysis. The results indicated that the listed firms in Ghana disclose some amount of environmentally-related information espoused by GRI though the level of disclosure is low. Also, the level of disclosure by environmentally-sensitive firms is higher than the less sensitive firms similar to existing studies. Moreover, the study finds firm size, auditor type, age of the firm and industry type to be significant predictors of firms' environmental disclosure practices. Mazahrih, et al. (2016) investigates the quality of environmental reporting information by the chemical industry in Jordan. The focus is on prescribed accounting principles and reporting practices. Content analysis is utilized to attain the study's aims. The study demonstrates the extent of environmental reporting in two companies' annual reports at both national and international

levels. The environmental reporting performance is measured against the literature and international initiatives. The results showed some differences between the two levels with regard to the quality, content and profile disclosure. The main reason for such variation in reporting could be attributed to the voluntary nature of environmental disclosure. Anyway, in the absence of legislation regarding environmental disclosure, doubts remain about the likelihood of better quality reporting. Md, et al. (2014) focused on providing a critical examination for the practices of environmental disclosure as well as the disclosure's extent in the industries of Bangladesh. As a result, the study showed that around 69% of the studied industries do not including any environmental issue in their annual reports.

Eljayash (2015) aims to document the environmental disclosure practices in the Arab Spring countries, Egypt, Libya and Tunisia. These countries have been witnessed a change in governance systems as a result of massive popular revolutions in 2011 in what became known revolutions of the Arab Spring. These revolutions have been influenced on the political and legal systems and economic development of these countries. As a result, due of the accounting system interacts with surrounding systems; the changes of systems may affect the accounting system, thus accounting practices, including environmental disclosure practices that may be affected. Therefore, the researcher focused on documenting the environmental disclosure practices in the oil companies for the three years that preceded the Arab Spring revolution. As result, it will contribute in comparisons for the accounting practices of companies after the success of the Arab Spring uprisings. Content analysis and environmental disclosure index are used to measure the quantity and quality of environmental disclosure in companies operating in the oil sector. The results of the study indicated low accounting information contained in the annual reports before Arab spring.

Uzzaman and Kowsar (2014) present an empirical investigation into the corporate environmental reporting practices of a number of listed non-financial companies from Bangladesh. Based on both primary and secondary data, the study reveals that (61.36 %) of the listed companies have made such disclosures. Analysis over a wide range of industries reveals that companies in the pharmaceuticals and telecommunication sector secure the highest rank in terms of corporate environmental reporting; (88.90%) of disclosures are generalized qualitative statements; (96.30%) of CER is located in the director's report; and the mean amount of disclosures is less than one fourth of a page. The respondents have felt the strong need for CER in their Annual Reports, the respondents have also been aware of CER practices; the respondents have identified some major problems involved in CER and suggested some measures.

Yosuff, at el., (2013) investigate the state of environmental reporting by Malaysian and Australian companies on 'other' reports, i.e. other than annual reports. The paper employs content analysis to study the environmental disclosures made by the selected (100) companies in the two countries. Regression analysis is performed on potential influencing factors for environmental reporting. The paper finds that environmental reporting in 'other' reports (Malaysia and Australia) are largely descriptive and in qualitative form. In addition, the influencing factors for environmental reporting are of similar quality to those made in annual reports, in both countries. These findings imply that this type of communicating environmental information does not contribute greater corporate accountability among companies in fulfilling stakeholders' needs and demands for environmental information. Hence, more efforts are needed to promote better and greener environmental reporting practice. This study comparatively explored the environmental practices and interprets the possible link between the influencing factors for environmental reporting and actual environmental reporting practices on a two-country basis, between Malaysia and Australia. Bae and Kim (2018) studied the extent of using the environmental accounting as well as the environmental reporting in the banks of Bngladesh. After analyzing data of twenty banks, the results discovered that the banks of Banglادish tend to disclose the information, which are related to the categories of the renewable energy as well as the green banking.

The term 'environmental disclosure' is defined as the process through which the information was presented on the environmental obligations, which are resulting from a corporate daily activities. Although the concept of disclosure has one definition, whether environmentally or accounting, but it is noted that it is limited, in respect of accounting disclosure, to the presentation of the business results in the light of the accounting policies and concepts. It may not reflect the negative environmental effects resulting fromthe company's variousactivities . In such case, it results in shortage in the information presentation associated with the organization activities, in particular, the information related to the cost and environmental liabilities. This forms one of the challenges encountered by accounting recent years in which the industrial company's activities have increased and widened to include the negative effects resulting from dispensing toxic waste which is dangerous to the environment surrounding these companies (Al-Rashed, 2013, 11).

The environmental disclosure was also defined as "the presentation and provision of the data and information related to the environmental activities of the business facilities in the financial statements, which facilitates the work of the information users and decision-makers and lead to rationalize the decision in assessing the environmental performance of such companies" (Saleh, 2015, 89).

3. DATA AND METHODOLOGY

This study has relied on the primary and secondary data. The primary data have been collected through the distribution of questionnaires by one questionnaire to the Heads of Finance Departments per company. The primary data was used to identify the external and internal problems of the environmental disclosure in the annual reports of the companies. The secondary data was collected through the annual reports of the companies for 2016 to examine the environmental disclosure level in the annual reports of these companies. This study is deemed an exploratory study (content study) and descriptive at the same time. The questionnaires were distributed to only 10 of the 16 companies of the year 2016, after taking their initial approval to distribute one questionnaire to each company. The total of the questionnaires delivered and collected were 10. All of them were analyzable.

4. FINDINGS AND DISCUSSIONS

4.1 The environmental Disclosure in the Annual Reports

One of the main objectives of this study is to examine the level of environmental disclosure in the annual reports of the Jordanian mining and extraction companies. Thus, through the examining the corporate annual reports on the level of environmental disclosure, the study noticed that the environmental disclosure forms in the annual reports focus on the qualitative disclosure, which is followed by the monetary and then the quantitative. This indicates that the companies of Jordan do not pay too much attention to the forms of the environmental disclosure in their annual reports, especially the quantitative disclosure. See the following Table 1.

Table 1: The Environmental Disclosure Forms

Forms	Companies										Repetition	%	Rank
	1	2	3	4	5	6	7	8	9	10			
Qualitative	✓	✓	✓		✓	✓	✓	✓	✓	✓	9	56%	1
Monetary	✓	✓	✓	✓	✓					✓	6	38%	2
Quantitative		✓									1	65%	3
Total											16	100%	

The following table number 2 shows a significant weakness in the usage of the other forms of environmental disclosure, except the disclosure in the tables, which obtained 50% percent:

Table 2: Other Forms of the Environmental Disclosure

The following table shows other forms of the environmental disclosure in the annual reports:

Forms	Companies										Repetition	%	Rank
	1	2	3	4	5	6	7	8	9	10			
Image		✓				✓					2	17%	2
Map		✓									1	8%	3
Table	✓	✓	✓	✓	✓					✓	6	50%	1
Diagram	✓	✓									2	17%	2
Comparison		✓									1	8%	3
Total											12	100%	

However, table number three demonstrates that the environmental disclosure was presented the Report of the Board of Directors (Board Report) and then in the financial statements, clarifications, and the company's mission. This indicates that most companies concentrate on the environmental disclosure in the Board report:

Table 3: The Environmental Disclosure Location

The following table shows the location of the environmental disclosure in the annual reports:

Location	Companies										Repetition	%	Rank
	1	2	3	4	5	6	7	8	9	10			
Company Mission						✓					1	5%	4.
Board Report	✓	✓	✓		✓	✓	✓	✓	✓	✓	9	47%	1.
Financial Statements	✓	✓	✓	✓	✓					✓	6	32%	2.
Clarification	✓	✓			✓						3	16%	3.
Total											19	100%	

The following table number four found that all companies showed the positive environmental disclosure, while ignored the negative disclosure, except one company revealed a negative environmental disclosure. Perhaps, this is because the conviction of the management that the negative disclosure may impact on the company's reputation:

Table 4: Type of the Environmental News

The following table shows the type of the environmental news in the annual reports:

News	Companies										Repetition	%	Rank
	1	2	3	4	5	6	7	8	9	10			
Positive	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8	89%	1
Negative		✓									1	11%	2
Total											9	100%	

In table number five, it is found that the number of lines, which are allocated for the environmental disclosure in the annual reports of the companies was less than ten lines, except two companies. The second company on average of 47 lines and the fifth company at average 13 lines. This indicates that the lines allocated for the environmental disclosure in annual reports were few which does not exceed a quarter page:

Table 5: The number of lines allocated for the environmental disclosure

The following table shows the number of lines allocated for the environmental disclosure in the annual reports:

Lines	Companies										Repetition	%	Rank.
	1	2	3	4	5	6	7	8	9	10			
1-5	✓			✓			✓	✓	✓		5	50%	1
6-10			✓			✓				✓	3	30%	2
More than 10		✓			✓						2	20%	3
Total											10	100%	

Table number six describes that the environmental accounting disclosure component was ranked as the first, followed by the importance of environmental protection, and environmental health and safety in the second rank. The rest of the other elements were ranked third to seventh. The study also noted that the disclosure ratio is found weak, as it reached 25%, the second company is the most disclosed by 25%, followed by the fifth company by 19%. It is also noted that by examining and analyzing the previous tables, from table (1) to (6), in general, all companies include an environmental disclosure in their annual reports, but poorly and unevenly. Based on the above, the null hypothesis stating that "the Jordanian mining and extraction companies do not present the environmental disclosure in their annual reports" was rejected:

Table 6: Elements of the Environmental Disclosure

The following table shows the elements of the environmental disclosure in the annual reports:

Se r.	The elements	Companies										Repetition	%	R a n k
		1	2	3	4	5	6	7	8	9	10			
1	Environmental policy						✓					1	10%*	6
2	Environmental management	✓	✓	✓								3	30%	4
3	Environmental events		✓									1	10%	6
4	Lawsuits on environmental issues		✓									1	10%	6
5	Environmental protection		✓		✓	✓	✓			✓		5	50%	2
6	Environmental standards					✓		✓				2	20%	5
7	Sustainable development		✓			✓						2	20%	5
8	Environmental accounting	✓	✓	✓	✓	✓	✓			✓		7	70%	1
9	Environmental health and safety	✓	✓	✓		✓	✓					5	50%	2

10	Conservation of natural resources					✓						1	10%	6
11	Research and development					✓						1	10%	6
12	Environmental education and training	✓	✓				✓			✓		4	40%	3
13	Social interaction		✓									1	10%	6
14	Environmental awards			✓								1	10%	6
15	Treeplantation					✓				✓		2	20%	5
16	Soil		✓			✓				✓		3	30%	4
17	Water management		✓	✓			✓		✓			4	40%	3
18	Solid waste			✓					✓			2	20%	5
19	Air pollution		✓					✓				2	20%	5
Total		4	12	6	2	9	6	2	2	4	1	48	25%* *	-
Percentage %		8%***	25%	13%	4%	19%	13%	4%	4%	8%	2%	100%	-	-

4.2 The Problems of the Environmental Disclosure in the Annual Reports

The second objective of this study is to identify the problems of environmental disclosure in the annual reports of the Jordanian mining and extraction companies. The problems of environmental disclosure in annual reports were divided into external problems and internal problems. As shown in table number seven, the results confirmed that the first paragraph is ranked as the first item that is followed by the paragraph number five. However, the second paragraph was considered as the least problem that is facing the Jordanian companies, while presenting the environmental disclosure in their annual reports. In general, the general scale of the arithmetic means of the external problems achieved was high, reached (3.85), with a standard deviation (0.659). This indicates an agreement of respondents that there are many external problems impede the environmental disclosure in companies:

Table 7: External problems

The following table shows the most important external problems:

Ser.	Paragraph	Arithmetic mean	Standard deviation	Relative importance	Rank
1	The lack of legal and legislative texts that oblige the environmental disclosure.	4.06	0.907	*High	1
2	Deficiency in many aspects in the environmental laws and regulations.	3.74	0.978	High	6
3	Non-compliance with environmental laws and regulations which obligate the disclosure.	3.77	0.943	High	5
4	Failure to take the legal procedures against uncommitted companies to the instruction of environmental disclosure.	3.82	1.089	High	3
5	The lack of governmental incentives and support to the companies that comply with the environmental disclosure.	3.91	0.961	High	2
6	Lack of local organizations that qualify professionals in the field of environmental disclosure.	3.80	0.878	High	4
General measure		3.85	0.659	High	

The relative significance level determined was as follows: low level (1 - 2.33); average level (2.34 – 3.66) and high level (3.67 – 5.0).

However, after testing the hypotheses of this study, the results showed that the calculated value (T) is greater than the tabulated value (T), and the value of (alpha) is less than (0.05). Hence, we rejected the null hypothesis, which is stating that "There are no external problems would prevent the Jordanian mining and extraction companies from presenting the environmental disclosure in their annual reports". That means that there are external problems would prevent the Jordanian mining and extraction companies from presenting the environmental disclosure in their annual reports:

Table 8: Results of testing the hypothesis

The following table shows the testing of hypothesis:

T Calculated	T Tabulated	(Alpha) Sig	Result of the null hypothesis
5.61	2.13	0.00	Rejected

The results also discovered that paragraph 5 in table number nine, stated that “Non-existence of a competent division for environmental disclosure” was ranked as the first), followed by paragraph No. 9, which is stating that “The difficulty of determining the costs of environmental disclosure” valued (3.79). While, the sixth paragraph, was ranked as the last with a value of 3.34. The general scale of the arithmetic means for the external problems was (3.57), with standard deviation (0.665). This indicates the respondents’ agreement that the companies suffer internal problems impede the environmental disclosure:

Table 9: The Internal Problems

The following table shows the most important internal problems:

Ser.	Paragraph	Arithmetic mean	Standard deviation	Relative importance	Rank
1	Lack of management awareness of the importance of environmental disclosure.	3.64	0.916	Average	4
2	Lack of management attention to apply environmental disclosure.	3.60	1.039	Average	7
3	Management believes that environmental disclosure will negatively affect its reputation.	3.42	1.002	Average	14
4	The lack of internal instructions, regulations and, rules relevant to the environmental disclosure.	3.46	0.816	Average	12
5	Non-existence of a competent division forenvironmental disclosure.	3.87	1.181	High	1
6	The lack of accounting system that fulfils the purposes of environmental disclosure	3.34	1.010	Average	15
7	Lack of full disclosure of information and accounting policies related to environmental disclosure.	3.56	0.987	Average	8
8	The high cost of applying the environmental disclosure.	3.54	1.005	Average	9
9	The difficulty of determining the costs of environmental disclosure.	3.79	0.905	High	2
10	The absence of environmental auditing.	3.51	0.806	Average	11
11	Non-compliance with international accounting standards or financial reporting standards for environmental disclosure.	3.43	0.910	Average	13
12	Inadequate number of employees in the Accounting Department to follow-up environmental disclosure.	3.53	0.880	Average	10
13	The lack of sufficient scientific qualifications for staff of the financial departments in relation to environmental disclosure.	3.61	1.117	Average	6
14	The lack of adequate knowledge and skills of Finance Departments staff with regard to the environmental disclosure.	3.65	0.971	Average	3
15	The lack of educational programs and training courses for the Finance Departments in relation to the environmental disclosure.	3.62	0.933	Average	5
General Scale		3.57	0.665	Average	

Beyond that the results showed that the calculated value (T) is greater than the tabulated value (T) and the value of (alpha) is less than (0.05). Therefore, the study confirmed there are internal problems preventing the Jordanian mining and extraction companies from presenting the environmental disclosure in their annual reports:

Table 10: Results of testing the hypothesis

The following table shows the testing hypothesis:

T Calculated	T Tabulated	(Alpha) Sig.	Result of null hypothesis
9.72	2.13	0.00	Rejected

5. CONCLUSION AND RECOMMENDATIONS

The study concluded that the Jordanian mining companies are not presenting the environmental disclosure in their annual reports properly. The Jordanian mining companies not only do not pay attention to the forms of the environmental disclosure, but also it is concentrated on presenting their disclosure in the board report. The Jordanian mining and extraction companies only focused on presenting the positive environmental disclosure. The ratio of the environmental disclosure elements is found to be weak. The study concluded that the Jordanian companies are encountering some problems, which are able to prevent the process of presenting the environmental disclosure properly.

Moreover, the study recommended that it is necessary to increase the attention to present the environmental disclosure in the annual reports of the Jordanian companies. The responsible parties must improve the regulations of applying the process of the environmental disclosure in the annual reports of the Jordanian mining and extraction companies. It is significant to manage the process of presenting the environmental disclosure through a team of qualified as well as skilled individuals. The study recommended that there is a necessity to respect the regulations of the environmental disclosure as it is announced by the specialized authorities.

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THE EFFECT OF ANNUAL REPORT READABILITY ON FINANCIAL ANALYSTS' BEHAVIOR

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ABSTRACT

Purpose-This article examines a little investigated issue in France concerning the effect of the readability of financial information upon the behavior of financial analysts. We investigate 88 companies listed on the French CAC All between 2009 and 2014. Readable annual reports are those that provide homogeneous, simple, clear, readable information that is understandable by all investors.

Methodology -We investigate 88 companies listed on the French CAC All between 2009 and 2014. Readable annual reports are those that provide homogeneous, simple, clear, readable information that is understandable by all investors. To measure readability, we use the Gunning Fog index and the Flesh Reading Ease formula. Results indicate a positive relation between analyst following and the readability of the annual reports. Furthermore, the number of financial analysts corresponds to the increasing attention paid by institutional investors to companies.

Findings- Readability reduces the agency costs and information asymmetry between investors, which attracts financial analysts, thus confirming the assumption of adverse selection.

Conclusion-French companies need to issue understandable information to the markets; this would imply using short sentences, common words, or the active voice. The aim of such strategies is to reduce the cognitive distance between information senders and users.

Keywords: Annual report readability, financial analysts, Gunning Fog index, Flesh Reading Ease formula, French stock market.

JEL Codes: G30, G32, G34

1. INTRODUCTION

Transparent information helps maintain the equilibrium of financial markets, and the proliferation of financial scandals has highlighted its significance. Only a good communication policy can ensure a relationship of trust between companies and their stakeholders. Hence, the French New Economic Regulations (NRE) Act of 2001 has triggered intensified regulations and recommendations to enhance the readability of information issued in the context of financial reporting that has evolved in order to protect shareholders by ensuring accurate, specific, and truth ful information (Financial Security Act of August 1, 2003).

The French Financial Markets Authority (AMF) (2009) annual report emphasized the notion of readability. It issued an action plan to meet the crisis of public confidence and politicians' expectations. It also aimed to improve the readability of the financial information provided to "non-professional users". Government accounts are also subject to an obligation of readability. The organic law concerning finance laws (LOFT) imposes on the State the responsibility to submit "reliable, readable, and usable" information and specifies that usable information is that which can be understood by non-accountants.

Readability studies of text corpora appeared in the 1940s in the United States and involved formulae designed to evaluate the degree of difficulty in reading texts based upon both lexical and morphosyntactic variables and typographical variables. Fernbach (1990) defines readability as the ease with which a text can be read quickly, understood, and memorized.

Studies have investigated how easy it is to read annual reports and their components. Findings show that company annual reports are extremely hard to read; hence, they can be said to belong to a type of text that is likely to be inaccessible, particularly at the expense of a large number of inexperienced shareholders (Jones and Shoemaker, 1994). Consequently, the complexity of annual reports reinforces the information asymmetry between managers and investors and produces agency conflicts. Studies have also sought to determine whether annual reports have become more difficult to read over time, with mixed results (Jones and Shoemaker, 1994).

The readability of annual reports enhances the quality of information and helps ensure that the needs of both internal and external users of financial statements are met. Hence, the readable information provided by managers may appeal to analysts, reduce the time they spend understanding and interpreting this information, and facilitate their forecasts. It is thus necessary that the markets receive readable information, through reducing technical jargon and producing texts that can be understood by a large portion of the population. Francophone authorities believe that these measures would assist financial markets. Should this be the case, there would be a relationship between readable information and the behavior of financial analysts.

Financial analysts play a crucial role in the creation of the stock market value of companies. Studies have stressed the significance of analysts' recommendations and their influence upon investors' decisions and behavior (Ivkovic and Jegadeesh, 2004; Asquith et al., 2005). The benefits analysts bring stem potentially from two sources: finding private information and interpreting public information. These actors play a key role as intermediaries between companies and their partners (Schipper, 1991). Investors do not all possess the expertise or time needed to follow companies closely. The information provided by managers may facilitate the analysts' forecasts and reduce the time they spend finding information; hence, that information must be readable.

The relationship between information readability and analysts' behavior is therefore worth investigating from a dual perspective. First, to our knowledge, the present study is the first to investigate the relation between the readability of financial information and the behavior of financial analysts in France, as most of the studies concerning readability emanate from the Anglo-Saxon world. It is thus worth examining the readability of the corporate financial reporting of companies listed on the French stock market. Second, the study explores the complexity of financial information, based upon the textual contents of annual reports¹, characterized by information asymmetries revealed through financial analyst following.

Few studies have investigated the impact of financial reporting upon analysts' following (Lang et al., 1996; Hope, 2003; Lakhal, 2009; Ajina et al., 2013). The first purpose of this study is to determine to what extent the readability of annual reports is significant for analysts and attracts them. The second purpose is to assess to what extent managers use the clarity of financial information to meet the information asymmetries existing in the markets and revealed through analyst following. The study findings show a positive relationship between analyst following and the readability of annual reports, which confirms the hypothesis of adverse selection. We also show that the number of financial analysts is related to the increasing attention institutional investors pay companies.

This paper is organized as follows: the second section examines the relation between the readability of annual reports and analyst following. The third section presents the sample and the research methodology, followed by the results and discussions of results. The final section concludes the paper.

2. THE RELATION BETWEEN THE READABILITY OF ANNUAL REPORTS AND THE BEHAVIOR OF FINANCIAL ANALYSTS

The resources made available to them and the authority to release findings that may alter the share prices of the companies they analyze give financial analysts the power to sanction any adverse observation regarding a company, in particular concerning information deemed inaccurate. The review of the literature on this issue shows that analysts influence significantly the behavior of investors. Managers consider that analysts are among the most important actors affecting their company share prices (Graham et al., 2005; Agrawal and Chen, 2012; Hugon and Muslu, 2010). Healy and Palepu (2001) suggest that information intermediaries such as analysts and rating agencies are involved in the private disclosure of information that helps detect poor management.

We review the literature concerning the quality of financial information through the lenses of three theories. First, the work of Akerlof (1970) shows the existence of information asymmetry, partly intended by the stakeholders in any transaction since each party modifies the information given to the other party in order to obtain greater benefits. The second construct is the theory of agency, as developed by Jensen and Meckling (1976). According to this theory, shareholders give managers a mandate for management in expectation that actions and performance will be transparent. However, in their annual report, the managers disclose only favorable elements, and they hide the unfavorable aspects. This observation, then, leads

¹Annual reports are the visiting cards of companies; these exhaustive, economic, legal, accounting, and institutional documents provide information to all the groups dealing with the companies, and they reflect the companies' institutional image (Rogers and Grant 1997).

to the assumption of managerial opportunism (Demsetz and Lehn, 1985). Jensen and Meckling (1976) argue that “to the extent that security analysis activities reduce the agency costs associated with the separation of ownership and control, they are indeed socially productive” (p. 68). From the perspective of these two theories, information disclosure by companies is a necessary and effective process to protect the shareholders against the managers’ discretionary control and, indirectly, the minority shareholders against the risk of expropriation by the majority shareholders (Jensen and Meckling, 1976). Third, we use the positive accounting theory developed by Watts and Zimmerman (1986, 1990), which shows that the accounting documents that are issued can be manipulated, even non fraudulently, and are highly likely to influence investors’ opinions.

Research in the domain of financial information quality is based upon these three theories, which have also generated a more open research trend that integrates linguistic dimensions with a view to making sense of the information provided in written documents. In theory, the effectiveness of financial reporting rests upon annual reports that facilitate reading and interpreting financial information. The notion of readability is a linguistic concept based upon several theoretical assumptions (e.g., text structure, writing style, and way of presenting information). The linguistic quality of annual reports thus supports the credibility, legitimacy, and quality of corporate governance. These theoretical assumptions then clearly call into question the transparency all the guides of good governance request but that remains an ideal. In the context of financial markets, these phenomena increase the information gap between the companies, on the one hand, and the stakeholders on the other. Using information intermediaries, as Healy and Palepu (2001) suggest, should partly solve the problem by facilitating information processing and flow.

According to Asquith et al. (2005), financial analysts are significant information intermediaries in financial markets. Several studies on this issue have shown that the usefulness of the analyst function potentially arises from two sources: finding private information and interpreting public information. The number of financial analysts who follow a firm is a variable often used to consider information asymmetry. Some authors suggest that information asymmetry is the main determining factor of the number of financial analysts who follow the firm (Chung et al., 1995; Van Ness et al., 2001). Others believe that the number of analysts strongly influences the level of information asymmetry that characterizes share prices. Hence, they suggest that the number of financial analysts who follow a firm be used as a measure of the information asymmetry relating to this firm (Roulstone, 2003).

The relation that exists between the number of financial analysts and the readability of annual reports is theoretically extremely complex because of the issue of supply and demand for analyst services (Hope, 2003). Bhushan (1989) proposes two ways of interpreting this relation between the readability of annual reports and analyst following. The first depends upon the demand for analyst services and the second upon the supply of analyst services to investors; the intersection of the supply and demand curves determines equilibrium.

First, complex annual reports are those that give unreadable information (Ajina et al, 2016), with a syntactic complexity that increases the processing and interpreting cost and, ultimately, the demand for analyst services. Analyst following becomes more important and, in fact, crucial, because it determines investors’ decision making, particularly when the cost of the financial analysts’ report is lower than that of processing the annual reports of the firms involved. Second, the cost of analyst following could increase because of the complexity of annual reports. In other words, analysts could bear both the cost of processing and interpreting unreadable information and the cost of finding private information. Such a situation could lead to less accurate forecasting. In the event of significant costs, the analyst following would be lower for companies with complex annual reports (Lehavy et al., 2011).

In sum, the readability level of annual reports increases the supply of analyst services. However, this level may increase or reduce the demand for analyst services in terms of the analysts’ role in the market. Hence, the net effect depends upon the relative significance of this role, which is theoretically ambiguous. The issue is to determine whether the readability of financial reporting and analyst following are substitutes or complements.

Empirical research has focused upon the link between the number of financial analysts and the financial information reporting policy, in particular through the work of Lang and Lundholm (1996), Lakhali (2011), and Ajina et al. (2013). Lang and Lundholm (1996) assert that the positive link between the information disclosure index and the number of analysts following a firm stems from the fact that more information engenders a greater need for investors’ interpretation and processing and later, for analyst services. Lakhali (2011) investigates the relations between the voluntary reporting of performance and financial analysts’ behavior in a sample of 154 French companies over the 1998-2000 period. The study goal is twofold; first, it is to determine whether voluntary performance reporting is important to analysts and second, whether managers use voluntary reporting to reduce the information asymmetry present on the market. Study findings confirm the hypothesis that analysts are more inclined to follow the firms that regularly report performance information on the market. This conclusion entails that in response to firms’ good reputation regarding financial reporting; analysts offer their services in order to reduce the costs of searching for private information. Lakhali (2011) thus asserts that voluntary performance reporting is an essential determining factor of analyst following. Ajina et al. (2013) confirm this finding and

show a positive relation between the extent of the disclosure and the number of financial analysts in a sample of 189 French companies over the 2007-2011 period.

The most recent study is that of Ajina et al. (2015), who aim to investigate the relation between the governance index and analyst following in a sample of 174 French companies listed in the SBF 250 index over a four-year period (2008-2011). Findings show a positive relation between the number of analysts and the governance score, which indicates that analysts follow the firms that adopt governance mechanisms and provide quality reporting. Other authors examine the impact of new information upon share prices (Healy et al. 2004) and the relation between analysts' behavior and sector information (Botosan and Harris, 2000) or the importance of intangible assets (Barth et al., 2001). All these studies conclude there is a positive relation between the quality of reporting and the financial analysts' activity. These studies, however, focus mainly upon one feature of reporting, namely the selection of an accounting option and the tax rate, and they do not include the effects related to the contents or the form of the other documents published with the document under investigation.

From a sample of 33,704 observations of companies listed in the United States between 1995 and 2006, Leavy et al. (2011) note that the poor readability of annual reports increases the cost of document analysis and thus the demand for analyst services. The authors also show that analysts take longer to present their first forecast when the annual report is less readable. Finally, they indicate that less readable reports are associated with greater dispersion and lower accuracy than those of other firms. This uncertainty on the part of analysts increases with the low readability index score. In another study, Lang et al. (2004) use a sample of over 2,500 companies from 27 countries and assert that analysts are less likely to follow companies showing a greater risk of fraud or lack of transparency. These findings suggest that corporate governance plays an important role in analysts' willingness to follow companies and that increased analyst following is associated with higher valuations, particularly for firms likely to face governance problems.

Based upon the previous observations, we propose the following hypothesis:

There is a positive impact of Annual Report Readability on financial analyst following.

3. SAMPLE AND METHODOLOGY

3.1. Data

Initially, our sample included all the French companies listed on the CAC AllTradable index over a six-year period (2009-2014). After excluding the financial companies, since these are subject to specific legislation regarding reporting, and because of the non-availability of data relating to the number of financial analysts, our final sample included 88 companies and 528 observations. The financial data were extracted from the Datastream database. The data relating to the number of financial analysts were extracted from the I/B/E/S. database. To assess readability, we calculated a readability index from company annual reports that appeared to be a preferred communication tool with the public. These reports were obtained directly from the companies. Then, we converted these reports from a PDF to a Word format, and we eliminated tables and images. Finally, we used Textalyser to measure the readability of the reports produced by the companies in our sample.

3.2. Presentation of the Variables

3.2.1. Financial Analyst Following

In line with previous research (O'Brien and Bhushan, 1990; Brennan and Subrahmanyam, 1995), we define analyst following as the mean number of analysts following the firm. Financial analyst following is measured by the log of the number of financial analysts plus 1 ($\ln(1 + \text{NAF})$).

3.2.2. Annual Report Readability

The reading scores, known as the "reading index", were originally based on primary school assessments. The application of these scores to annual reports dates back relatively far (Sydserff and Weetman, 2002) and drew a certain amount of criticism (Jones and Shoemaker, 1994). Estimating the validity of the formulae used is complex. Courtis (1997) asks the accounting researchers in communication to make greater effort to find a more formal approach for the validation of these formulae. Consequently, these scores are still in use and continue to show their efficiency as research tools. A reading index is a calculated score bound to standards defined by written texts classified in terms of reading difficulty. A reading index is a calculated score that varies between two extremes. At one end of the scale, there is very basic reading comprehension. At the other end, in contrast, reading comprehension is very advanced, corresponding essentially to scientific documents (Courtis, 1997). As in Li (2008), we assess the readability of annual reports using the Gunning-Fog Index and the Flesch Index derived from the computational linguistics literature.

a-The Fog Index has been used widely and has seen increasing use in the accounting literature (Biddle et al., 2009; Miller, 2010; Leavy et al., 2012; Lawrence, 2013; Ramanna and Watts, 2011). The Fog Index, developed by Gunning (1952), is a well-known and simple formula for measuring readability. Assuming that the text is well-written and logical, it captures text complexity as a function of syllables per word and words per sentence². The index indicates the number of years of formal education a reader of average intelligence would need to read the text once and understand that piece of writing with its word-sentence workload. It is calculated as follows:

$$\text{Fog} = (\text{words per sentence} + \text{percent of complex words}) \times 0.4$$

Where complex words are defined as words with three syllables or more, the relation between the Fog and reading ease is as follows: FOGX18 means the text is unreadable; 14–18 (difficult); 12–14 (ideal); 10–12 (acceptable); and 8–10 (childish).

b- The Flesh Reading Ease Formula is considered as one of the oldest and most accurate readability formulas. The Flesh Reading Ease Formula was developed by Flesh in 1948, and it is based on school texts covering Grades 3 to 12. The index is usually between 0 (hard) and 100 (easy). This orientation contrasts with some of the other readability measurements since higher scores mean easier reading. This test is often used to assess adult reading materials; it is used by the U.S. government agencies. Department of Defense as an indicator of readability. The specific mathematical formula is:

$$\text{FRE} = 206.835 - (1.015 \times \text{ASL}) - (84.6 \times \text{ASW})$$

FRE = Readability Ease

ASL = Average Sentence Length (i.e., the number of words divided by the number of sentences)

ASW = Average number of syllables per word (i.e., the number of syllables divided by the number of words)

The output, i.e., RE is a number ranging from 0 to 100. The higher the number, the easier the text is to read.

- Scores between 90.0 and 100.0 are considered easily understandable by an average 5th grader.
- Scores between 60.0 and 70.0 are considered easily understood by 8th and 9th graders.
- Scores between 0.0 and 30.0 are considered easily understood by college graduates.

2.2.3. Control Variables

Institutional investors - Institutional shareholders are able to perform monitoring activities on management, and this is considered as a positive signal sent to markets. Institutional investors are able to pay higher following costs to protect their assets (Shleifer and Vishny, 1988). As a result, they may encourage managers to take better accounting and financial decisions (Baker and Wallage, 2000). They are then considered as a governance mechanism, able to re-establish trust, guarantee information transparency, particularly in a country where investors' interests are less protected, as is the case in France (Ajina et al., 2015). Bhushan (1989) shows that analyst following is associated with the increasing interest of institutional investors toward the firm. The author finds a positive relationship between institutional investors' ownership and analyst following on a sample of 1409 U.S. firms. Ackert and Athanassakos (2003) show that analysts respond to investors' demand for analysts' services to follow the firm.

Company size- The company size is measured through the logarithm of market capitalization at the year end. Company size is an important determinant of analyst following. This variable is justified from both a theoretical and an empirical perspective. Analysts seldom seek to follow small or medium-size companies.

Bhushan (1989) suggests that the demand for analysts' services is more pronounced for large firms. According to Lang and Lundholm (1996), large companies show better financial communication. They issue quality reporting, which facilitates analysts' forecasting and recommendations to their clients. Furthermore, Doukas et al. (2005) show that the number of financial analysts following a firm is more important for large firms. They suggest that the acquisition of information is costly for small firms. O'Brien and Bhushan (1990) acknowledge that large-size companies may be particularly important for analysts, which is confirmed by Ackert and Athanassakos (2003). An empirical study by Rajan and Servaes (1997) also shows that the earnings of large companies are more predictable than those of small companies. A positive relationship between company size and analyst following is thus to be expected.

²There are other popular measures of readability: the Kincaid index and the Flesch Reading Ease Index. The Kincaid Index, also referred to as the Flesch-Kincaid formula and calculated as $(11.8 \times \text{syllables_per_word}) + (0.39 \times \text{words_per_sentence})$, rates text by a U.S. grade school level. Therefore, a score of 8.0 means that the document could be understood by an average 8th-grade student.

Profitability - Empirical studies associate the level of coverage with profitability. Krische and Lee (2000) have introduced the market-to-book ratio among the determining factors of analyst following. These authors find that analysts give more favorable recommendations to performing stocks. Mc Nichols and O'Brien (1997) assert that analysts start by following the stocks they are optimistic about. Performing firms are the most transparent ones. We expect a positive relationship between profitability and analyst following.

Leverage- Debt ratio is measured as total liabilities divided by total assets. Through the lens of free cash flow theory, Jensen (1986) affirms that high indebtedness limits conflicts of interest between shareholders and managers through exerting pressure on the latter. Thus, highly indebted companies are more likely to communicate clearly (Palepu, 1986). Several studies have empirically demonstrated that the quality of company reporting is positively related to the companies' level of indebtedness (Xiao et al., 2004; Marston and Polei, 2004; Trabelsi, 2005). According to Hossain et al. (1994), highly indebted companies are more transparent than less indebted ones, given the monitoring carried out by their creditors. Hence, the more indebted companies show a low level of information asymmetry and high analyst following.

Business sector - The business sector may account for the varied analyst following. Bhushan (1989) argues that the business sector determines the growth prospects of companies and the analysts' cost of producing information. Furthermore, analysts are likely to prefer sectors with a large number of companies in order to benefit from economies of scale when collecting information (Hope, 2003). The business sector is a dummy variable that takes the value of 1 if the company is in the industrial sector and 0 if not.

3.3 The model

We used a panel regression analysis for a sample of 88 companies listed on the French CACALL index for a four-year period (2009–2014). Panel data analyses include two special dimensions: an individual dimension, as indicated by the *i* index, standing for the company, and a *t* index standing for the period dimension (Gujarati, 2004). The Hausman test was used to choose between fixed effect and random effect models. The Hausman test compares the variance-covariance matrix of the two estimators:

$$W = (\beta_f - \beta_a)' [\text{var}(\beta_f - \beta_a)]^{-1} (\beta_f - \beta_a)$$

With: β_f , fixed effects estimator and β_a , random effects estimator. The result follows a chi-2 with a $K-1$ of freedom. If the null hypothesis cannot be rejected, that is to say if the *p*-value is greater than the level of confidence, then the random effects that are effective are used. The results of the Hausman test, not reported here, show that the random effect model is preferable to the fixed effect. Our model is as follows:

$$(\ln(1 + NAF))_{it} = \alpha_1 (\text{Fog} - \text{index})_{it} + \alpha_2 \text{INST}_{it} + \alpha_3 \text{FSize}_{it} + \alpha_4 \text{Lev}_{it} + \alpha_5 \text{ROA}_{it} + \alpha_6 \text{SECT}_{it} + \varepsilon_{it} \quad (1)$$

$$(\ln(1 + NAF))_{it} = \alpha_1 (\text{FRE} - \text{index})_{it} + \alpha_2 \text{INST}_{it} + \alpha_3 \text{FSize}_{it} + \alpha_4 \text{Lev}_{it} + \alpha_5 \text{ROA}_{it} + \alpha_6 \text{SECT}_{it} + \varepsilon_{it} \quad (2)$$

with:

$\ln(NAF+1)$: Log of the number of financial analysts plus 1

Fog-index: Index of readability, denotes proxies for annual reports' readability level

FRE-index: Flesh Reading Ease index

INST: The percentage of shares held by institutional investors

FirmSize: The natural logarithm of total assets

Lev: The ratio of total debt to total assets

Profit: Net Income of the company divided by Total Assets

SECT: equals 1 if firm is in the industry, 0 otherwise

4. RESULTS AND DISCUSSION

4.1. Descriptive Analysis

Table 1 shows the sample statistics. The number of analysts following the companies in our sample is 18.38 on average and can reach the maximum value of 37. In the same context, Ajina et al (2015) find, in a sample of 174 French companies, a number of analysts varying between a minimum of 1 and a maximum of 56, with a median of 19. Consequently, they assert that 50% of the companies have fewer than 19 analysts. In Hope's (2003) investigation of a sample of 20 countries, France is ranked 7th with an average number of 22.4 analysts for a sample of 72 French companies. The Netherlands come first

with an average number of 29.5 analysts, followed by Germany with 28.8 analysts, Switzerland with 24.8, and Singapour, Spain, and Hong-Kong with respectively 23.4, 23.2, and 23.1.

The mean value of the Fog Index is around 14.69. This value is close to that reported in Li (2008) for a sample of 55,719 firm-years with annual report filing dates between 1994 and 2004, where the mean and median were 18.23 and 17.98 respectively; the value suggests that the companies' annual reports are, on average, difficult to read. Moreover, FOG displays a substantial cross sectional variation as evidenced in the standard deviation of 3.076. The minimum FRE score for the sample companies is 3.80, and the maximum is 57. Given that a higher FRE score indicates reading ease, and a score of 64 is considered as "plain English", the sample companies provide annual reports that can be described as easy to read.

The proportion of institutional investors in French companies is 18.21% on average, ranging from zero to 81.3%, which shows that institutional investors are organizations that pool large sums of money invested in various French companies. The Net Income of the companies divided by Total Assets represents performance measure in the paper. Table 1 shows profitability as 4.1601. The mean value of total debt on total assets ratio for the sample is 0.224.

Table 1: Descriptive Statistics

	Mean	Median	Standard Deviation	Min	Max
<i>NAF</i>	18.384	13.165	161.485	0	37.17
<i>FOG</i>	16.820	16.5	3.096	10.8	24.1
<i>FRE</i>	38.2	42.2	5.135	3.8	57
<i>INST</i>	18.2134	27.84	23.236	0	81.3
<i>FSize</i>	6093.285	6558.16	11306.36	8.98	68565
<i>Lev</i>	0.224	0.252	0.321	0	0.97
<i>Profit</i>	4.1601	5.6	12.364	55	-162.06
<i>SECT</i>	0.2973	1	0.457	0	1

4.2. Multivariate Analysis

Table 2 shows a positive relation between the level of analyst following and the readability of annual reports. It thus appears that readability increases the number of financial analysts. The readability of the annual reports involves providing information that is homogeneous, simple, clear, readable, and understandable by all investors. Readability reduces agency costs and information asymmetry between investors, which attracts financial analysts, thus confirming the assumption of adverse selection. Furthermore, our findings do not support the assumption concerning transaction costs and are not in line with Bhushan's model (1989) and the results found by Lehavy et al. (2011). Hence, our findings confirm the assumption of complementarity between readability and analyst following.

French companies need to issue understandable information to the markets; this would imply using short sentences, common words, or the active voice. The aim of such strategies is to reduce the cognitive distance between information senders and users (Compin, 2004). Hence, readable reporting should be used to attract financial analysts. To analyze the robustness of our results, we used the Flesh Reading Ease index as a complementary measure of the readability of annual reports (see Model 2). This measure is an increasing function of readability. Hence, the higher the Flesh Reading Ease index, the more readable the annual reports are.

Table 2 also shows that Models 1 and 2 lead to nearly identical results regarding the relation between readability and analyst following. We show a positive relation between the Flesh Reading Ease index and analyst following, which confirms the hypothesis of adverse selection.

The presence of institutional investors in the capital structure of companies enhances the level of analyst following. The number of financial analysts corresponds to the increasing attention paid by institutional investors to companies. Hence, we confirm Ackert and Athanassakos' (2003) results. Institutional investors occupy long-term positions and have an active influence upon corporate management. They can censure managers through, for instance, putting pressure upon managers to adopt certain reforms, including those concerning the principles of corporate governance (Monks and Minow, 1995). Analysts seek to impose corporate governance rules designed to facilitate the control of companies in which they are shareholders. Their expectations concern mainly the transparency of information given to shareholders regarding companies' goals and practices, which influences positively the level of analyst following.

In addition, findings show that the number of financial analysts increases with the company size. The company size coefficient is positive and significant at the threshold of 1%, which shows that size is a primary determining factor of analyst following. This finding is in line with previous results of studies conducted in other countries by Lang and Lundholm (1996) and Lang et al.(2003) in the United States, Hope (2003) in an international context, Marston (1997) in Great Britain, and Lakhal (2011) in France.

The indebtedness coefficient shows a relation that is statistically non-significant and positive with the number of analysts. According to Hossain et al. (1994), highly indebted companies are more transparent than less indebted ones, on account of the monitoring carried out by their creditors. Hence, the more indebted companies show a low level of information asymmetry. We find a positive relation between performance and the number of financial analysts following companies. Analysts give more recommendations to over-valued stocks. This finding is in line with that of Mc Nichols and O'Brien (1997) who assert that analysts prefer to follow high performing stocks. Finally, we show the absence of a significant relation between the business sector and the number of analysts.

Table 2: Linear Regression

<i>Variables</i>	<i>Ln(NAF+1)</i>		<i>Ln(NAF+1)</i>	
	<i>Coefficient</i>	<i>t-statistic</i>	<i>Coefficient</i>	<i>t-statistic</i>
<i>Cons</i>	0.583***	2.91	0.462***	3.51
<i>LnFOG</i>	-0.136**	-2.23		
<i>LnFRE</i>			0.228***	-3.21
<i>INVINT</i>	0.106***	2.20	0.113***	2.19
<i>FSize</i>	0.271***	11.63	0.193***	10.76
<i>Lev</i>	0.103	0.152	0.261*	1.98
<i>Profit</i>	0.032**	2.23	0.065**	2.26
<i>SECT</i>	-0.095	-1.34	-0.103	-1.28
<i>R²</i>	0.232		0.285	
<i>Chi²</i>	62.68(0.000)		65.63(0.000)	

5. CONCLUSION

“If you can’t understand a footnote or other managerial explanation, it’s usually because the CEO doesn’t want you to”. Buffett, W. (2002).

This research study provides useful insights upon a little investigated issue in France relating to the effect of the readability of financial information upon the behavior of financial analysts (sell-side). We investigate 88 companies listed on the French CAC All between 2009 and 2014. We measure readability via the Gunning Fog index, one of the most well-known methods, named after its inventor Robert Gunning. Our second readability measure is the Flesh Reading Ease index, arising from computational linguistics, based upon the length of texts.

Our main findings indicate a positive relation between the analyst following level and the readability of annual reports, which implies that readability increases the number of financial analysts. The readability of annual reports involves providing information that is homogeneous, simple, clear, readable, and understandable by all investors. Readability reduces agency costs and information asymmetry between investors, which attracts financial analysts, thus confirming the assumption of adverse selection and the theory of complementarity between readability and analyst following. These results are confirmed by the Flesh Reading Ease index.

In addition, the presence of institutional investors in the capital structure of companies enhances the level of analyst following. The number of financial analysts corresponds to the increasing attention paid by institutional investors to companies.

French companies need to issue understandable information to the markets; this would imply using short sentences, common words, or the active voice. The aim of such strategies is to reduce the cognitive distance between information senders and users. Hence, readable reporting should be used to attract financial analysts.

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VIETNAM'S STOCK MARKET VOLATILITY UNDER MACROECONOMIC IMPACTS

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ABSTRACT

Purpose - This study investigates whether the volatility of stock market returns is determined by macroeconomic variables either as individual or as a group, within the context of Vietnam – a frontier emerging market. Six macroeconomic factors have been selected, including economic growth (GDP), consumer price index (CPI), broad money supply (M2), interest rate (represented by refinancing rate – FR), foreign exchange rate USD/VND (EX), and foreign direct investment (FDI).

Methodology - Using 161 monthly observations collected from August 2000 to December 2013, the paper employs general autoregressive conditional heteroskedasticity (GARCH) framework to measure stock market volatility as well as to estimate this volatility under indicated macroeconomic impacts.

Findings - Taking the volatility clustering into account, the GARCH (1,1) models reveal that the volatility of Vietnam's stock market returns is highly persistent, suggesting a long memory of the volatility in response of a shock. Additionally, the stock market volatility could be predicted better using previous shocks (i.e. those originating from GDP, CPI and EX) rather than the previous volatility itself.

Conclusion - The prediction of Vietnam's stock market volatility could be better based on the selected macroeconomic indicators. A monthly change in consumer price index appears as the most essential indicator that help predicting the volatility of the Vietnam's stock market. Any news about economic growth can be considered as the second significant factor in explaining Vietnam stock return volatility. Furthermore, the univariate analysis shows a statistical significant evidence for the impact of a change in the exchange rate (USD/VNA) on Vietnam's stock market volatility.

Keywords: Stock market volatility, macroeconomic factors, GARCH, emerging markets

JEL Codes: C5, G14, G15

1. INTRODUCTION

The innovation and growth of stock market has marked a significant progress towards the development of the whole economy. The stock market is not only an important channel to raise capital for corporations, but also a place to gain profits for individuals. However, at the same time it poses potential risks to the economy. The world has witnessed a number of stock market crashes as well as large volatility of stock market returns through financial crunches, such as the Asian crisis of 1997-1998 and the global financial crisis of 2007-2008. Such crashes cause a decline in corporate profits, while an increase in business failures substantially impacts on economic growth.

As a major of economic time series, stock market returns can be characterized as "conditionally heteroskedasticity", implying that the volatility of such series is non-constant over a specified period in spite of the assumption of unchanged unconditional or long run variance (Enders, 2004). Furthermore, like most high-frequency financial and economic data, stock market returns are also known as "volatility clustering", which refers to the phenomenon that a period of high/low volatility tends to be followed by periods of high/low volatility and vice versa (Mandelbrot, 1963).

Understanding the behavior of market volatility in order to make better investment decisions is extremely significant to both academicians and practitioners (i.e. risk managers, portfolio managers, investors). Therefore, several studies have

been concerned with modeling and forecasting the volatility of financial time series data (Engle, 1982; French *et al.*, 1987; Schwert, 1989). On the other hand, the relationship between stock market returns and macroeconomic variables has remained as an attractive topic in literature (Chen *et al.*, 1986; Fama and French, 1989; Hsing, 2011; Kuwornu, 2012; Zakaria and Shamsuddin, 2012, etc.). However, the association between stock market volatility and macroeconomic variables has been inconclusive, especially for the case of emerging economies.

According to the “Business Perspectives on Emerging Markets 2012-2017 Report” prepared by the Global Intelligence Alliance (GIA), Vietnam is ranked seventh in the world’s top emerging markets for 2012-2017, after the BRIC countries, Indonesia and South Africa. Like other emerging markets, the Vietnamese capital market has been developing rapidly and playing a growing role in the country’s economic performance. However, the development of the equity market in Vietnam has been shown to be unsustainable over the years and has hidden a number of shortcomings, i.e. investment policies and changes of macroeconomic elements. This is despite the number of published papers that have emphasized the determinants of the volatility of equity returns in Vietnam still being limited. Hence, this paper aims to fulfill the literature by taking account for the volatility of stock market returns under macroeconomic impacts under the context of Vietnam – a fresh emerging market.

The paper is organised in four main sections: literature review, data and methodology, findings and discussions, and conclusion. Starting with initial understanding of Vietnam’s economy and stock market, the literature review then comprehensively represents the previous findings for the relationship between macroeconomic factors and stock market volatilities in Vietnam. The data and methodology section clarifies the main methodology, comprising of data collection, and the GARCH models. Via GARCH models, the volatility of Vietnam’s stock market is firstly measured and the nexus between selected macroeconomic variables (economic growth (GDP), consumer price index (CPI), broad money supply (M2), interest rate (represented by refinancing rate – FR), foreign exchange rate USD/VND (EX), and foreign direct investment (FDI)) and the volatility of VN-Index is subsequently estimated over the sample period 2000-2013. The statistical results obtained from the specific econometric approaches are presented in the findings and discussions section. The final section concludes the major outcomes of the paper and points out some shortcomings that emerge over the course of the research and outlines areas where further work could be done to address these issues.

2. LITERATURE REVIEW

2.1. Overview of Vietnam’s Economy and Vietnamese Stock Market

Before the global financial crisis in 2008, the economic growth of Vietnam was well maintained stably at the rate of around 7-8%, and hit the highest number at 8.5% in 2007. However, the financial crisis that originated from the US and then spread to the entire world from 2008, followed by the worldwide economic depression, had a negative impact on the country. Economic output fell to 6.3% in 2008 and reached a bottom of 5.4% in 2009 (WB Data). The growth in the Vietnam economy seems sluggish after that. Following a slightly recovery in 2010, it decelerated again to 6.2% in 2011, 5.2% in 2012, 5.3% in 2013 (WB Data). Most of sectors that contribute to GDP as well as the total GDP have experienced the slowest pace of growth since the reform of the “Doi Moi” system in the late 1980s, despite the stable politic environment.

On the other hand, even though the period began with the threat of deflation when inflation rate remained low after 1999 (just 4.11% in 1999), CPI began to increase from 2004 (at 7.8%) and surged to a peak of 23.1% in 2008. The inflation rate was then kept under control in 2009 and 2010, which were 7.05% and 8.86% respectively. After a rise again to reach the highest number since December 2008 to 18.7 % in 2011 (WB Data, <http://data.worldbank.org/indicator/FP.CPI.TOTL.ZG?locations=VN>), this index started a decreasing trend then reached low number (9.09% in 2012, 6.59% in 2013, and 4.09 in 2014).

Despite the fluctuation of inflation rate, the period 2000-2013 marked a number of significant changes in monetary system of Vietnam, such as money supply growth, credit and deposits, interest rates volatility.

Table 1: Growth of Money Supply, Credit, CPI and GDP, and Ratio of M2/GDP 2005-2010 (percent per annum)

	2005	2006	2007	2008	2009	2010
Growth of M2	29.7	33.6	46.1	20.3	29.0	33.3
M2/GDP	75.6	86.9	108.1	100.4	115.7	129.3
Growth in credit	25.50	53.90	25.40	39.60	32.40	14.40
CPI growth	8.3	7.1	8.3	23.1	5.9	6.4
GDP growth	7.5	7.0	7.1	5.7	5.4	6.4

Source: Asian Development Outlook Reports 2005-2010 (ADB), Economic Indicators (IFS, <http://www.elibrary-data.imf.org/>)

Besides, with favorable economic conditions, such as low wages, its ideal location and a stable political context, Vietnam has been one of the most attractive destinations for foreign investors in the region and worldwide (WB, 2013). Particularly, foreign direct investment (FDI) retains a high figure of disbursement, reached 10.5 to 11 billion USD over the period 2010-2012. The country has been kept positive ambition to moving forward socialist-oriented market, with economic structure shifting to “industrialization and modernization”.

Even though, several weaknesses (i.e. slow economic structural reforms with unreasonable investment structures, state subsidies and persistent protection, and macroeconomic instability) should be recognized and quickly addressed in order to stimulate the efficiency as well as the development of the whole economy.

In order to improve performance as well as to diversify capital mobilization channels into the economy, the government of Vietnam has been taking a number of efforts to reorganise all of the country’s financial markets. One remarkable milestone on the path of Vietnamese financial market development was the launch of two securities trading centers (STCs) in the country’s two main economic centers, which were Ho Chi Minh Securities Trading Center (HOSTC) and Hanoi Securities Trading Center (HASTC)¹.

The first trading session in Ho Chi Minh Securities Trading Center was formally opened on 28/07/2000 with only two listed stocks: Refrigeration Electrical Engineering Joint Stock Corporation (REE) and Saigon Cable and Telecommunication Material Joint Stock Company (SACOM). During March 2005, the other trading floor was officially opened in Hanoi with six listed companies and only one trading method available was negotiation.

Over the period 2000-2013, VN-Index has affirmed its role as one vital indicator to reflect the performance of the whole economy. Especially, the two years 2007-2008 experienced a booming of the Vietnam’s stock market, with rapid development of the whole economy. In 2008, the VN-Index reached its historical high at 921.07 points. However, as a result of the global recession, the VN-Index hit the bottom during 2009 but has been recovering until the present. On 31 December 2013, the VN-Index closed at 504.6 points, 21.97% up on the previous year. During the same period, the trading volume has surged dramatically, with a significant contribution from foreign investors. In spite of the drastic decline of the VN-Index, the year 2009 closed with 70.4 billion shares trading on the Ho Chi Minh Stock Exchange, with the total trading value peaking at 3 trillion VND. At the end of 2013, the trading volume on HOSE was 61 million shares, valued at 869.5 billion VND, with nearly 39.8 billion shares on HNX, equivalent to 275.9 billion VND.

The background of macroeconomic environment and the equity market of Vietnam may suggest a link between the stock market volatilities and the volatilities of selected macroeconomic variables in specified phase of the Vietnam’s economic development. For example, the relationship was captured between the years 2008-2009, when the Vietnam’s economy suffered from the spread of global economic stagnation. Due to the slowdown of the economy, inflation rate and interest rates rose drastically. At the same time, the VN-Index also hit its bottom.

2.2. Prior Studies on Stock Market Volatilities under Macroeconomic Impacts in Vietnam

The typical empirical findings denote the efficiency of the Vietnamese stock exchange in weak form, regarding to the classifications of efficient market hypothesis (EMH – initially introduced by Fama (1970)) (Truong, Lanjouw and Lensink (2010); Phan and Zhou (2014)). It may suggest arbitrage opportunities for investors in this capital market. However, to achieve better investment decisions, as well as to provide better indications for policy makers, research on the macroeconomic determinants of stock market volatility for Vietnam should be in high demand. There is unfortunately a limited range of studies that have covered this topic.

There are few papers that focus on the linkage between macroeconomic factors and stock market returns within the context of Vietnam. Among different macroeconomic variables selected to investigate their influence on Vietnamese equity returns, most of them are international factors (i.e. USD/VND exchange rate, US real production activity).

Hussainey and Le (2009) attempted to find any linkage between two selected macroeconomic variables (industrial production together with interest rate) and Vietnam’s stock market prices over the period from January 2001 to April 2008 in both domestic and international perspectives. Applying the regression model technique for domestic variables and for both domestic and international variables separately, the research found out three significant points. The first result showed that industrial production could lead to changes in stock prices. The second finding showed the influence of interest rates (both long-term and short-term) on equity prices in the different direction. The final one found that there was a stronger effect on Vietnamese stock prices from US real production activity than from the US money market.

Recently, by applying a number of statistical tests, including cointegration tests, long-run elasticity, error correction model and parameter stability test, Narayan and Narayan (2010) intended to model the linkage between two global determinants (oil prices and nominal exchange rates) and Vietnam’s stock market index utilizing daily data over the period 2000-2008.

¹ “The Strategy for the Development of Vietnam’s Securities Market up to year 2010”, The Prime Minister’s Decision No. 163/2003/QĐ-TTg.

Both oil prices and exchange rates were found to have a statistically substantial positive effect on stock prices in the long run. However, there was no evidence of a nexus between oil prices and equity prices in the short run, consisting to the conclusions of Chen et al. (1986) as well as the later studies of Kuwornu and Victor (2011) and Samadi, Bayani and Ghalandari (2012). Similar same result was found for exchange rate, as it had no impact on stock index.

Besides some formally publishes from official international sources, there are few studies on the same field that collected from local journals (i.e. university journals in Vietnam). They may help providing more adequate view on this topic. Even though, these recent papers have used limited macroeconomic variables and not observed the vital nature of stock market returns – which is volatility clustering.

For example, Huynh et al. (2014) applied two updated frameworks, namely VECM and Granger Causality tests, to find out the long run and short-run effects of macroeconomic time series (including money supply – MS, lending interest rates – ITR, consumer price index – CPI, exchange rate – EXR and industrial production – IP) on the Vietnam's stock market (VNI) over the period 2001-2013. While MS and IP had a significant negative impact on VNI, ITR and CPI had an opposite influence. Additionally, the results of Impulse Response Function showed that VNI responded to any disequilibrium originated from a shock on macroeconomic variables at a relatively slow pace.

In the most recent research, Le and Dang (2015) utilized the ARDL technique to uncover the interactions between Vietnam's stock market index and consumer price index (CPI), money supply (M2), exchange rate (E) and short-term interest rates during the time span between Jan 2001 and Dec 2013. In both long- and short-run, the results showed the presence of the linkage between VNI and macroeconomic factors. In particular, M2 and VNI were positively correlated while the remaining of macroeconomic factors negatively impact VNI.

In addition to these above researches, few recent papers have been paid more attention to the volatility of stock market in Vietnam. Do, McAleer, and Sriboonchitta (2009) selected Vietnam as one of the five ASEAN emerging stock markets to study the behavior of returns and volatilities and their association with the international gold market. Based on the daily sample from 28 July 2000 to 31 October 2008, the empirical result of Granger causality tests revealed the bi-directional relation between the gold and stock market in Vietnam. Additionally, the paper proved the better estimation of Vietnam's stock market volatility by the symmetric GARCH (1,1)-X model (which X represents for exogenous variables) rather than GJR (1,1) – X model, and also found the leverage effect in Vietnam's market with a positive and significant value of risk premium.

Focused on the context of Vietnam's stock market, Nguyen (2011) used time-varying GARCH (i.e. MA-EGARCH (1,1)) model to investigate the impact of the US macroeconomic announcements on stock returns and stock market volatility. Based on a selection of 12 major macroeconomic news over the period from August 2000 to September 2009, the study disclosed that the US economic variables, reflecting this country's economic prospect, could stimulate the returns of Vietnam's stock market and reduce the volatility of the index. The significant impact of the US macroeconomic announcements on the Vietnam's stock returns was also confirmed under the presence of the spillover effect from the US stock market.

Nonetheless, within literature abound, no research has been found to show the conclusive linkage between Vietnam's stock market volatility and macroeconomic factors.

3. DATA AND METHODOLOGY

3.1. Data Collection

This paper intends to estimate the volatility of Vietnam's stock market under the impacts of six macroeconomic variables, namely real economic growth (RGDP – the real growth rate of Gross Domestic Product), consumer price index (CPI – inflation rate), real money supply (RMS – measured by broad money M2), real interest rates (RIR – consisting of refinancing interest rate, deposit rate, and lending rate), real foreign exchange rate (REX – represented by USD/VND) and real foreign direct investment inward (RFDI), and real stock market returns (RVNI) based on the context of Vietnam's economy.

Stock market returns utilized in this study are grounded on the key Vietnam's stock market index, the Vietnam Ho Chi Minh Stock Index or VN-Index (officially denoted as VNI). The VN-Index is a capitalization-weighted index of all the companies actively listed on the Ho Chi Minh City Stock Exchange (HOSE), the major stock exchange in Vietnam. The index was created on 28 July 2000 with a base index value of 100. Stock returns for the period t can be computed as the percentage change of the stock market index over the period from $(t-1)$ to t , hence it can be formulated as $\Delta VNI_t = \ln(VNI_t) - \ln(VNI_{t-1})$ (where \ln denotes the natural logarithm; VNI_t depicts the average of stock price index at the end of month t ; and ΔVNI_t refers to the return on the Vietnam's stock market on month t).

The real returns of the Vietnam's stock market index can be calculated after adjusting by price level or inflation rate. Other macroeconomic series used in the research are generated in detail as provided in Table 2. Also note that all of the variables are obtained in real values after adjusting by the price deflator or inflation rate. Based on characteristics of macroeconomic time series, all of the variables in real values are transformed into natural logarithmic forms before being applied in the

econometric models. The purpose of transforming variables into natural logarithmic format is to handle highly skewed distributions that are most likely appropriate to macroeconomic variables. Gelman and Hill (2007) also stated a preference for using natural logs because coefficients on the natural-log scale are directly interpretable as approximate proportional differences. Furthermore, to perform the percentage changes on displayed series based on monthly periods, their first differences are subsequently converted.

Table 2: Definitions and Transformation of Macroeconomic Variables

Variables	Definitions of Variables	Transformation
GDP (Economic Growth)	Measured by the monthly percentage change in the real Gross Domestic Product, that is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products.	$\Delta \text{LRGDP}_t = \ln(\text{RGDP}_t) - \ln(\text{RGDP}_{t-1})$ (Real monthly economic growth)
IR (Interest rates)	Measured by the monthly percentage change in interest rate. <ul style="list-style-type: none"> Refinancing interest rate (FR): the interest rate that the State Bank of Vietnam (central bank in Vietnam) charges commercial banks and depository institutions on loans they receive from the discount window. Deposit rate (DR): is the average deposit rate of all commercial banks applied for their deposits based on monthly intervals. Lending rate (LR): is the average lending rate of all commercial banks applied for their loans based on monthly intervals. 	$\Delta \text{LRIR}_t = \ln(\text{RIR}_t) - \ln(\text{RIR}_{t-1})$ (Monthly growth rate of real interest rates)
CPI (Inflation Rate)	Measured by the monthly percentage change in consumer price index, that is the cost to the average consumer of acquiring a basket of goods and services.	$\Delta \text{LCPI}_t = \ln(\text{CPI}_t) - \ln(\text{CPI}_{t-1})$ (Monthly growth rate of consumer price index)
MS (Money Supply)	Measured by the monthly percentage change in broad money M2 (money and quasi money), comprising of currency outside banks, demand deposits other than those of the central government, and the time, savings, and foreign currency deposits of resident sectors other than the central government. This is the official calculation method for money supply generally used by Vietnam government statistical office.	$\Delta \text{LMS}_t = \ln(\text{RMS}_t) - \ln(\text{RMS}_{t-1})$ (Monthly growth rate of real broad money supply)
EX (Exchange Rate)	Measured by the monthly percentage change in the real exchange rate USD/VND.	$\Delta \text{LREX}_t = \ln(\text{REX}_t) - \ln(\text{REX}_{t-1})$ (Monthly change in real exchange rate)
FDI (Foreign Direct Investment)	Measured by the monthly percentage change in the implemented foreign direct investment.	$\Delta \text{LRFDI}_t = \ln(\text{RFDI}_t) - \ln(\text{RFDI}_{t-1})$ (Monthly change in real foreign direct investment)

Source: The World Bank Data (<http://www.data.worldbank.org/indicator>), The State Bank of Vietnam (<http://www.sbv.gov.vn>), and The General Statistics Office of Vietnam (<http://www.gso.gov.vn>).

While the chosen macroeconomic series are provided by the General Statistics Office of Vietnam (GSO), the Vietnam stock market index are collected from the official websites of the Ho Chi Minh Stock Exchange (HOSE) (<http://www.banggia2.ssi.com.vn/>). All series are gathered on a monthly basis spanning the period from the time the stock market officially launched in Vietnam from August 2000 until December 2013, except for the economic growth rate due to the fact that the range of GDP data is only available on a quarterly basis. Fortunately, the quarterly data of real GDP is subsequently successfully converted to monthly data using the statistical software Eviews Version 8.0. Hence, all of the variables are gathered in the same frequency to be applied to further statistical estimations.

There are 161 observations overall on each of the seven candidate variables and hence 160 observations on each after taking their first differences providing for the statistical analysis. These data are analysed using the statistical software Eviews 8.0 (the most updated version until 2014). This software is equipped as an easy-to-use statistical, econometric, and economic modeling package. More specific, it is one of the most powerful programmes for time series estimation and forecasting, especially in macroeconomics.

3.2. Measuring Stock Market Volatility via GARCH Models

Three so-called methods to measure the conditional variance of stock returns are historic volatility, exponential weighted moving average (EWMA) and autoregressive conditional heteroskedasticity (ARCH). However, historic volatility and correlation forecasting methods (also known as equally weighted moving average) and EWMA reveal several unrealistic assumptions that may lead to the problem of mispricing volatility. According to Alexander (1998), the first methods equal

all weighted moving averages, which means that the impact of an event does not matter when it occurs long time ago or recently. Wherein, even given more weight on more recent observations, the second method assumes constant volatility term structures while the fact usually characterizes volatility with a cluster.

The most popular one, due to its efficiency for modeling conditional time-varying variance in recent empirical, is the ARCH approach, which was originally designed by Engle (1982). This approach estimates changes of information flows, both recent and old, on volatility. Although the standard ARCH models fail to take into account some other properties of financial time series data (i.e. leptokurtosis, asymmetric volatility), a number of extended ARCH models have been introduced to produce better predictions of volatility (i.e. GARCH, EGARCH, TGARCH).

One limitation of the original work by Engle (1982) is that the system requires a large number of lags to precisely fit the model. Bollerslev (1986) is therefore attributed to the current technique, the so-called generalized autoregressive conditional heteroskedasticity (GARCH). The idea of the standard GARCH (p,q) is based on a joint estimation of the conditional mean equation and the conditional variance equation. Specifically, Bollerslev (1986) suggests that conditional variance of returns is determined by both the squared residuals of the mean equation and its past own values. The maximum log likelihood method is utilized to generate a GARCH model. The standard GARCH (p, q) is represented by the two following equations.

First, it is the conditional mean equation which can be illustrated by a typical autoregressive moving average (ARMA) process, representing impact of the news on the volatility from the last period.

$$R_t = \alpha_0 + \sum_{i=1}^p \alpha_i R_{t-i} + \sum_{j=1}^q \gamma_j \varepsilon_{t-j} + \varepsilon_t \quad (\text{Eq. 1})$$

where R_t denotes returns of the variables of interest at time t , R_{t-i} denotes a set for the mean of R_t conditional on the past information, ε_{t-j} denotes moving average components, ε_t is the heteroskedastic error term for the present period, parameter α_0 is the constant, and p and q are the orders of the processes. To summarize, this chapter employs a series of GARCH using three major types of distribution to model the volatility of Vietnam's equity returns over the time span from August 2000 to December 2013. While the generalized error distribution (GED) exposes its high power in most cases, the simplest form within the GARCH family (i.e. GARCH (1,1)) followed by a specification of ARMA orders (i.e. ARMA (0,5) were proven to be sufficient for the current research context.

By successfully passing a variety of diagnostic checks, the ARMA (0,5)-GARCH (1,1) model is able to verify its adequacy in modeling stock market returns for the case of Vietnam, both in univariate and in multivariate analyses. Either ignoring or including exogenous macroeconomic variables, the residuals produced from all of the models appear with freedom of autocorrelation up to the 36th lag, no presence of ARCH effect up to the 12th lag, and attain normal distribution.

The second one represents a persistent coefficient via conditional variance equation:

$$h_t = \alpha_0 + \sum_{i=1}^q \alpha_i \varepsilon_{t-i}^2 + \sum_{j=1}^p \delta_j h_{t-j} \quad (\text{Eq. 2})$$

where p , q are correspondingly the numbers of ARCH parameters (ε_{t-i}^2) and GARCH parameters (h_{t-j}). In which, the error process is that:

$$\varepsilon_t = v_t \sqrt{h_t} \quad (\text{Eq. 3})$$

Where $\sigma_v^2 = 1$; $\{v_t\}$ is a white-noise process, the conditional and unconditional means of ε_t are equal to zero (for the more details in mathematics, see Enders (2004)).

The size of α_i and δ_j defines the short-run dynamics of the volatility of the underlying variable while the sum of these two parameters determines the persistence of the volatility to a specific shock (Alexander, 2007). In another words, if the sum of α_i and δ_j is very close to one, the volatility is very persistent to the shock.

Given that volatility can be measured through conditional variance by GARCH models, identifying the determinants of stock market volatility can be further examined to facilitate the forecasting ability of stock market movements. In order to investigate the association between various macroeconomic indicators and Vietnam's stock market volatility, the following statistical analysis will be structured with three major stages: (i) modeling volatility clustering for Vietnam's stock market returns; (ii) constructing GARCH models to identify the impact of each macroeconomic variables on the volatility of Vietnam's security prices; (iii) employing GARCH models to identify the macroeconomic influences as a group on Vietnam's stock market volatility.

Since the literature shows that the simple model GARCH (1,1) is adequate to describe data and produce significant results (Connolly, 1989; Fan and Yao, 2003; Floros, 2007; etc.), this paper uses standard GARCH (1,1) models to estimate the volatility of Vietnam's stock market returns. Via GARCH models using different types of distribution, the paper studies the influence of macroeconomic forces (either as individual or as a group) on stock market volatility in both univariate and

multivariate perspectives. In specific, the conditional mean equation is kept unchanged, while the variance equation is adjusted to include from individual macroeconomic factors (univariate analysis) to all the six macroeconomic factors (multivariate analysis).

4. FINDINGS AND DISCUSSIONS

4.1. Statistical Description of Vietnam Stock Market Returns

Analysis of a statistical description and a stationarity test must be carried out on the time series of Vietnam stock returns to ensure the appropriateness of generalized autoregressive conditional heteroskedasticity (GARCH) models (Bollerslev, 1986) to apply into the context of the Vietnam's stock market. The results from the ADF, PP, and KPSS tests show that the real equity prices in Vietnam are found as a non-stationary time series at levels, but stationary at first differences.

Table 3: ADF, PP, KPSS Results on Log Levels and First Differences

ADF Results	Level			First Difference		
	Trend	Trend and Intercept	None	Trend	Trend and Intercept	None
LRVNI	-2.696	-2.932	0.371	-7.269*	-7.268*	-7.259*
LRGDP	0.367	-2.486	2.575	-2.804	-2.772	-1.145
LCPI	-2.638	-3.146	0.192	-3.179*	-3.238	-3.185*
LRMS	-0.324	-2.443	5.568	-7.991*	-7.967*	-2.917*
LRFR	-1.930	-2.821	-1.315	-10.077*	-10.076*	-10.101*
LREX	-0.002	-1.270	1.464	-15.037*	-15.095*	-14.912*
LRFDI	-2.602	-3.204	0.526	-18.330*	-18.286*	-18.338*

PP Results	Level			First Difference		
	Trend	Trend and Intercept	None	Trend	Trend and Intercept	None
LRVNI	-2.397	-2.480	0.546	-7.000*	-7.009*	-6.995*
LRGDP	1.801	-2.149	5.377	-8.239*	-8.912*	-7.084*
LCPI	-2.627	-2.617	0.254	-4.737*	-4.758*	-4.747*
LRMS	-0.261	-2.407	7.747	-8.192*	-8.169*	-5.283*
LRFR	-2.041	-2.540	-1.346	-10.369*	-10.367*	-10.390*
LREX	-1.142	-2.634	1.018	-21.595*	-20.193*	-20.975*
LRFDI	2.945*	-4.127*	0.843	-20.489*	-20.554*	-20.115*

KPSS Results	Level		First Difference	
	Trend	Trend and Intercept	Trend	Trend and Intercept
LRVNI	0.726	0.153	0.086*	0.051*
LRGDP	1.554	0.402	0.389*	0.110*
LCPI	0.644	0.138*	0.080*	0.026*
LRMS	1.572	0.144*	0.053*	0.052*
LRFR	1.090	0.078*	0.071*	0.050*
LREX	1.016	0.294	0.117*	0.050*
LRFDI	0.966	0.172	0.088*	0.066*

Source: Output of Unit Root Tests from Eviews 8.0 (* denotes the statistical significance at 5 percent level)

Thus, the study is progressed with a statistical description to check the other statistical properties of this underlying financial time series, including tail-heaviness, autocorrelation, and volatility clustering.

Table 4: Descriptive Statistics for Vietnam's Stock Market Returns

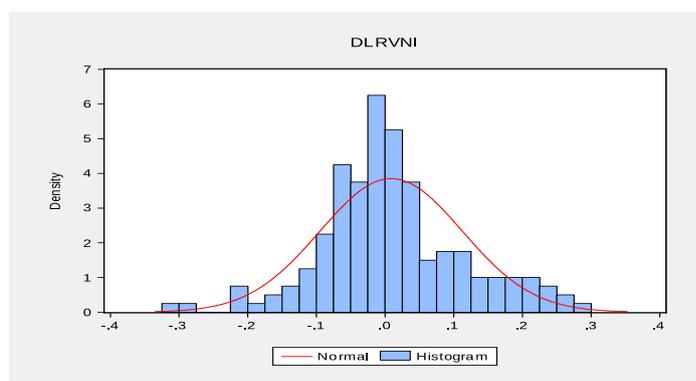
Mean	Max.	Min.	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Prob.	Obs.
0.0089	0.2778	-0.3053	0.1036	0.1865	3.6464	3.7130	0.1562	160

Source: Output of Descriptive Statistics of Vietnam's stock market Returns by Eviews 8.0

The unconditional standard deviation of 0.1036 indicates a volatile level of 10.36% for Vietnam stock returns during the time span 2000 – 2013. The null hypothesis of non-normality is rejected for the case of Vietnam's equity returns, according to the Jarque-Bera result. It suggests that Vietnam stock return series are normally distributed, supporting the Gaussian assumption of normal distribution in theory. However, the values of skewness and excess kurtosis are both greater than zero (0.18 and 0.64 respectively), which are different from those of a standard normality. It refers to a leptokurtic distribution for the series with a high peak, thin mid-range, and fat tails. The series also exhibits an asymmetric skewed distribution, while the right tail is relatively heavier than the left. It implies that Vietnam's stock investors tend to receive positive returns.

Overall, the distribution of Vietnam's stock market returns follows normality, but not in the standard form. This can also be observed from the graph of the histogram and the normal distribution of Vietnam stock returns (Figure 1).

Figure 1: Histogram and the Normal Distribution of Vietnam's Stock Sarket Returns



Source: Output of Histogram and the Normal Distribution of Vietnam's stock market Returns by Eviews 8.0

To apprehend the volatility of Vietnam's stock market returns over the sample period August 2000 to December 2013, the following section estimates the GARCH (1,1) model with no exogenous variables. These are comprised of two major stages: modeling the mean equation and estimating the variance equation. The residuals (or shocks) derived from the specified mean equation are used for the second equation conducive to the estimation of the Vietnam's stock market return volatility

4.2. Modeling Volatility Clustering for Vietnam Stock Market Returns

4.2.1. Modeling the Conditional Mean Equation

The study follows the Box-Jenkins procedures in order to select an appropriate econometric model (that is, free of serial dependence) for a conditional mean equation. In particular, Hipel et al. (1977) summarized the procedure of selecting autoregressive-moving-average (ARMA) terms into three main steps: model identification, model estimation, and model diagnostic checks. The right orders for the ARMA model might be found via visual examination of the autocorrelation function (ACF) and partial correlation function (PACF) of the stationaries series (Box-Jenkins, 1976; Tsay, 2010). Besides, given that the most autocorrelations that can be safely examined is up to one quarter of the number of observations (Enders 2015, p.130), the study uses the Ljung-Box Q-statistics test to plot the ACF and PACF for the 20 first autocorrelations (as the number of observations under the study is 160 in total).

Table 5: Correlogram of Vietnam's Stock Market Returns

Lag	Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob.	
1	.|**** |	.|**** |	1	0.497	0.497	40.197	0.000
2	.|* |	*|. |	2	0.148	-0.131	43.788	0.000
3	.|. |	.|. |	3	-0.022	-0.054	43.866	0.000
4	.|. |	.|* |	4	0.029	0.112	44.008	0.000
5	.|* |	.|* |	5	0.136	0.108	47.079	0.000
6	.|. |	**|. |	6	-0.036	-0.238	47.299	0.000
7	*|. |	.|. |	7	-0.083	0.050	48.465	0.000
8	.|. |	.|. |	8	-0.058	0.036	49.040	0.000
9	.|* |	.|* |	9	0.103	0.126	50.849	0.000
10	.|. |	*|. |	10	0.070	-0.127	51.685	0.000
11	.|. |	.|. |	11	-0.005	0.044	51.689	0.000
12	*|. |	*|. |	12	-0.123	-0.134	54.326	0.000
13	*|. |	.|. |	13	-0.105	0.027	56.276	0.000
14	*|. |	**|. |	14	-0.138	-0.213	59.642	0.000
15	*|. |	.|. |	15	-0.184	-0.014	65.722	0.000
16	*|. |	*|. |	16	-0.181	-0.078	71.629	0.000
17	*|. |	.|. |	17	-0.147	0.034	75.539	0.000
18	.|. |	.|. |	18	0.038	0.068	75.801	0.000
19	.|. |	.|. |	19	0.057	0.020	76.408	0.000
20	.|. |	.|. |	20	0.028	-0.052	76.557	0.000

Source: Output of Correlogram of Vietnam's stock market Returns by Eviews 8.0

Both ACF and PACF geometrically decrease from their highest values from the first lag. However, they do not show any cut-off even at higher orders of autocorrelation. It suggests a possibility that either pure AR/MA term or a mixed ARMA term can be included in the conditional mean equation under GARCH models. Thus, in order to specify the best-fitting ARMA model, the study follows the trial and error method suggested from the current literature and uses a goodness-of-fit statistic with reference to smaller information criteria. The study estimates several combinations of ARMA (p,q) models up to five lags. Furthermore, the theory advocates that the lower order of AR/MA terms (means the simpler the model), the better it is; since the assembly of AR term and MA term is sometimes possible to cancel off each other's effect. Therefore, a pure AR/MA order is also put in concern under this analysis.

The estimates of information criterion (including Schwartz information criterion (SIC) and Akaike information criterion (AIC)) from different possible ARMA models are reported in Table 6.

Table 6: Estimated Information Criterion for the ARMA Orders

SIC	Lag	MA Terms					
		0	1	2	3	4	5
AR Terms	0	-1.6706	-1.9013	-1.9200	-1.8883	-1.9131	-1.9107
	1	-1.9159	-1.8969	-1.8824	-1.9373	-1.9028	-1.8733
	2	-1.8993	-1.8897	-1.8731	-1.8416	-1.8820	-1.8574
	3	-1.8769	-1.8631	-1.8572	-1.8426	-1.8571	-1.8862
	4	-1.8575	-1.8339	-1.8018	-1.8231	-1.8306	-1.7983
	5	-1.8393	-1.8841	-1.8554	-1.8576	-1.7964	-1.8396
AIC	Lag	MA Terms					
AR Terms	0	-1.6898	-1.9397	-1.9776	-1.9651	-2.0092	-2.0260
	1	-1.9545	-1.9548	-1.9596	-2.0338	-2.0186	-2.0084

2	-1.9575	-1.9673	-1.9700	-1.9579	-2.0178	-2.0125
3	-1.9548	-1.9604	-1.9740	-1.9789	-2.0128	-2.0614
4	-1.9552	-1.9512	-1.9387	-1.9795	-2.0066	-1.9938
5	-1.9571	-2.0216	-2.0125	-2.0343	-1.9928	-2.0555

Source: Output of Estimated Information Criterion by Eviews 8.0

The most appropriate one is hence elected as ARMA(0,5) or a pure MA(5) model, where the residuals are found as a random process. The estimation of ARMA(0,5) via the least squares method is provided as follows.

Table 7: OLS Estimation of ARMA (0,5) Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.009085	0.013155	0.690595	0.4909
MA(1)	0.611844	0.079249	7.720518	0.0000
MA(2)	0.233479	0.092671	2.519438	0.0128
MA(3)	0.047212	0.094322	0.500544	0.6174
MA(4)	-0.13904	0.092694	-1.499995	0.1357
MA(5)	0.180873	0.079445	2.276718	0.0242
R-squared	0.3288	F-statistic (p-value)	15.0897 (0.0000)	
Adjusted R-squared	0.3070	Durbin-Watson stat	1.9975	

Source: Output of OLS Estimation by Eviews 8.0

The ARMA(0,5) model passes various important diagnostic checks, including Breusch-Godfrey Test for Autocorrelations, ARMA structure and expected residuals tests for stationary.

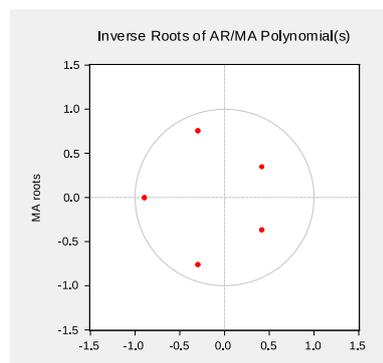
Table 8: Diagnostic Tests for ARMA(0,5) Model

Breusch-Godfrey Test for Autocorrelations in ARMA(0,5) Model

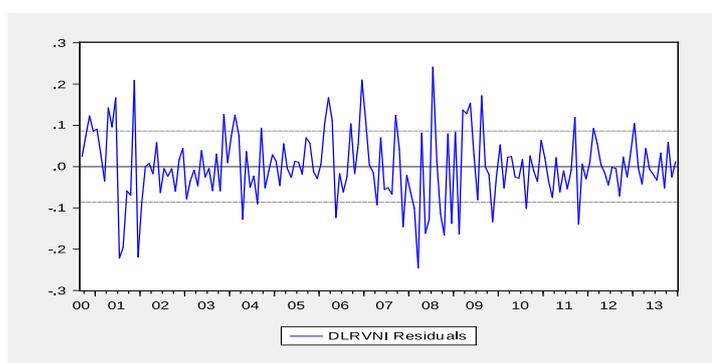
Lag	F-Test	P-value
1	0.0038	0.9507
2	0.2451	0.7829
4	0.8541	0.4932
8	0.6946	0.6959
12	0.8219	0.6277

Source: Output of Breusch-Godfrey Test by Eviews 8.0

ARMA Structure of the Regression Model



Estimated Residuals of ARMA (0,5) Model



Source: Outputs of ARMA Structure and Estimated Residuals of ARMA (0,5) Model by Eviews 8.0

4.2.2. Estimation of Vietnam Stock Market Volatility

The conditional mean equation is well specified by adding five moving average terms; thus, the ARMA (0,5)-GARCH (1,1) process is applied to estimate the conditional volatility of Vietnam's stock market returns. This section runs a standard GARCH model at the first stage, and extends to two other advanced GARCH models in its family under the subsequent section to account for leverage effect – one common characteristic of a financial series.

Table 9, 10, and 11 in sequence report the estimates of the mean and variance equations of the ARMA(0,5)-GARCH(1,1) model for Vietnam's stock market using three different types of distribution: normal (Gaussian) distribution, student's t-distribution, and generalized error distribution (GED).

Table 9: ARMA(0,5)-GARCH(1,1) Estimates with Normal Distribution

Panel (a): Mean Equation				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
μ	0.0089	0.0101	0.8799	0.3789
MA(1)	0.5189	0.0889	5.8385	0.0000
MA(2)	0.1732	0.1031	1.6789	0.0932
MA(3)	0.0376	0.0925	0.4065	0.6844
MA(4)	-0.1318	0.0779	-1.6906	0.0909
MA(5)	0.1448	0.0683	2.1206	0.0340
Panel (b): Variance Equation				
ω	0.0007	0.0004	1.5587	0.1191
u_{t-1}^2	0.3252	0.1322	2.4607	0.0139
h_{t-1}	0.5972	0.1389	4.2992	0.0000
Log-Likelihood = 185.657				
AIC = -2.208				
SIC = -2.035				

Source: ARMA (0,5) – GARCH(1,1) Estimation with Normal Distribution by Eviews 8.0

Table 10: ARMA(0,5)-GARCH(1,1) Estimates with Student's t-Distribution

Panel (a): Mean Equation				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
μ	0.0054	0.0091	0.5934	0.5529
MA(1)	0.5082	0.0870	5.8431	0.0000
MA(2)	0.1802	0.0970	1.8574	0.0633
MA(3)	0.0299	0.0896	0.3344	0.7381
MA(4)	-0.1676	0.0786	-2.1330	0.0329
MA(5)	0.1145	0.07318	1.5645	0.1177
Panel (b): Variance Equation				
ω	0.0006	0.0004	1.4783	0.1393
u_{t-1}^2	0.3483	0.1561	2.2319	0.0256
h_{t-1}	0.5935	0.1473	4.0299	0.0001
Log-Likelihood = 185.723				
AIC = -2.209				
SIC = -2.036				

Source: ARMA (0,5) – GARCH(1,1) Estimation with Student's t-distribution by Eviews 8.0

Table 11: ARMA(0,5)-GARCH(1,1) Estimates with GE Distribution

Panel (a): Mean Equation				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
μ	0.0050	0.0088	0.5716	0.5676
MA(1)	0.5258	0.0872	6.0316	0.0000
MA(2)	0.1837	0.0972	1.8896	0.0588
MA(3)	0.0337	0.0917	0.3671	0.7135
MA(4)	-0.1607	0.0794	-2.0256	0.0428
MA(5)	0.0866	0.0735	1.1790	0.2384
Panel (b): Variance Equation				
ω	0.0006	0.0004	1.4032	0.1606
u_{t-1}^2	0.3435	0.1649	2.0837	0.0372
h_{t-1}	0.5967	0.1554	3.8391	0.0001
Log-Likelihood = 186.179				
AIC = -2.215				
SIC = -2.042				

Source: ARMA (0,5)-GARCH(1,1) Estimation with GE Distribution by Eviews 8.0

From the results of the log likelihood and information criteria (AIC and SIC) shown in the three relevant tables above, the model with conditional distribution of generalized error (GED) seems to be the most accurate one, as it exhibits larger log likelihood and smaller information criterion values in comparison with the estimates of normal and student's distributions. This finding reveals its consistency with the recent results of Gao et.al (2012); who found that a GARCH model based on GED is the best fitted-model for volatility compared with two other densities (normal and student's t). Thus, the following analysis focuses on the ARMA (0,5)-GARCH (1,1) model using GED distribution with fixed parameter at 1.5.

Considering Panel (a) in Table 11, the coefficient of the error term in the mean equation appears insignificant, but it is close to the value of the unconditional mean given in Table 5 (which are 0.005 and 0.009 respectively). Besides, the coefficients of the moving average terms show the significance at 5% conventional level at degree one and four only. This implies that Vietnam's stock returns follow a trend and can be predicted based on their historical values. Panel (b) in Table 11 reveals that the coefficients of the error term, ARCH term and GARCH term have expected positive signs, which significantly satisfy the restriction on non-negativity in conditional variance. It signifies that this specified ARMA (0,5)-GARCH (1,1) model seems to be satisfactory to capture the Vietnam's stock return volatility.

Additionally, the sum of the ARCH coefficient (α_1) and the GARCH coefficient (β_1) are less than one and nearly close to one, i.e., $\alpha_1 + \beta_1 = 0.9402 < 1$. It successively infers the stationarity of the unconditional variance ($h_t < 1$) and the high persistency of Vietnam's stock return volatility. The output of the Wald test is also supportive for the long memory of Vietnam stock return volatility in response to a shock (Table 12). In particular, the F-test result cannot reject the null hypothesis of the integration in the conditional volatility of the equity returns at the significance level of 5%.

Table 12: Wald Test for the Persistence of Vietnam's Stock Market Volatility

Wald Test			
Test Statistic	Value	df	Probability
t-statistic	-0.6023	151	0.5478
F-statistic	0.3628	(1, 151)	0.5478
Chi-square	0.3628	1	0.5469
Null Hypothesis: $\alpha_1 + \beta_1 = 1$			
Null Hypothesis Summary:			
Normalized Restriction (= 0)	Value	Std. Err.	
$-1 + \alpha_1 + \beta_1$	-0.0598	0.0993	
Restrictions are linear in coefficients.			

Source: Output of Wald Test by Eviews 8.0

Furthermore, since the coefficient of the ARCH term is less than the coefficient of the GARCH term ($\alpha_1 < \beta_1$), the Vietnam's stock market volatility is likely influenced by the volatility rather than the related news from the previous period.

Table 13: Diagnostic Checks for Residuals from ARMA(0,5)-GARCH(1,1)

Panel (a): The Ljung-Box Q Statistics				
Lag	Q-statistic (<i>p-value</i>)		Q ² -statistic (<i>p-value</i>)	
8	2.712	0.438	6.8454	0.553
12	9.1331	0.243	9.5443	0.656
16	10.989	0.444	12.702	0.694
20	18.663	0.229	15.16	0.767
24	25.054	0.159	18.797	0.763
28	33.024	0.081	25.034	0.626
32	34.128	0.162	29.256	0.606
36	40.11	0.127	29.854	0.755
Panel (b): ARCH-LM Test				
Lag	F-Test	p-value		
1	0.0093	0.9233		
2	0.7765	0.4618		
4	0.54	0.7066		
8	0.856862	0.5546		
12	0.796237	0.6537		
Panel (c): Normality Test				
Skewness		0.2489		
Kurtosis		3.323		
Jarque-Bera (<i>p-value</i>)		2.3473(0.3092)		

Source: Output of Ljung Box Q-statistics, ARCH-LM Test, and Normality Test by Eviews 8.0

To verify the satisfactoriness for the underlying ARMA (0,5)-GARCH (1,1) model with GED distribution, Table 13 summarizes the results of a variety of diagnostic tests. Regarding the outcomes, the Q-statistics and Q2-statistics from the Ljung-Box test (Panel (a) in Table 12) respectively exhibit no serial correlation on standardized residuals and squared standardized residuals obtained from the ARMA (0,5)-GARCH (1,1) model up to the 36th lag at the significance level of 5%. Panel (b) in Table 13 shows the evidence given by ARCH-LM test that all the ARCH effects are successfully removed from the residuals obtained from the ARMA (0,5)-GARCH (1,1) model since the F-statistics fails to reject the null hypothesis of homoskedasticity on the residuals up to the 12th lag at 5% significance level. Further, the series of residuals is revealed as normality since the null hypothesis is accepted by the Jarque-Bera statistic in Panel (c)-Table 13. Compared to the original data in Table 2, the excess kurtosis from Panel (c)-Table 14 is obtained with a smaller value (reduce from 0.6464 to 0.3230) and seems to be closer to zero or a standard normality.

These above analyses strongly support the adequacy of the standard GARCH (1,1) process in modeling the volatility of Vietnam's stock market returns.

4.2.3. Vietnam Stock Market Volatility under Macroeconomic Impacts

As the ARMA (0,5)-GARCH (1,1) model has proved its adequacy in modeling the volatility of Vietnam's stock market returns, the following analysis is based on this specification to examine the stock return volatility together with the presence of other explanatory variables (i.e. macroeconomic factors). The following analysis is broken down into two sub-sections. The first part accounts for the impact of an individual macroeconomic variable (including real economic growth, consumer price index, real money supply, real refinancing rate, real exchange rate, and real foreign direct investment). Henceforward, six relevant univariate models are constructed. The second part investigates Vietnam stock return volatility under the aggregate influence of six selected macroeconomic variables by a multivariate GARCH model. It is noted that all of the models under this section are subsequently inspected with three types of distribution, where the most appropriate one is adopted using the same technique as in the previous analysis in Section 4.2.2.

4.2.3.1. The Univariate GARCH (1,1) Analysis

The estimates of the volatility of Vietnam's stock market returns accounting for the impact of separate macroeconomic variable are organized in Table 13. The estimation of a univariate GARCH process in the current study includes two equations, which can be formulated as follows:

Equation of conditional mean:

$$Y_t = \mu_t + u_t + \sum_{i=1}^5 \theta_i u_{t-i} \quad (\text{Eq. 4})$$

Equation of conditional variance:

$$h_t = \omega_k + \alpha_{k1} u_{t-1}^2 + \beta_{k1} h_{t-1} + \varphi_{kt} X_{kt} \quad (\text{Eq. 5})$$

Before proceeding with the GARCH model, the appropriate type of distribution for every individual GARCH process is selected using the same method used from previous section. Specifically, the estimated values of log likelihood and information criterions (AIC and SIC) are first reported for all of the GARCH models under consideration. The best-fitted model must then show the larger log-likelihood value and/or smaller AIC and SIC values.

Under the certain outcomes from Table 14, the generalized error distribution with fixed parameter at 1.5 seems to be an applicable choice for most of the models. One exceptional case is realized for the GARCH system where economic growth is added as an explanatory variable, and where student's t-distribution is selected instead of GE.

Table 14: Specification of Distribution Type for Different GARCH Models

	Normal	Student's t	GED
LL ($\Delta RGDP$)	188.3066	188.3112	188.1900
AIC ($\Delta RGDP$)	-2.2288	-2.2289	-2.2274
SIC ($\Delta RGDP$)	-2.0366	-2.0367	-2.0352
LL (ΔCPI)	187.1821	187.2973	187.8106
AIC (ΔCPI)	-2.2148	-2.2162	-2.2226
SIC (ΔCPI)	-2.0226	-2.0240	-2.0304
LL (ΔRMS)	185.7185	185.7299	186.1847
AIC (ΔRMS)	-2.1965	-2.1966	-2.2023
SIC (ΔRMS)	-2.0043	-2.0044	-2.0101
LL (ΔRFR)	185.6569	185.7263	186.1792
AIC (ΔRFR)	-2.1957	-2.1966	-2.2022
SIC (ΔRFR)	-2.0035	-2.0044	-2.0100
LL (ΔREX)	181.1692	185.9076	188.2806
AIC (ΔREX)	-2.1396	-2.1988	-2.2285
SIC (ΔREX)	-1.9474	-2.0066	-2.0363
LL ($\Delta RFDI$)	185.6571	185.7286	186.1808
AIC ($\Delta RFDI$)	-2.1957	-2.1966	-2.2023
SIC ($\Delta RFDI$)	-2.0035	-2.0044	-2.0101

Source: Output of Estimated Log Likelihood and Information Criterions by Eviews 8.0

While the residuals or shocks of Vietnam stock returns are assumed to be the same, all of the specified models differ from the added explanatory variable. Panel (b) in Table 16 summarizes the results of all of the variance equations for six particular models. It can be seen that the six different models produce similar outcomes regarding the significance of the coefficients of error terms (ω), ARCH terms (α_1), and GARCH terms (β_1). Accordingly, they are all achieved with positive and significant values. It satisfies the conditions for a non-negativity of condition variance required by GARCH models. In addition, the ARCH coefficients are smaller than the GARCH coefficients under all of the cases in Panel (b) Table 16. It suggests the short-run dynamics of the volatility of Vietnam stock returns; that is, the volatility is influenced more by its previous period's variance than by its previous period's shock.

Table 15: Estimates of Vietnam Stock Return Volatility under the Impact of Individual Macroeconomic Variable

Panel (a): The Conditional Mean Equation						
Explanatory Variable	$\Delta LR GDP$	$\Delta LCPI$	$\Delta LRMS$	$\Delta LRFR$	$\Delta LREX$	$\Delta LRFDI$
Parameters	Coefficient (<i>p-value</i>)					
μ	0.005 0.489	0.005 0.567	0.005 0.571	0.005 0.569	0.007 0.380	0.005 0.578
$MA(1)$	0.444* 0.000	0.539* 0.000	0.525* 0.000	0.526* 0.000	0.531* 0.000	0.526* 0.000
$MA(2)$	0.155 0.091	0.200* 0.035	0.183 0.061	0.184 0.059	0.175* 0.022	0.183 0.059
$MA(3)$	-0.012 0.877	0.011 0.901	0.033 0.727	0.034 0.716	0.047 0.591	0.033 0.717
$MA(4)$	-0.206* 0.005	-0.222* 0.005	-0.160* 0.046	-0.161* 0.043	-0.113 0.134	-0.160* 0.044
$MA(5)$	0.123 0.091	0.052 0.461	0.087 0.244	0.087 0.240	0.110 0.061	0.087 0.238
Panel (b): The conditional Variance Equation						
ω	0.001* 0.040	0.000* 0.096	0.001* 0.324	0.001* 0.164	0.001* 0.137	0.001* 0.191
u_{t-1}^2	0.450* 0.027	0.306* 0.028	0.341* 0.039	0.344* 0.038	0.313* 0.004	0.344* 0.037
h_{t-1}	0.489* 0.001	0.653* 0.000	0.599* 0.000	0.596* 0.000	0.584* 0.000	0.596* 0.000
$\Delta LR GDP$	-0.016* 0.033	-	-	-	-	-
$\Delta LCPI$	-	0.053* 0.002	-	-	-	-
$\Delta LRMS$	-	-	0.002 0.922	-	-	-
$\Delta LRFR$	-	-	-	0.000 0.986	-	-
$\Delta LREX$	-	-	-	-	0.029* 0.047	-
$\Delta LRFDI$	-	-	-	-	-	0.000 0.958
Panel (c): Diagnostic Checking						
Ljung-Box Q-Statistics for Autocorrelations						
$Q(6)$	2.744 0.098	2.655 0.103	2.130 0.144	2.149 0.143	1.611 0.204	2.120 0.145
$Q(12)$	8.871 0.262	8.873 0.262	8.999 0.253	9.139 0.243	9.152 0.242	9.156 0.242
$Q(24)$	24.843 0.166	23.477 0.217	24.873 0.165	25.072 0.158	25.376 0.149	25.087 0.158
$Q(36)$	40.189 0.125	37.911 0.183	39.926 0.131	40.124 0.126	40.046 0.128	40.159 0.126
Ljung-Box Q2-Statistics for Heteroskedasticity						
$Q^2(1)$	0.089 0.765	0.104 0.747	0.010 0.922	0.010 0.921	0.000 0.985	0.008 0.931

$Q^2(8)$	4.457 0.814	6.296 0.614	6.927 0.545	6.857 0.552	6.695 0.570	6.878 0.550
$Q^2(16)$	14.735 0.544	13.802 0.613	12.453 0.712	12.718 0.693	10.538 0.837	12.665 0.697
$Q^2(24)$	19.755 0.711	18.672 0.769	18.623 0.772	18.818 0.762	15.210 0.914	18.756 0.765
$Q^2(36)$	25.459 0.905	27.653 0.839	29.724 0.760	29.911 0.753	22.316 0.964	29.822 0.756
ARCH-LM Test for Heteroskedasticity						
ARCH-LM(1)	0.087 0.769	0.101 0.751	0.009 0.924	0.010 0.922	0.000 0.986	0.007 0.932
ARCH-LM(4)	0.505 0.732	0.707 0.589	0.541 0.706	0.540 0.707	0.591 0.670	0.541 0.706
ARCH-LM(8)	0.502 0.853	0.734 0.662	0.872 0.542	0.859 0.553	0.956 0.473	0.863 0.549
ARCH-LM(12)	0.769 0.681	0.780 0.670	0.793 0.658	0.797 0.658	0.722 0.728	0.795 0.655
Normality Test						
Skewness	0.393	0.272	0.241	0.249	0.111	0.245
Kurtosis	3.456	3.248	3.319	3.324	3.458	3.327
Jarque-Bera	5.494	2.381	2.231	2.352	1.732	2.307
p-value	0.064	0.304	0.328	0.309	0.421	0.316

* denotes the significance at 5% conventional level

Source: Output of Estimated ARMA (0,5) – GARCH(1,1) by Eviews 8.0

Furthermore, the sums of the ARCH and GARCH coefficients ($\alpha_1 + \beta_1$) are less than one and close to one for all of the corresponding models. It indicates the high persistence of Vietnam stock return volatility in response to a shock. This outcome is coherent with the results from the model without any exogenous macroeconomic variable. In other words, either including one exogenous macroeconomic variable in the GARCH process or not, the impact of a shock to the conditional variance is persisted for a long time span before dying off. It is likely reasonable that since Vietnam is known as a small economy, any shocks to the stock market seem to last longer in comparison with other developed economies due to the market's slow adjustment process to adapt to any sudden change.

Regarding to the macroeconomic influences on the volatility of stock returns in Vietnam, there are three statistical significant relations recognized at the 5% significance level, which originated from economic growth, consumer price index and exchange rate. Put differently, any changes in these three macroeconomic indicators are expected to contribute to a better explanation for stock return volatility in the Vietnam's market.

The negative coefficient of economic growth in the variance equation implies that the growth of real economic output may help the stock market be less volatile. Particularly, an increase of 1% in real GDP is expected to decrease the volatility of Vietnam stock returns by 1.6%. At the same time, stock return volatility is positively influenced by changes in CPI and in the real exchange rate USD/VND. A rise of 1% in CPI and 1% in real USD/VND can explain a 5.3% and 2.9% spread in stock return volatility respectively. The findings can be rationally explained by the fact that any surge in price level or depreciation in home currency may reflect the higher risk to investors in making investment decisions, less confidence then leads to higher volatility of stock market.

On the other hand, the coefficients associated with changes in real money supply, refinancing rate and foreign direct investment imply a non-significant impact on Vietnam stock return volatility at 5% significance level during the sample period. This means that there is no additional improvement in explaining the volatility of Vietnam's stock market by containing these three macroeconomic variables to the current GARCH process.

The lower part of Table 15 (Panel (c)) comprises of three major diagnostic tests (autocorrelation, heteroskedasticity, and normality) for different specified AMRA(0,5)-GARCH(1,1) models. For all the cases being studied, residuals obtained from each model reveal no autocorrelation problem (by the Ljung-box Q-statistics), no ARCH effect left (by the results of Ljung-Box Q2-statistics and ARCH-LM tests), and are normally distributed (by Jarque-Bera tests). The satisfaction of various

diagnostic checking promotes the fit of the ARMA(0,5)-GARCH(1,1) model for understanding the volatility clustering of Vietnam's stock market returns under the individual impact of macroeconomic variables.

4.3.2.2. Multivariate GARCH(1,1) Analysis

Based on the motivated results from the univariate GARCH analysis, the study proceeds the multivariate ARMA(0,5)-GARCH(1,1) process by adding six specified macroeconomic indicators to the variance equation. Given the same conditional mean equation (Eq. 3), the conditional variance equation is adjusted as follows:

$$h_t = \omega + \alpha_1 u_{t-1}^2 + \beta_1 h_{t-1} + \sum_{k=1}^6 \varphi_{kt} X_{kt} \quad (\text{Eq. 6})$$

The measured log likelihood (LL) and two other information criteria (AIC and SIC) all recommend the generalized error distribution (GED) for the ARMA(0,5)-GARCH(1,1) model based on the lowest values (Table 16).

Table 16: Specification of Distribution Type for the ARMA(0,5)-GARCH(1,1) Model under the Impact of Macroeconomic Variables

	Normal	Student's t	GED
LL	189.3787	192.3700	189.2709
AIC	-2.1797	-2.2171	-2.1784
SIC	-1.8914	-1.9288	-1.8901

Source: Output of Estimated Log Likelihood and Information Criteria of different Distribution Type for ARMA (0,5) – GARCH(1,1) under Macroeconomic Impact by Eviews 8.0

The estimation of the ARMA(0,5)-GARCH(1,1) model is presented in Table 17, including the conditional mean regression results (panel (a)) and the variance regression results (panel (b)). As provided by Panel (a) Table 17, the significant coefficients of moving average terms ordered 1, 2, and 4 at 5% conventional level indicate the role of previous shocks in explaining the current equity returns.

Table 17: Estimates of ARMA(0,5)-GARCH(1,1) under Macroeconomic Impact

Panel (a): The Conditional Mean Equation				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
μ	0.0059	0.0074	0.8057	0.4204
MA(1)	0.4214	0.0895	4.7085	0.0000
MA(2)	0.1770	0.0848	2.0874	0.0369
MA(3)	0.0408	0.0801	0.5100	0.6101
MA(4)	-0.2342	0.0693	-3.3793	0.0007
MA(5)	0.1340	0.0688	1.9489	0.0513
Panel (b): The Conditional Variance Equation				
ω	0.0005	0.0005	1.0340	0.3011
u_{t-1}^2	0.3684	0.1663	2.2150	0.0268
h_{t-1}	0.5823	0.1237	4.7085	0.0000
$\Delta LRGDP$	-0.0113	0.0064	-1.7628	0.0779
$\Delta LCPI$	0.0835	0.0456	1.8316	0.0670
$\Delta LRMS$	0.0165	0.0217	0.7630	0.4455
$\Delta LRFR$	-0.0110	0.0071	-1.5599	0.1188
$\Delta LREX$	0.0201	0.0203	0.9895	0.3224
$\Delta LRFDI$	-0.0005	0.0007	-0.7348	0.4625

Source: ARMA (0,5) – GARCH (1,1) under Macroeconomic Impact by Eviews 8.0

The upper part of the Panel (b) Table 17 shows the estimated coefficients of the intercept, ARCH and GARCH terms. While the error term's coefficient is statistically non-significant, its value is very close to zero. In contrast, both the coefficients of ARCH and GARCH terms appear statistically significant and positive. Again, the condition of non-negative conditional variance is attained for the current specification of the GARCH model. Moreover, the value of ARCH coefficient ($\alpha_1 =$

0.3684) is smaller than that of GARCH coefficient ($\beta_1 = 0.5823$). It implies that the current stock return volatility is less influenced by the past shocks than its past volatility. Also, while $(\alpha_1 + \beta_1)$ is nearly one (i.e. approximately 0.95), the variance of stock market returns remains highly persistent over time.

The lower section of Panel (b) in Table 17 demonstrates the estimation results for the influence of various explanatory variables on the volatility of Vietnam's stock market returns. Specifically, no macroeconomic variable under the research exposes its significant impact on Vietnam's stock market returns at the 5% significance level. However, if the significance level is assumed at 10%, the empirical results may recommend that the volatility of Vietnam stock returns statistically influenced by economic growth and movements in the consumer price index. Accordingly, any 1% increase of monthly change in GDP is expected to reduce stock market volatility by 1.1%, whilst a 1% rise of monthly change in CPI possibly leads to an increase in volatility up to 8.35%. These findings corroborate with the previous outcomes of the univariate analysis (Section 4.2.3.1.).

To confirm the validity of the ARMA (0,5)-GARCH model for this multivariate study, Table 17 provides the evidence from the Ljung-Box tests, ARCH-LM tests, and Normality tests. According to the Ljung-Box estimates, the Q-statistics and Q2-statistics respectively cannot reject the hypothesis about no serial correlation in standardized residuals and squared standardized residuals derived from the model, with up to 36 lags at the 5% level of significance (Panel (a) and (b) Table 17). Further, all of the ARCH effects on the residuals have been successfully removed, revealed by the rejection of the null hypothesis from the ARCH-LM tests up to 12 lags at 5% significance level. Besides, the Jarque-Bera value accepts the null of normality at 5% significance level, the series of residuals from the model remains normally distributed.

Table 18: Diagnostic Tests for the ARMA(0,5)-GARCH(1,1) Model under the Impact of Macroeconomic Variables

Panel (a): Ljung-Box Q-statistics			Panel (b): Ljung-Box Q ² -Statistics		
Lag	Q-Stat	p-value	Lag	Q ² -Stat	p-value
6	3.0718	0.080	1	0.0102	0.919
12	7.0814	0.420	8	5.1501	0.741
16	8.4175	0.675	16	16.349	0.429
20	14.724	0.471	20	19.133	0.513
24	22.031	0.283	24	23.057	0.516
28	31.085	0.121	28	24.864	0.635
32	31.980	0.233	32	27.889	0.675
36	36.709	0.221	36	28.248	0.818
Panel(c): ARCH-LM Test			Panel (d): Normality Test		
Lag	F-statistic	p-value	Skewness	0.3114	
1	0.0099	0.9211	Kurtosis	3.1533	
4	0.6656	0.6168	Jarque-Bera	2.7427	
8	0.5842	0.7897	p-value	0.2538	
12	0.9875	0.4641			

Source: Output of Ljung Box Q-statistics, ARCH-LM, and Normality Tests for ARMA (0,5) – GARCH (1,1) under Macroeconomic Impact by Eviews 8.0

5. CONCLUSION

To summarize, this paper employs a series of GARCH using three major types of distribution to model the volatility of Vietnam's equity returns over the time span from August 2000 to December 2013. While the generalized error distribution (GED) exposes its high power in most cases, the simplest form within the GARCH family (i.e. GARCH (1,1)) followed by a specification of ARMA orders (i.e. ARMA (0,5)) were proven to be sufficient for the current research context. By successfully passing a variety of diagnostic checks, the ARMA (0,5)-GARCH (1,1) model is able to verify its adequacy in modeling stock market returns for the case of Vietnam, both in univariate and in multivariate analyses. Either ignoring or including exogenous macroeconomic variables, the residuals produced from all of the models appear with freedom of autocorrelation up to the 36th lag, no presence of ARCH effect up to the 12th lag, and attain normal distribution.

In the consideration of the macroeconomic impacts on the volatility of Vietnam's stock returns, a number of important findings can be drawn from this paper as follows. First, the volatility of Vietnam's stock market returns is highly persistent, suggesting a long memory of the volatility in response of a shock. Second, the current volatility of Vietnam's stock market is affected by the last previous shock more than by the last previous volatility itself. Third, a monthly change in consumer

price index appears as the most essential indicator that help predicting the volatility of the Vietnam's stock market, since any 1% increase in CPI can explain an increase of the volatility by 5.3% under the univariate case (with the significance level of 5%) and correspondingly by 8.35% under the multivariate case (with the significance level of 10%). Forth, any news about economic growth can be considered as the second significant factor in explaining Vietnam stock return volatility as a 1% rise in real GDP is expected to be followed by a fall in volatility by 1.6% within the univariate study and by 1.1% within the multivariate study. Finally, a statistical significant evidence under the univariate analysis is uncovered for the impact of a change in the exchange rate (USD/VNA) on Vietnam's stock market volatility. These findings suggest that the prediction of Vietnam's stock market volatility could be better in consideration with selected macroeconomic impacts. It will benefit the investors and policy makers who intend to follow the movements of this emerging stock market in order to make financial and regulatory decisions.

Nonetheless, it is also a notice that a number of disadvantages of applied GARCH models still exists. Specifically, the simple GARCH model is not adequate to account for an asymmetry problem, which can generate inaccurate forecasts of volatility (Brooks and Persaud, 2003). The asymmetry or leverage effect occurs when the underlying impact from bad news is beyond the impact from good news. Therefore, extensions of the GARCH models that incorporate with asymmetric volatility should be considered in further study to attain more precise estimations for this current paper, which can be the exponential GARCH (1,1) model (or EGARCH, introduced by Nelson, 1991) and threshold ARCH model (or TARARCH, presented by Zakoian (1991) and Glosten et al. (1993)). While the EGARCH model modifies the standard GARCH by estimating the logarithm of the conditional variance process so that the asymmetry in volatility clustering can be captured, the TARARCH model divides the innovations that influence on the conditional variance into good and bad intervals.

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INTERNATIONAL ECONOMIC INTEGRATIONS FOR PARTIES OR NON-PARTIES COUNTRIES: TURKEY'S STATE IN THE EXAMPLES OF TTIP, CETA AND CPTPP

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ABSTRACT

Purpose – Growing markets with the emergence of trade in the direction of meeting the needs have manifested itself in the widespread of international trade with the increasing influence of the world population and globalization. As a result of these developments, trade volumes between countries have increased. On the other hand, the rapid change and growth experienced in world trade push the countries into an effort to manage and direct foreign trade as integrated with each other as far as their sovereignty is concerned. This effort exposes economic integration activities. In any case, integration creates different effects in terms of the countries inside and outside.

Methodology – In this study the effects of comprehensive free trade agreements on Turkey are investigated both in terms of foreign trade and value -added test.

Findings – In this study the effects of integrations which Turkey is a member and is not are studied. If some additional measures and specific strategies are not executed, it will inevitably arise that Turkey would be affected negatively from the economic integrations which are involved.

Conclusion – Turkey's trade surplus has a potential to achieve but there arises a need for caution in terms of the conduct of trade policy.

Keywords: Economic integration, free trade agreements, rate of exports meet imports, value added trade, export composition

JEL Codes: F53, F62, F15

TARAF OLAN VE OL(A)MAYAN ÜLKELER AÇISINDAN ULUSLARARASI İKTİSADİ BÜTÜNLEŞMELER: TTIP, CETA VE/VEYA CPTPP ÖRNEKLERİNDE TÜRKİYENİN DURUMU

ÖZET

Amaç - İhtiyaçların karşılanması doğrultusunda ortaya çıkan ticaret olgusu ile büyüyen piyasalar, artan dünya nüfusu ve küreselleşmenin de etkileriyle uluslararası ticaretin yaygınlaşması şeklinde kendini göstermiştir. Bu gelişmelerin sonucu olarak ülkeler arası ticaret hacimleri artmıştır. Öte yandan, dünya ticaretinde yaşanan hızlı değişim ve büyüme, ülkeleri kendi egemenlik alanlarında olduğu kadar birbirleriyle de entegre olarak dış ticareti yönetme ve yönlendirme çabası içine itmektir. Söz konusu çaba iktisadi bütünleşme faaliyetlerini ortaya çıkarmaktadır. Bütünleşme hangi biçimde olursa olsun içinde ve dışında olan ülkeler açısından farklı etkiler yaratmaktadır.

Methodoloji - Bu çalışmada büyük aktörlü STA'ların etkisi, Türkiye açısından hem dış ticaret hem de katma değer sinaması ile araştırılmıştır.

Bulgular - Çalışmada Türkiye'nin üye olduğu ve ol(a)madığı bütünleşme faaliyetlerinin etkileri incelenmiştir. Yapılan incelemede eğer ek önlemler alınmaz ve stratejiler yürütülmez ise Türkiye'nin dahil olduğu iktisadi bütünleşmelerden dahi olumsuz olarak etkilenmesi kaçınılmaz olacağı ortaya çıkmaktadır.

Sonuç - Türkiye'nin dış ticaret fazlası elde etmek için potansiyeli bulunmakta ancak dış ticaret politikasının yürütülmesi açısından dikkatli olunması gereği ortaya çıkmaktadır.

Anahtar Kelimeler: İktisadi bütünleşme, serbest ticaret anlaşmaları, ihracatın ithalatı karşılama oranı, katma değer ticareti, ihracat kompozisyonu

JEL Codes: F53, F62, F15

1. GİRİŞ

Ekonomik bütünleşmeler farklı biçimlerde gerçekleştirilmekte ve başta ekonomik olmak üzere gerçekleştirilen bütünleşme biçimine göre siyasal ve sosyal etkiler yaratabilmektedir. Bütünleşme durumunun dolaylı ve/veya doğrudan kayıp ve kazançlarının belirlenmesi gerekmektedir. En dar kapsamlı olanlarında dahi bütünleşme uygulamalarının önemli ölçüde etkilediği temel parametrelerden biri dış ticarettir. Dış ticaretin döviz kazandırıcı etkisi, ülke içinde döviz yükümlülüklerinin karşılanabilmesi açısından önemlidir. Bunun ötesinde makroekonomi açısından cari açığın mal hareketleri kısmından doğabilecek ve tüm ekonomiye yayılacak olumsuz etkilerinin önlenmesi açısından da dikkate alınmalıdır. Serbest ticaret anlaşmalarının taraf ülkeler açısından birbirlerinden gerçekleştirilecek mal ve hizmet alım ve satım işlemlerinde gerek faaliyetlerin kolaylaştırılması gerekse gümrük vergisi, vergiye eş etkili düzenlemeler, tarifeler vb. yükümlülüklerin azaltılması ve/veya kaldırılması şeklinde avantajları bulunmaktadır. Dünya ekonomik sahnesinde belli bir dönemdir süregelen söz konusu anlaşmalar, son yıllarda özellikle dünya pazarında önemli paya ve güçlü ekonomik yapıya sahip ülkeler arasında yapılagelmektedir. Bu durum anlaşmalara taraf olmayan ülkeler ve taraf olmamakla birlikte söz konusu anlaşmaları gerçekleştiren güçlü ekonomik aktör ülkelerle başka bir dizi taahhüt altına girmiş dolayısıyla anlaşmalara dezavantajlı bir şekilde uymak zorunda olan ülkeler açısından çok büyük sorunlara yol açmaktadır.

Ekonomik yapısına göre dış ticaret faaliyetlerinden kazançlı çıkma uğraşısında olan, dışsattım yapabilmek için dışalım yapmak zorunda kalan ve dış ticaret faaliyeti dışalım ağırlığının öncelikle cari açık ve buradan da bütçe açıklarına kadar giden bir sorunlar zincirine sahip ülkelerin bir de büyük çaplı ticaret anlaşmalarının olumsuzluklarına maruz kalmaları var olan kırılgan yapılarını derinleştirmektedir. Bu çalışmada bütünleşme biçimlerinin Türkiye açısından genel durumu incelendikten sonra önemli bir ekonomik bütünleşme biçimi olan serbest ticaret anlaşmalarının (STA) ve özellikle son dönemde dünya ekonomik ilişkileri bağlamında gelişmiş ülkeler arasında gerçekleştirilmesine yönelik müzakere edilen (TTIP) ve gerçekleştirilen (CETA, CPTTP) STA'ların Türkiye açısından ne tür olumlu ve olumsuz yönleri olabileceği / olduğu analiz edilmeye çalışılmıştır. Türkiye açısından gelişmekte olan ülke karakteristiği sergilemesi bağlamında dış ticaret faaliyetlerinin ithalat yönlü olduğu görülmektedir ve bu durum zaten bilinmektedir. İçeriği dış ticaret ürün kompozisyonu çalışmalarına konu edilmesi gereken son dönemlerdeki yapı, ithal girdilerin kullanılmasının yanı sıra ihracatta az da olsa katma değer yaratmanın öneminin algılandığı bir hale bürünmüştür. Ancak katma değerde ithal girdi halen yüksektir. Buna daha fazla dikkat edilmesi gerekmektedir. Bunun yanı sıra dış ticaret faaliyetlerini içsel yapısından ziyade etkileyecek çok temel bir unsurdaki önemli risklerin olduğudur. AB ile içinde bulunan GB kaynaklı olarak ihracat çeşitliliğinin arttığı görülmektedir. Ancak GB'den dolayı AB'nin ikili ticaret anlaşmasının bulunduğu pek çok ülke ile dış ticaretimiz rekabet dezavantajı ile gerçekleşmektedir. Bu ülkeler arasında önemli ekonomik aktörler bulunmakta ve bunlar da kendi aralarında bütünleşmelere gitmektedir. Özellikle bütün dikkat TTIP gibi henüz imzalanmamış ancak imzalanma olasılığı bulunan kapsamlı bir ticaret anlaşmasının risklerine çevrilmişken, imzalanan CETA ve CPTTP gibi anlaşmaların Türkiye dış ticareti ve bunun üzerinden makroekonomik yapı üzerindeki önemli derecede olumsuz etkilerinin stratejik olarak göz önüne alınması bir zorunluluktur.

2. LİTERATÜR İNCELEME

2.1. İktisadi Bütünleşme Biçimleri: Genel Açıklamalar, Tanım ve Evreler

Uluslararası iktisadi ilişkiler çerçevesinde ülkeler arasındaki bütünleşmeyi sağlamak açısından gerçekleştirilen temel faaliyetlerden biri serbest ticaret anlaşmaları olmaktadır. İktisadi bütünleşmelerde, ülke ekonomileri çeşitli uygulamalarla bir araya gelmekte ve bir ekonomik ilişki alanı oluşturmaktadır (Ertürk, 2010: 140). Söz konusu bütünleşmeler biçimleri nasıl olursa olsun taraf ülkeler açısından çeşitli bağlılıklar ve taahhütler içermektedir. İktisadi bütünleşme biçimleri şu şekilde sıralanarak açıklanabilir (Ünsal, 2005: 409-411):

- Tercihli ticaret anlaşmaları: Anlaşmayı gerçekleştiren ülkelerin birbirlerine yönelik ticari sınırlandırmaları karşılıklı olarak azaltılır.
- Serbest ticaret bölgeleri: Ülkelerin birbirlerine yönelik ticari sınırlandırmaları karşılıklı olarak kaldırılır.
- Gümrük birlikleri: Ülkelerin birbirlerine olan ticari sınırlandırmaları kaldırılır ve taraf olmayan ülkelere karşı ortak ticaret politikası uygulanır.
- Ortak pazarlar: Ülkelerin birbirlerine olan ticari sınırlandırmaları kaldırılır, taraf olmayan ülkelere karşı ortak ticaret politikası uygulanır ve üretim faktörlerinin serbest dolaşımını sağlar.
- İktisadi birlikler: Ülkelerin birbirlerine olan ticari sınırlandırmaları kaldırılır, taraf olmayan ülkelere karşı ortak ticaret politikası uygulanır, üretim faktörlerinin serbest dolaşımını sağlar ve ortak para birimi ile iktisat politikaları uygulanır.

2.2. Türkiye'nin Dış Ticaretini Etkileyen Bağımlılıklar ve Taahhütler

Bu başlık altında iktisadi bütünleşme biçimleri açısından yukarıdaki sırasıyla Türkiye dış ticaretini etkileyen unsurlar ele alınacaktır.

2.2.1. Türkiye'nin Gerçekleştirdiği Serbest Ticaret Anlaşmaları

Uluslararası iktisadi ilişkiler çerçevesinde Türkiye'nin uluslararası rekabette üstünlüğün elde edilmesine yönelik ve farklı coğrafyalarda yeni pazarlara ulaşım açısından serbest ticaret anlaşmalarını gerçekleştirdiği görülmektedir (Atılğan ve Kanat, 2007: 101). Serbest ticaret anlaşmaları gerçekleştirilmesinin gerekçeleri şu şekilde belirtilmiştir (T.C. Ekonomi Bakanlığı, Serbest Ticaret Anlaşmaları Portalı,

<http://www.ekonomi.gov.tr/portal/content/conn/UCM/path/Contribution%20Folders/web>):

- Ülkelerin tercihli ticaret olanaklarından yararlanabilmesi
- Yeni Pazar arayışlarının gerçekleştirilebilmesi
- Ülkelerin rekabet fırsat eşitliğini sağlayabilmeleri
- Karşılıklı yatırımlar ve ortak girişimlerin gerçekleştirilebilmesi

İfade edilen bu gerekçeler çerçevesinde ve Avrupa Birliği ile gerçekleştirilmiş olan Gümrük Birliği dolayısıyla Türkiye serbest ticaret anlaşmaları yapmaktadır. Gümrük Birliği çerçevesinde birlik içindeki ülkeler arasında malların serbest dolaşımı, ülkeler arasında ortak ticaret ve rekabet politikaların oluşturulması söz konusu iken, serbest ticaret anlaşmalarında ise menşei kurallarına göre ticaret rejimlerinden yararlanma durumu bulunmakta, ortak ticaret ve rekabet politikaları uygulama zorunluluğu olmamakta ve gümrük tarifeleri uygulanmaktadır (T.C. Ekonomi Bakanlığı, Serbest Ticaret Anlaşmaları Portalı, <http://www.ekonomi.gov.tr/portal/content/conn/UCM/path/Contribution%20Folders/web>).

Buradan hareketle Türkiye'nin Gümrük Birliği çerçevesinde AB'nin serbest ticaret anlaşmaları imzaladığı ülkelerle arasında kendi yararını korumak adına söz konusu anlaşmaları düzenlediği görülmektedir. Ancak daha sonra da ifade edileceği üzere, Türkiye'nin AB'nin ticaret anlaşması imzaladığı ülkelerin bütünüyle düzenlenmiş ticaret anlaşması bulunmamaktadır. Bu durum Türkiye'nin anlaşma imzalamadığı ancak AB'nin anlaşmasının olduğu ülkeler ile AB arasındaki şartlara Türkiye'nin uyma zorunluluğunu ortaya çıkarmaktadır.

Tablo 1'de yürürlüğe girmiş, müzakereleri tamamlanmış ancak henüz uygulamaya geçmeyen ve yürürlüğe girmek için çeşitli işlemlerin yapılması beklenen serbest ticaret anlaşmalarının listesi bulunmaktadır.

Tablo 1: 1991 – 2017 Tarihleri Arasında İmzalanan Serbest Ticaret Anlaşmaları

	ÜLKE	Anlaşmanın	
		İmza Tarihi	Yürürlüğe Girişi
1	EFTA (İsviçre-Norveç-İzlanda ve Lihtenştayn) (Yürürlük Tarihi:01.04.1992)	10.12.1991	1.04.1992
2	İsrail	14.03.1996	1.05.1997
3	Makedonya	7.09.1999	1.09.2000
4	Bosna ve Hersek	3.07.2002	01.07.2003
5	Filistin	20.07.2004	1.06.2005
6	Tunus	25.11.2004	1.07.2005
7	Fas	7.04.2004	1.01.2006
8	*Suriye	22.12.2004	*Türkiye ile Suriye Arasında Serbest Ticaret Alanı Tesis Eden Ortaklık Anlaşması 6 Aralık 2011 tarihinde karşılıklı olarak askıya alınmıştır.
9	Mısır	27.12.2005	1.03.2007
10	Arnavutluk	22.12.2006	1.05.2008

11	Gürcistan	21.11.2007	1.11.2008
12	Karadağ	26.11.2008	1.03.2010
13	Sırbistan	1.06.2009	1.09.2010
14	Şili	14.07.2009	1.03.2011
15	Ürdün	1.12.2009	1.03.2011
16	Lübnan	14.07.2009	Lübnan tarafının, iç onay sürecini tamamlamasına müteakip yürürlüğe girecektir.
17	Moritus	9.09.2011	1.05.2013
18	Güney Kore	1.08.2012	1.05.2013
19	Malezya	17.04.2014	1.08.2015
20	Kosova	28.09.2013	Her iki tarafın iç onay süreçlerinin tamamlanmasına müteakip yürürlüğe girecektir.
21	Moldova	11.09.2014	1.11.2016
22	Faroe Adaları	16.12.2014	1.10.2017
23	Singapur	14.11.2016	1.10.2017
24	Gana		Müzakereleri tamamlanmıştır. Yakın zamanda imzalanması beklenmektedir.

Kaynak:<http://www.orgtr.org/tr/serbest-ticaret-anlasmasi-sta-imzaladigimiz-ulkeler-ve-yururluk-tarihleri>; <http://www.ekonomi.gov.tr>

Türkiye'nin en son Ekim 2017 tarihi olmak üzere fiili olarak 24 ülke ile serbest ticaret anlaşması gerçekleştirdiği Tablo 1'de görülmektedir. Bu anlaşmalardan üçü (Kosova, Gana ve Lübnan) beklenmemektedir. Bir anlaşma da (Suriye) karşılıklı olarak askıya alınmıştır. Tablo 2'de ise Avrupa Birliği tarafından gerçekleştirilen serbest ticaret anlaşmaları görülmektedir.

Tablo 2: Avrupa Birliği Serbest Ticaret Anlaşmalarının Listesi

Serbest Ticaret Anlaşması	Kapsam	Anlaşma Biçimi	İmzalandığı Tarih	Yürürlük Tarihi	Durum
KANADA	Mal ve Hizmet	STA ve ÇED	19-Sep-2017	21-Sep-2017	Yürürlükte
SADC Southern African Development Community Angola, Mozambique, Tanzania as well as Botswana, Lesotho, Namibia, Swaziland	Mal	STA	03-Apr-2017	10-Oct-2016	Yürürlükte
Ghana	Mal	STA	03-Apr-2017	15-Dec-2016	Yürürlükte
Colombia and Peru -	Mal ve Hizmet	STA ve ÇED	2.Mar.17	01-Jan-2017	Yürürlükte

Accession of Ecuador					
Georgia	Mal ve Hizmet	STA ve ÇED	02-Jul-2014	01-Sep-2014	Yürürlükte
Ukraine	Mal ve Hizmet	STA ve ÇED	01-Jul-2014	23-Apr-2014	Yürürlükte
Moldova, Republic of	Mal ve Hizmet	STA ve ÇED	30-Jun-2014	01-Sep-2014	Yürürlükte
EU (28) Enlargement	Mal ve Hizmet	STA ve ÇED	25-Apr-2013	01-Jul-2013	Yürürlükte
Central America	Mal ve Hizmet	STA ve ÇED	26-Feb-2013	01-Aug-2013	Yürürlükte
Colombia and Peru and Ecuador	Mal ve Hizmet	STA ve ÇED	26-Feb-2013	1.Mar.13	Yürürlükte
Eastern and Southern Africa States Interim EPA	Mal	STA	09-Feb-2012	14.May.12	Yürürlükte
Papua New Guinea / Fiji	Mal	STA	18-Oct-2011	20-Dec-2009	Yürürlükte
Korea, Republic of	Mal ve Hizmet	STA ve ÇED	07-Jul-2011	01-Jul-2011	Yürürlükte
Serbia	Mal ve Hizmet	STA ve ÇED	31-May-2010(G) / 20-Dec-2013(S)	01-Feb-2010(G) / 01-Sep-2013(S)	Yürürlükte
San Marino	Mal	GB	24-Feb-2010	01-Apr-2002	Yürürlükte
Cameroon	Mal	STA	24-Sep-2009	04-Aug-2014	Yürürlükte
Côte d'Ivoire	Mal	STA	11-Dec-2008	03-Sep-2016	Yürürlükte
CARIFORUM States EPA The Caribbean Community + Dominic Republican	Mal ve Hizmet	STA ve ÇED	16-Oct-2008	01-Nov-2008	Yürürlükte
Bosnia and Herzegovina	Mal ve Hizmet	STA ve ÇED	11-Jul-2008(G) / 12-Jan-2016(S)	01-Jul-2008(G) / 01-Jun-2015(S)	Yürürlükte
Montenegro	Mal ve Hizmet	STA ve ÇED	16-Jan-2008(G) / 18-Jun-2010(S)	01-Jan-2008(G) / 01-May-2010(S)	Yürürlükte
Albania	Mal ve Hizmet	STA ve ÇED	07-Mar-2007(G) / 07-Oct-2009(S)	01-Dec-2006(G) / 01-Apr-2009(S)	Yürürlükte
Algeria	Mal	STA	24-Jul-2006	01-Sep-2005	Yürürlükte
Egypt	Mal	STA	03-Sep-2004	01-Jun-2004	Yürürlükte
Chile	Mal ve Hizmet	STA ve ÇED	03-Feb-2004(G) / 28-Oct-2005(S)	01-Feb-2003(G) / 01-Mar-2005(S)	Yürürlükte
Lebanon	Mal	STA	26.May.03	1.Mar.03	Yürürlükte
Jordan	Mal	STA	17-Dec-2002	1.May.02	Yürürlükte
The former Yugoslav Republic of Macedonia	Mal ve Hizmet	STA ve ÇED	23-Oct-2001(G) / 02-Oct-2009(S)	01-Jun-2001(G) / 01-Apr-2004(S)	Yürürlükte
South Africa	Mal	STA	02-Nov-2000	01-Jan-2000	Yürürlükte
Morocco	Mal	STA	13-Oct-2000	1.Mar.00	Yürürlükte
Israel	Mal	STA	20-Sep-2000	01-Jun-2000	Yürürlükte
Mexico	Mal ve Hizmet	STA ve ÇED	25-Jul-2000(G) / 21-Jun-2002(S)	01-Jul-2000(G) / 01-Oct-2000(S)	Yürürlükte
Tunisia	Mal	STA	15-Jan-1999	1.Mar.98	Yürürlükte
Andorra	Mal	GB	23-Feb-1998	01-Jul-1991	Yürürlükte
Palestinian Authority	Mal	STA	29.May.97	01-Jul-1997	Yürürlükte
Faroe Islands	Mal	STA	17-Feb-1997	01-Jan-1997	Yürürlükte
Turkey	Mal	GB	22-Dec-1995	01-Jan-1996	Yürürlükte
Syria	Mal	STA	15-Jul-1977	01-Jul-1977	Yürürlükte
Norway	Mal	STA	13-Jul-1973	01-Jul-1973	Yürürlükte
Iceland	Mal	STA	24-Nov-1972	01-Apr-1973	Yürürlükte
Switzerland - Liechtenstein	Mal	STA	27-Oct-1972	01-Jan-1973	Yürürlükte
Overseas Countries and Territories (OCT)	Mal	STA	14-Dec-1970	01-Jan-1971	Yürürlükte

Kaynak: <http://rtais.wto.org/UI/PublicAllRTAList.aspx>

Not: STA: Serbest Ticaret Anlaşması, ÇED: Çevre Etki Değerlendirme Anlaşması, GB: Gümrük Birliği

Tablo 2'de yer alan ülkelerin bazıları ile Türkiye'nin serbest ticaret anlaşması bulunmaktadır. Diğer bir ifadeyle Türkiye ile serbest ticaret anlaşması imzalayan tüm ülkeler aynı zamanda AB ile anlaşma imzalamışlardır. Ancak tersi durum söz konusu değildir.

Tablo 3: AB ile Türkiye'nin Ortak Şekilde ve Sadece AB'nin Serbest Ticaret Anlaşması İmzaladığı Ülkeler Listesi

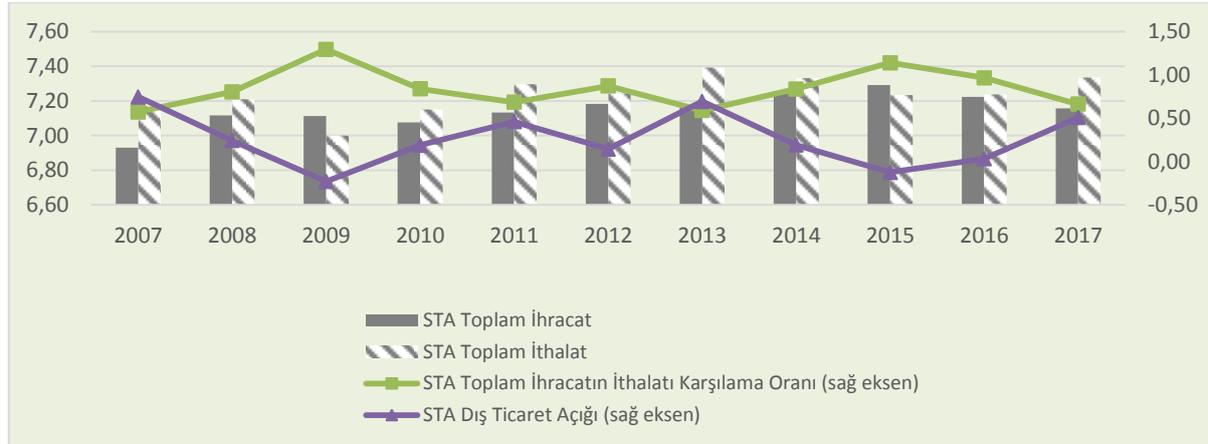
EFTA (Norveç, İsviçre, Lihtenştayn)	Kanada
İsrail	SADC Southern African Development Community Angola, Mozambique, Tanzania as well as Botswana, Lesotho, Namibia, Swaziland
Makedonya	Colombia and Peru - Accession of Ecuador
Bosna ve Hersek	Ukrayna
Filistin	Orta Amerika
Tunus	Eastern Africa States Interim EPA
Fas	Papua New Guinea / Fiji
*Suriye	San Marino
Mısır	Kamerun
Arnavutluk	CARIFORUM States EPA The Caribbean Community + Dominic Republican
Gürcistan	Cezayir
Karadağ	Güney Afrika
Sırbistan	Meksika
Şili	Andora
Ürdün	Suriye*
Güney Kore	Overseas Countries and Territories (OCT)
Moldova	
Faroe Adaları	
Moritus	
Malezya	
Singapur	

Kaynak: <http://rtais.wto.org/UI/PublicAllRTAList.aspx>

*: Türkiye'nin Suriye ile serbest ticaret anlaşması karşılıklı olarak durdurulmuştur. Ancak AB ile Suriye arasındaki anlaşma devam etmektedir. Dolayısıyla Türkiye'nin GB dolayısıyla Suriye ile olan durumu karışıklık arz etmektedir.

Tablo 3'de ise Türkiye'nin serbest ticaret anlaşması yapmadığı ancak AB ile gerçekleştirdiğimiz Gümrük Birliği nedeniyle AB'nin yaptığı anlaşma gereği zorunlu olarak ve tek taraflı (Türkiye aleyhine) gümrük engellerini kaldırmamızın gerektiği ülkeler (ikinci sütun) görülmektedir.

1996 yılında Gümrük Birliği anlaşması imzalandıktan sonra da serbest ticaret anlaşmalarının yapılması yeni bir boyut kazanmıştır. Bu çerçevede Türkiye sadece Gümrük Birliği dolayısıyla AB'nin anlaşma imzaladığı ülkelerle karşılıklı fayda esasına dayalı anlaşmalar yapmaktadır (T.C. Ekonomi Bakanlığı, Serbest Ticaret Anlaşmaları Portalı, <http://www.ekonomi.gov.tr/portal/content/conn/UCM/path/Contribution%20Folders/web>).

Grafik 1: Türkiye'nin Serbest Ticaret Anlaşmaları Yoluyla Dış Ticaret Durumu (2007-2017)

Kaynak: Türkiye İstatistik Kurumu, Dış Ticaret İstatistikleri, 2017, http://www.tuik.gov.tr/PrelstatistikTablo.do?istab_id=624; http://www.tuik.gov.tr/PrelstatistikTablo.do?istab_id=625

Grafik 1'de serbest ticaret anlaşmaları yoluyla gerçekleştirilen ihracat ve ithalat işlemleri, ihracatın ithalatı karşılama oranı ve açık durumu görülmektedir. 2007 ve 2017 yılları arasında içinde 2017 yılının da olduğu 8 sene ithalat ağırlığı görülmektedir. Dolayısıyla beklenir şekilde bu yıllardan çoğunda karşılama oranı düşmüş ve açık artmıştır. Bu ham sonuçlar iki şekilde ince ayarla yorumlanabilir. Bunlardan ilki dış ticaret açıklarının sadece nihai ürün ithalatından kaynaklanmadığıdır. Bu konuda daha ayrıntılı bir gözlemle eğer hammadde ve aramalı ithalatı nedeniyle artış yaşanıyor ve uzun vadede bu durum ihracat ile sonuçlanıyorsa döviz kaybı karşılaştırması yapılması gerekir. İkinci yorum ise ihracatın artış hızının ithalatı aştığı durumlarda ithalat rakamsal olarak büyük olsa dahi karşılama oranının yükseldiğinin ve açığın artış hızının yavaşladığının görüldüğüdür. Söz konusu durumun yaşandığı 2008, 2012 ve 2014 yılları örnek olarak verilebilir.

2.2.2. Türkiye'deki Serbest Ticaret Bölgeleri

AB mevzuatında, gümrük bölgesinin bir bölümünün serbest bölge olarak belirlenmesi yetkisi gümrük birliği içinde olunan ülkenin kendisine bırakılmaktadır (COUNCIL REGULATION (EEC) No 2913/92 of 12 October 1992; Chapter 3, Section 1, Article 166). Türkiye'de serbest bölgelerin oluşturulmasına ilişkin yasal düzenleme 3218 sayılı Kanun ile belirlenmiştir. Bu kanuna göre serbest bölgeler, Türkiye dışında bir ülke olarak kabul edilmektedir. İhracat ve ithalat işlemleri açısından; serbest bölgenin tanımlandığı ülkeden serbest bölgeye mal girişi ve serbest bölgelerden dış ülkelere mal çıkışı ihracat, serbest bölgeden kurulduğu ülkeye mal girişi ve dış ülkelere serbest bölgeye mal girişleri ise ithalat işlemi olarak belirlenmiştir (Güngör, 2015).

Tablo 4: Türkiye Serbest Bölgeler Dış Ticaret Durumu

	İHRACAT		İTHALAT	
	Serbest Bölgelerden Yurt Dışına	Yurt İçinden Serbest Bölgelere	Yurt Dışından Serbest Bölgelere	Serbest Bölgelerden Yurt İçine
Ocak-Aralık 2014	7957871	2732526	7058603	4683242
Ocak-Aralık 2015	7493675	2205295	6549732	4011960
2014-2015 Değişim	-5.83	-19.29	-7.21	-14.33
İhracat / İthalat 2014	0.91			
İhracat / İthalat 2015	0.92			

Kaynak: T.C. Ekonomi Bakanlığı, Serbest Bölgeler Portalı Verileri, <https://www.ekonomi.gov.tr/portal/content/conn/UJCM/uuid/dDocName:EK-070995>

Tablo 4'de 2014- 2015 yıllarında Türkiye'deki serbest bölgelerin mal giriş ve çıkış işlemleri görülmektedir. İhracatın ithalatı karşılama oranı her iki yılda da çok yüksek olmasına rağmen her iki yılda ithalat faaliyetlerinin miktar olarak yüksekliğinin gözlemlendiğini ve bunun döviz kaybı yarattığı ifade edilebilir. Serbest bölgelerin ithalat işlemlerinde temel saiklerin; sağlanan vergi avantajları ve depolama faaliyeti olduğu katma değer yaratılmadığı ifade edilmektedir (Serbest Bölgeler Uzmanlık Tezi,

2003: 147). Serbest bölgelerin daha çok ithalatı kolaylaştırarak döviz kaybına neden olduğu konusunda eleştirilerin olduğu da belirtilmektedir (Öztürk, 2013: 79).

2.2.3.Gümrük Birliği Anlaşması

Türkiye, AB ile 1995 yılında Ortaklık Konseyi toplantısında alınan karar çerçevesinde Gümrük Birliği'ne girmiş, 1/95 Sayılı Ortaklık Konseyi kararının 10. Maddesi uyarınca; AB ile dış ticaret rejimini uyumlu hale getirmeyi ve üçüncü ülkelerle gerçekleştirilecek dış ticaret faaliyetlerinde kendi gümrük tarifelerini Topluluğun Ortak Gümrük Tarifelerini dikkate alarak uygulayacağını taahhüt etmiştir (Güllü, 2014: 99).

Söz konusu taahhüt ile üçüncü ülkelere ihracat faaliyeti hem AB hem de üçüncü ülkelere göre malların Türkiye'de daha ucuz üretilmesine, üçüncü ülkelere ithalat faaliyeti ise ithal edilecek malların üçüncü ülkelerde AB mallarından daha ucuz olmasına bağlanmıştır (Aktaş ve Güven, 2003: 71). Bu aşamadan sonra Ortaklık Konseyi kararının 16.maddesi gereği Türkiye, AB'nin çeşitli ülkelerle yaptığı Serbest Ticaret Anlaşmalarına benzer anlaşmalar (EFTA, İsrail, Makedonya, Hırvatistan, Bosna Hersek, Filistin, Tunus, Fas, Suriye, Mısır, Arnavutluk, Gürcistan, Karadağ, Sırbistan, Şili, Ürdün, Lübnan) yapmıştır (Güllü, 2014: 99).

Türkiye'nin Gümrük Birliği anlaşması ile dış ticaret faaliyetleri açısından avantaj ve dezavantajlarına ilişkin bulgular Tablo 5'de kısaca belirtilmiştir.

Tablo 5: Gümrük Birliğine Girişin Türk Dış Ticaret Yapısına Etkisini İnceleyen Çalışmalar

YAPILAN ÇALIŞMALAR	BULGULAR
KRUEGER, O. A. etc. (1996)	Türkiye'nin Gümrük Birliğine dâhil olması ile yaşanacak cari işlemler dengesi sorunları bulgulanmıştır.
DPT –a–, (1996)	Gümrük vergilerinin kaldırılması ve ortak gümrük tarifesi uygulaması ile ithalatın önemli ölçüde arttığı belirtilmiştir.
HARRISON, G. W. etc. (1997)	Gümrük Birliğine giriş ile Türkiye'nin GSYH'sının %1 ila %1.5 kadarlık bir kazancının olacağı, gümrük vergisi kaybının ise GSYH'sının %1.4'ü kadar olacağı ifade edilmiştir.
MERCENIER, J. ve YELDAN, E. (1997)	Tam üyelik olmaksızın yani kısmi ticaret serbestisi ile Gümrük Birliğine girişin Türkiye'de hanehalkı yoksullaşmasına yol açacağı bulgulanmıştır.
MORGİL, O. (2000)	Gümrük Birliğine girişin ticaret saptırıcı etkisi olmasa da ticaret yaratıcı etkisi sınırlı miktarda olmuştur.
TOGAN, S. (2000)	Gümrük Birliğine girişin Türkiye açısından AB'ye yapılan ihracatta önemli bir artış yaratmadığı, ithalatta da üçüncü ülkelere yapılanlara göre AB'den daha fazla ithalat yapıldığı bulgulanmıştır.
DPT –b–, (2000)	Gümrük Birliğine giriş ile AB ve üçüncü ülkelere yapılan ithalatın arttığı ifade edilmiştir.
UYAR, S. (2001)	Gümrük Birliği ile ithalatın ihracattan daha hızlı artması sonucu, ticaret yaratıcı etkinin Türkiye aleyhine geliştiği, imalat sanayinde ithalat miktarının ihracat miktarından daha büyük olmasının da söz konusu ürünleri birlik içinde ucuz üreten ülkelerin üretim ve gelirlerini arttığı, gelir dağılımının Türkiye'nin aleyhine geliştiği bulgulanmıştır.
MANİSALI, E. (2001)	AB çıkışlı imalat sanayi mallarının gümrük olmadan ithal edilmesi ve üçüncü ülkelere karşı AB tercihlerine bağlı olarak gümrük uygulaması zorunluluğunun Türkiye dış ticaretinde sapmaya yol açtığı ifade edilmiştir.
ÖĞÜT, K. (2003)	Gümrük Birliğinin Türkiye'nin dış ticaret açığında yapısal bir değişime yol açtığı bulgulanmıştır.
AKTAŞ, C. ve GÜVEN, D. (2003)	Gümrük Birliğine girdikten sonra; - Brüt döviz rezervinde 1 birimlik değişikliğin ithalat miktar endeksinde öncesine göre daha büyük bir artışa, -İhracat miktar endeksindeki 1 birim değişikliğin ithalat miktar endeksinde öncesine göre daha büyük bir artışa, -Toplam Sanayi Üretim endeksindeki 1 birimlik değişikliğin ithalat miktar endeksinde öncesine göre daha büyük bir artışa yol açtığı saptanmıştır.

ÇAK, D. ve ÇAK, M. (2007)	Gümrük Birliğine girişin üçüncü ülkelerden yapılan ithalatı artırdığına buna karşılık ihracatın yıllık artış hızı üzerinde olumlu bir etkinin ortaya çıkmadığı bulgulanmıştır.
GÜNDÜZ, O. ve ESENGÜL, K. (2007)	Gümrük Birliğine girişin ihracata göre ithalat değerlerinde daha çok artışa yol açtığı tespit edilmiştir.
NEYAPTI, B. vd. (2007)	Gümrük Birliğine girişin Türkiye'nin dış ticaret hacmini genişletme anlamında olumlu bir katkısının olduğu ancak Birlik süreci sonrasında ihracatın özellikle kur değerindeki sapmadan çok etkilendiği bulgulanmıştır.
KÖSEKAHYAOĞLU, L. (2007)	Gümrük Birliği sonrasında ithalatın ürün yapısında az ancak ihracatın yapısında çok önemli değişimler olduğu gözlenmiştir.
KIZILTAN, A. Vd. (2008)	Gümrük Birliğine girişle Türkiye 10 yıllık süreçte dış ticareti artırıcı etkiler ortaya çıkardığı bulgulanmıştır.
GÖKDEMİR, L. ve KARAMAN, E. (2008)	Birliğin Türkiye net refahı üzerindeki etkisinin kısıtlı olduğu sonucuna varılmıştır.
TEMİZ, D. (2009)	Gümrük Birliğine girişin ardından dış ticaret hacminde ithalattan kaynaklanan artış olup ancak net ihracatta azalma bulgulanmıştır.
SEYMEYEN, D. (2009)	Gümrük Birliğine girişin dış ticarete ülke yoğunluğunu etkileme gücünün sınırlı kaldığı ifade edilmiştir.
ALTAY, H. vd. (2009)	AB çerçevesinde yüksek katma değerli sanayiler açısından pazar avantajının sağlanamadığı ve Gümrük Birliği açısından beklenen sonuçların alınmadığı bulgulanmıştır.
ÇOLPAN NART, E. (2010)	Gümrük Birliğine girişin ticaret yaratıcı etkiler meydana getirdiği belirtilmiştir.
KALAYCI, C. ve ARTAN, S. (2010)	Gümrük Birliğinin AB ülkeleri birlik içi ticaretini ve Türkiye ile AB arasındaki ihracatı artırmasına rağmen, Türkiye ihracat artışının diğerlerinden daha az olduğu sonucuna varılmıştır.
DOĞAN, S. ve KAYA, S. (2011)	Gümrük Birliği sonrasında ülke bazlı yoğunlaşmada değişikliğin olmadığı, ihracatta ürün bazına yapısal bir değişim gözlenmesine karşın ithalatta AB bağımlılığın azalmadığı bulgulanmıştır.
YERGIN, H. vd. (2014)	Katma değere sahip önemli bazı ürün gruplarında dış ticaret hacminin ithalat yönü olmasından kaynaklı dış açığın ortaya çıktığı bulgulanmıştır.
MESUT, D. 2015	Gümrük Birliğine giriş sonrasında verilerin daha çok AB lehine ticaret yaratıcı ve saptırıcı etkileri işaret ettiği belirtilmiştir. Zaman içinde ihracat artışı gözlenirse de ithalat artışında önemli gelişmelerin olduğu ifade edilmiştir.
KARAGÖZ, 2017	Gümrük Birliği Anlaşması sonrası Türkiye'nin AB'ye ihracat oranındaki artış ortalamanın çok daha fazlası şeklinde gerçekleşmiştir. İhracatın fiyata duyarlılığındaki artış ile ilgili güçlü kanıt bulunamamıştır. Ayrıca AB ülkelerinden Türkiye'ye yapılan ithalatın da fiyat duyarlılığında bir değişiklik gözlenmemiştir
AKÇA, BAL VE ÇAĞLAYAN, 2017	Yapılan çalışma sonucunda Gümrük Birliğinin ticaret yaratıcı ancak sınırlı bir etkiye sahip olduğu bulgulanmış, Türkiye toplam ihracat pazar payına yönelik incelemede Gümrük Birliği sonrası AB'ye yönelik ihracat payının düştüğü diğer ülke piyasalarında ise arttığı dolayısıyla Birliğin ticaret saptırıcı etkisinin olmadığı tespit edilmiştir. Gümrük Birliği pozitif etkiye sahip olsa da bazı mallar itibarıyla Türkiye açısından halen tarife dezavantajının söz konusu olduğu bundan dolayı bu mallara yönelik tarife engellerinin oluşturulması gereği ifade edilmektedir

Kaynak: [(Kuşat, 2015), (Öğüt, 2003), (Altay vd., 2009), (Yergin vd., 2014), (Doğan, 2015), (Öğüt, 2003), (Aktas ve Güven, 2003), (Mercenier ve Yeldan, 1997), (Harrison etc., 1997), (Neyaptı etc., 2007)]'den bulgular ile (Arslan ve Çaşkurlu, 2016, s. 660 – 662); Karagöz, 2017: 37; Akça, Bal ve Çağlayan, 2017, 15

Tablo 5'de belirtilen bulgulara dayanılarak Türkiye'nin dış ticaret yapısına ilişkin sonuçlar şu şekilde özetlenmiştir (Arslan ve Çaşkurlu, 2016: 663):

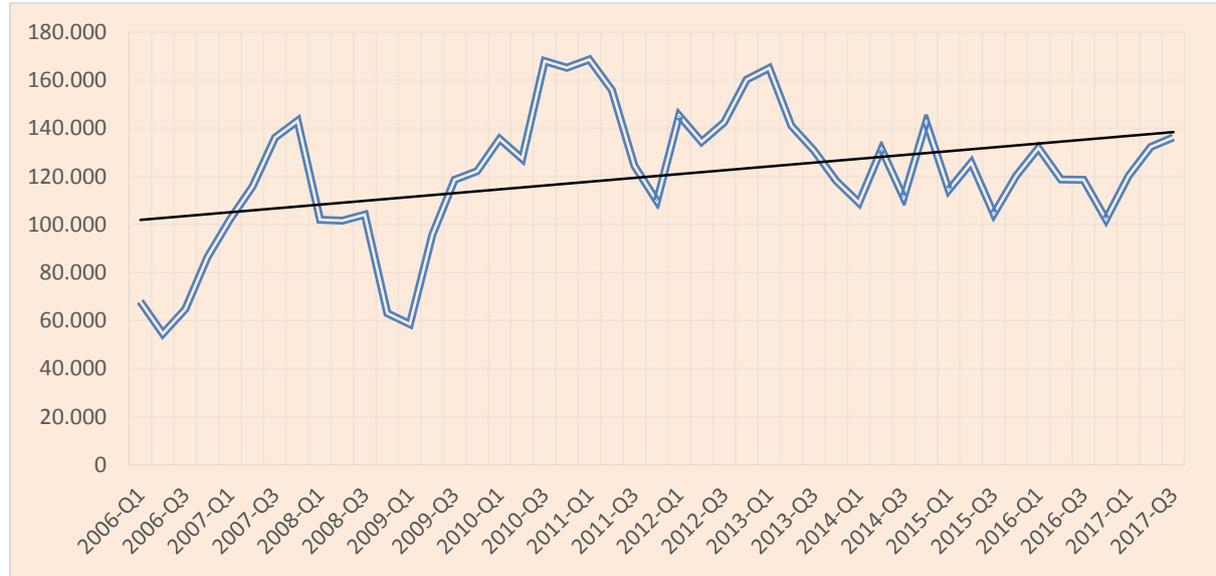
- Gümrük Birliği yeni pazarlara açılma ve dış ticarete çeşitli fırsatların sağlanması açısından avantajlı olmuş ve dolayısıyla Türkiye dış ticaretinin bu durumdan belli ölçülerde olumlu etkilenmiştir.
- Ancak Gümrük Birliği sonrasında dış ticaretteki hacim artışı, genellikle "ithalat" şeklinde gerçekleşmiş ve dolayısıyla daha çok AB lehine olmuştur.
- Dış ticaret hacmine ilişkin kazançların ve gümrük vergisi kayıplarının karşılaştırılması gereğinin ortaya çıkmıştır.
- Dış ticaret yapısında Birliğe giriş sonrasında ortaya çıkan değişiklikler, dış ticaret faaliyetlerinin kur oynaklığına duyarlılığını daha fazla artırmıştır.
- Tam üyelik olmaksızın Gümrük Birliğine giriş, dış ticaret kazançlarından ziyade refah kayıplarına yol açabilmektedir.
- Dış ticaret ürün çeşitliliği konusunda, Birliğe giriş sonrasında Türkiye açısından katma değeri düşük mal ticaretinin yapılması durumu ortaya çıkmıştır.

2.2.4. Türkiye'ye Yönelik Doğrudan Yabancı Sermaye Yatırımları

Doğrudan yabancı yatırım Karluk 1998'de; girişim, teknoloji risk taşıma ve organizasyon aktarımının içine dâhil olduğu bir sermaye transferi faaliyeti olarak tanımlanmaktadır (Karluk, 1998: 134). Sarısoy ve Koç 2012'de de kalıcı fayda sağlamaya yönelik sermaye ve/veya iş faaliyeti transferi olarak ifade edilmiştir (Sarısoy ve Koç, 2012: 189).

Doğrudan yabancı yatırımlar yoluyla ithalat ve ihracat akımlarının etkilenmesi söz konusu olmaktadır. Sarısoy ve Koç 2012'de yapılan ampirik bir çalışmada; doğrudan yabancı yatırımların yatırımın yapıldığı çalışmada ele alınan ve içinde Türkiye'nin de olduğu ülkelerde ithalatı artırdığına ilişkin bir sonuç bulunmuştur (Sarısoy ve Koç, 2012: 204). Doğrudan yabancı yatırım ve serbest bölgeler arasındaki ilişkinin sınıandığı bir başka çalışmada ise serbest bölgelerin Türkiye'de doğrudan yabancı yatırım çekmek açısından çok etkin olmadığına ilişkin bulgulara ulaşılmıştır (Düzenli, 2003: 130).

Grafik 2: Doğrudan Yabancı Yatırım Alınan (Yükümlülük) ve Yapılan (Varlık) Farkı



Kaynak: Merkez Bankası, Elektronik Veri Destek Sistemi, https://evds2.tcmb.gov.tr/index.php?evds/serieMarket/collapse_18/5003/

Grafik 2'de doğrudan yabancı yatırımların gelişimi; ülke yatırım pozisyonu dahilinde varlıklar içindeki yapılan doğrudan yabancı yatırımlar ile yükümlülükler içindeki alınan doğrudan yabancı yatırımlar arasındaki farkın ortaya konması şeklinde incelenmiştir. Çeyrek dönemler itibariyle ele alınan incelemede 2013 birinci çeyrekte düşen fark, 2014 ikinci ve dördüncü çeyrek dışında eğim çizgisinin üzerine çıkmamış ve düşüş eğilimini korumuştur. Ancak 2016 dördüncü çeyreği itibariyle tekrar artış eğilimine girmiş ve yükselmeye devam etmektedir. Bu anlamda söz konusu yatırımların kısa vadede döviz kaybı etkisi görülmektedir. Ancak uzun vadeli etkisinin hangi yönde olacağını araştırılması gerekir.

3. VERİLER VE METHODOLOJİ

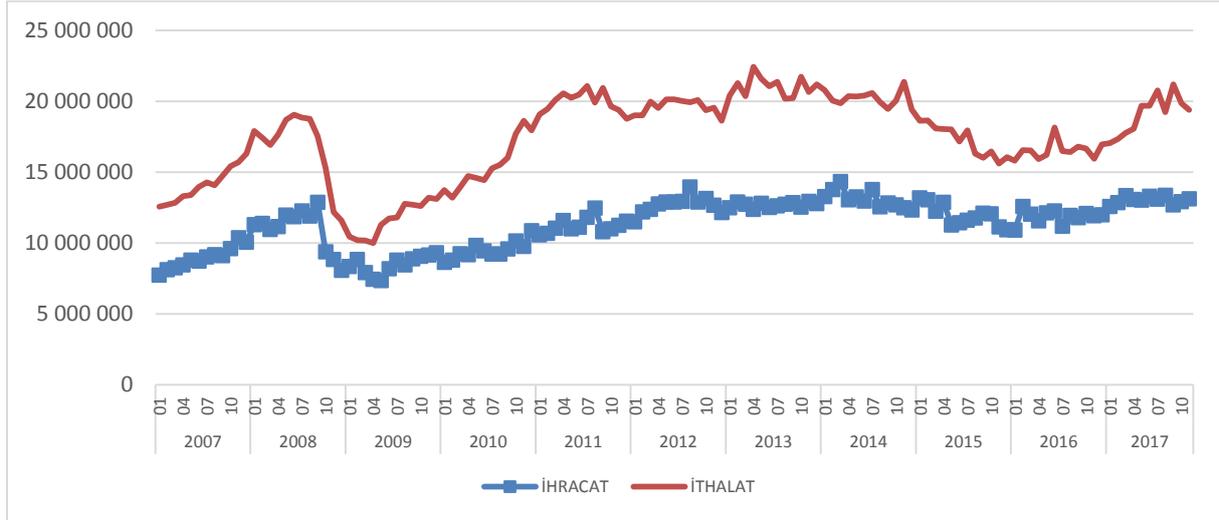
3.1. Türkiye Dış Ticaretinin Genel Yapısı -Güçlü ve Kırılgan Yönler

Türk dış ticaret yapısına belli açılardan değinip, mevcut durumun kırılganlıkları ve güçlü yanlarının olası anlaşmanın olumlu-olumsuz yanlarını artırıcı ve/veya azaltıcı unsurlarını ele almak gerekmektedir.

3.1.1. Dış Ticaret Genel Düzey ve İçerik Değerlendirmesi

Dış ticaretin genel gelişimi ve söz konusu gelişimin içeriğinin ele alınması, dış ticareti etkileyecek unsurların hangi yönlerden avantaj ve dezavantaj yaratabileceğinin analizi açısından gereklidir.

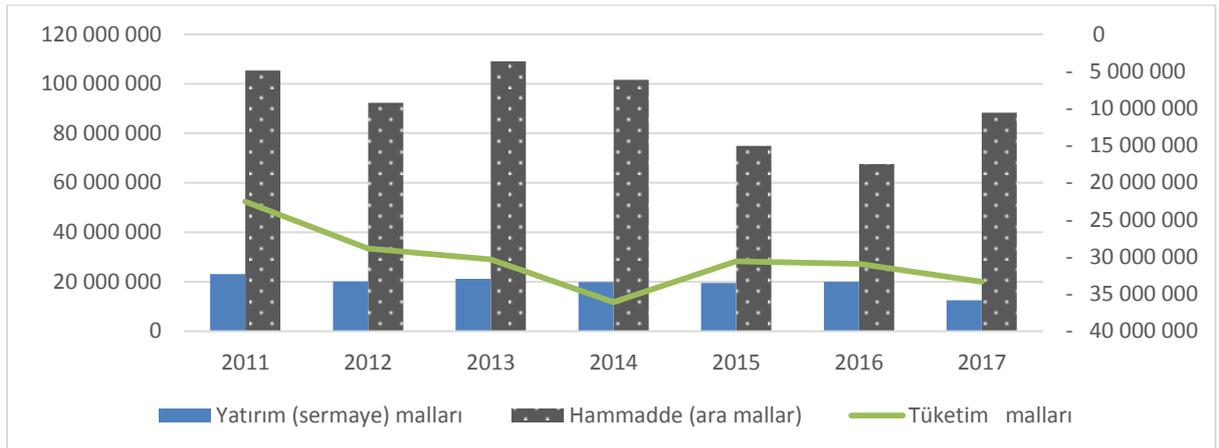
Grafik 3: Mevsim ve Takvim Etkisinden Arındırılmış Dış Ticaret Durumu



Kaynak: Türkiye İstatistik Kurumu, Dış Ticaret İstatistikleri, 2017, http://www.tuik.gov.tr/PrelstatistikTablo.do?istab_id=1343

Türkiye açısından 2007 – 2017 yılları arasında mevsim ve takvim etkilerinden arındırılmış dış ticaret durumuna bakıldığında gelişimin ithalat lehine olduğu görülmektedir. Ancak ithalat ağırlığı olsa da içeriğine bakmak gerekmektedir.

Grafik 4: Ekonomik Sınıflandırmaya Göre Dış Ticaret – Net Ticaret (2011-2017)



Kaynak: Türkiye İstatistik Kurumu, Dış Ticaret İstatistikleri, 2017, http://www.tuik.gov.tr/PrelstatistikTablo.do?istab_id=630; http://www.tuik.gov.tr/PrelstatistikTablo.do?istab_id=629

Grafik 4’de 2011 ve 2017 yılları arasında net dış ticaret ekonomik sınıflandırmaya göre incelenmektedir. Grafikteki gelişime bakıldığında en çok hammadde (aramaları) ithalatının yapıldığı ve ikinci sırayı da yatırım mallarının aldığı görülmektedir. Tüketim malları itibariyle net dış ticaret sürekli ihracat lehinedir (sağ eksen). Tüketim mallarına ilişkin 2011 yılındaki ithalat artışına bağlı olarak yüksek gerçekleşen seri, 2017 yılı dahil olmak üzere düşüş eğilimindedir. Ara malı ve yatırım

mallarındaki net dış ticaret, doğal kaynak açısından yeterli zenginliğin olmamasından kaynaklanmaktadır (Hasanov, 2014: 18). Bu durum Türkiye’de üretimin ve ihracatın, ithal bağımlılığının bir işareti olmaktadır. İthal bağımlılığının yarattığı bir diğer sorun da geleneksel dış ticaret teorisinde, ülke kur oynaklığının yerli para değer kaybına neden olduğu durumlarda ülkeye ihracat avantajı sağladığı şeklindeki geleneksel savın geçersizliğidir. İthal bağımlılığı ne kadar yüksekse, para değer düşüklüğünün ihracat hacmi üzerindeki etkisinin o kadar düşük olduğu çeşitli çalışmalarda ifade edilmektedir (Ahmed et.al., 2015:17; Kılıç ve Yıldırım, 2015: 198).

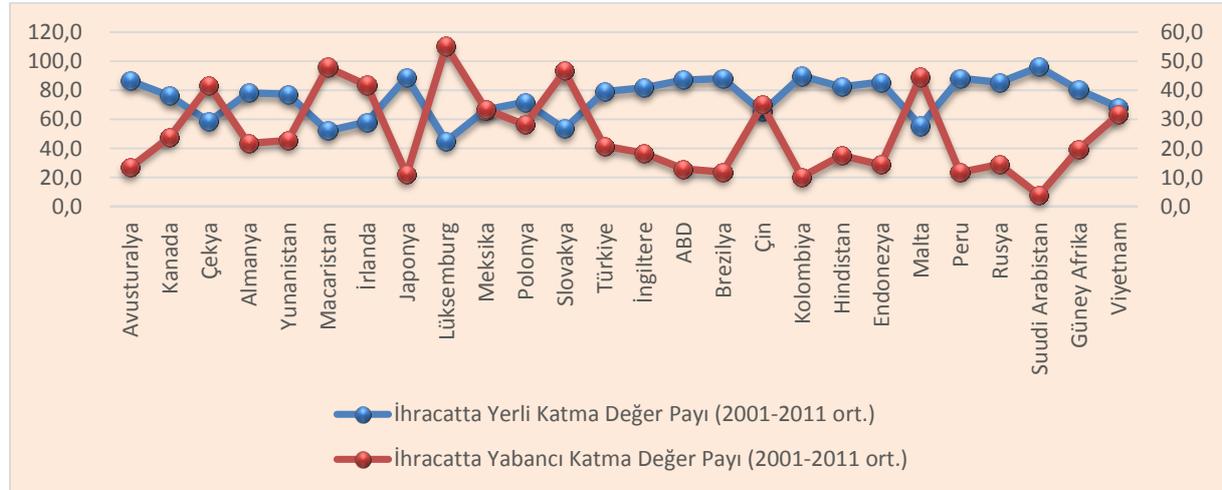
3.1.2.Dış Ticarete Katma Değer Oluşumu ve Etkileri

İhracatın parasal miktarı ya da hangi ülkelere yapıldığından ziyade söz konusu faaliyette ne kadar katma değer yaratıldığı önem kazanmaktadır. Johnson 2014’de katma değer ticareti adı verilen söz konusu durumun toplam ticaretle farklı şekilde yorumlanması gereği ifade edilmiştir (Johnson, 2014: 140).

Miroudot ve Yamano, 2013’de üretimin küreselleşmesine bağlı olarak farklı ekonomik ortamlarda herhangi bir ürüne çoklu katma değer eklenebileceği ifade edilmektedir (Miroudot ve Yamano, 2013: 18). Katma değer zincirlerinde, ülkelerin ticarete ve yabancı sermayeye açıklıkları ile diğer stratejik belirlemelerinin önem taşıdığı belirtilmiştir (Greff ve Luo, 2014: 9). Ticarete ürün kompozisyonu ve bununla ilişkili faktör yoğunluğu konusu dikkate alındığında, katma değer açısından gelişmekte olan ülkelerin ihracat ürün çeşitliliğinde uzmanlaşma yoğun sektörlerle doğru bir çeşitlilik artışının olması gerektiği ifade edilmektedir (Fontagne, Fouré, Knack, 2017, 57). Erkan ve Yıldırım (2015)’de, Türkiye açısından bakıldığında üretim ve ihracatta emek yoğun yapının, katma değer yaratımını engellediği ve uluslararası pazardaki güç yapısını olumsuz etkilediği belirtilmektedir (Erkan ve Yıldırım, 2015: 533). Dış ticaretin gelişimi ve bu yolla refah artışı sağlanması bağlamında Türkiye’de enerji ithal bağımlılığının ve ihracatta katma değeri düşük ürünlerin üstünlüğünün değiştirilmesi gereği ifade edilmektedir (Tunalı ve Aytekin, 2017: 113). Bu anlamda yapılan bir çalışmada üretim ve yatırımların ithal girdi ve sermaye malı bağımlılığının olumsuzluğuna işaret edilmiştir (Bayar 2017, s.173).

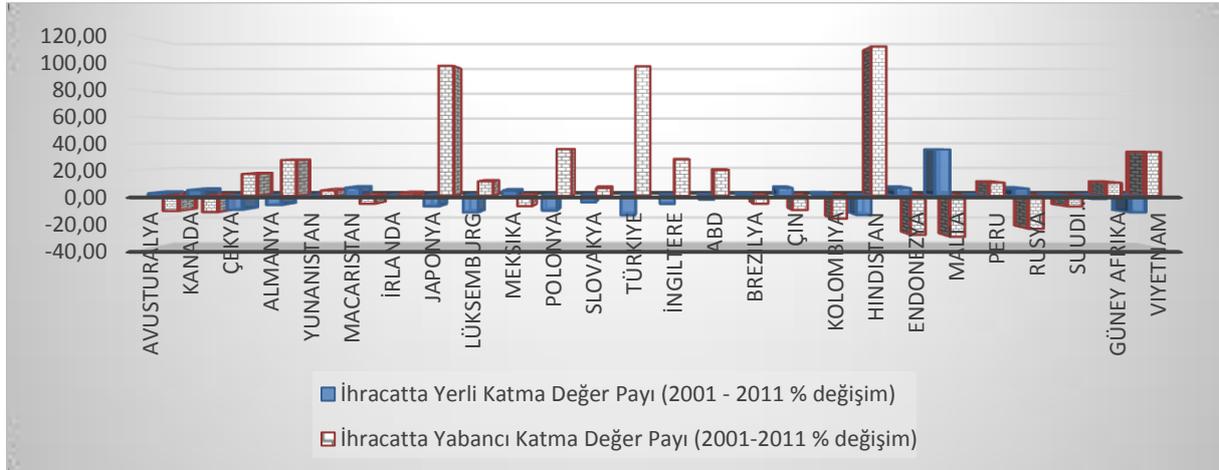
Buradan hareketle Türkiye ihracatında katma değer oluşumu diğer ülke örnekleriyle birlikte Grafik 5 ve 6’da verilmiştir. Karşılaştırma verileri OECD’nin ilgili veri setinden alınarak incelenmektedir. Son yıl resmi verilerde 2011 yılıdır.

Grafik 5: İhracatta Yerli ve Yabancı Katma Değer Payı (2001 – 2011 ort., %)



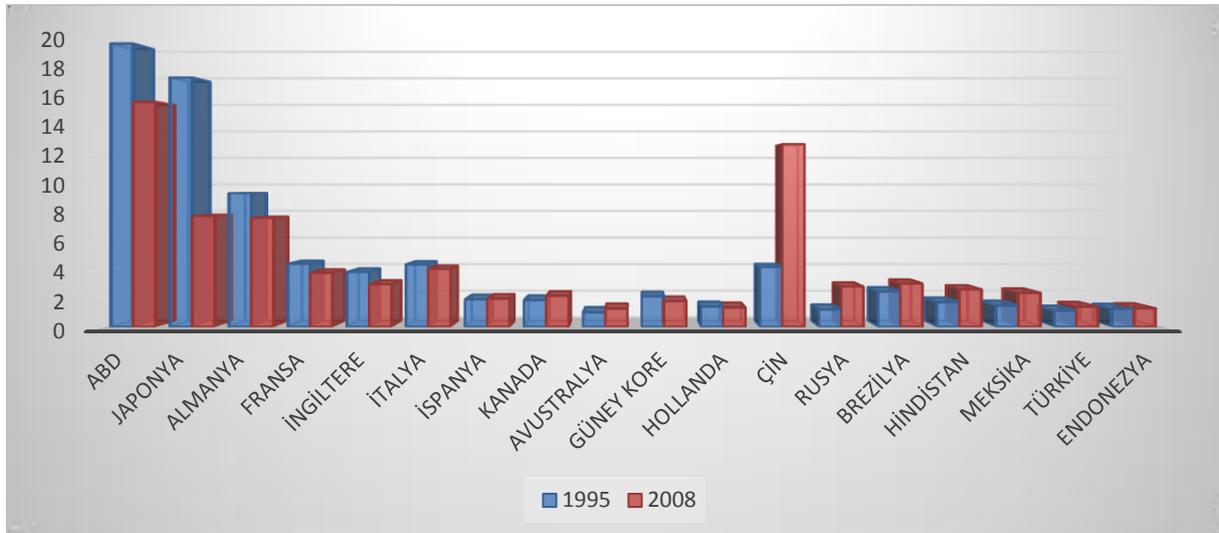
Kaynak: OECD-WTO: Statistics on Trade in Value Added, http://www.oecd-ilibrary.org/trade/data/oecd-wto-statistics-on-trade-in-value-added_tiva-data-en.

Grafik 5’de ihracatta yerli ve yabancı katma değer payları ele alınan yıllar itibarıyla ortalama olarak gösterilmiştir. Genel olarak bakıldığında ülkelerin yerli katma değer payları yabancı paya göre daha yüksektir. İstisna teşkil eden Lüksemburg da yabancı katma değeri yüksektir. Malta, Macaristan ve Slovakya’da da değerler birbirine çok yakındır. Katma değer incelemesinde temel olan rakamsal gelişimin yanı sıra hangi ürünlerin ihraç edildiğinin sıranmasıdır. Örneğin Suudi Arabistan’da yerli katma değer çok yüksektir. Ancak petrol ürünleri ihracatı söz konusu olduğundan beklenir bir durumdur.

Grafik 6: İhracatta Yerli ve Yabancı Katma Değer Payı (2001 – 2011 % değişim)

Kaynak: OECD-WTO: Statistics On Trade In Value Added, <http://www.oecd-ilibrary.org/trade/data/oecd-wto-statistics-on-trade-in-value-added-tiva-data-en>

Grafik 6'da ise ihracattaki katma değer payı ele alınan yıllar arasındaki değişim durumu göz önüne alınarak incelenmiştir. Burada durum Avusturalya, Kanada, Macaristan, Brezilya, Çin, Kolombiya, Endonezya, Malta, Rusya ve Suudi Arabistan için ihracatta yerli katma değer artıp, yabancı katma değer azaldığı ülkeler ile diğerleri açısından tersi durumun gerçekleştiği bir şekildedir. Ne yazık ki Türkiye açısından ihracatta yabancı katma değer payı artmıştır ve bu sadece 2001 ve 2011 yılları için değil, söz konusu yıllar arasındaki genel görünüm itibarıyla geçerlidir.

Grafik 7: İmalat Sanayinde Yaratılan Katma Değer (1995 ve 2008, %)

Kaynak: M. P. Timmer, et. al., "Slicing Up Global Value Chains", Journal of Economic Perspectives, 28(2), 2014.

İhracatta katma değer incelemesi özellikle dünya ekonomisi pazar payının elde edilmesi, güçlü bir dış ticaret aktörü haline gelme ve önemli döviz kazanımları elde etme açılarından gereklidir. Bu incelemede imalat sanayi odak noktasıdır. Bu konuya yönelik literatürde önemli referans noktalarından birini oluşturan Timmer, 2014 çalışmasına ilişkin ülkeler açısından durum Grafik 6'da gösterilmiştir. 1995 ve 2008 yıllarındaki durum karşılaştırılmıştır. İspanya, Kanada, Avusturalya, Çin, Rusya, Brezilya, Hindistan, Meksika ve düşük de olsa Türkiye'de imalat sanayi katma değerinin 2008 yılı itibarıyla arttığı görülmektedir. Türkiye açısından artışın düşük kalması pazar payının elde edilmesi açısından ek önlemler, teşvik ve stratejiler ile acele edilmesi gerektiğini göstermektedir.

4. BULGULAR VE TARTIŞMALAR

4.1.Gelişmiş Ülke Ekonomik Aktörleri Arasındaki Serbest Ticaret Anlaşmalarında Türkiye'nin Durumu: Transatlantik Ticaret ve Yatırım Ortaklığı (TTIP), Kapsamlı Ekonomi ve Ticaret Anlaşması (CETA) ve Kapsamlı ve Yenilikçi Trans Pasifik Yatırım Ortaklığı Anlaşması (CPTPP) Örnekleri

Transatlantik Ticaret ve Yatırım Ortaklığı, ABD ve AB arasında müzakereleri 2013 yılında başlayan ve 2017 yılında sonlandırılması planlanan ancak çeşitli sorunlar nedeniyle şu anda askıda bekletilen bir kapsamlı serbest ticaret anlaşmasıdır. TTIP'nin genel olarak önemi şu şekilde sıralanabilir (EU Commission 2013 ve OECD 2013'den aktaran Çelebi, 2013: s. 219):

-Anlaşma serbest ticaret alanının oluşturulması açısından çok ciddi bir girişimdir.

-Anlaşma ile taraflar (ABD ve AB) daha önce ticaret konusunda değinilmemiş konular ile ilgili ayrıntılı bağlayıcı düzenleme ve kurallara yer vererek dünya ticaretinde hâkim konuma ulaşmak istemektedir.

TTIP'nin, ABD ve AB'nin geçen 20 yılda birbirlerinin ticaret piyasalarındaki paylarının düşüşünü telafi etmek, büyümelerini hızlandırmak ve çok taraflı ticaret sistemi ile küresel standartlardaki etkilerini artırmaya amaçlı gerçekleştirilmesi planlanan bir anlaşma olduğu görülmektedir (Majchrowska, 2017, s. 158). Anlaşmanın, gümrük tarifelerinin çok ötesinde bir sınır ötesi zemine oturtulması ile küresel ticaretin tabi olacağı ve yeni kurallara emsal teşkil edeceği beklenmektedir (Akman, 2014: 2). TTIP anlaşması mal ve hizmet ticaretinin yanı sıra transatlantik ticari ilişkileri açısından önemli bir konu olan doğrudan yabancı yatırımlar üzerinde yoğunlaşmaktadır (Çelebi, 2013: s. 220). TTIP anlaşmasının ticari ilişkilerin yanı sıra önemli bir boyutu da karşılıklı doğrudan yabancı sermaye yatırımlarıdır. Taraflar arasında yatırım stoku yaklaşık olarak 3.7 trilyon dolara ulaşmış, dünyadaki toplam sermaye yatırımlarının %57'si AB ve ABD'ye yapılırken, AB ve ABD'nin dış yatırımlardaki toplam payı %71'i bulmuştur (Akman, 2014: 5). Ayrıca, ABD yatırımlarının yarısından fazlası AB'ye yapılmakta, bu oran AB açısından toplam dış yatırımların yaklaşık %30'una denk gelirken, ABD'ye gelen toplam sermayenin 1/3'ü ise AB çıkışlı olmaktadır (Akman, 2014: 5). Durum böyle olunca diğer çok sayıda etkenle birlikte, AB ve ABD arasında, TTIP minvalinde bir bütünleşme kaçınılmaz olmuştur.

TTIP ile ilgili çeşitli çekince ve eleştiriler şu şekilde sıralanabilir (Sülün, 2017: 126):

-Müzakereler şeffaf olamamaktadır ve çeşitli sorunlu konuları (tüketici sağlığı, çevre, tarım sektörü vb.) içermektedir.

-Müzakere ve karar süreçleri yeterince kapsayıcı değildir, tüm üye devletlerin görüş ve kaygılarını yansıtmamaktadır. Bu açıdan taraf olan ülkelerin parlamentolarından onay alınması ve bu ülkelerde referandum düzenlenmesi gerekmektedir.

-Müzakereler birkaç yıl daha sürebilecektir.

-Anlaşmaya ilişkin düzenlemelerde yönetim çabasının buradaki aktörler (çok uluslu şirketler ve çıkar grupları) açısından olumsuzluklara neden olabileceği düşünülmektedir.

Kapsamlı Ekonomi ve Ticaret Anlaşması, AB ile Kanada arasında 30 Ekim 2016 tarihinde imzalanan ve yürürlüğe giren bir serbest ticaret anlaşmasıdır. G7 üyeleri arasında imzalanan ilk kapsamlı ticaret anlaşması özelliği taşıyan CETA, çok taraflı ticari ilişkilere yeni bir adım olmuş, bu şekilde gelişmiş ülkeler arasında ticari anlaşmaların imzalanabileceğine ilişkin bir örnek oluşturmuş ve çok yönlü ekonomik ve ticari boyutların ortaya çıkmasında bir öncü rolünü üstlenmiştir (Majchrowska, 2017, s. 159).

Kapsamlı ve Yenilikçi Trans Pasifik Yatırım Ortaklığı Anlaşması, daha önce Trans Pasifik Yatırım Ortaklığı olarak tasarlanan ve müzakere edilen ancak 2017 yılı itibarıyla müzakere üyelerinden ABD'nin çekilme kararının ardından akıbeti belirsizleşen ancak ABD dışındaki üyeler tarafından yeni bir açılımla müzakere edilerek kabul edilen anlaşmadır.

ABD'nin Ocak 2017'de çekilmesinden sonra Avusturalya, Brunei Darussalam Sultanlığı, Kanada, Şili, Japonya, Malezya, Meksika, Peru, Singapur, Viyetnam ve Yeni Zelanda, Kasım 2017'de müzakerelere tekrar başlayarak 23 Ocak 2018'de sonlandırmışlardır. Trans Pasifik Ortaklığı Anlaşmasının içerinde yatırım ve telif hakları gibi konuları içeren 22 maddesi askıya alınarak yeni anlaşma olan CPTPP tasarlanmıştır. Sorun oluşturabileceği düşünülen bu maddelerin daha sonra anlaşmaya dahil edilmesine karar verilmiştir (Yeni Zelanda Dış İlişkiler ve Ticaret Bakanlığı, Serbest Ticaret Anlaşmaları Portalı, <https://www.mfat.govt.nz/en/trade/free-trade-agreements/free-trade-agreements-concluded-but-not-in-force/cptpp/tpp-and-cptpp-the-differences-explained/>).

TPP'nin aksine, CPTPP'de herhangi bir ülkenin sözleşmeyi yürürlüğe koymadan önce onaylaması şartı aranmamaktadır. Anlaşmanın yürürlüğe girebilmesi için imzalayan ülkelerin en azından yarısının onaylaması gerekmektedir ki bunun 8 Mart 2018'de olması beklenmektedir.

Anlaşma ismindeki "yenilikçilik" ifadesine, özel sektörün maliyetlerinin azaltılmasının çok ötesinde yenilikler getirmesinden dolayı yer verilmiştir. Söz konusu yenilikler içinde Asya – Pasifik Bölgesi içerisinde çok yüksek istihdam ve çevresel

standartların getirilmesi bulunmaktadır. Anlaşma; üye ülkelerin işçi ücret ve güvenlik uygulamalarının ve kanunlarının düzenlenmesinde söz sahibi olmalarını garanti etmeyi, hizmet ve dijital sektörlerin büyümesine yönelik destek sağlamayı, özel sektörün her ölçüdeki firmalara ticaret desteği vermesi, devlet sözleşmelerine teklif vermeye yönelik her türlü fırsatı sağlamayı ve artan ticaret fırsatlarından yararlanmayı sağlamayı taahhüt etmektedir (Yeni Zelanda Dış İlişkiler ve Ticaret Bakanlığı, Serbest Ticaret Anlaşmaları Portalı, <https://www.mfat.govt.nz/en/trade/free-trade-agreements/free-trade-agreements-concluded-but-not-in-force/cptpp/tpp-and-cptpp-the-differences-explained/>).

4.2. Anlaşmaların Türkiye'nin Dış Ticaretine Olası Etkileri

İktisadi bütünleşme uygulamalarının hangi biçimde gerçekleşirse gerçekleşsin bütünleşmeye dahil olmayan ülkeler açısından dezavantajlı durumlar yaratması kaçınılmazdır. Bununla birlikte bütünleşme içinde olunmasına rağmen bazı şartların gelişmesi durumunda olumsuzluklar ve dezavantajlı konum yine de ortaya çıkabilmektedir. Son dönemde dış ekonomik ilişkiler çerçevesinde gerçekleşen ve boyutları ötekilerden çeşitli açılardan farklı olan serbest ticaret anlaşmaları ile Türkiye'nin söz konusu anlaşmalar karşısındaki durumu buna örnek teşkil etmektedir.

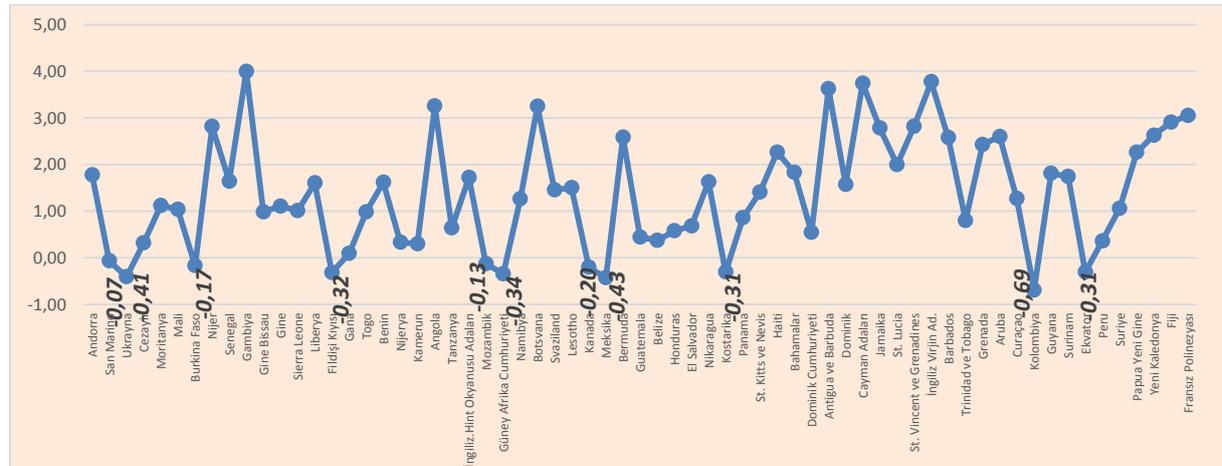
Son dönem serbest ticaret anlaşmaları; öncelikle anlaşmayı imzalayan ülkelerin ekonomik güçleri açısından daha sonra da Türkiye'nin hemen hiçbiri ile ikili serbest ticaret anlaşması olmaması ve anlaşma olmasa da örneğin AB ile GB içinde olunmasının zorunlu kıldığı durumlardan ötürü Türkiye dış ticareti ve ekonomik ilişkileri açısından büyük ölçüde olumsuzluk içermektedir.

Bu açıdan bu başlık altında yürürlüğe girmesi halinde Türkiye'yi olumsuz etkileyeceği ifade edilen TTIP, ardından da imzalanarak yürürlüğe girdiği ve TTIP gibi sonuçları olacağı beklendiği için CETA ve son olarak da aralarında Türkiye ile ticari ilişkilerinin olduğu ülkeler tarafından imzalanmış ve yürürlüğe girmek üzere olan CPTPP anlaşmasının etkilerinden yola çıkılarak, yapılmış olsun ya da olmasın serbest ticaret anlaşmalarının olumlu ve olumsuz olabilecek yanları ele alınacaktır.

Türkiye'nin AB ile Gümrük Birliği dolayısıyla özel bir ilişkisi bulunmaktadır. AB'ye tam üye olunmadığı sadece Gümrük Birliği ilişkisi olduğundan dolayı ne yazık ki Türkiye'nin ortak ticaret politikalarını uygulama ve AB'nin diğer ülkelere yönelik tercihli ticaret sistemini kabul etme zorunluluğu ortaya çıkmaktadır (Aydın, 2004). Bu durum AB'nin anlaşmasının olduğu ancak Türkiye'nin olmadığı söz konusudur. Serbest ticaret anlaşmalarının Türkiye'nin daha esnek olabilmesinden ve çıkarlarını daha iyi koruyabilmesinden dolayı Gümrük Birliği'nden daha avantajlı olduğu – ki Gümrük Birliği nedeniyle de yapmış olsa yapılan anlaşmalarda sanayi ve ticaret politika öncelikleri gözetilebilmektedir, ifade edilmektedir (Yılmaz, 2011: 246; Koçtürk ve Kocaefe, 2014: 66). Gümrük Birliğinden dolayı çıkarları ve kazanımları bütünüyle korumaya yönelik bağımsız bir serbest ticaret anlaşmasının yapılmasının tam anlamıyla mümkün olmadığı ifade edilmektedir (Türkcan ve Pişkin, 2014: 26).

Gümrük Birliği Anlaşması ile Türkiye, AB'nin üçüncü ülkelerle uygulamakta olduğu gümrük mevzuatını uygulamayı taahhüt etmiş, dolayısıyla AB'nin anlaşma imzaladığı ancak Türkiye'nin anlaşmasının olmadığı ülkeler (örneğin Cezayir, Meksika gibi) Türkiye'ye gümrüksüz mal satma olanağına sahip olmuştur (Güllü: s. 100). Bu kategorideki ülkeler ile Türkiye'nin serbest ticaret anlaşması imzalamak gibi bir zorunlulukları bulunmamakta, bu durum haksız rekabete yol açmakta, özellikle de büyük ekonomik aktörler arasındaki (örneğin AB – ABD arasındaki TTIP gibi ya da AB'nin diğer önemli ekonomik ülkelerle arasındaki STA'lar) anlaşmalardan olumsuz anlamda etkileneceği beklenmektedir (Güllü, s.100).

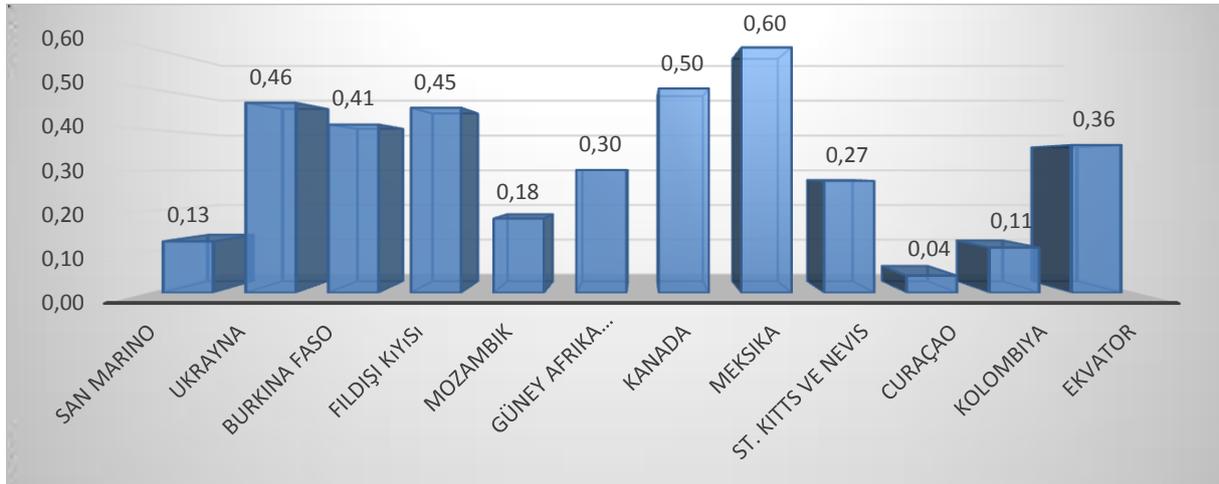
Grafik 8: AB'nin STA'sının Olduğu Ancak Türkiye'nin Olmadığı Ülkeler Açısından İhracatın İthalatı Karşılama Oranı (2007-2017, % ort.)



Kaynak: Türkiye İstatistik Kurumu, Dış Ticaret İstatistikleri, 2017, http://www.tuik.gov.tr/PreIstatistikTablo.do?istab_id=630; http://www.tuik.gov.tr/PreIstatistikTablo.do?istab_id=629

Grafik 8’de AB’nin STA’sının olduğu ve Türkiye’nin anlaşmasının bulunmadığı ancak Gümrük Birliği dolayısıyla Türkiye açısından eşit olmayan koşullarda dış ticaret ilişkisinin kurulduğu ülkeler açısından ihracatın ithalatı karşılama oranları 2007 ve 2017 yılları arasındaki veriler çerçevesine ortalama olarak verilmiştir. Söz konusu incelemede; San Marino, Ukrayna, Burkina Faso, Fildişi Kıyısı, Mozambik, G. Afrika, Kanada, Meksika, Kosta Rika, Kolombiya ve Ekvator ile ihracatın ithalatı karşılama oranı ithalat lehine negatiftir. Dış ticaret açısından söz konusu ülkeler ile rekabet dezavantajımız söz konusudur.

Grafik 9: 2017 Yılı İtibariyle AB’nin STA’sının Olduğu Ancak Türkiye’nin Olmadığı Ülkeler Açısından İhracatın İthalatı Karşılama Oranı (%)



Kaynak: Türkiye İstatistik Kurumu, Dış Ticaret İstatistikleri, 2017, http://www.tuik.gov.tr/PrelstatistikTablo.do?istab_id=630; http://www.tuik.gov.tr/PrelstatistikTablo.do?istab_id=629

Grafik 9’da da 2017 yılı itibariyle dış ticarete rekabet dezavantajımızın olduğu ülkeler görülmektedir. Ülke sayısına bir ülke daha eklenmiştir. Bu ülkelerden Kanada ve Meksika’nın ekonomik olarak güçleri, Kanada’nın AB ile arasında gerçekleştirdiği ve birzandan değinilecek olan CETA ile Kanada ve Meksika’nın da aralarında olduğu ülkeler tarafından imzalanan ve yürürlüğe girmesi yakın olan CPTPP düşünüldüğünde Türkiye’nin dezavantajının daha da artacağı düşünülmektedir.

AB ile Gümrük Birliği içinde olunmasından dolayı Türkiye açısından eğer özellikli bir strateji yürütülmez ya da önlem alınmaz ise büyük çaplı sorunların ortaya çıkacağı iki durum da TTIP ve CETA Anlaşmalarıdır. Bu anlaşmalardan TTIP askıdadır ancak iptal edilmemiştir. Ancak CETA imzalanmış ve yürürlüğe girmiştir.

TTIP hem fırsat hem de sorun yaratmaktadır. Müzakere içindeki taraflar için uluslararası ekonomi ve politika zeminlerindeki yerlerini sağlamlaştırma ve artırma fırsatı yaratmaktadır. Bu anlaşma uluslararası ekonomik ilişkiler ve bölgesel ticaret anlaşmaları açısından yeni standartların yaratılması açısından potansiyele sahiptir (Czarny and Felbermayr, 2017, s. 3). Anlaşmanın yürürlüğe girerse AB genelinde ortalama %2’lik bir büyüme kazancı sağlayacağı yapılan çalışmalardan ortaya çıkmaktadır. Bununla beraber söz konusu anlaşmanın, anlaşma tarafı olmayan üçüncü ülkeler açısından özellikle de ihracat mallarındaki çakışma durumunda zararlı olacağı da çalışmalarda bulgulanmıştır (Felbermayr, 2016, s.18).

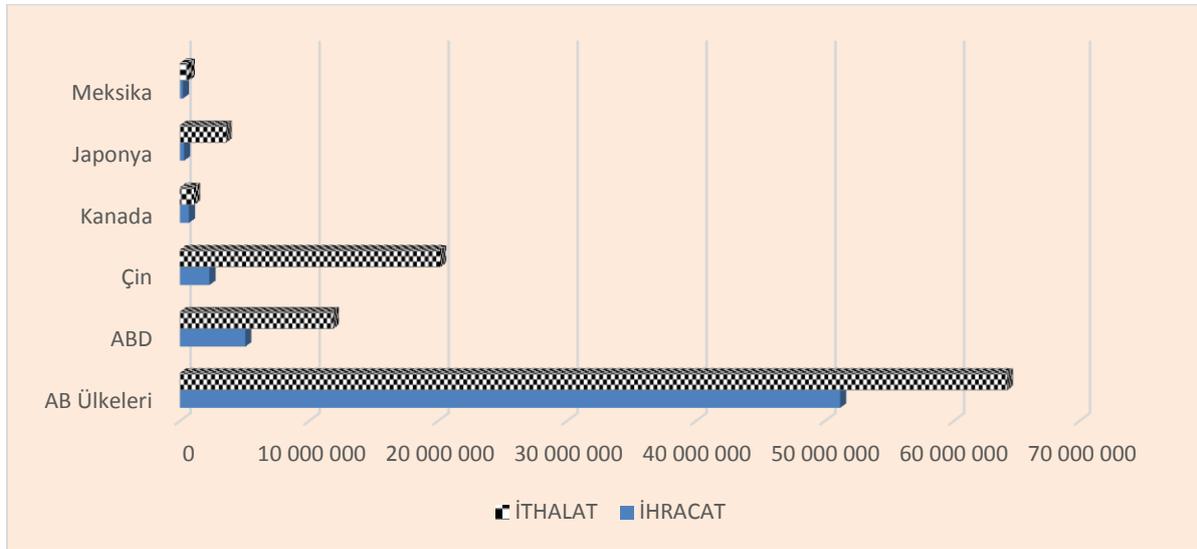
TTIP dışında kalan ülkelerin ekonomik büyümelerinin anlaşmadan dolayı olumsuz etkileneceği hesaplanmış olup, anlaşmanın sektörel etkisi transatlantik ortak pazarın ticari ilişkilerdeki maliyetleri önemli ölçüde düşürecek olmasından kaynaklanmaktadır (Hasanov ve Macit, 2015: 18). TTIP’nin sağlayacağı serbest dolaşım nedeniyle, ABD’nin AB’ye satacağı mallar, AB üzerinden Türkiye’ye geldiğinden söz konusu gümrük vergileri AB’de tahsil edilecek ve bu durum ise Türkiye’nin ticaret ve rekabet gücünü ve pazar kabiliyetini daraltacak, gümrük gelirlerini düşürecektir (Üstün, 2013: 4).

Yapılan analizler neticesinde Türkiye’de, TTIP Anlaşması’ndan en çok etkilenen sektörler; %16.2 ile motorlu kara taşıtı ve diğer ulaşım araçları imalatı, %10.77 ile ana metal ve metal eşya sanayi, %6.69 ile kok kömürü ve rafine edilmiş petrol ürünleri imalatı, %6.44 ile elektrik ve optik ürünler imalatı, %6.24 ile plastik ve kauçuk ürünler imalatı ve %6.23 ile başka yerde sınıflandırılmayan makine ve teçhizat sanayi olacaktır (Hasanov ve Macit, 2015: 19). Sonuç olarak olası durumda ihracat gelirlerinde azalma yaşanması kaçınılmazdır. Sektörel etkiler üretim düşüşlerini ortaya çıkaracak bu da şirket kârlılıklarını ve istihdamı olumsuz etkileyecektir. Ayrıca kârlılıkları düşen şirketler haliyle daha düşük vergi ödeyecek ve devlet açısından gelirler de azalacaktır (Arslan ve Çaşkurlu, 2016: s.667).

TTIP çerçevesinde yapılan açıklamalar ve çalışmalarda ifade edilen olumsuzlukların, fiili durumda gerçekleşmiş hali CETA'da ortaya çıkabilir. Anlaşma imzalanmıştır. CETA, AB ve Kanada arasında ticareti kolaylaştıran, gümrük vergilerini ortadan kaldıran ve böylelikle büyük bir serbest ekonomik ve ticari alan yaratacak bir anlaşmadır (Akbalık, 2017). Tüketiciler açısından daha çeşitli ürün kullanımına yol açması ve teknoloji transferi yoluyla özel sektörde uzmanlaşmanın artması olanağına sahip olmasına karşı Türkiye'nin anlaşma tarafı olmadığı tüm STA'larda olduğu gibi çeşitli olumsuzlukları da ortaya çıkarması olası gözükmemektedir (Gullu, Kilic, Sanlioglu 2017, 280). Bu anlaşma yoluyla Kanada'da üretilen ürünler AB üzerinden gümrüksüz bir şekilde Türkiye'ye girebilecek ancak tersi durum Türkiye'de üretilen ürünleri Kanada'da gümrük vergisi ile karşı karşıya bırakacaktır. Bu durumun önlenmesi açısından Türkiye Kanada ile STA müzakeresi için talepte bulunmuş ancak hiçbir yanıt alamamıştır (Erem, 2016).

Gümrük Birliği ilişkisi dışında Türkiye'nin son dönemde gerçekleştirilen çok taraflı STA anlaşmalarından da etkilenmesi söz konusudur. Bu anlaşmalardan en önemli çok taraflı CPTPP Anlaşmasıdır. Bu anlaşmaya taraf olan ülkelerden Kanada, Japonya ve Meksika Türkiye'nin ticaret partnerleri arasındadır. Özellikle Japonya'nın Türkiye açısından ithalat payı yüksektir. Kanada'nın ayrıca önemi daha önce ifade edildiği gibi AB ile STA yapmış olmasıdır.

Grafik 7: Önemli Ekonomik Aktörlerin Türkiye Dış Ticaretindeki Payları (2007 – 2016 ort.)



Kaynak: TÜİK, http://www.tuik.gov.tr/PrelstatistikTablo.do?istab_id=1545; http://www.tuik.gov.tr/PrelstatistikTablo.do?istab_id=1546

Grafik 7'de Türkiye'nin ihracat ve ithalatında ülke payları görülmektedir. Buna göre ihracatın ve ithalatın büyük kısmı Euro bölgesine yapılmakta birlikte, Çin çok önemli bir ithalat ülkesi ve ABD de hem ithalat hem de ihracatta pay sahibidir. Her ne kadar son yıllarda yeni ihracat pazarları ortaya çıkmış olsa da AB ve ABD pazarı birlikte değerlendirildiğinde Türkiye'nin hala en önemli dış ticaret pazarı olma özelliğini korumaktadır¹.

Tablo 6: Türkiye'nin Toplam İhracat ve İthalatı İçinde Ülke Payları

	İHRACAT	İTHALAT
AB Ülkeleri	38.24%	30.95%
ABD	3.79%	5.71%
Çin	1.71%	9,71%
Kanada	0.52%	0.52%
Japonya	0.24%	1.71%
Meksika	0.17%	0.33%

Kaynak: TÜİK, http://www.tuik.gov.tr/PrelstatistikTablo.do?istab_id=1545; http://www.tuik.gov.tr/PrelstatistikTablo.do?istab_id=1546

¹ Türkiye İhracatçılar Meclisi tarafından yapılan İhracatçı Eğilim Araştırması sonuçlarına göre 2015'in 2. çeyreğinde ihracatçıların girmeyi hedefledikleri 5 ülke arasında toplam açısından ABD %15.4'lük bir orana sahip olup, Rusya'nın ardından 2. sırada yer almakta ve ilk 15 ülke arasında 5 AB ülkesi yer almaktadır. Diğer taraftan ihracatçıların en büyük sorunlarının %61.4 ile döviz kuru olduğu görülmektedir (TİM, 2015: 18). Bahsi geçen araştırma dahi anlaşmanın etkilerinin ne boyutta olduğu hakkında fikir vermektedir.

Tablo 6’da toplam ihracat ve ithalat içindeki paylar görülmektedir. AB ve ABD her iki ticaret faaliyetinde de önemli bir paya sahiptir. Bunlara Kanada’nın AB ile STA’sından dolayı eklenmesi toplamda payların artmasına neden olmaktadır. Ancak burada dikkat edilmesi gereken rakamların ülke paylarını gösterdiği. Diğer taraftan toplam ithalat ve ihracat karşılaştırması yukarıda Grafik 7’de de işaret edildiği üzere ithalat lehinedir.

5. SONUÇ

Türkiye açısından büyüme ve gelişimin en önemli kısımlarından birisi dış ticaretteki lehte gelişmelerdir. İthalatın ihracatı aşma durumunu ifade eden dış ticaret açıkları gerekli durumlarda yapılabilmektedir ancak özellikle strateji yanlışlarından kaynaklanan açıklar döviz açıklarına neden olduğu gibi makroekonomik zayıflıklara yol açarak uzun dönemli zararlar ortaya çıkabilmektedir.

Türkiye açısından dış ticaret stratejisi açısından düşünülmesi gereken en önemli hususlardan biri, uluslararası ekonomik ilişkilerin günümüzde geldiği noktadaki stratejik ticaret ortaklıkları ve ekonomik bütünleşmelere hazırlıklı ve/veya paydaş olmaktır. Bunun en temel örneği AB ile Türkiye arasındaki ilişkidir. GB anlaşması dolayısıyla Türkiye’nin ortak ticaret politikası araçlarını kendi ülke tercihlerine göre belirleyememesi ve bundan dolayı AB’ye tek taraflı bağımlılık içine girmesi gibi olumsuz bir durum içinde olması söz konusudur (Emre Orhan..., s. 138).

İçeriklerini aynen kabul etme ve uygulama zorunluluğu olmasa da Türkiye sadece AB’nin yapmış olduğu STA’lara taraf ülkelerle serbest ticaret anlaşması imzalayabilmektedir (Doğan ve Uzun, 2014: 331). Üçüncü ülkelerle AB arasında yapılan STA’lardan sonra Türkiye’nin söz konusu ülkelerle anlaşma yapmaya kadar geçen süre aralığında, iç pazarı üçüncü ülke tarafından yapılacak ihracata açık hale gelmekte ancak aynı şekilde Türkiye’nin söz konusu ülkelere ihracat pazarı olarak ulaşma şansı olmamakta, iç pazardaki sektör ve şirketler rekabet baskısı altında kalmaktadır (Doğan ve Uzun, 2014: 333-334). Söz konusu durumun ortaya çıkardığı sorunların önlenmesi açısından yapılabilecekler şu şekilde sıralanabilir (Doğan ve Uzun, 2014: 342):

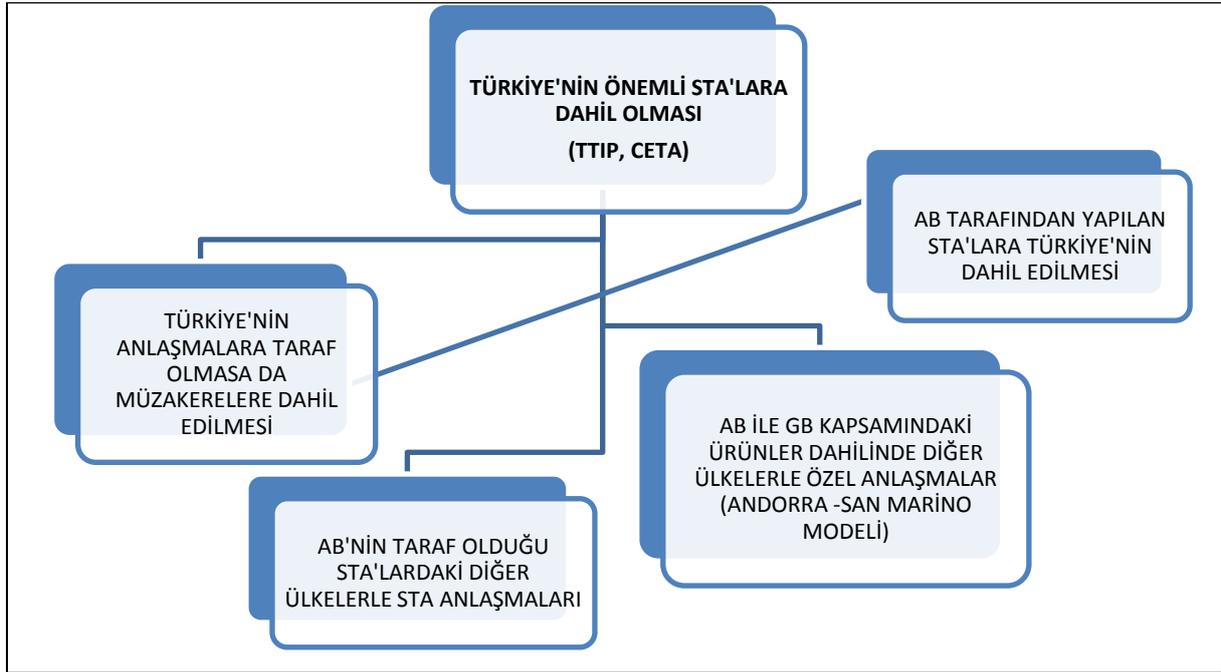
- Türkiye’nin AB üçüncü bir ülkeyle STA gerçekleştirmeyi planladığında bu konuda önceden bilgilendirilmesi gerekmektedir.
- Türkiye’nin AB’nin herhangi bir ülkeyle gerçekleştirmeyi planladığı STA müzakerelerine ilgili ülkeyle aynı zamanda başlamasının sağlanması gerekir.
- Türkiye’nin STA’ların ortaya çıkarması olası zararlarını ve bunlara karşı alınabilecek önlemleri içeren ve “etki analizi” olarak adlandırılan raporlara dahil edilmesi gerekmektedir. Buna ek olarak ya da alternatif olarak Türkiye ile STA imzalamayı istemeyen ülkelere karşı telafi edici vergi uygulamasına (1/95 sayılı Ortaklık Konseyi Kararı’nın 16/3 ve 58/2 maddeleri) olanak tanınması gerekmektedir.

Son dönemde büyük ekonomik aktörler tarafından gerçekleştirilmesi planlanan ve gerçekleştirilen büyük çaplı ve yeni nesil STA’lar, söz konusu anlaşmalara müzakere tarafı olmayan Türkiye’yi anlaşmaya taraf ülkelerle arasındaki şu veya bu şekildeki ticaret ilişkileri çerçevesinde olumsuz etkileme potansiyeline sahiptir. TTIP, CETA ve CPTPP anlaşmaları bunlara örnek oluşturmaktadır.

Avrupa Birliği tarafından hazırlanan mega bölgesel ticaret anlaşmaları, gelişmekte olan ülkeler arasından üretici kayıpları yaratma potansiyeline sahiptir (Felbermayr and Aichele, 2015, s. 31). AB ve ABD arasında gerçekleştirilmesi planlanan TTIP anlaşmasının potansiyel zararlarının ortadan kaldırılması ya da en azından azaltılması açısından üç temel konuda öneri getirilmektedir (Felbermayr and Aichele, 2015, s. 32):

- AB ve ABD’nin mümkün olduğunca karmaşık menşei kuralları getirmekten kaçınmaları gerekmektedir. Bunun yerine mümkün olduğu ölçüde malların serbest hareketini sağlamaları gerekmektedir.
- Tarife engellerinin olmadığı alanlarda, anlaşmaların mümkün olduğunca standartların karşılıklı kabulünü üçüncü ülkeleri de dahil edecek şekilde düzenlemeleri gerekmektedir. Bu durum karşılıklı kabul anlaşması uygulamalarının üreticilerin uyruğuna bağlı olarak değil, menşeiinden bağımsız bir ürünün anlaşmanın taraflarını standartları yönünden tatmin edip etmediğine bağlı olarak yönetilmesi gerektiğini ifade etmektedir.
- Modern ticaret anlaşmalarının düzenleyici yakınlaştırma ve uyumlaştırma özelliklerini taşıması gerekmektedir.

Gelişmekte olan ve örneğin yukarıda ifade edilen TTIP’nin yürürlüğe girmesi halinde bu anlaşmaya taraf olmayan ülkelerin karşılaşılabileceği zararların engellenmesi açısından uygulanması etik ve rasyonel olan unsurlar çalışmalarda ifade edilmektedir. Ancak bu unsurların müzakerelerde dikkate alınmaması ve / veya örneğin Türkiye’nin kendisini bu veya diğer anlaşmalar karşısında yeterli şekilde koruyacak önlemleri almaması kendi dış ticaret politikamızın haricinde kayba uğramamamıza neden olabilecektir.

Grafik 8: Türkiye Açısından Müzakere Üyesi Olmadığı STA'lar İçin Alternatif Çözümler

Kaynak: (Akman, 2014: 19)'dan hareketle tarafımca oluşturulmuştur.

Grafik 8'de müzakere üyesi olmadığı STA'lar açısından Türkiye'nin potansiyel olumsuzluklarla karşılaşmaması açısından uygulanabilecek çeşitli çözümler yer almaktadır. Bunlar özellikle AB ile GB içinde olunmasından dolayı Türkiye tarafından atılması gereken adımlara örnek teşkil etmektedir. Bunun dışında CPTPP gibi üye ülkelerle ticaret ortağı olunması durumunun olduğu anlaşmalarda ise ikili ticaret anlaşmaları ya da benzer düzenlemelere gidilmesi Türkiye lehine olacaktır.

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MODELING BRENT OIL PRICE WITH MARKOV CHAIN PROCESS OF THE FUZZY STATES

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ABSTRACT

Purpose - The rapid change of crude oil price in the international market has attracted several investors into examining price fluctuations. The estimation regarding to the exact monthly price of the brent oil has always been a diffucult task in the business sector.

Methodology - In this study, the directions of the monthly Brent oil prices from January 2003 to January 2017are analyzed using the Markov Chains of Fuzzy States technique. In the first instance, the data are classified into twenty-one fuzzy states, and then calculated the probability transition matrix of the fuzzy states for the given period.

Findings- The directions of the monthly Brent oil prices are analyzed with transition matrix. Next the steady condition of the Brent oil return is obtained. These results give valuable information to decision makers regarding the investment opportunities of Brent oil for the short and long term marketing strategies.

Conclusion- In crucial months, when a monthly return increases or decreases significantly, the proceeding month's expected return also increase or decreases significantly. The proposed model can be used to estimate short term returns (one day) and also employing several fuzzy sets may give more investment opportunities.

Keywords: Brent oil price, Markov chains, Fuzzy logic, Fuzzy states of Markov chains

JEL Codes: C44, C53, C61

1. INTRODUCTION

Oil, which is very important in economy, politics and technology, has been used for a long period of time for various objectives. Oil is still the most important energy source in the world and it is not expected to change in the next twenty years. Oil is very important for many industries and industrialized civilizations, for this reason it becomes one of the most important resources for many countries.

Brent Oil, the largest piece of the global economy, is the highest quality oil in the world after Texas Crude Oil. Brent Oil is a valuable raw material because it is a non-substitute scarce natural resource. It is rapidly affected by the developments that may occur in the political, economical and social agenda. The result of sudden price changes is among the high investment instruments. The price of Brent oil is the first choice on the commodity list of investors. It may be affected by the oil reserves of the governments, the policies of the producer countries and the stock quantities, and the investment policies of the oil companies. Among the factors affecting the price in the demand direction are the developments in the economy, the usage of the industry, the requirements of the transportation sector, global climate changes and changes in the demand for energy use. Oil prices can also be affected by increase or decrease in production among member countries of the Organization of Petroleum Exporting Countries (OPEC). It is also necessary to monitor the change in dollar prices due to the pricing in US dollars. Brent oil has been tested for the past two decades with a historical minimum of \$ 9.55 per barrel in 1998 and a historic maximum of \$ 147.5 per barrel in 2008.

Apart from being energy and industrial product, oil is a speculative investment tool. The price of oil in the market is determined by supply and demand balance and can be invested in oil based on Brent oil.

According to the 1998 data published by the International Energy Agency, 35.7% of the global energy requirement is met by petroleum. The price of Brent oil is an important indicator for the world energy market and the price of 2/3 of world oil supply is determined according to Brent oil. The Brent oil price is used as a reference especially in the trading of oil of Europe, Africa and Middle East with Western Countries.

The modeling and estimation of crude oil price is among the most important topics in the economic area because of its high return. Therefore, various studies have been conducted by many researchers to forecast the direction of the oil price. For instance, Sadorsky (2006), Narayan and Narayan (2007), and Gileva (2010) used GARCH model and its variants in order to model the volatility of oil price. Xie et al. (2006), proposed the support vector machine (SVM) model, and they use it to compare prediction efficiency with the conventional time series models. They showed that the SVM has better prediction efficiency than the ARIMA model and the back-propagation neural network (BPNN). Guo and Zhang (2012) conducted a study using genetic algorithm (GA) SVM, and proved that its forecasting performance exceeds that of the conventional SVM.

In this study, the probabilistic transition matrix of the closing returns of Brent oil prices are calculated using Markov Chain Model of Fuzzy States (MCFS). This method is used for obtaining the data while system moves between bounds of the states. Compared to classical Markov Chain technique, it is a more realistic and flexible technique. The present study can therefore suggests that investors can get valuable signal about the Brent oil price changes through the use of MCFS.

The remaining of the article is organized as follows: literature summary in the second section, data and method in the third section, findings and discussions in the fourth section, conclusion in the fifth section.

2. LITERATURE REVIEW

Fuzzy logic is a form of multi-valued logic that allow intermediate values in form of multi-valued logic, in which the truth values of variables maybe any number between 0 and 1. Fuzzy logic is distinct in concept due to different interpretations involved where binary sets have true or false valued logic. The variables may have a truth-value that ranges in degree, where the truth values can range between completely true and completely false. Fuzzy logic is applied to improve the efficiency and simplicity of the systems.

Unlike Markov Chains alone, MCFS method has started to gain attentions of the researchers. People are beginning to understand the significance of Fuzzy Markov Chains and MCFS in decision-making. Research involving properties of Fuzzy Markov Chains and applications of Fuzzy States with Markov Chains methods include those conducted by Kruce et al. (1987), Yoshida (1994), Avrachenkov and Sanchez (2000), Kuranoa et al. (2006), Pardo and Fuente (2010), Vajargah and Gharehdaghi (2012), Zhou et al. (2013), Uzun and Kiral (2017).

MCFS model can be used to define the problem with fuzzy states when there are lack of information about the system or when the states of the system are obvious, but the number of the states is too large to make a decision (Pardo and Fuente, 2010).

In the real world situations, it is very difficult to collect crisp data. Moreover, the bounds of the system states are not crisp to analyze and make a good decision. Therefore, using Fuzzy sets allows the decision maker to define the problem under ambiguous conditions.

MCFS are the expansion of the Markov Chains to the fuzzy states which can be denoted by fuzzy sets. It is a model based on the probabilistic transition of the vague states, which can allow more flexible modeling to the decision maker than the classical probabilistic approach with crisp states.

Kiral and Uzun (2017) classified the daily returns of the Borsa Istanbul (BIST 100) data by using fuzzification and they obtained the transition matrix of the fuzzy states. In this study, Fuzzy states of the Markov chains has been defined and used for the prediction of the returns of the stock market. They predicted the daily stock returns for randomly chosen days and compared with classical Markov model. These study shows that MCFS provides a higher forecasting accuracy to the investors compared to MC model.

In this study Kiral and Uzun (2017)'s method is used for obtaining the direction of the Brent oil price. The above-mentioned methodology was used by the author to predict the direction of the gold price movement.

This investigation first classified the monthly closing returns of the oil prices as fuzzy states with the triangular fuzzy sets and then obtained the probability transition matrix of the fuzzy states and showed the steady condition of the oil price return.

3. DATA AND METHODOLOGY

The study includes monthly data from January 2003 to January 2017. The monthly weighted average of the Brent oil price (US\$/barrel) was received from ("Investing.com", 2018).

The returns R_t were calculated as a monthly percentage change of the Brent oil price:

$$P_t; R_t = (P_t - P_{t-1})/P_{t-1},$$

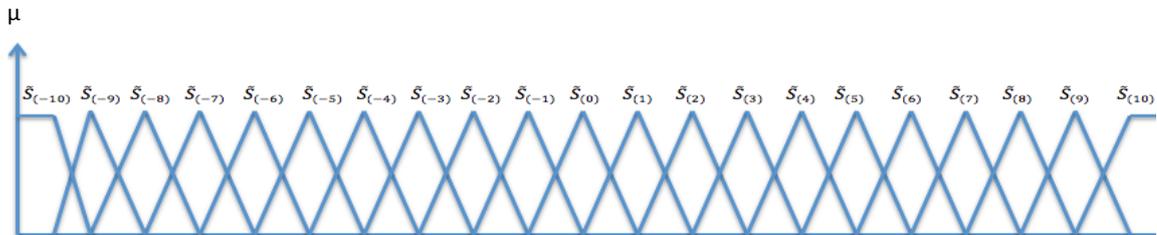
where t denotes the sessions ($t = 2, 3, \dots, 167$).

The average returns for the given period; μ_R is 0,80% and the standard deviation is 8,9% which is 11 times higher than the expected return.

4. FINDINGS AND DISCUSSIONS

Monthly percentage changes of the Brent oil price are classified with 21 fuzzy states from the high loss S_{-10} to high return S_{10} (see in Figure 1). Triangular fuzzy sets are used to define the states and calculate the membership degree of R_t for each month for the period given.

Figure 1: Fuzzy states for Brent oil price return



Fuzzy state components of the R_t are defined as \tilde{S}_i and \tilde{S}_{i+1} and calculated as following function:

- If $-2.25\% < R_t < 2.25\%$ then $i = \left\lfloor \frac{R_t}{0.225} \right\rfloor$ and
- $\tilde{S}_i = \frac{(i+1)(0.225-R_t)}{0.225}, \tilde{S}_{i+1} = 1 - \tilde{S}_i.$
- If $R_t \leq -2.25\%$ or $R_t \geq 2.25\%$ then $\tilde{S}_{-10} = 1$ or $\tilde{S}_{10} = 1$ respectively.

Table1. Transformed Fuzzy States of The Gold Price Return for Some Months

Date	R_t	\tilde{S}_{-10}	\tilde{S}_{-9}	\tilde{S}_{-8}	\tilde{S}_{-7}	\tilde{S}_{-6}	\tilde{S}_{-5}	\tilde{S}_{-4}	\tilde{S}_{-3}	\tilde{S}_{-2}	\tilde{S}_{-1}	\tilde{S}_0	\tilde{S}_1	\tilde{S}_2	\tilde{S}_3	\tilde{S}_4	\tilde{S}_5	\tilde{S}_6	\tilde{S}_7	\tilde{S}_8	\tilde{S}_9	\tilde{S}_{10}	
Jan. 2017	-1,97%	0	0,76	0,24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dec. 2016	12,58%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Nov. 2016	4,49%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Oct. 2016	-1,55%	0	0	0	0,89	0,11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sept. 2016	4,29%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Table 1 shows the fuzzy states components of R_t for some months.

After using conditional probability of the fuzzy state \tilde{S}_j , given the fuzzy state \tilde{S}_i , the transition probability of fuzzy states \tilde{P} for the Brent oil return is calculated:

$\tilde{P} =$

	\tilde{S}_{-10}	\tilde{S}_{-9}	\tilde{S}_{-8}	\tilde{S}_{-7}	\tilde{S}_{-6}	\tilde{S}_{-5}	\tilde{S}_{-4}	\tilde{S}_{-3}	\tilde{S}_{-2}	\tilde{S}_{-1}	\tilde{S}_0	\tilde{S}_1	\tilde{S}_2	\tilde{S}_3	\tilde{S}_4	\tilde{S}_5	\tilde{S}_6	\tilde{S}_7	\tilde{S}_8	\tilde{S}_9	\tilde{S}_{10}	
\tilde{S}_{-10}	,42	,01	,01	0	,01	,01	,01	,02	0	0	0	0	,04	,02	0	0	0	0	0	0	0	,45
\tilde{S}_{-9}	,45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	,08	,37	0	0	,10
\tilde{S}_{-8}	,57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	,03	,12	0	0	,28
\tilde{S}_{-7}	,42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	,58

\tilde{S}_{-6}	,49	0	0	0	0	0	0	0	0	0	0	,27	,11	0	0	0	0	0	0	0	,13
\tilde{S}_{-5}	,30	0	0	0	0	0	0	0	0	0	0	,25	,10	0	0	0	0	0	0	0	,35
\tilde{S}_{-4}	,06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	,94
\tilde{S}_{-3}	,30	0	0	0	0	0	0	0	0	0	0	0	,13	,18	0	0	0	0	0	0	,39
\tilde{S}_{-2}	0	0	0	0	0	0	0	0	0	0	0	0	,42	,58	0	0	0	0	0	0	0
\tilde{S}_{-1}	,15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	,85
\tilde{S}_0	,64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	,36
\tilde{S}_1	,32	0	0	0	0	0	0	0	0	0	0	0	0	,02	,02	,14	,15	0	0	0	,36
\tilde{S}_2	0	0	0	0	0	0	0	0	0	0	0	0	0	,18	,19	,08	,06	0	0	0	,49
\tilde{S}_3	,04	0	0	0	0	0	0	0	0	0	0	0	0	,31	,33	0	0	0	0	0	,33
\tilde{S}_4	,50	0	0	0	0	0	0	0	0	0	0	0	0	,08	,08	0	0	0	0	0	,33
\tilde{S}_5	,24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	,76
\tilde{S}_6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
\tilde{S}_7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
\tilde{S}_8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
\tilde{S}_9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
\tilde{S}_{10}	,30	,02	,04	,03	,01	,02	,01	,03	0	,01	,02	,02	0	0	,02	,01	0	0	0	0	,47

The conditional partition degree of transition from \tilde{S}_{-2} to \tilde{S}_3 is easily calculated ($\tilde{P}(\tilde{S}_3|\tilde{S}_{-2}) = 58\%$) by looking at the value of $\ln \tilde{P}$.

$(\tilde{P})^5 =$

	\tilde{S}_{-10}	\tilde{S}_{-9}	\tilde{S}_{-8}	\tilde{S}_{-7}	\tilde{S}_{-6}	\tilde{S}_{-5}	\tilde{S}_{-4}	\tilde{S}_{-3}	\tilde{S}_{-2}	\tilde{S}_{-1}	\tilde{S}_0	\tilde{S}_1	\tilde{S}_2	\tilde{S}_3	\tilde{S}_4	\tilde{S}_5	\tilde{S}_6	\tilde{S}_7	\tilde{S}_8	\tilde{S}_9	\tilde{S}_{10}
\tilde{S}_{-10}	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_{-9}	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_{-8}	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_{-7}	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_{-6}	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_{-5}	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_{-4}	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_{-3}	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_{-2}	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_{-1}	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_0	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_1	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_2	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_3	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_4	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_5	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_6	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_7	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_8	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_9	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46
\tilde{S}_{10}	,34	,01	,02	,01	,01	,01	,01	,02	,00	,00	,01	,02	,02	,01	,02	,01	,00	,00	,01	,00	,46

If a monthly return is in the states of \tilde{S}_6 , \tilde{S}_7 , and \tilde{S}_8 ($1.125\% < R_t < 2.025\%$); the proceeding month's return will increase by a value greater than or equal to 2.25%. However, if the monthly return is in \tilde{S}_9 , ($1.80\% < R_t < 2.25\%$); then the proceeding month's return is expected to decrease by a value greater than or equal to 2.25%. It can be seen that it will be risky to invest to the Brent oil, if the monthly return is in the intersection interval of \tilde{S}_8 and \tilde{S}_9 ($1.80\% < R_t < 2.025\%$).

In $(\tilde{P})^5$, the conditional partition degree of 5 step transition can be seen

$\pi =$

(.34, .01, .02, .01, .01, .01, .01, .02, .00, .00, .01, .02, .02, .01, .02, .01, .00, .00, .01, .00, .46)

The steady condition of Brent oil return (π), indicates that no matter the state of Brent oil return in a month, the number of gain months will be higher than the number of loss in 5 months. Excel-If Function was used for this calculation .

5. CONCLUSION

The directions of the monthly Brent oil price are analyzed with transition matrix. The results obtained give valuable information to decision makers regarding the investment opportunities of Brent oil for the short-term and long-term marketing strategies. In crucial months, when a monthly return increases or decreases significantly, the proceeding month's expected return also increase or decreases significantly. The proposed model can be used to estimate short term returns (one day) and also employing several fuzzy sets may give more investment opportunities. Investors can gain greater return in the long run according to the steady condition of Brent oil price.

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ACCOUNTING SYSTEM IN STATE UNIVERSITIES: BUDGETARY ACCOUNTS AND IMPLEMENTATIONS

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ABSTRACT

Purpose- Accounting holds an important place both in the private sector and the state. State accounting keeps transaction records regarding financial policies of public institutions, and reports. With the introduction of the 5018 Public Financial Management and Control Law (PFMCL), new concepts emerged and it made the current situation of the state available any time by using the budgetary accounts. The purpose of this study is to examine the budgetary accounts of state universities.

Methodology- The accounting system and budgetary accounts in the state universities were addressed in a theoretical framework, and supported with sample applications.

Findings- According to the findings of the study, the income should be collected and the expense should be paid in order to associate the expense and income accounts of the universities with the budgetary accounts. Every amount paid is not a budget expense, as well as every amount collected is not budget income.

Conclusion- Considering the university accounting implemented in Turkey and the working methods of the budgetary accounts, the implementation of the system in countrywide can lead to challenges due to the fact that a complete accounting union has not been established yet. In state universities, the budget should be regulated not only as an income-expenditure forecast but also as the most active and efficient use of financial resources.

Keywords: State accounting, university accounting, accounting system, special budgeted institutions, budgetary accounts.

JEL Codes: M40, M41, M48, M49.

1.INTRODUCTION

"Higher education covers all of the educational institutions that provide at least 2 years of higher education based on the secondary education." In the 3rd Article of the Higher Education Law No. 2547 dated 1981, a university is defined as "a higher educational institution consisting of faculties, institutes, colleges, and similar establishments and units with high level of education, scientific research, publications, and consultancy with scientific autonomy and public legal personality" (Ada and Baysal et al., 2009: 50). According to another definition, university is an institution that produces science, publishes high quality science, technology and culture. It is a necessity to work with an autonomous system as to provide training in the aforementioned fields for high quality science, technology and management personnel. Additionally, autonomous work in national and global (international?) problems are provided to create solutions (Transmitted by Çeken, 2012: 11, from Özkan et al., 2011). According to another definition, universities are "organizations that train outstanding staff by conducting high level education, conducting scientific and technological research, and by contributing to social and economic development by presenting research results for the benefit of society" (Serin, 1979: 157). It is seen that the concepts of universities and higher education sometimes have been assigned different meanings and sometimes they are evaluated in the same frame in terms of their main purpose and functions. The common point of the various definitions made is that higher education is an educational level that includes education given by institutions such as universities,

* This study was presented as a summary paper at the 2nd International Iğdır Symposium held in Iğdır on 9-11 October 2017.

colleges and academies. For this reason, it is not possible to distinguish between university and higher education very clearly (Kısakürek, 1976: 6). However, the most significant distinctive feature that differentiates universities among higher education institutions is their focus on research activities (Üstünel, 1965: 6).

State Higher Education Institution or State Universities are universities and high technology institutions established by the government by the operation of the law numbered 2547 and the faculties, institutes, colleges, conservatories, vocational schools and research application centers are within the structure of these institutions (Regulation of Foundation Higher Education Institutions, www.yok.gov.tr, 2017). Considering the higher education system in Turkey, both state and private higher education institutions, it is seen that there have been important developments in terms of quantity and quality. Increasing numbers of higher education institutions, their quotas and the reserved sources for higher education are foremost among these. The key fact of this study is to examine accounting systems and budgetary accounts of universities with the new public financial management approach introduced by Public Financial Management and Control Law (PFMCL) No. 5018 that was adopted in 2003 and entered into force in 2006.

State accounting is an accounting discipline that keeps records of transactions of public institutions' financial policies, and reports. State accounting carries out activities of recording, evaluating, reporting and presenting data that the public-sector needs, accurately and reliably (Aslan, 2009: 2). While cash basis accounting system was used primarily in public institutions, a need for shifting to accrual accounting has occurred, as cash basis state accounting has many deficiencies. As a result of the studies that started in the 1990s in our country, accrual state accounting has been in operation since 2004. At the same time, with the regulations made, an accounting unity has been provided in the public sector and an accounting system has been established to provide the consolidation of accounts. The cash basis state accounting system documents revenues when they are collected and the expenses when they are paid while the accrual state accounting system documents revenues and expenses when they are accrued (Altay, 2015).

While the countries themselves report the use of public resources and ensure accountability, accelerating the development of state accounting, OECD, IMF, World Bank, and accounting organizations have worked on the development of the content of state accounting in the light of the fact that countries with international economic relations have standard earnings reports. In the development of state accounting, especially accounting organizations are working momentarily. In particular, the Public-Sector Committee within the International Federation of Accountants (IFAC) Council has been authorized to publish International Public-Sector Accounting Standards to be implemented in national governments, regional governments, local governments, various public entities, commissions, undertakings, boards and organizations (IFAC, 2000: 2). Developments in the field of state accounting in Turkey, has accelerated with the increase in international relations and economic and social development, and still continues today with the creation of a chart of accounts and accounting entry method in accordance with international standards (Çetinkaya, 2004: 95).

The purpose of this study is to show budgetary accounts, their features, operations, and implementations by discussing the accounting systems of the state universities of today's current higher education institutions. In this study; concept of state accounting, concept of budget, Law No. 5018 Public Financial Management and Control and budgeting system, accounting system in universities; budget accounts and accounting records for state universities. According to the findings of this study, when the implemented university accounting and the manner of work of budgetary accounts in Turkey are examined, the implementation of the system strictly in countrywide could bring some difficulties. The reason for this can be shown as the fact that a complete accounting association has not yet been established. In the establishment and development of an effective accounting system in state universities and in fulfilling financial transparency and accountability more efficiently, the budgeting system and budgetary accounts are emerging as strategically important tools. This study is thought to contribute to the literature.

2. STATE ACCOUNTING CONCEPT

Accounting is an information system that records, classifies, analyzes, interprets, and presents information to related persons and institutions in a reportable format, of the transactions which have financial qualifications that can be expressed in money, which causes a change in the entity's assets and resources (Yükçü, 2014: 19). State accounting is a process that, in general, provides recording, decision making analysis, classification, summarization, reporting and interpretation about the financial information of the state that, in particular, comprises and reflects all transactions involving the purchase, transfer and allocation of government goods and funds (Dean, 1996: 266). According to a broader definition, state accounting is "an accounting technique that provides control over whether government activities are performed according to the legislature's wishes within the timeframe specified by the budget legislation and which sheds light on governance in taking forward-looking decisions that set forth the costs of public services and expresses the increases and decreases in state property in terms of money" (Güngör, 1981: 16). The facts of state accounting are as follows (Dean, 1996: 267):

- Recording transactions which are in the subject of state accounting,
- Determination of which transactions and in which aspects to be recorded within the state accounting system,

- Classification of transactions recorded in government accounting in a manner appropriate for reporting that allows for evaluation,
- Establishment of a coding scheme that will include all the information necessary for classification of the quantity, qualification, date and institution of the transaction,
- Establishment of an internal control system to adjust the quality of information provided through the state accounting system,
- Clearly determining reporting and other parameters in the government accounting system.

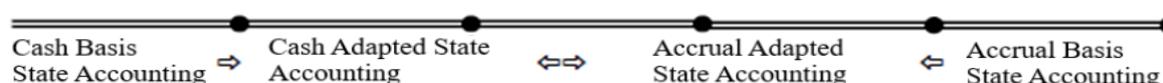
The state makes expenditures in order to produce public goods and services and thus, to meet public needs, and collects revenues with taxes and similar applications to meet these expenses. Therefore, since the state is an actor in social, cultural and economic life, systematic determination of the weight of the state over the economy like commercial enterprises is important. In this context, the assignment of state accounting is to record the effects that the state has on the economic life, to report the results and to produce accurate, reliable, and high quality financial information that is required by the information users (Dağ, 2015: 25).

The state accounting basically has two objectives, control and management. Control is carried out as, to whether budgetary practices have developed in line with the direction of the legislator and to control the transactions subject to accounting. Management is carried out by giving information to the management about the flow of state activities and the consequences and by determining the costs of state services and comparing efficiency. Accordingly, future decisions are made by taking advantage of the financial statements that show the current situation with numerical and material results of the past and accounting output. In addition to these objectives, state accounting has an important role in the society in ensuring accountability of public institutions and ensuring fiscal transparency in the use of public resources (Dağ, 2015: 25).

2.1. Recording Methods Used in State Accounting

Recording methods used in state accounting are generally categorized under two headings. The first is the cash basis, and the second is the accrual basis. Between these two recording methods, there is an adapted cash basis and an adapted accrual basis (Çetinkaya and Yıldırım, 2006: 23-24). A representative figure of these methods is presented below:

Figure 1: Recording Methods Used in State Accounting



Reference: Çetinkaya and Yıldırım, 2006: 24.

In cash basis state accounting, the beginning of state accounting is based on cash basis where financial transactions are recognized when cash inflows and outflows are performed in this system. In this system, the allocations given in the budget, the expenditures made, and the revenues collected for the financing of the expenditures are recorded (Aslan, 2009: 25).

In Cash Adapted State Accounting, as in cash basis state accounting, the occurring time of the benefits and services that are provided from transactions are not dealt with. Transactions are recorded when the cash proceeds are performed or when they are paid. Differently from cash basis, accounts are not closed after the end of the fiscal year and an accounting period includes an additional period of 30-60 days for payments (Çetinkaya and Yıldırım, 2006: 25). Thus, within this period, budget expenditure invoices of the previous year can be accepted and accounting records can be made (TR Ministry of Finance, 2002: 6-7).

Accrual Basis State Accounting is a system that records when transactions occur, regardless of when cash flow of the transactions occur. In this system, they are recorded regardless of debts paid in cash or not (Çetinkaya, 2004: 88).

According to the Accrual Adapted State Accounting system, in the keeping of the accounting records, accrual and finalization of the transaction is the basis. As it is in cash basis, the income is not required to be actually collected or the payment is actually paid. (Çetinkaya and Yıldırım, 2006: 25). In this system, transactions related to tangible-fixed assets (parcel, land, facility, etc.) are out of accounting. Since the determination of assets, the separation of depreciation and the revaluation are not discussed, it is a simple, non-budget-focused system that is easier to implement, understand, and manage on a fully accrual basis (TR Ministry of Finance, 2002: 6-7).

2.2. Account Closing Methods Used in State Accounting

The recording systems used in state accounting are closely related to the accounting period method and the management period method that are used to close accounts. The management period method is a method in which the budget accounts are kept in the budget year without being carried forward, and all accounts are closed at the end of the year and the remaining payments are canceled except for certain exceptions. The accounting period method is a method in which some of the transactions related to a budget period can be completed within a time frame exceeding this period and the accounting records are kept accordingly (Çetinkaya and Yıldırım, 2006: 27-28).

3. BUDGET CONCEPT

In general terms, budget is a document that shows the government's revenue and expense balance. In other words, the budget is a chart or table showing the breakdown or distribution of the state's following year's expenditure and revenue. According to Article 3f of the Public Financial Management and Control Law No. 5018, the budget is defined as "a document, duly brought into force that shows the estimations of expenditure and revenue in a particular period and the points concerning their implementation" (Pehlivan, 2016: 21-23). In terms of economy, the budget is a table that shows the resources and uses of the state in the national economy with respect to a certain future, and that shows their balance. From a legal point of view, a budget is a document that is put into force after it has been thoroughly discussed and approved by the authorized bodies to allow public expenditure and collection of public revenues in a certain future period (Pehlivan, 2016: 22). The budget, which shows the expenditures of the government and other public institutions and the revenues to be collected in the following years, is perceived as the government's annual execution plan (Orhaner, 2000: 31).

The budget is a finance instrument of services generated by the public sector. Limited resources of the country have also resulted in limited public revenues. Historically, the increase in public services carried out by governments and the increase in the standards of existing public services have led to a steady increase in the cost of public services and their share in total national economy. The increased public expenditures due to expansion of public services and the need to establish a balance between public funding which are hard to increase, have forced the states to make a budget (Karabaş, 2005: 25).

Budget is a financial instrument which creates economic, financial, political and legal consequences, and has a positive effect on national income, income distribution, economic development, elimination of economic and social problems, etc. with careful use (MEGEP, 2011: 29). In the budget and the state budget, expenses are firstly determined and the meeting of vital needs are taken as a basis. After the expenses are determined, revenue is tried to be provided in accordance with them. If revenue is not provided to cover expenses, budgetary deficit arises. In this case, the state applies different methods to close the budgetary deficit. Increasing the existing tax rates or trying to close the budgetary deficit by adding new taxes can be given as examples (MEGEP, 2011: 30).

4. PUBLIC FINANCIAL MANAGEMENT AND CONTROL LAW (PFMCL) No 5018 AND BUDGETING SYSTEM

The purpose of this law is to obtain and use public resources economically and efficiently in alignment with policies and goals that are included in development plans and programs, to regulate the structure and process of public finance management in order to provide accountability and financial transparency, to prepare and execute public budgets, recognition and reporting of all financial processes, and regulate financial control. This law includes the financial management and control of public administrations that include public administrations and social security administrations under central management, and local administrations under general management. The use and control of European Union funds, and the resources provided to public administrations from domestic and foreign sources are subject to this law without prejudice to the provisions (www.mevzuat.gov.tr, 2017).

The law no. 5018 that is the expansion of the budget which is the key tool to contribute to the economical and social development of countries, to provide and protect economical stability (Cura, 2003:140) includes, in relation to this subject, the law no. 1050 includes auditing administrations with general budgets within the public entity, and administrations with annexed and special budgets as long as there is no provision in their own laws. However, the law no. 5018 includes auditing of administrations that are under general management (administrations with general budget, special budget under general management, regulatory and comptroller entities, social security administrations, local administrations) (Söyler, 2012: 64; Arslan, 2004: 2).

According to the law no. 5018, institutions that are in the general budget and finance their expenses through general budget incomes (Yilmaz, 2006: 37) include a total of 52 institutions and organizations that are; Presidency of the Republic, Grand National Assembly of Turkey, Prime Ministry, Secretariat of National Intelligence Organization, Directorate of General Press and Information, State Personnel Administration, Secretariat of Treasury, Undersecretariat of Foreign Trade, Undersecretariat of Customs, Turkish Statistical Institute, Directorate of Religious Affairs, Administration for Disabled People, General Directorate of Family and Social Researches, Directorate General on the Status of Women, General

Directorate of Social Assistance and Solidarity, Secretariat General for European Union Affairs, Justice Department, Ministry of Defense, Ministry of Internal Affairs, General Commandership of Gendarmerie, Directorate General of Security, Coast Guard Command, the Department of State, Department of Finance, Revenue Administration, Ministry of Education, Ministry of Public Works, General Directorate of Land Registry and Cadastre, General Directorate of Highways, Ministry of Health, Ministry of Transport, Undersecretariat for Maritime Affairs, Ministry of Agriculture and Rural Areas, General Directorate of Agricultural Reform, Ministry of Labor and Social Security, Ministry of Energy and Natural Resources, General Directorate of State Hydraulic Works, General Directorate of Petroleum Affairs, Ministry of Culture and Tourism, Ministry of Environment and Forestry, General Directorate of Meteorology, General Directorate of Forestry.

According to the law no. 5018, summary budget includes Higher Education Board, every university (foundation universities are not included), Assessment Selection and Placement Center, Atatürk Institute of Language and History, Institute of Public Administration for Turkey and the Middle East, Scientific and Technological Research Council of Turkey, Turkish Academy of Science, Turkish Academy of Justice, Turkish General Directorate of Credit and Dormitories Agency, General Directorate of Youth and Sports, Directorate General of State Theaters, Directorate General of State Opera and Ballet, General Directorate for Foundations, General Directorate of Health for Borders and Coasts, Turkish Accreditation Agency, Turkish Standards Institute, National Productivity Center, Turkish Patent Institute, National Boron Research Institute, Turkish Atomic Energy Authority, Undersecretariat for Defense Industries, Small and Medium Industry Development Organization, Export Promotion Studies Center, Turkish Cooperation and Coordination Agency, Environmental Protection Agency for Special Areas (Public Finance Management and Control Law no. 5018). Additionally, the state has established supreme boards to conduct regulation and supervision activities. Regulatory and supervisory institute budget includes, Radio and Television High Council, Telecommunication Institute, Stock Exchange Commission, Banking Regulatory and Supervisory Agency, Public Procurement Authority, Competition Authority, Tobacco Products and Alcoholic Beverages Market Regulation Board, Energy Market Regulatory Authority, Sugar Agency, Savings Deposit Insurance Fund (www.bumko.gov.tr, 2017).

The expenses of institutions with general budgets and special budgets and the expenses of regulatory and supervisory agencies and the resources for the financing of the expenses are regulated by the central management budget. The authority of preparing the central management budget belongs to the Department of Finance on behalf of the Council of Ministers. While institutions with general budgets finance their expenses through tax revenues, institutions with special budgets finance some of their expenses by special revenues and some by the aid of the Treasury (Aslan, 2009: 18).

5. HIGHER EDUCATION INSTITUTIONS ACCOUNTING DIRECTIVE

5.1. Purpose, Scope, Basis, Descriptions

The purpose of the Higher Education Institutions Accounting Directive is to provide transparency, accountability, and uniformity, being recognized in an accurate and reliable manner in accordance with the true quality of its activities, to determine the basis and procedures for preparation and establishment of financial statements in a timely, accurate, in line with the basic concepts of accounting and generally accepted accounting principles, in accordance with international standards, to meet the information needs of management and other related persons, in the accounting and reporting system of Higher Education Institutions, in accordance with the frame calculation plan and accounting and reporting standards described in the General Management Accounting Code (Article 1). This Directive covers the accounting records and transactions of higher education institutions within the scope of special budget (Article 2). This Directive was prepared on the basis of the relevant provisions of Article 7 / b of the Higher Education Law No. 2547, Article 49 and provisional 3rd article of the Public Financial Management and Control Law No. 5018, and the General Administrative Accounting Regulation published by the Decree of the Council of Ministers No. 2005/8844 (Article 3). Some of the definitions in this Directive are as follows (Article 4):

Public Management: Describes each Higher Education Institution within the Special Budget in the addendum no II of the Public Finance Management and Control Law no 5018.

Accounting Unit: The department where accounting services related to collection of incomes and debts, payments of expenses and debts done to the rights-owners, receiving cash, values expressed via cash, consignations, keeping them, presenting them to the relevant persons, sending them and all records of financial transactions and reports are performed.

Accounting Officer: An assigned officer that is responsible for managing the accounting unit and for accounting the ordinaries.

Budget: Refers to the document that shows the estimated income and expense of Higher Education Institutions within the Special Budget for certain periods, and that shows the matters on implementation of income and expense.

Equity: Refers to the difference between assets and foreign resources of each Higher Education Institution under Special Budget.

Income: Refers to all activities that cause an increase in equity besides the differences of revaluation and assets that will be taken into accounts the first time.

Expense: Refers to all activities that cause a decrease in equity besides besides the differences of revaluation and assets that will be taken into accounts the first time.

Budget Income: Any transaction that is defined as income in the budget or other legislation.

Budget Expense: Refers to any transaction that is described as expenses in the budget or other legislation.

Accrual Basis: The recognition of an economical value when it's created, transformed, exchanged, passed into other hands or lost.

Cash Basis: Refers to recognition of income when received in cash or on account, and when expenses are paid in cash or on account.

Fiscal Year: Refers to the calendar year.

Operating Period: Refers to the fiscal year unless otherwise is noted by the Department of Treasury.

Accounting Period: Refers to the fiscal year unless otherwise is noted by the Department of Treasury.

5.2. Chart of Accounts of Higher Education Institutions Accounting

The chart of accounts of Higher Education Institutions consists of the following main account groups, account groups and accounts (Article 7):

Table 1: Chart of Accounts of Higher Education Institutions Accounting

Asset Accounts	Liability Accounts	6-Operating Accounts
1-Current Assets	3-Short Term Liabilities	60 Income Accounts
10 Liquid Assets	30 Short-Term Internal Financial Payables	600 Incomes Account
100 Margin Account	303 Financial Debts Account for Public Administrations	63 Expense Accounts
101 Received Cheques Account	32 Operating Payables	630 Expenses Account
102 Banking Account	320 Budget Consignation Account	69 Operating Results
103 Cheques Given and Payment Orders Account (-)	322 Payables to Be Budgeted Account	690 Operating Results Account
104 Project Special Account	329 Other Various Payables Account	8-Budgetary Accounts
105 Foreign Currency Account	33 Consigned Foreign Assets	80 Budget Income Account
106 Foreign Currency Sending Orders Account (-)	330 Received Deposits and Guarantees Account	800 Budget Incomes Account
108 Other Liquid Assets Account	333 Consignation Account	805 Income Reclassification Account
109 Account Receivables from Bank Credit Cards	36 Other Liabilities Payable	81 Repudiation and Returning Accounts for Budget Incomes
11 Securities and Assets	360 Taxes and Funds Payables Account	810 Repudiation and Returning Account for Budget Incomes
117 Movables Account	361 Social Security Withholdings Payable Account	83 Budget Expense Account
118 Other Securities and Assets Account	362 Account of Collection Performed in the Name of Funds or Other Public Administrations	830 Budget Expenses Account
12 Operating Receivables	39 Other Short-Term Foreign Assets	834 Past Year Budget Set Off Account
120 Accounts Receivable from Incomes	397 Enumeration Excess Account	835 Expense Reclassification Account
121 Account of Receivables With Pursuance From Incomes	4- Long-Term Liabilities	89 Budget Implementation Results
14 Other Receivables	40 Long-Term Internal Financial Payables	895 Budget Implementation Results Account
140 Accounts Receivable from Individuals	403 Financial Debts Account for Public Administrations	9-Memorandum Accounts
15 Stocks	430 Received Deposits and Guarantees Account	90 Appropriation Account
150 Raw Materials and Supplies Account	5-Equities	900 Account of Budget Appropriation to be Sent
157 Other Stocks Account	50 Total Equity	901 Budget Appropriation Account
16 Prepayments	500 Total Equity Account	905 Account of Expenses with

		Appropriation
160 Business Advance and Loans Account	52 Revaluation Differences	906 Account of Appropriations to Be Used That Are Transferred to Set Off Period
161 Account of Advances Given to Personnel	522 Revaluation Differences Account	907 Account of Appropriations That Are Transferred to Set Off Period
162 Extra-Budgetary Advance and Loans Account	57 Past Years Positive Operating Results	91 Non-Cash Guarantee and Individuals' Security Accounts
164 Letters of Credit Account	570 Past Years Positive Operating Results Account	910 Guarantee Letters Account
165 Advance and Loans Transferred to Set Off Period Account	58 Past Years Negative Operating Results	911 Guarantee Letters Consignation Account
166 Account of Advances and Letters of Credit Given from Project Special Account	580 Past Years Negative Operating Results Account (-)	912 Individuals' Security Account
167 Direct Foreign Project Credit Usage Advances and Letters of Credit Account	59 Term Operating Results	913 Individuals' Security Consignation Account
19 Other Current Assets	590 Term Positive Operating Results Account	92 Commitment Accounting
197 Inventory Shortages Account	591 Term Negative Operating Results Account (-)	920 Expense Commitments Account
198 Other Various Current Assets Account		921 Expense Commitments Provision Account
2-Fixed Assets		93 Special Accrual Accounts
21 Securities and Assets		960 Accounts Receivable Tracked on Other Units
217 Movables Account		961 Accounts Consigned Receivable Tracked on Other Units
22 Operating Receivables		94 Science Projects Account
220 Accounts Receivable from Revenues		940 Science Projects Account
24 Financial Fixed Assets		941 Science Projects Provision Account
241 Invested Capitals Account for Goods and Services Generating Organizations		95 Account of Assigned Land to Higher Education Institutions
242 Invested Capitals Account for Establishments with Circulation Capital		950 Account of Assigned Land to Higher Education Institutions
25 Tangible-Fixed Assets		951 Account of Provision of Assigned Land to Higher Education Institutions
250 Land and Parcels Account		96 Account of Assigned Buildings to Higher Education Institutions
251 Underground and Overland Plants Accounts		960 Account of Assigned Buildings to Higher Education Institutions
252 Building Account		961 Account of Provision of Assigned Buildings to Higher Education Institutions
253 Plants, Machinery and Equipment Account		
254 Vehicles Account		
255 Fixtures Account		
256 Other Tangible-Fixed Assets Account		
257 Accumulated Depreciation Account (-)		
258 Ongoing Investments Account		
259 Investment Advances Account		
26 Intangible-Fixed Assets		
260 Rights Account		
264 Special Cost Account		
267 Other Intangible-Fixed Assets Account		
268 Accumulated Depreciation Account (-)		
29 Other Fixed Assets		
294 Inventories and Tangible-Fixed Assets Account		
297 Other Tangible-Fixed Assets Account		
299 Accumulated Depreciation Account (-)		

6. ACCOUNTING SYSTEM IN UNIVERSITIES

General Administrative Accounting Regulation was published with Article 7/b of Higher Education Law No. 2547, 49th and Temporary Article 3 of the Public Financial Management and Control Law No. 5018, and Decree of the Council of Ministers No. 2005/8844. In the Public Financial Management and Control Law No. 5018, it is stated that "the matters related to detailed account plans of public administrations within the scope of general administration are determined by the Ministry of Finance.". In accordance with this clause, the General Communique on Detailed Chart of Accounts of Public Administrations under General Management was published and entered into force. In accordance with this clause, "Accounting Directive and Detailed Chart of Accounts of Higher Education Institutions" has been abolished and Central Administration Accounting Regulation and Detailed Chart of Accounts of Higher Education Institutions and memorandum accounts have been started to be used from the date of 01.01.2007 (Aslan, 2009: 53).

This directive covers the accounting records and transactions of the Higher Education Institutions within the scope of special budget. The purpose of this directive is to provide transparency, accountability, and uniformity, being recognized in an accurate and reliable manner in accordance with the true quality of its activities, to determine the basis and procedures for preparation and establishment of financial statements in a timely, accurate, in line with the basic concepts of accounting and generally accepted accounting principles, in accordance with international standards, to meet the information needs of management and public opinion (Aslan, 2009: 53).

While the accounting system is being established in universities; establishment of personnel and hardware organization, creation of document order, establishment of registration order, creation of chart of accounts, formation of reporting order are necessary (Aslan, 2009: 54).

6.1. Universities' Finance and Budget Systems

A common point in the financing of both private and public universities which are public legal entities established by law offering public services under academic, administrative and financial supervision, and supervision by public administration, and supervisory bodies is that they are both public service entities;. The point that distinguishes the two is that the financing of higher education is carried out by public financing method in state universities while it is realized by private financing method in foundation universities (HEI, 2007: 74). The need for a quality technical equipment besides a qualified human power in order to present higher education services in a way that is desired in the direction of quality and targets, has caused the need for continuous and sound financial resources in terms of universities (Bayraklı et al., 2007: 3). It is necessary for the universities with the increasing number of students, which are growing both in the public sector and the private sector, to use their resources effectively and efficiently in terms of not decreasing the quality of the service to be provided (Yılmaz and Kesik, 2010: 125). At this point, with regard to the distribution of capital resources which are scarce, it has been emphasized that priorities of sectors should be determined and then after the resources to be allocated to the education sector are determined, these resources should be effectively distributed to the subgroups in the field of education (Karakütük, 2006: 219). While the existing system in the Turkish higher education system is mostly about to be financed by the public, the developments in the world have revealed that the current system is inadequate and the search for non-public resources has begun (Günay, 2011: 1159).

7. BUDGETARY ACCOUNTS AND ACCOUNTING RECORDS FOR STATE UNIVERSITIES

The legal base of the cash basis and accrual basis that are used in the state accounting is stated in Articles 50 and 51 of the Public Financial Management and Control Law No. 5018. Accordingly, the accrual basis states that an economic value is accounted when it is created, converted into another form, subjected to exchange, changed or destroyed. Cash basis states that the income is accounted when it is collected in cash or on account and expenses are accounted when it is paid in cash or on account. With the Law No. 5018, financial transactions in the public are recorded according to the accrual basis accounting system, while the cash basis is applied in the budget incomes and expenses (Dağ, 2008: 56; Dağ, 2015: 725). Budgetary accounts are the accounts used to track the budget expenses and budget incomes of enterprises in accordance with the economic classification and to generate budget implementation results (Aslan, 2009: 402).

The budgetary accounts main account group can be divided as in the following account groups:

80 BUDGET INCOME ACCOUNTS

81 REPUDIATION AND RETURNING ACCOUNTS FOR BUDGET INCOMES

83 BUDGET EXPENSE ACCOUNTS

89 BUDGET IMPLEMENTATION RESULTS

7.1. Budget Expenses Account

830 - Budget Expenses Account is used to track budget expenses made in cash or on account based on authorization given by budget law and other laws. Budget expenses are accounted when they are paid. The payment can be made in cash or on

account. Payment by cash or by check and send orders are cash payments. In the amounts, taken to budget consignment for reasons such as cash inefficiency or not applying of rights-holders, even if it is linked to the payment order document, the payment on account is stated. In order to determine whether a payment made will be written as the budget expense, the quality of the payment must first be considered. Accordingly, if a definite payment is made for the receipt of goods or services or the work done, the payment made will be recorded in the budget. The temporary payments such as advances, and payments of consigned values will not be recorded as expense in the budget. Because at this stage, the expense does not yet accrue definitively. The fact that an expense (payment) that is made belongs to a past period, a present period, or a future period does not prevent the payment of being recorded as expense on the budget. The year is not important in terms of budget expenses. What is important in terms of budget expenses is the year of payment. (Dağ, 2008: 56-57; Dağ, 2015: 726). Therefore, the amount of a payment will be recorded in the budget expenses of the year of the payment made.

Example: For the repair and maintenance of the additional service building of the university, 2000 TL is paid to the "X" Company.

..... /	
630-Expenses Account	2000
100 Margin Account	2000
..... /	
830-Budget Expenses Account	2000
835-Expense Reclassification Account	2000
..... /	

In the example above, since the payment made is an expense of the current period, the payment is to be recorded as debit in 630-Expenses Account from the operating accounts. From the other side, this amount which is paid in cash is to be recorded as an expense in 830-Budget Expenses Account so as to be recorded in the annual budget according to the clause of Article No 20 entitled "Usage of the allowances" of the Law no 5018, "The appropriations given with the budget are used to cover the work, purchased goods and services, and other expenses made during the year in accordance with the purposes for which they are allocated" (Dağ, 2008: 57; Dağ, 2015: 727).

Example: Mr. (A), the accounting officer at the University, was paid 500 TL from the vault cash as an advance payment.

..... /	
161- Account of Advances Given to Personnel	500
100- Margin Account	500
..... /	
830-Budget Expenses Account	500
835-Expense Reclassification Account	500
..... /	

In the example above, however, the payment was made but the amount paid is not reflected in the budget expenses. Because in this case it is not an expense that has already been actualised. The payment made is a temporary payment and is not an accrued expense (Dağ, 2008: 58; Dağ, 2015: 728).

Example: The university has rented a service building with a fee of 1500 TL for a year on 1 January 2017 and will pay the rent expense on 1 January 2018.

- Months of January, February, March, November 2017

..... /	
630- Expenses Account	1500
481- Expense Accruals Account	1500
..... /	

-31 December 2017

..... /		
630- Expenses Account	1500	
381- Expense Accruals Account		1500

-1 January 2018

..... /		
381- Expense Accruals Account	1500	
100- Margin Account		1500

..... /		
830- Budget Expenses Account	1500	
835- Expense Reclassification Account		1500

In the example above, the rent expense was recorded as debit in the 630-Expenses account on 31 December 2017 in terms of reflecting the rent expense to the operating accounts of the year 2017 while it was recorded as debit in the 830- Budget Expenses Account on January 1, 2018, in terms of being reflected in the budget expenses (Dağ, 2008: 58; Dağ, 2015: 728).

Example: Stationery material worth 1000 TL has been purchased for use by the university.

..... /		
150- Raw Materials and Supplies Account	1000	
100- Margin Account		1000

..... /		
830- Budget Expenses Account	1000	
835- Expense Reclassification Account		1000

In the above example, the purchased stationery material is recorded as expense to the budget but not recorded in the 630- Expenses Account. Instead, it is recorded in the 150- Raw Materials and Supplies Account. The record as expense of the purchased and unconsumed goods in the budget is due to the fact that the amount paid is met from the current annual budget. This amount is not included in the 630-Expenses Account because it is not yet consumed. When the stationery material is consumed, it will only be recorded in the 630-Expenses Account from operating accounts. At this stage, expenditure on the budget will not be recorded for consumed material. Because for this material, the expense was recorded on the budget when it was already purchased (Dağ, 2008: 59; Dağ, 2015: 729).

Example: An official car was purchased for 200.000 TL on 1 January 2010 for the university. (Useful life = 10 years = 10% annual depreciation)

..... /		
254- Vehicles	200.000	
100- Margin Account		200.000

..... /		
830- Budget Expenses Account	200.000	
835- Expense Reclassification Account		200.000

In the above example, 200.000 TL was paid from the university's budget, but since the purchased vehicle is not yet consumed / worn out, it has not been recorded as expense in the 630-Expenses Account from the operating accounts. Due to the absence of direct consumption of fixed assets, and being exposed to wear and tear instead, the erosion is recorded as an expense on depreciation of operating accounts for the relevant years (Dağ, 2008: 59; Dağ, 2015: 730).

..... /	
630- Expenses Account	20.000
257- Accumulated Depreciation Account	20.000
..... /	
830- Budget Expenses Account	20.000
 835- Expense Reclassification Account	20.000
..... /	

As can be seen from the examples above, each payment is not a budget expense, nor is payment required for each budget expense to be realized. But every budget expense made is, eventually, transformed into an operating expense (630-Expense Account). In some budget expenses, debit record is made transiently in 630-Expenses Account; and in some budget expenses, operating accounts are being activated through depreciation or consumption by debiting 630-Expenses Account (Dağ, 2008: 59; Dağ, 2015: 730).

7.2. Budget Incomes Account

800 Budget Income Account is used to track collections made in cash or on account as budget income in accordance with budget law or special laws. Parallel to the budget expenditures, budget incomes are accounted when collected. The collection can be made in cash or on account. Collection via vault cash, cheque, or bank can be given as an example for cash collection while a tax-cut on salary can be given as an example for an on account collection. In order to determine whether a collection made will be written as the budget income, the quality of the collection must first be considered. Accordingly, if a definite collection such as tax, due, duty is made as sale of goods or services or as public service fee, this collection will be recorded as income on the budget. If the consignment values such as the tender or the judicial guarantee is a subject of the collection, it is not going to be recorded as the budget income. Because these amounts taken as consignment will be returned to their owners when the conditions are fulfilled. Therefore, consigned amounts should not be associated with both operating accounts and budgetary accounts (Dağ, 2008: 44; Dağ, 2015: 732-733).

The fact that a collection that is made belongs to a past period, a present period, or a future period does not prevent the collection of being recorded as income on the budget because in terms of budget incomes, the year of income does not matter. What is important in terms of budget incomes is the year of collection. Therefore, if the collection is made in what year, this amount will be recorded in the budget revenues of that period. The year that income which is made belongs to is important in terms of operating accounts. According to the accrual basis, if an income is made what year, must be recorded on related year's operating accounts (600-Incomes Account) (Dağ, 2008: 44; Dağ, 2015: 733).

According to the circumstance till 08.06.2008 of the 40th article of Law No. 5018, all kinds of donations and aids to public administrations were recorded as income. Accordingly, donations in the form of money and assets to public administrations were recorded in the 800-Budget Incomes Account along with the 600-Incomes Account. As such, when donated assets were sold, revenues were recorded on the budget, which in turn led to duplication in budget incomes. However, with the amendment made by Law no. 5793 in the Law numbered 5018, the expression of "in their budgets" has been removed from the above mentioned article text. Thus, from now on, in in-kind donations as stocks and assets made to public administrations, only credit entry will be recorded in 600-Incomes Account as the renumeration of the asset account debit while no record will be done in 800- Budget Incomes Account and the duplication will be avoided in budget incomes. When assets lapsed as donations to public administrations are sold, revenue to the budget will continue to be recorded. Donations in cash will continue to be recorded in 800-Budget Incomes Account with the 600-Incomes Account (Dağ, 2008: 46; Dağ, 2015: 736).

Example: 200.000 TL was sent to the accounting unit of the university as treasury aid.

..... /	
102-Banking Account	200.000
600-Incomes Account	200.000
..... /	

805- Income Reclassification Account	200.000	
800- Budget Incomes Account		200.000

..... /

As seen in the example above, all kinds of collections made in cash or on account as budget income are recorded, from one side, in 600-Incomes Account or other related accounts as credit, and in 100-Margin Account, in 102-Banking Account or other related accounts as debit due to its relevance. From the other side, it is recorded as debit in 805-Incomes Reclassification Account, as credit in 800-Budget Incomes Account (Aslan, 2009: 403).

Example: The Central Accounting Unit of the University has seen in the account summary of the relevant bank that the contribution of 8000 TL which is to be collected from the students was collected from the students. The officer authorized to collect the budget incomes collected this amount from the bank.

102-Banking Account	8000	
120- Accounts Receivable from Incomes		8000

..... /

140- Accounts Receivable from Individuals	8000	
102- Banking Account		8000

..... /

100- Margin Account	8000	
140- Accounts Receivable from Individuals		8000

..... /

805- Income Reclassification Account	8000	
800- Budget Incomes Account		8000

..... /

As can be seen in the example above, the amount of collection charged to debit by officers who are authorized to collect budget incomes recorded as credit in 120-Accounts Receivable from Incomes or other related accounts, and in 140-Accounts Receivable from Individuals on behalf of the officer who is authorized to collect budget incomes. On the other side it is recorded as debit in 805-Incomes Reclassification Account, and as credit in 800-Budget Incomes Account (Aslan, 2009: 403).

Example: A benevolent citizen donated 100.000 TL cash and a land worth 200.000 TL to the university.

-Recording made when donated before 08.06.2008 (previous application)

100- Margin Account	100.000	
250- Land and Parcels Account	200.000	
600- Incomes Account		300.000

..... /

805- Income Reclassification Account	300.000	
800- Budget Incomes Account		300.000

..... /

In the example above, both the donated land and the cash money are recorded in both the 600- Incomes Account and the 800- Budget Incomes Account (Dağ, 2008: 46; Dağ, 2015: 736).

-The record to be made when donated after 08.06.2008 (the following application)

..... /	
100- Margin Account	100.000
250- Land and Parcels Account	200.000
600-Incomes Account	300.000
..... /	
805- Income Reclassification Account	100.000
800- Budget Incomes Account	100.000

In the example above, all of the donated land and the cash money are recorded in the 600 - Incomes Account unlike the previous accounting record in which only cash is recorded in 800- Budget Incomes Account. As long as the donated land is not sold, it will not be recorded in the budget as income (Dağ, 2008: 46; Dağ, 2015: 737).

7.3. Repudiation and Returning Account for Budget Incomes

Repudiations and Returnings Account for Budget Incomes is used to track repudiations and returnings, which are made in accordance with the legislation, from collection which is received in cash or on account as budget income (Dağ, 2015: 759).

Example: Student Selection and Placement Center (SSPC) returned 150 TL which was collected as examination fee.

- Collection of examination fee

..... /	
102 Banking Account	150
600- Incomes Account	150
..... /	
805- Incomes Reclassification Account	150
800- Budget Incomes Account	150

- Returning of the collected examination fee

..... /	
610- Rebate, Returning, and Discount Account	150
103- Cheques Given and Payment Orders Account	150
..... /	
810- Repudiation and Returning Account for Budget Incomes	150
805- Incomes Reclassification Account	150
..... /	

In the example above, in case of returning 610- Rebate, Returning and Discount Account should be used instead of 630- Expenses Account (without in the year/not in the year separation), because the examination fee is the primary operating income of SSPC (Dağ, 2015: 763).

7.4. Budget Implementation Results Account

The Budget Implementation Results Account is used to derive the budget implementation results from the amounts registered in the accounts which took place in the account group of the budget income and budget expenditure accounts for a budget year and in the account group of repudiation and returning accounts for budget incomes. The Budget Implementation Results account is mutually closed with the reclassification accounts after the budget implementation

results are generated (Dağ, 2015: 799). If the 895-Budget Implementation Results Account has a debit balance, there will be a budget deficit and if it has a credit balance, there will be a budget surplus (Dağ, 2015: 801).

Example: The credit balance of the university's 800- Budget Incomes Account on the trial balance is 750.000 TL and it is closed after being transferred to the related account.

..... /	
800- Budget Incomes Account	750.000
895- Budget Implementation Results Account	750.000
..... /	

Example: The debit balance of the university's 805-Income Reclassification Account on the trial balance is 500.000 TL and it is closed after being transferred to the related account.

..... /	
895- Budget Implementation Results Account	500.000
805- Income Reclassification Account	500.000
..... /	

Example: The debit balance of the university's 810-Repudiation and Returning Account for Budget Incomes on the trial balance is 50.000 TL and it is closed after being transferred to the related account.

..... /	
895- Budget Implementation Results Account	50.000
810- Repudiation and Returning Account for Budget Incomes	50.000
..... /	

Example: The debit balance of the university's 830-Budget Expenses Account on the trial balance is 400.000 TL and it is closed after being transferred to the related account.

..... /	
895- Budget Implementation Results Account	400.000
830- Budget Expenses Account	400.000
..... /	

Example: The credit balance of the university's 835-Expense Reclassification Account on the trial balance is 350.000 TL and it is closed after being transferred to the related account.

..... /	
835- Expense Reclassification Account	350.000
895- Budget Implementation Results Account	350.000
..... /	

8. CONCLUSION

State accounting in Turkey was conducted on the basis of the General Accounting Law (Muhasebe-i Umumiye Kanunu) which came into force in the early years of the republic and applied for many years, until 2004. Additionally, the classical budget method was used as the state budget system. However, this law and the implemented budgeting systems did not comply with the contemporary state understanding and could not meet the expectations. State accounting, which entered into force in 2004 in Turkey, is regulated by the Public Financial Management and Control Law No 5018 and regulations issued based on this law. Law No 5018, prepared in accordance with international accounting and budget standards, has a revolutionary feature in the financial system and in accounting.

The fact that universities are financially separated into many departments, accounting transactions are more complicated. Today, a great majority of state universities are financed by public resources in general. State universities are generally

financed by taxes from taxpayers, and this situation reveals the responsibility of the universities in social meaning. The responsibilities and duties of state universities have increased even more, especially because of the developments that have taken place in recent years and the rapid increase in demand for higher education. The development and implementation of the budgeting system in state universities and the use of budgetary accounts also facilitated the fulfillment of accountability. The accountability is the obligation to disclose whether a person or institution authorized to do a job or a task is performing this duty. For this reason, it is an important necessity to disclose to the society the information about where and how resources are used in state universities, and about whether they are provided with sufficient level and quality services.

State universities are special budget institutions subject to the Public Financial Management and Control Law No. 5018, and they must comply with the budget preparation guidelines and budget format announced by the Ministry of Finance during the budgeting process. In order to be able to associate expenditure and income accounts of universities with budgetary accounts, income must be collected and expenses must be paid. Not every amount paid is a budget expense, and not every amount collected is a budget income.

According to the findings of this study, when the implemented university accounting and the manner of work of budgetary accounts in Turkey are examined, the implementation of the system strictly in countrywide could bring some difficulties. The reason for this can be shown as the fact that a complete accounting association has not yet been established. For the full implementation of the accounting and budget systems in state universities in Turkey, it can be suggested to practice for many years, to employ qualified public personnel, to employ specialist personnel in budget and accounting in units where financial transactions are carried out and in spending units, to take measures for the elimination of the deficits related to the legislation, to organize training programs more efficiently and more frequently. In state universities, the budget should be regulated not only as an income-expenditure forecast but also as in the direction of the most efficient and active use of financial resources. Finally, it can be said that state universities are more accountable than public universities for financial transparency as it is necessary to prepare a strategic plan and activity report at state universities. In the establishment and development of an effective accounting system in state universities and in fulfilling financial transparency and accountability more efficiently, the budgeting system and budgetary accounts are emerging as strategically important tools.

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ENVIRONMENTAL DISCLOSURE IN THE ANNUAL REPORTS OF THE JORDANIAN MINING AND EXTRACTION COMPANIES

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ABSTRACT

Purpose – This study tries to evaluate the status of environmental disclosure in the financial reports of the Jordanian mining and extraction listed shareholding companies. In addition, the study focuses on identifying the barriers, which are facing these companies.

Methodology – Thus, to attain the aim of this study, the needed data have been collected through using a questionnaire as well as a set of secondary data, which are available in the annual reports of the study's sample.

Findings – As a result, the study showed that though all companies are presenting the environmental disclosure technique in their annual reports, however, the usage of this technique is uneven between the companies.

Conclusion – The study concluded that the Jordanian industrial companies do not pay attention to the forms of environmental disclosure.

Keywords: Environmental disclosure, annual reports, environmental disclosure problems, Jordanian mining and extraction companies.

JEL Codes: M41, L61, Q56

1. INTRODUCTION

Since the environment has got the priority for countries, many countries have established ministries and high authorities to preserve their environments. Globally, various bodies, associations and organizations have been established to preserve the environment; such as, Greenpeace, friends of the environment societies or the Friends of Earth, which carries out important activities to highlight this important subject. Anyway, the interest in the environment has become a critical demand in most countries, as it is a global trend resulting in the emergence of environmental accounting due to its importance in providing information relates to environmental costs to assist the management in planning and control. Many governmental and non-governmental organizations are interested in exploring the environmental impacts of companies in their annual reports (Abdul Hussain, 2014, 292).

Relative studies indicated the increasing number of companies, which include environmental disclosure in their annual reports to meet the desires of investors and the other users of annual reports. The evidence on that is the increase in the content of disclosure of environmental information from mere a paragraph in the annual report to the preparation of independent environmental information reports, which are published by companies. Such disclosure appears in many forms; such as the descriptive data, quantitative facts, numbers and notes in the financial statements (Darwish, 2009; Suttipun & Stanton, 2012; Jariya, 2015).

The early eighties of the 20th century have witnessed the real beginning of the official interest in the environment in Jordan, when the Government decided to create a department of environmental connected with the Ministry of Municipality and Rural Affairs. Hence, Jordan started to focus on environmental planning and management due to the development of official conviction that the protection of environment is a part of the developmental area, which must be taken into consideration to reach to environmental balance that allows progress and growth. In addition, the protection and

preservation of the environment is an essential requirement to ensure a sustainable development. Therefore, in Jordan there are many administrative and technical bodies were established, to care about environment. The Ministry of Environment in Jordan is deemed as the competent authority in the protection of the environment (Environmental Protection Law, 2006).

The environmental disclosure is a method by which companies could inform the society, with all its spectra, on their various activities concerning the environmental content. The annual reports are deemed an appropriate tool to achieve that. Today, the environmental disclosure in the annual reports of industrial companies is seen as one of the most important subjects. Thus, due to this importance, this study examines the level of environmental disclosure in the annual reports of the companies for the period 2016, as well as identifying the problems that impede the mining and extraction companies in Jordan from the environmental disclosure in their annual reports. To attain the aim of this study, the paper is including five sections. The first section includes the introductory, the study's problem, the study's objectives and the study's hypotheses. In the second section the study discusses the previous related studies as well as the definition of the environmental disclosure. Section number three explains the methodology of this study. The fourth section discussing the study findings and the fifth section presents the conclusion and recommendation of this study.

The subject of the environmental disclosure in the annual reports of the Jordanian industrial companies is still at the early stages. Additionally, the studies in this area are relatively few. Therefore, it is imperative to conduct further researches that could contribute to maximize the use of the annual reports and expanding the areas of disclosure. Thus, this study seeks to identify the problems that prevent the companies from presenting an environmental disclosure in their annual reports. To attain that the study copes with answering the following two questions:

1. Do the Jordanian mining and extraction companies present the environmental disclosure in their annual reports?
2. What are the problems that impede the Jordanian mining and extraction companies from presenting the environmental disclosure in their annual reports?

Today, the environmental disclosure in the annual reports is found as one of the most important and up-to-date subjects because the companies are no longer aimed to realize profits only, but to avoid some aspects that harm the community and damaging the environment. Therefore, the purpose of this study is to provide an appropriate scientific contribution, through exploring the level of the environmental disclosure in the annual reports as well as identifying the external and internal problems of the environmental disclosure in the annual reports of the Jordanian mining and extraction companies during the 2016.

This study aims to achieve the following two objectives:

1. Examining the level of environmental disclosure in the annual reports of the Jordanian mining and extraction companies.
2. Identifying the external and internal environmental disclosure problems in the annual reports of Jordanian mining and extraction companies.

The study is based on the following two hypotheses:

H₀₁: The Jordanian mining and extraction companies don't present the environmental disclosure in their annual reports.

H₀₂: There are no external and internal problems would prevent the Jordanian mining and extraction companies from presenting the environmental disclosure in their annual reports.

2. LITERATURE REVIEW

For the purpose of this study, the researchers revised some previous studies, which are relevant to the subject of this study. A study of Welbeck, et al. (2017) examined the type of environment-related information firms disclose mostly in Ghana, and investigate the determinants of environmental disclosures by firms in Ghana. Using the Global Reporting Initiative (GRI) index as a benchmark, a content analysis of the corporate annual report of (17) firms listed on the Ghana Stock Exchange (GSE) was conducted over a 10-year period (2003 to 2012) to determine the total environmental disclosure scores of the sampled firms. The determinants of environmental disclosure practices of the firms were ascertained by means of a regression analysis. The results indicated that the listed firms in Ghana disclose some amount of environmentally-related information espoused by GRI though the level of disclosure is low. Also, the level of disclosure by environmentally-sensitive firms is higher than the less sensitive firms similar to existing studies. Moreover, the study finds firm size, auditor type, age of the firm and industry type to be significant predictors of firms' environmental disclosure practices. Mazahrih, et al. (2016) investigates the quality of environmental reporting information by the chemical industry in Jordan. The focus is on prescribed accounting principles and reporting practices. Content analysis is utilized to attain the study's aims. The study demonstrates the extent of environmental reporting in two companies' annual reports at both national and international

levels. The environmental reporting performance is measured against the literature and international initiatives. The results showed some differences between the two levels with regard to the quality, content and profile disclosure. The main reason for such variation in reporting could be attributed to the voluntary nature of environmental disclosure. Anyway, in the absence of legislation regarding environmental disclosure, doubts remain about the likelihood of better quality reporting. Md, et al. (2014) focused on providing a critical examination for the practices of environmental disclosure as well as the disclosure's extent in the industries of Bangladesh. As a result, the study showed that around 69% of the studied industries do not including any environmental issue in their annual reports.

Eljayash (2015) aims to document the environmental disclosure practices in the Arab Spring countries, Egypt, Libya and Tunisia. These countries have been witnessed a change in governance systems as a result of massive popular revolutions in 2011 in what became known revolutions of the Arab Spring. These revolutions have been influenced on the political and legal systems and economic development of these countries. As a result, due of the accounting system interacts with surrounding systems; the changes of systems may affect the accounting system, thus accounting practices, including environmental disclosure practices that may be affected. Therefore, the researcher focused on documenting the environmental disclosure practices in the oil companies for the three years that preceded the Arab Spring revolution. As result, it will contribute in comparisons for the accounting practices of companies after the success of the Arab Spring uprisings. Content analysis and environmental disclosure index are used to measure the quantity and quality of environmental disclosure in companies operating in the oil sector. The results of the study indicated low accounting information contained in the annual reports before Arab spring.

Uzzaman and Kowsar (2014) present an empirical investigation into the corporate environmental reporting practices of a number of listed non-financial companies from Bangladesh. Based on both primary and secondary data, the study reveals that (61.36 %) of the listed companies have made such disclosures. Analysis over a wide range of industries reveals that companies in the pharmaceuticals and telecommunication sector secure the highest rank in terms of corporate environmental reporting; (88.90%) of disclosures are generalized qualitative statements; (96.30%) of CER is located in the director's report; and the mean amount of disclosures is less than one fourth of a page. The respondents have felt the strong need for CER in their Annual Reports, the respondents have also been aware of CER practices; the respondents have identified some major problems involved in CER and suggested some measures.

Yosuff, at el., (2013) investigate the state of environmental reporting by Malaysian and Australian companies on 'other' reports, i.e. other than annual reports. The paper employs content analysis to study the environmental disclosures made by the selected (100) companies in the two countries. Regression analysis is performed on potential influencing factors for environmental reporting. The paper finds that environmental reporting in 'other' reports (Malaysia and Australia) are largely descriptive and in qualitative form. In addition, the influencing factors for environmental reporting are of similar quality to those made in annual reports, in both countries. These findings imply that this type of communicating environmental information does not contribute greater corporate accountability among companies in fulfilling stakeholders' needs and demands for environmental information. Hence, more efforts are needed to promote better and greener environmental reporting practice. This study comparatively explored the environmental practices and interprets the possible link between the influencing factors for environmental reporting and actual environmental reporting practices on a two-country basis, between Malaysia and Australia. Bae and Kim (2018) studied the extent of using the environmental accounting as well as the environmental reporting in the banks of Bngladesh. After analyzing data of twenty banks, the results discovered that the banks of Banglادish tend to disclose the information, which are related to the categories of the renewable energy as well as the green banking.

The term 'environmental disclosure' is defined as the process through which the information was presented on the environmental obligations, which are resulting from a corporate daily activities. Although the concept of disclosure has one definition, whether environmentally or accounting, but it is noted that it is limited, in respect of accounting disclosure, to the presentation of the business results in the light of the accounting policies and concepts. It may not reflect the negative environmental effects resulting fromthe company's variousactivities . In such case, it results in shortage in the information presentation associated with the organization activities, in particular, the information related to the cost and environmental liabilities. This forms one of the challenges encountered by accounting recent years in which the industrial company's activities have increased and widened to include the negative effects resulting from dispensing toxic waste which is dangerous to the environment surrounding these companies (Al-Rashed, 2013, 11).

The environmental disclosure was also defined as "the presentation and provision of the data and information related to the environmental activities of the business facilities in the financial statements, which facilitates the work of the information users and decision-makers and lead to rationalize the decision in assessing the environmental performance of such companies" (Saleh, 2015, 89).

3. DATA AND METHODOLOGY

This study has relied on the primary and secondary data. The primary data have been collected through the distribution of questionnaires by one questionnaire to the Heads of Finance Departments per company. The primary data was used to identify the external and internal problems of the environmental disclosure in the annual reports of the companies. The secondary data was collected through the annual reports of the companies for 2016 to examine the environmental disclosure level in the annual reports of these companies. This study is deemed an exploratory study (content study) and descriptive at the same time. The questionnaires were distributed to only 10 of the 16 companies of the year 2016, after taking their initial approval to distribute one questionnaire to each company. The total of the questionnaires delivered and collected were 10. All of them were analyzable.

4. FINDINGS AND DISCUSSIONS

4.1 The environmental Disclosure in the Annual Reports

One of the main objectives of this study is to examine the level of environmental disclosure in the annual reports of the Jordanian mining and extraction companies. Thus, through the examining the corporate annual reports on the level of environmental disclosure, the study noticed that the environmental disclosure forms in the annual reports focus on the qualitative disclosure, which is followed by the monetary and then the quantitative. This indicates that the companies of Jordan do not pay too much attention to the forms of the environmental disclosure in their annual reports, especially the quantitative disclosure. See the following Table 1.

Table 1: The Environmental Disclosure Forms

Forms	Companies										Repetition	%	Rank
	1	2	3	4	5	6	7	8	9	10			
Qualitative	✓	✓	✓		✓	✓	✓	✓	✓	✓	9	56%	1
Monetary	✓	✓	✓	✓	✓					✓	6	38%	2
Quantitative		✓									1	65%	3
Total											16	100%	

The following table number 2 shows a significant weakness in the usage of the other forms of environmental disclosure, except the disclosure in the tables, which obtained 50% percent:

Table 2: Other Forms of the Environmental Disclosure

The following table shows other forms of the environmental disclosure in the annual reports:

Forms	Companies										Repetition	%	Rank
	1	2	3	4	5	6	7	8	9	10			
Image		✓				✓					2	17%	2
Map		✓									1	8%	3
Table	✓	✓	✓	✓	✓					✓	6	50%	1
Diagram	✓	✓									2	17%	2
Comparison		✓									1	8%	3
Total											12	100%	

However, table number three demonstrates that the environmental disclosure was presented the Report of the Board of Directors (Board Report) and then in the financial statements, clarifications, and the company's mission. This indicates that most companies concentrate on the environmental disclosure in the Board report:

Table 3: The Environmental Disclosure Location

The following table shows the location of the environmental disclosure in the annual reports:

Location	Companies										Repetition	%	Rank
	1	2	3	4	5	6	7	8	9	10			
Company Mission						✓					1	5%	4.
Board Report	✓	✓	✓		✓	✓	✓	✓	✓	✓	9	47%	1.
Financial Statements	✓	✓	✓	✓	✓					✓	6	32%	2.
Clarification	✓	✓			✓						3	16%	3.
Total											19	100%	

The following table number four found that all companies showed the positive environmental disclosure, while ignored the negative disclosure, except one company revealed a negative environmental disclosure. Perhaps, this is because the conviction of the management that the negative disclosure may impact on the company's reputation:

Table 4: Type of the Environmental News

The following table shows the type of the environmental news in the annual reports:

News	Companies										Repetition	%	Rank
	1	2	3	4	5	6	7	8	9	10			
Positive	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8	89%	1
Negative		✓									1	11%	2
Total											9	100%	

In table number five, it is found that the number of lines, which are allocated for the environmental disclosure in the annual reports of the companies was less than ten lines, except two companies. The second company on average of 47 lines and the fifth company at average 13 lines. This indicates that the lines allocated for the environmental disclosure in annual reports were few which does not exceed a quarter page:

Table 5: The number of lines allocated for the environmental disclosure

The following table shows the number of lines allocated for the environmental disclosure in the annual reports:

Lines	Companies										Repetition	%	Rank.
	1	2	3	4	5	6	7	8	9	10			
1-5	✓			✓			✓	✓	✓		5	50%	1
6-10			✓			✓				✓	3	30%	2
More than 10		✓			✓						2	20%	3
Total											10	100%	

Table number six describes that the environmental accounting disclosure component was ranked as the first, followed by the importance of environmental protection, and environmental health and safety in the second rank. The rest of the other elements were ranked third to seventh. The study also noted that the disclosure ratio is found weak, as it reached 25%, the second company is the most disclosed by 25%, followed by the fifth company by 19%. It is also noted that by examining and analyzing the previous tables, from table (1) to (6), in general, all companies include an environmental disclosure in their annual reports, but poorly and unevenly. Based on the above, the null hypothesis stating that "the Jordanian mining and extraction companies do not present the environmental disclosure in their annual reports" was rejected:

Table 6: Elements of the Environmental Disclosure

The following table shows the elements of the environmental disclosure in the annual reports:

Se r.	The elements	Companies										Repetition	%	Ra nk
		1	2	3	4	5	6	7	8	9	10			
1	Environmental policy						✓					1	10%*	6
2	Environmental management	✓	✓	✓								3	30%	4
3	Environmental events		✓									1	10%	6
4	Lawsuits on environmental issues		✓									1	10%	6
5	Environmental protection		✓		✓	✓	✓			✓		5	50%	2
6	Environmental standards					✓		✓				2	20%	5
7	Sustainable development		✓			✓						2	20%	5
8	Environmental accounting	✓	✓	✓	✓	✓	✓			✓		7	70%	1
9	Environmental health and safety	✓	✓	✓		✓	✓					5	50%	2
10	Conservation of					✓						1	10%	6

	natural resources													
11	Research and development					✓						1	10%	6
12	Environmental education and training	✓	✓				✓			✓		4	40%	3
13	Social interaction		✓									1	10%	6
14	Environmental awards			✓								1	10%	6
15	Treeplantation					✓				✓		2	20%	5
16	Soil		✓			✓				✓		3	30%	4
17	Water management		✓	✓			✓		✓			4	40%	3
18	Solid waste			✓					✓			2	20%	5
19	Air pollution		✓					✓				2	20%	5
Total		4	12	6	2	9	6	2	2	4	1	48	25% **	-
Percentage %		8% ***	25%	13%	4%	19%	13%	4%	4%	8%	2%	100%	-	-

4.2 The Problems of the Environmental Disclosure in the Annual Reports

The second objective of this study is to identify the problems of environmental disclosure in the annual reports of the Jordanian mining and extraction companies. The problems of environmental disclosure in annual reports were divided into external problems and internal problems. As shown in table number seven, the results confirmed that the first paragraph is ranked as the first item that is followed by the paragraph number five. However, the second paragraph was considered as the least problem that is facing the Jordanian companies, while presenting the environmental disclosure in their annual reports. In general, the general scale of the arithmetic means of the external problems achieved was high, reached (3.85), with a standard deviation (0.659). This indicates an agreement of respondents that there are many external problems impede the environmental disclosure in companies:

Table 7: External problems

The following table shows the most important external problems:

Ser.	Paragraph	Arithmetic mean	Standard deviation	Relative importance	Rank
1	The lack of legal and legislative texts that oblige the environmental disclosure.	4.06	0.907	*High	1
2	Deficiency in many aspects in the environmental laws and regulations.	3.74	0.978	High	6
3	Non-compliance with environmental laws and regulations which obligate the disclosure.	3.77	0.943	High	5
4	Failure to take the legal procedures against uncommitted companies to the instruction of environmental disclosure.	3.82	1.089	High	3
5	The lack of governmental incentives and support to the companies that comply with the environmental disclosure.	3.91	0.961	High	2
6	Lack of local organizations that qualify professionals in the field of environmental disclosure.	3.80	0.878	High	4
General measure		3.85	0.659	High	

The relative significance level determined was as follows: low level (1 - 2.33); average level (2.34 – 3.66) and high level (3.67 – 5.0).

However, after testing the hypotheses of this study, the results showed that the calculated value (T) is greater than the tabulated value (T), and the value of (alpha) is less than (0.05). Hence, we rejected the null hypothesis, which is stating that "There are no external problems would prevent the Jordanian mining and extraction companies from presenting the environmental disclosure in their annual reports". That means that there are external problems would prevent the Jordanian mining and extraction companies from presenting the environmental disclosure in their annual reports:

Table 8: Results of testing the hypothesis

The following table shows the testing of hypothesis:

T Calculated	T Tabulated	(Alpha) Sig	Result of the null hypothesis
5.61	2.13	0.00	Rejected

The results also discovered that paragraph 5 in table number nine, stated that “Non-existence of a competent division for environmental disclosure” was ranked as the first), followed by paragraph No. 9, which is stating that “The difficulty of determining the costs of environmental disclosure” valued (3.79). While, the sixth paragraph, was ranked as the last with a value of 3.34. The general scale of the arithmetic means for the external problems was (3.57), with standard deviation (0.665). This indicates the respondents’ agreement that the companies suffer internal problems impede the environmental disclosure:

Table 9: The Internal Problems

The following table shows the most important internal problems:

Ser.	Paragraph	Arithmetic mean	Standard deviation	Relative importance	Rank
1	Lack of management awareness of the importance of environmental disclosure.	3.64	0.916	Average	4
2	Lack of management attention to apply environmental disclosure.	3.60	1.039	Average	7
3	Management believes that environmental disclosure will negatively affect its reputation.	3.42	1.002	Average	14
4	The lack of internal instructions, regulations and, rules relevant to the environmental disclosure.	3.46	0.816	Average	12
5	Non-existence of a competent division forenvironmental disclosure.	3.87	1.181	High	1
6	The lack of accounting system that fulfils the purposes of environmental disclosure	3.34	1.010	Average	15
7	Lack of full disclosure of information and accounting policies related to environmental disclosure.	3.56	0.987	Average	8
8	The high cost of applying the environmental disclosure.	3.54	1.005	Average	9
9	The difficulty of determining the costs of environmental disclosure.	3.79	0.905	High	2
10	The absence of environmental auditing.	3.51	0.806	Average	11
11	Non-compliance with international accounting standards or financial reporting standards for environmental disclosure.	3.43	0.910	Average	13
12	Inadequate number of employees in the Accounting Department to follow-up environmental disclosure.	3.53	0.880	Average	10
13	The lack of sufficient scientific qualifications for staff of the financial departments in relation to environmental disclosure.	3.61	1.117	Average	6
14	The lack of adequate knowledge and skills of Finance Departments staff with regard to the environmental disclosure.	3.65	0.971	Average	3
15	The lack of educational programs and training courses for the Finance Departments in relation to the environmental disclosure.	3.62	0.933	Average	5
General Scale		3.57	0.665	Average	

Beyond that the results showed that the calculated value (T) is greater than the tabulated value (T) and the value of (alpha) is less than (0.05). Therefore, the study confirmed there are internal problems preventing the Jordanian mining and extraction companies from presenting the environmental disclosure in their annual reports:

Table 10: Results of testing the hypothesis

The following table shows the testing hypothesis:

T Calculated	T Tabulated	(Alpha) Sig.	Result of null hypothesis
9.72	2.13	0.00	Rejected

5. CONCLUSION AND RECOMMENDATIONS

The study concluded that the Jordanian mining companies are not presenting the environmental disclosure in their annual reports properly. The Jordanian mining companies not only do not pay attention to the forms of the environmental disclosure, but also it is concentrated on presenting their disclosure in the board report. The Jordanian mining and extraction companies only focused on presenting the positive environmental disclosure. The ratio of the environmental disclosure elements is found to be weak. The study concluded that the Jordanian companies are encountering some problems, which are able to prevent the process of presenting the environmental disclosure properly.

Moreover, the study recommended that it is necessary to increase the attention to present the environmental disclosure in the annual reports of the Jordanian companies. The responsible parties must improve the regulations of applying the process of the environmental disclosure in the annual reports of the Jordanian mining and extraction companies. It is significant to manage the process of presenting the environmental disclosure through a team of qualified as well as skilled individuals. The study recommended that there is a necessity to respect the regulations of the environmental disclosure as it is announced by the specialized authorities.

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THE EFFECTS OF FOREIGN DIRECT INVESTMENT INWARDS AND OUTWARDS ON ECONOMIC GROWTH: EVIDENCE FROM THE TOP 20 LARGEST ECONOMIES IN THE WORLD (1992-2016)

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ABSTRACT

Purpose- In this study, considering the capital exporter/importer positions of the World's top 20 largest economies (W-20) grouped as developing (W-8) and developed (W-12) according to the development level, the effects of foreign direct investment inwards/outwards on economic growth (GDP/GNP) are analyzed econometrically.

Methodology- In the study, econometric models, generated by extending Cobb-Douglas type of production function were estimated by employing second generation panel data analysis that takes cross-sectional dependence into consideration for the period 1992-2016.

Findings- As a result of the study, both the direct foreign investment inwards and outwards have a significant influence on the economic growth performances of the developed W-12 economies within the examination period. On the contrary, it is determined that the foreign direct investment inwards have a significant effect on economic growth performances of the developing W-8 economies, while foreign direct investment outwards do not have any impact on these economies.

Conclusion- These results indicate that the enhancement possibilities of economic growth performances provided by GNP by expanding production possibilities abroad of W-12 and W-8 economies are high and low, respectively.

Keywords: Foreign direct investment inwards and outwards, GDP, GNP, top 20 largest economies, second generation panel data analysis.

JEL Codes: C10, E22, F21, F43.

EKONOMİK BÜYÜME ÜZERİNDE DOĞRUDAN YABANCI YATIRIM GİRİŞLERİNİN VE ÇIKIŞLARININ ETKİLERİ: DÜNYANIN EN BÜYÜK İLK 20 EKONOMİSİNDEN KANITLAR (1992-2016)

ÖZET

Amaç- Bu çalışmada, gelişmişlik düzeylerine göre gelişmiş W-12 ve gelişmekte olan W-8 olarak gruplandırılan dünyanın en büyük ilk 20 ekonomisinin (W-20), sermaye ithalatçısı/ihracatçısı konumları gözeticilerle doğrudan yabancı yatırım girişlerinin/çıkışlarının ekonomik büyüme (GSYİH/GSMH) üzerindeki etkileri ekonometrik olarak incelenmektedir.

Yöntem- Çalışmada, doğrudan yabancı yatırım girişlerinin/çıkışlarının GSYİH/GSMH üzerindeki etkilerini belirlemek üzere Cobb-Douglas tipi üretim fonksiyonunun genişletilmesiyle oluşturulan ekonometrik modeller, 1992-2016 dönemi için yatay kesit bağımlılığını dikkate alan ikinci nesil panel veri analizi metodolojisi kullanılarak tahmin edilmektedir.

Bulgular- Çalışma sonucunda, gelişmiş W-12 ekonomilerinin inceleme dönemindeki ekonomik büyüme performansları üzerinde hem doğrudan yabancı yatırım girişlerinin hem de doğrudan yabancı yatırım çıkışlarının önemli bir etkiye sahip olduğu belirlenmiştir. Buna karşılık, gelişmekte olan W-8 ekonomilerinin inceleme dönemindeki ekonomik büyüme performansları üzerinde doğrudan yabancı yatırım girişlerinin önemli bir etkiye sahip olduğu, doğrudan yabancı yatırım çıkışlarının ise herhangi bir etkiye sahip olmadığı tespit edilmiştir.

Sonuç- Bu sonuçlar, W-12 ve W-8 ekonomilerinin yurtdışındaki üretim imkânlarını genişleterek GSMH ile sağlanan ekonomik büyüme performanslarını artırabilme olanaklarının sırasıyla yüksek ve düşük olduğunu göstermektedir.

Anahtar Kelimeler: Doğrudan yabancı yatırım girişleri ve çıkışları, GSYİH, GSMH, en büyük ilk 20 ekonomi, ikinci nesil panel veri analizi.

JEL Kodları: C10, E22, F21, F43.

1. GİRİŞ

Bilindiği üzere, dünya’da yirminci yüzyılın ikinci yarısından itibaren ekonomik, politik ve sosyo-kültürel açıdan yaşanan sürekli değişimler, ülke ekonomilerini her geçen gün birbirine daha fazla yaklaştırmakta ve zamanla kapalı makroekonomik modelleri işlevsiz kılmaktadır. Dünya genelindeki kaynakların kıtlığı, üreticinin kar ve tüketicinin fayda maksimizasyon güdüsü ile teknoloji alanındaki sıra dışı gelişmeler küreselleşme olgusunu ortaya çıkarmakta ve açık makroekonomik modelleri izleyen ülkelerin mevcut üretim olanaklarını arttırabilme çabalarını sınırlarının ötesine taşımaktadır (Bayraktar, 2003). Bu süreç, dünyadaki ekonomik liberalleşme ve küreselleşme eğilimlerinin yaygınlaşması ile birlikte ülke ekonomilerindeki sınırlı kaynakların etkin kullanımını mümkün kılan doğrudan yabancı yatırımları (FDI), en önemli uluslararası ekonomik faaliyetlerden birisi haline dönüştürmektedir (Dhyne ve Guerin, 2014).

Nitekim doğrudan yabancı yatırım girişleri (Inward FDI) sermaye ithalatçısı ülkelerin; ulusal tasarruf açıklarını kapatmalarına, yurtiçindeki sabit sermaye yatırımlarını ve nihai mal-hizmet ihracat potansiyellerini artırmalarına, istihdam düzeyleri ile işgücü niteliklerini geliştirmelerine ve teknolojik gelişmelere dayalı yenilikçi yöntemlerden yararlanarak uluslararası rekabet güçlerini yükseltmelerine imkân vermektedir. Doğrudan yabancı yatırım çıkışları (Outward FDI) ise sermaye ihracatçısı ülkelerin; ulusal tasarruf fazlalıklarının değerlendirilmelerine, yurtdışındaki sabit sermaye yatırımlarını genişletmelerine, ara-sermaye malları ile nihai mal-hizmet ihracat kapasitelerini artırmalarına, fiziksel-beşeri açıdan ulusal servetlerini arttırmalarına ve uluslararası rekabet güçlerini yükseltmelerine olanak tanımaktadır (Herzer, 2010). Bu bağlamda, doğrudan yabancı yatırım girişleri/çıkışları sermaye ithalatçısı/ihracatçısı ülkelerin yurtiçindeki/yurtdışındaki üretim ve yatırım imkânlarını geliştirerek, sırasıyla Gayrisafi Yurtiçi Hâsıllarının (GSYİH) ve Gayrisafi Milli Hâsıllarının (GSMH) artırılmasına olanak sağlamaktadır. Ulusal-uluslararası fiyat düzeyleri veriyken sermaye ithalatçısı ülkelerin GSYİH’si ve sermaye ihracatçısı ülkelerin GSMH’sindeki artışlar, ekonomik büyüme performanslarını/refah seviyelerini artırmakta ve küresel rekabet güçlerini yükseltmektedir.

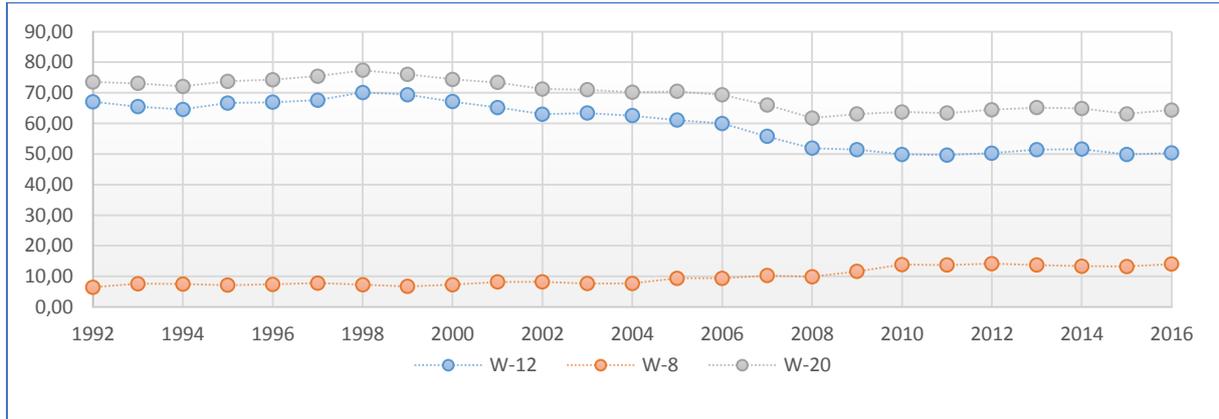
Bu noktadan hareketle çalışmada, ekonomik açıdan (Nominal GSYİH değerlerine göre) dünyanın en büyük ilk 20 ekonomisinde (W-20), doğrudan yabancı yatırım girişlerinin ve çıkışlarının ekonomik büyüme üzerindeki etkileri ekonometrik olarak incelenmektedir. Bununla birlikte çalışmada, gelişmişlik düzeylerine göre gelişmiş W-12 ve gelişmekte olan W-8 olarak gruplandırılan W-20 ekonomilerinde, doğrudan yabancı yatırımlar ile ekonomik büyüme arasındaki ilişkiler, doğrudan yabancı yatırım girişlerinin GSYİH ve doğrudan yabancı yatırım çıkışlarının ise GSMH üzerindeki etkileri dikkate alınarak araştırılmaktadır. Bu yönüyle çalışmada, gelişmişlik düzeyleri ile sermaye ithalatçısı/ihracatçısı konumları gözetilerek W-12 ve W-8 gruplarındaki ekonomilerde, doğrudan yabancı yatırım girişlerinin/çıkışlarının ekonomik büyüme üzerinde teorik yazında öngörüldüğü gibi bir etkiye sahip olup olmadığının ampirik açıdan sınanması amaçlanmaktadır.

Çalışmanın ikinci bölümünde, W-20 grubundaki ekonomilerin doğrudan yabancı yatırım girişlerine ve çıkışlarına ilişkin çeşitli istatistiki rakamlar sunularak dünyadaki konumu ortaya konulmaktadır. Üçüncü bölümde, literatürdeki çalışmalar özetlenerek çalışmanın literatürdeki yeri açıklanmaktadır. Dördüncü bölümde, çalışmanın kapsamı belirtilmekte ve veri seti tanıtılmaktadır. Beşinci bölümde, W-12 ve W-8 gruplarında doğrudan yabancı yatırım girişlerinin ve çıkışlarının ekonomik büyüme üzerindeki etkileri, Cobb-Douglas tipi üretim fonksiyonunun genişletilmesiyle, 1992-2016 dönemi için ikinci nesil panel veri metodolojisi kapsamında ekonometrik olarak incelenmektedir. Çalışma genel değerlendirmelerin bulunduğu altıncı ve son bölümle tamamlanmaktadır.

2. W-20 EKONOMİLERİNDE DOĞRUDAN YABANCI YATIRIM İSTATİSTİKLERİ

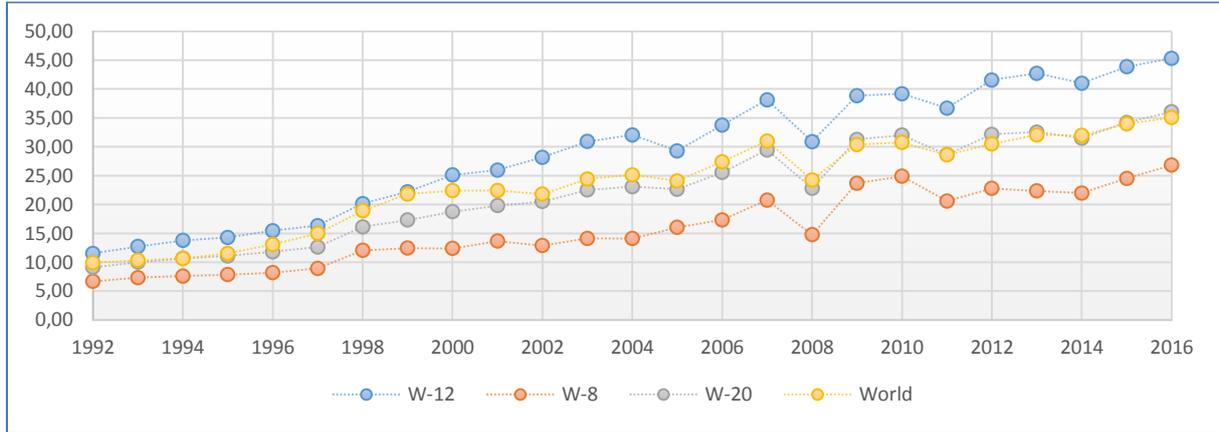
Bu bölümde, W-20 ekonomilerinin doğrudan yabancı yatırım verilerinin 1992-2016 dönemindeki gelişim seyri dünya ortalamasıyla karşılaştırmalı olarak incelenmektedir. Böylelikle bölümde, W-12, W-8 ve W-20 ekonomilerinin sermaye ithalatçısı/ihracatçısı durumları gözetilerek doğrudan yabancı yatırım girişleri ve çıkışları açısından genelindeki konumları çeşitli istatistiki tablolar üzerinden değerlendirilmektedir. W-12, W-8 ve W-20 gruplarındaki ekonomilere yönelen doğrudan yabancı yatırım girişlerinin dünya toplamı içerisindeki paylarının 1992-2016 döneminde aldığı değerler Şekil 1’de sunulmaktadır.

Şekil 1 incelendiğinde, 1992-2016 döneminde dünyadaki doğrudan yabancı yatırım girişlerinin yaklaşık % 61 ile % 77 arasındaki bir oranının W-20 grubundaki ülkelere yöneldiği görülmektedir. Bu yönelmenin % 49 ile % 70 arasındaki bir oranının W-12 grubundaki gelişmiş ülkelere, % 6 ile % 14 arasındaki daha az bir oranının ise W-8 grubundaki gelişmekte olan ülkelere olduğu Şekil 1’den anlaşılabilir. Bu durum, 1992-2016 döneminin tümünde dünyadaki doğrudan yabancı yatırım girişlerinin kapsadıkları ülkelerin sayısı da paralel olarak en fazla W-20 grubunda en az ise W-8 grubunda olduğunu göstermektedir. Bununla birlikte, Şekil 1 incelendiğinde W-12/W-8 grubundaki ekonomilerin dünyadaki doğrudan yabancı yatırım girişlerinden aldıkları payların, 1992-2016 dönemi boyunca sürekli olmasa da bir azalış/artış trendi içerisinde olduğu görülmektedir. Bu durum, dünya genelinde doğrudan yabancı yatırım girişlerinin son yıllarda gelişmiş ülkelere yönelmekte olan ülkelere doğru yönelmeye başladığı şeklindeki saptamaların geçerliliğine işaret etmektedir.

Şekil 1: Doğrudan Yabancı Yatırım Girişlerinin Dünya Toplamı İçerisindeki Payları¹

Kaynak: UNCTAD-STAT (United Nations Conference on Trade and Development).

Bu açıklamaları desteklemek üzere W-12, W-8 ve W-20 gruplarındaki ekonomilerde doğrudan yabancı yatırım girişlerinin GSYİH içerisindeki payları, dünya ortalamasıyla karşılaştırmalı olarak Şekil 2’de gösterilmektedir.

Şekil 2: Doğrudan Yabancı Yatırım Girişlerinin Nominal GSYİH İçerisindeki Payları²

Kaynak: UNCTAD-STAT.

Şekil 2 incelendiğinde, tüm düzeylerde doğrudan yabancı yatırım girişlerinin Nominal GSYİH içerisindeki paylarının 1992-2016 dönemi boyunca kesikli de olsa önemli bir artış trendi içerisinde olduğu görülmektedir. Zira 1992 yılında tüm düzeylerde doğrudan yabancı yatırım girişlerinin Nominal GSYİH içerisindeki payları yaklaşık % 6 ile %11 arasında değerler alırken, 2016 yılına gelindiğinde bu oranların dört kat artarak % 26 ile % 45 arasında konumlandığı anlaşılmaktadır. Bununla birlikte, Şekil 2 incelendiğinde, doğrudan yabancı yatırım girişlerinin Nominal GSYİH içerisindeki paylarının, örneklem döneminin tümünde en yüksek değerlerini W-12 grubunda en düşük değerlerini ise W-8 grubunda aldığı izlenmektedir. Üstelik bu değerlerin; 1992-2016 dönemi boyunca W-12 grubunda dünya ortalamasının üzerinde olduğu, W-8 grubunda dünya ortalamasının altında kaldığı ve W-20 grubunda dünya ortalamasına yakın seyrettiği yine Şekil 2’den anlaşılabilir. W-12, W-8 ve W-20 gruplarındaki ekonomilerden yönelen doğrudan yabancı yatırım çıkışlarının dünya toplamı içerisindeki paylarının 1992-2016 döneminde aldığı değerler ise Şekil 3’te sunulmaktadır.

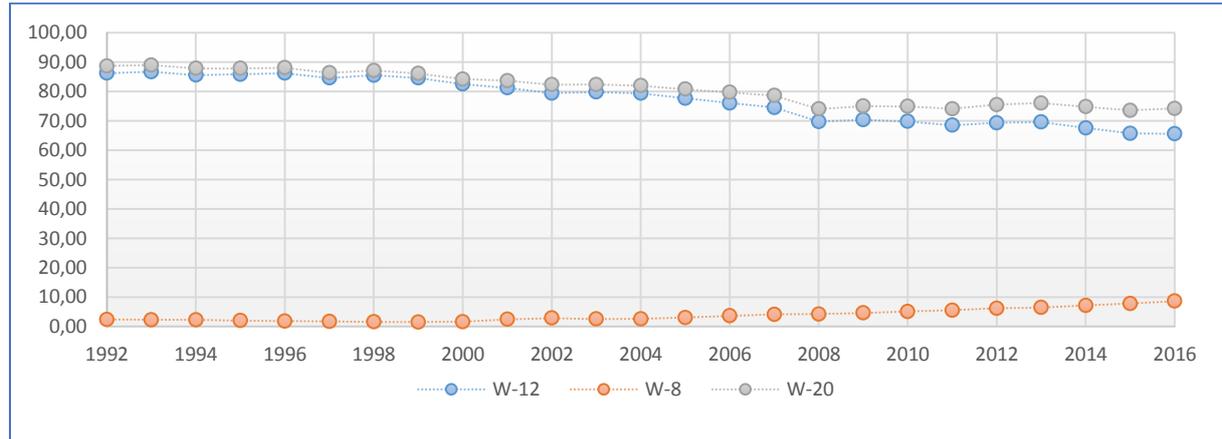
Şekil 3 incelendiğinde, 1992-2016 döneminde dünyadaki doğrudan yabancı yatırım çıkışlarının yaklaşık % 73 ile % 88 arasındaki bir oranının W-20 grubundaki ülkelerden yöneldiği görülmektedir. Bu yönelmenin yaklaşık % 65 ile % 86 arasındaki bir oranının W-12 grubundaki gelişmiş ülkelerden, % 1,5 ile % 8 arasındaki çok daha az bir oranının ise W-8 grubundaki gelişmekte olan ülkelere olduğu Şekil 3’ten anlaşılabilir. Bu durum, 1992-2016 döneminin tümünde

¹Bu gruplardaki ekonomilerde doğrudan yabancı yatırım girişleri toplamının, dünya toplamı içerisindeki (%) payları UNCTAD-STAT veri tabanından alınan Nominal Inward FDI-Stock (USD) değerleri kullanılarak yazarlar tarafından hesaplanmıştır.

²Bu gruplardaki ekonomilerde doğrudan yabancı yatırım girişlerinin (Nominal Inward FDI-Stock (USD)) Nominal GSYİH içerisindeki (%) Payları, ülkelerin UNCTAD-STAT veri tabanından alınan ortalama değerlerinin kullanılmasıyla yazarlar tarafından hesaplanmıştır. World grubu ise UNCTAD-STAT veri tabanından hazır olarak alınan ilgili serinin dünya ortalaması değerlerini belirtmektedir.

dünyadaki doğrudan yabancı yatırım çıkışlarının kapsadıkları ülkelerin sayısıyla da paralel olarak en fazla W-20 grubundan en az ise W-8 grubundan yöneldiğini göstermektedir. Bununla birlikte, Şekil 3 incelendiğinde W-12/W-8 grubundaki ekonomilerden dünya geneline yönelen doğrudan yabancı yatırım çıkışlarının, 1992-2016 dönemi boyunca sürekli olmasa da bir azalış/artış trendi içerisinde olduğu görülmektedir. Bu durum, W-12 grubundaki gelişmiş ve W-8 grubundaki gelişmekte olan ekonomilerden dünya geneline yönelen doğrudan yabancı yatırım çıkışlarının süreç içerisinde sırasıyla azalmakta ve artmakta olduğuna işaret etmektedir. Bu açıklamaları desteklemek üzere W-12, W-8 ve W-20 gruplarındaki ekonomilerden yönelen doğrudan yabancı yatırım çıkışlarının GSMH içerisindeki payları, dünya ortalamasıyla karşılaştırmalı olarak Şekil 4'te gösterilmektedir.

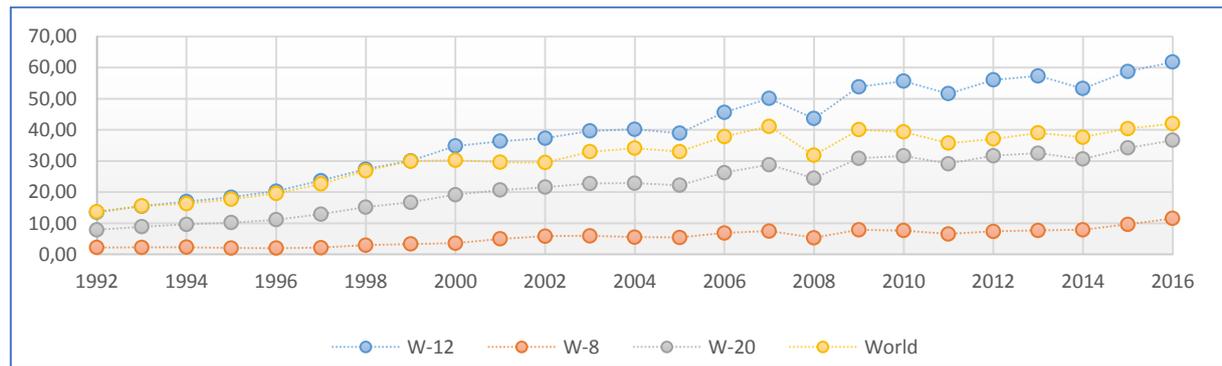
Şekil 3: Doğrudan Yabancı Yatırım Çıkışlarının Dünya Toplamı İçerisindeki Payları³



Kaynak: UNCTAD-STAT.

Şekil 4 incelendiğinde, tüm düzeylerde doğrudan yabancı yatırım çıkışlarının Nominal GSMH içerisindeki paylarının 1992-2016 dönemi boyunca kesikli de olsa önemli bir artış trendi içerisinde olduğu görülmektedir. Zira tüm düzeylerde doğrudan yabancı yatırım çıkışlarının Nominal GSMH içerisindeki paylarının 1992 yılında yaklaşık % 2 ile %15 arasında değerler aldığı ve 2016 yılına gelindiğinde ise bu oranların dört kattan daha fazla artarak % 11 ile % 61 arasında konumlandığı anlaşılmaktadır. Bununla birlikte, Şekil 4 incelendiğinde, doğrudan yabancı yatırım çıkışlarının Nominal GSMH içerisindeki paylarının, örneklem döneminin neredeyse tümünde en yüksek değerlerini W-12 grubunda en düşük değerlerini ise W-8 grubunda aldığı izlenmektedir. Üstelik bu değerlerin; 1992-2016 dönemi boyunca W-12 grubunda dünya ortalamasının genellikle üzerinde olduğu, W-8 ve W-20 gruplarında ise dünya ortalamasının altında kaldığı Şekil 4'ten anlaşılabilmektedir.

Şekil 4: Doğrudan Yabancı Yatırım Çıkışlarının Nominal GSMH İçerisindeki Payları⁴



Kaynak: UNCTAD-STAT-World Bank.

³Bu gruplardaki ekonomilerde doğrudan yabancı yatırım çıkışları toplamının, dünya toplamı içerisindeki (%) payları UNCTAD-STAT veri tabanından alınan Nominal Outward FDI-Stock (USD) değerleri kullanılarak yazarlar tarafından hesaplanmıştır.

⁴Bu gruplardaki ekonomilerde doğrudan yabancı yatırım çıkışlarının (Nominal Outward FDI-Stock (USD)) Nominal GSMH içerisindeki (%) payları, ülkelerin UNCTAD-STAT ile World Bank veri tabanlarından alınan sırasıyla Nominal Outward FDI-Stock (USD) ve Nominal GSMH (USD) değerlerinin ortalamalarıyla kullanılarak yazarlar tarafından hesaplanmıştır. World grubu ise aynı şekilde hesaplanan ilgili serinin dünya ortalaması değerlerini belirtmektedir.

3. LİTERATÜR ÖZETİ

İlgili literatür incelendiğinde teorik ve ampirik düzeydeki çalışmalarda, genellikle sermaye ithalatçısı ülkelerde doğrudan yabancı yatırım girişlerinin ekonomik büyüme (GSYİH) üzerindeki etkilerinin araştırma konusu yapıldığı görülmektedir. Teorik temelleri içsel büyüme modellerine dayandırılan bu çalışmalarda, doğrudan yabancı yatırım girişlerinin ekonomik büyüme üzerindeki etkileri teknolojik gelişme sürecinin bir fonksiyonu olarak ele alınmaktadır. Bu kapsamdaki çalışmalarda, doğrudan yabancı yatırım girişlerinin uzun dönemde teknolojik gelişmelerin yayılım etkilerini ortaya çıkararak sermaye ithalatçısı ülkelerin ekonomik büyüme performansları üzerinde olumlu bir etkiye sahip olduğu belirtilmektedir. Farklı ülkeler veya ülke grupları üzerine zaman serisi veya panel veri analizi metodolojisi kullanılarak 1990'lı yıllardan itibaren yapılan ampirik çalışmalarda, sermaye ithalatçısı ülkelerde doğrudan yabancı yatırım girişlerinin GSYİH üzerindeki uzun dönemli etkilerinin genellikle pozitif yönlü ve istatistiki açıdan anlamlı olduğu belirlenmektedir (Balasubramanyam vd., (1996), Bende-Nabende ve Ford (1998), Bosworth ve Collins (1999), De Mello (1999), Obwona (2001), Campos ve Kinoshita (2002), Hermes ve Lensink (2003), Asheghian (2004), Khawar (2005), Roy ve Von den Berg (2006), Alfaro ve Charton (2007), Mun vd., (2008), Ayaydın (2010), Chowdhary ve Kushwaha (2013), Agrawal (2015), Zekarias (2016), Yalçınkaya ve Aydın (2017)). Buna karşılık, aynı kapsamdaki çalışmaların çok sınırlı bir bölümünde ise sermaye ithalatçısı ülkelerde doğrudan yabancı yatırım girişlerinin GSYİH üzerindeki uzun dönemli etkilerinin, negatif yönlü ve istatistiki açıdan anlamsız olduğu bulgulanmaktadır. (Lensink ve Morrissey (2006), Sarkar (2007)). Bu sonuçlar, doğrudan yabancı yatırım girişlerinin sermaye ithalatçısı ülkelerin ekonomik büyüme performansları üzerinde olumlu etkilere sahip olduğu teorik düzeydeki görüşleri genelde desteklemekle birlikte, bu etkilerin mutlak olmadığını, yatırım ortamı, gelişmişlik düzeyi ile yeni teknolojileri içselleştirme kapasitesi vb., gibi özelliklere göre değişme eğiliminde olabileceğine işaret etmektedir.

Diğer taraftan, literatürde doğrudan yabancı yatırımları ile ekonomik büyüme arasındaki ilişkileri araştıran son yıllardaki bazı çalışmalarda, sermaye ithalatçısı ülkelerde doğrudan yabancı yatırım girişlerinin yanında çıkışlarının da ekonomik büyüme üzerindeki uzun dönemli etkilerinin konu edinildiği görülmektedir. Ülkelerin sermaye ihracatçısı konumları dikkate alınmadan yapılan bu kapsamdaki çalışmalarda, doğrudan yabancı yatırım girişlerinin ve/veya çıkışlarının yine GSYİH üzerindeki etkileri inceleme konusu yapılmaktadır. Zaman serisi veya panel veri analizi metodolojisi kullanılarak farklı ülkeler üzerine son on yıldan itibaren yapılan sınırlı sayıda ampirik çalışmada, sermaye ithalatçısı ülkelerde doğrudan yabancı yatırım çıkışlarının GSYİH üzerindeki uzun dönemli etkilerinin doğrudan yabancı yatırım girişlerinde olduğu gibi genellikle pozitif yönlü ve istatistiki olarak anlamlı olduğu tespit edilmektedir. (Herzer (2008⁵), Lee (2010a-Japonya), Lee (2010b-Singapur), Chen ve Zulkifli (2012-Malezya), Behbehani ve Hallaq (2013-Kuveyt), Al-Shawaf ve Almsafir (2016-Malezya), Panyagometh (2016-Tayland)).

İlgili literatürde genellikle sermaye ithalatçısı konumları gözetilerek gelişmekte olan ülkeler üzerine yapılan çalışmalarda, doğrudan yabancı yatırım girişlerinin GSYİH üzerindeki etkilerinin araştırıldığı ve ülkelerin gelişmişlik düzeyi farklılıklarının dikkate alınmadığı görülmektedir. Bununla birlikte, sermaye ithalatçısı ülkelerde doğrudan yabancı yatırım çıkışlarının GSYİH üzerindeki etkilerini araştıran çalışmaların sınırlı kaldığı ve ülkelerin sermaye ihracatçısı konumlarının gözetilmediği izlenmektedir. Ancak teorik açıdan doğrudan yabancı yatırım çıkışlarının, yurtiçi üretim olanakları üzerindeki genişletici etkileri nispeten sınırlı ve GSYİH üzerindeki etkileri dolaylı olarak gerçekleşirken, yurtdışı üretim imkânları üzerindeki genişletici etkileri görece sınırsız ve GSMH üzerindeki etkileri dolaysız olarak ortaya çıkmaktadır. Bu durum dikkate alındığında, ülkelerin sermaye ihracatçısı konumları gözetilerek doğrudan yabancı yatırım çıkışlarının, GSYİH yerine GSMH üzerindeki etkilerinin araştırılmasının teorik-ampirik açıdan daha tutarlı sonuçları türetebileceğini düşündürmektedir. Bu bağlamda çalışmada, gelişmişlik düzeylerine göre gelişmiş W-12 ve gelişmekte olan W-8 olarak gruplandırılan W-20 ekonomilerinde, doğrudan yabancı yatırım girişlerinin GSYİH ve doğrudan yabancı yatırım çıkışlarının ise GSMH üzerindeki dolaysız etkileri araştırma konusu yapılmaktadır. Doğrudan yabancı yatırım hareketliliğinin yüksek olduğu W-20 ekonomilerinin gelişmişlik düzeyi farklılıkları ile sermaye ithalatçısı ve ihracatçısı konumları gözetilerek yürütülen çalışmanın bulgularının bu konudaki literatürün gelişimine katkı sağlayacağı değerlendirilmektedir.

4. ÇALIŞMANIN KAPSAMI VE VERİLERİ

Çalışmada, Dünya Bankasının 2016 yılı Nominal GSYİH (USD) değerlerine göre yaptığı sınıflandırma referans alınarak belirlenen dünyanın en büyük ilk 20 ekonomisinde (W-20), doğrudan yabancı yatırım girişlerinin ve çıkışlarının ekonomik büyüme üzerindeki etkileri 1992-2016 dönemi için ekonometrik olarak incelenmektedir.⁶Çalışmada, doğrudan yabancı yatırım girişlerinin ve çıkışlarının ekonomik büyüme üzerindeki etkilerinin daha tutarlı bir şekilde incelenebilmesi ve sonuçlar özelinden karşılaştırma yapılabilmesi için W-20 ekonomileri gelişmişlik düzeylerine göre gelişmiş W-12 ve gelişmekte olan

⁵Bu çalışmada kapsanan ülkeler: ABD, İngiltere, İsveç, İspanya, Hollanda, Japonya, İtalya, Almanya, Fransa, Finlandiya, Danimarka, Kanada, Avusturya ve Avusturalya şeklindedir.

⁶Çalışmada inceleme döneminin 1992-2016 yıllarını kapsamasında, ilgili veri tabanlarından alınan doğrudan yabancı yatırım verilerinin, W-20 ülkelerinin tümü için bu tarihten itibaren kesintisiz bir şekilde temin edilebilmeleri belirleyici olmaktadır.

W-8 ekonomileri olarak iki alt grupta analizlere dâhil edilmektedir.⁷ W-12 ve W-8 ekonomilerinde doğrudan yabancı yatırım girişlerinin GSYİH ve doğrudan yabancı yatırım çıkışlarının ise GSMH üzerindeki etkilerini belirlemek için tahmin edilecek modellerde kullanılan değişkenler ve kaynakları Tablo 1’de tanıtılmaktadır.

Tablo 1: Modellerde Kullanılan Değişkenlerin Tanıtılması

Örneklem Dönemi: 1992-2016		
Değişkenlerin Kısaltması	Değişkenlerin Tanımı	Değişkenlerin Veri Kaynakları
RGDP	Kişi Başına Düşen Reel GSYİH (2011-USD).	
RGNP	Kişi Başına Düşen Reel GSMH (2011-USD).	
RGFCI	Kişi Başına Düşen Reel Sabit Sermaye Yatırımları (2010-USD).	
RNFI	Kişi Başına Düşen Reel Net Faktör Gelirleri (2010-USD).	The World Bank (WB) (World Development Indicators-2018).
TFPGDP	GDP Üzerinden Toplam Faktör Verimliliği (2010-USD).	
TFPGNP	GNP Üzerinden Toplam Faktör Verimliliği (2010-USD).	
EL	İstihdam Edilen İşgücü	The Conference Board-Total Economy Database (TED Nov-2017).
INFDI-1	Doğrudan Yabancı Yatırım Girişleri (USD)	United Nations Conference on Trade and Development (UNCTAD-STAT-2018).
INFDI-2		
OUTFDI-1	Doğrudan Yabancı Yatırım Çıkışları (USD)	The World Bank (WB) (World Development Indicators-2018).
OUTFDI-2		
Not:	Tabloda tanımlan bütün değişkenler inceleme dönemindeki doğal logaritmik değerleriyle analizlerde kullanılmaktadır. Değişkenlerin önündeki “ln” kısaltması bu durumu belirtmektedir.	

Tablo 1’de tanımlanan değişkenlerin modellerde kullanılan formlarına dönüştürülebilmesinde yazarlar tarafından izlenen yöntemler ise şu şekilde açıklanabilmektedir: RGDP ve RGNP değişkenleri çalışmada kapsanan tüm ülkeler için WB veri tabanından reel olarak (2011 baz yılı USD fiyatlarıyla) ve satın alma gücü paritesi (PPP) cinsinden alınmıştır. Bununla birlikte, Çin Halk Cumhuriyeti, Endonezya ve Suudi Arabistan için RGNP değişkeni WB veri tabanında hazır olarak bulunmadığından, bu ülkelerin RGNP değişkeni; WB veri tabanından USD fiyatlarıyla ve satın alma gücü paritesi (PPP) cinsinden alınan nominal GSMH, GSYİH Deflatörü ve yıl ortası toplam nüfus serilerinin kullanılmasıyla elde edilmiştir. Bu kapsamda, Çin Halk Cumhuriyeti, Endonezya ve Suudi Arabistan için RGNP değişkeni türetilirken öncelikle nominal GSMH serileri GSYİH Deflatörüyle reel hale dönüştürülmüş ve ardından toplam nüfusa oranlanarak kişi başına düşen değerler olarak hesaplanmıştır. RGFCF değişkeni, çalışmada kapsanan tüm ülkeler için WB veri tabanından reel olarak (2010 baz yılı USD fiyatlarıyla) alınan reel sabit sermaye yatırımları serisinin aynı veri tabanından alınan yıl ortasındaki toplam nüfus serisine oranlanmasıyla kişi başına düşen değerler olarak elde edilmiştir. Bununla birlikte, Suudi Arabistan’ın sabit sermaye yatırımları serisi, WB veri tabanında reel formda bulunmadığından, bu ülke için ilgili veri nominal (USD) olarak alınmış ve ülkenin GSYİH deflatörü kullanılarak reel forma dönüştürülmüştür. EL değişkeni, çalışmada kapsanan tüm ülkeler için TED veri tabanından binde cinsinden istihdam edilen işgücü değerleri olarak alınmıştır.

INFDI-1 ve INFDI-2 değişkenleri, çalışmada kapsanan tüm ülkeler için UNCTAD-STAT veri tabanından nominal USD fiyatlarıyla alınan doğrudan yabancı yatırım girişleri (Inward FDI-Stock) serileri ile WB veri tabanından alınan GSYİH Deflatörü ve reel GSYİH (2010-USD) serilerinin kullanılmasıyla türetilmiştir. INFDI-1 değişkeni, ülkelere ait Inward FDI-Stock serisinin GSYİH Deflatörü serisine oranlanmasıyla reel forma dönüştürülerek elde edilmiştir. INFDI-2 değişkeni ise ülkelere ait INFDI-1 değişkeninin reel GSYİH (2010-USD) serisine oranlanmasıyla elde edilmiştir. OUTFDI-1 ve OUTFDI-2 değişkenleri, çalışmada kapsanan tüm ülkeler için UNCTAD-STAT veri tabanından nominal USD fiyatlarıyla alınan doğrudan yabancı yatırım çıkışları (Outward FDI-Stock) serileri ile WB veri tabanından alınan GSYİH Deflatörü ve reel GSMH (2010-USD) serilerinin kullanılmasıyla türetilmiştir. OUTFDI-1 değişkeni, ülkelere ait Outward FDI-Stock serisinin GSYİH Deflatörü serisine oranlanmasıyla reel forma dönüştürülerek elde edilmiştir. Bununla birlikte, doğrudan yabancı yatırım çıkışları serisi Endonezya için UNCTAD-STAT veri tabanında 2001-2005 yıllarında kesikli olduğundan, bu veriler EViews 10.0 paket

⁷2016 yılı Nominal GSYİH değerlerinin büyüklüğüne göre: W-12 grubunda bulunan gelişmiş ülkeler; Amerika Birleşik Devletleri-ABD, Japonya, Almanya, İngiltere, Fransa, İtalya, Kanada, Güney Kore, İspanya, Avustralya, Hollanda ve İsviçre, W-8 grubunda bulunan gelişmekte olan ülkeler; Çin Halk Cumhuriyeti, Hindistan, Brezilya, Rusya, Meksika, Endonezya, Türkiye ve Suudi Arabistan şeklindedir.

programında Log-Linear metoduyla tahmin edilerek hesaplanmıştır. OUTFDI-2 değişkeni ise ülkelere ait OUTFDI-1 değişkeninin reel GSMH (2010-USD) serisine oranlanmasıyla elde edilmiştir. Diğer taraftan, Çin Halk Cumhuriyeti, Endonezya ve Suudi Arabistan için reel GSMH (2010-USD) serisi WB veri tabanında hazır olarak bulunmadığından, bu ülkelerin OUTFDI-2 değişkeni ilgili veri tabanından nominal USD fiyatlarıyla alınan GSMH serisinin GSYİH Deflatörü serisine oranlanmasıyla reel forma dönüştürülerek elde edilmiştir.

RNFI değişkeni, çalışmada kapsanan tüm ülkeler için WB veri tabanından 2010 baz yılı (USD) fiyatlarıyla reel olarak alınan kişi başına düşen GSMH serisinden kişi başına düşen GSYİH serisinin çıkartılmasıyla oluşturulmuştur. Bununla birlikte, Çin Halk Cumhuriyeti, Endonezya ve Suudi Arabistan için (2010 baz yılı USD fiyatlarıyla) kişi başına düşen reel GSMH serisi WB veri tabanında hazır olarak bulunmadığından, bu ülkelerin ilgili serisi; WB veri tabanından nominal USD fiyatlarıyla alınan GSMH, GSYİH Deflatörü ve yıl ortası toplam nüfus serilerinin kullanılmasıyla elde edilmiştir. Bu kapsamda, Çin Halk Cumhuriyeti, Endonezya ve Suudi Arabistan için kişi başına düşen reel GSMH serisi türetilirken öncelikle nominal GSMH serileri GSYİH Deflatörüyle reel hale dönüştürülmüş ve ardından toplam nüfusa oranlanarak kişi başına düşen değerler olarak hesaplanmıştır.

TFPGDP ve TFPGNP değişkenleri, çalışmada kapsanan tüm ülkeler için sırasıyla GSYİH ve GSMH değerleri üzerinden hesaplanan Toplam Faktör Verimliliği (TFP) değerlerini belirtmektedir. TFP, üretim sürecinde bulunan ancak göz ardı edilen faktörlerin bir ölçütü olarak tanımlanmakta ve "Solow Artığı" olarak dışsal bir terim biçiminde hesaplanmaktadır. Bununla birlikte TFP, üretim faktörlerinin fiziki miktarlarındaki değişimlere bağlı olmayan ve sadece teknolojik gelişmeye dayalı olarak sağlanan üretim artışlarını göstermektedir (Solow, 1956). TFP, aşağıdaki fonksiyonel çıkarımlara dayalı olarak hesaplanmaktadır:

$$Y_t = f(A_t, K_t, L_t) \quad (1)$$

Bu üretim fonksiyonunda, (Y) üretim-çıktı miktarını, (A) teknolojik gelişme düzeyini, (K) fiziksel sermaye stokunu, (L) işgücü miktarını ve (t) zamanı temsil etmektedir. Bu fonksiyon Cobb-Douglas tipi üretim fonksiyonu olarak ifade edildiğinde ise aşağıdaki eşitliğe ulaşılmaktadır:

$$Y_t = A_t K_t^{\beta_1} L_t^{\beta_2} \quad (2)$$

Eşitlik 2'de (β_1) ve (β_2) sermaye ve işgücünün üretim esnekliğini göstermekte, ölçüğe göre sabit getiri varsayımı altında bu fonksiyon aşağıdaki biçimde ifade edilebilmektedir:

$$Y_t = A_t K_t^{\beta_1} L_t^{1-\beta_1} \quad (3)$$

Eşitlik 3'teki denklemde, her iki tarafın doğal logaritması alınıp denklemin her iki tarafından ($\ln L_t$) terimi çıkarıldığında aşağıdaki eşitliğe ulaşılmaktadır:

$$\ln\left(\frac{Y_t}{L_t}\right) = \ln A_t + \beta_1 \ln K_t + \ln L_t - \beta_1 \ln L_t - \ln L_t \quad (4)$$

Eşitlik 4 yeniden düzenlendiğinde ise aşağıdaki fonksiyonla TFP değerlerine ulaşılabilmektedir:

$$\ln A_t = \ln\left(\frac{Y_t}{L_t}\right) - \beta_1 \ln\left(\frac{K_t}{L_t}\right) \quad (5)$$

Burada, istihdam edilen işgücü başına düşen üretim düzeyinden istihdam edilen işgücü başına düşen fiziksel sermaye stokunun (β_1) katsayısı kadarlık bölümü çıkarıldığında elde edilen değer TFP değerine eşit olmaktadır (Saygılı ve Cihan, 2005). Büyüme muhasebesi yaklaşımı kullanılarak Eşitlik 5'teki TFP değeri temelde iki farklı şekilde hesaplanabilmektedir. Birinci yöntemde, üretim fonksiyonundaki faktörlerin parametreleri (esneklikleri) çeşitli varsayımlar yoluyla belirlenirken, ikinci yöntemde ekonometrik olarak tahmin edilebilmektedir (Saygılı ve Cihan, 2008). Bu çalışmada, W-20 ekonomilerinde teknolojik gelişmişlik düzeyini temsilen kullanılan TFPGDP ve TFPGNP değişkenleri hazır olarak temin edilemediğinden, ikinci yöntemle ekonometrik olarak hesaplanmıştır. Cobb-Douglas tipi üretim fonksiyonu kapsamında ve tam logaritmik formlarda hesaplanan TFPGDP ve TFPGNP değişkenleri aşağıdaki denklemlere dayandırılarak elde edilmiştir: (Solow, 1956; Collins ve Bosworth, 2003).

$$\ln Y_t = \beta_0 + \beta_1 \ln K_t + (1 - \beta_1) \ln L_t + \varepsilon_t \quad (6)$$

$$A_t = (\ln Y_t - \beta_1 \ln K_t - (1 - \beta_1) \ln L_t) \quad (7)$$

Öncelikle Eşitlik 6'daki denklem W-20 grubundaki ekonomiler için 1992-2016 döneminde En Küçük Kareler (EKK) yöntemiyle tahmin edilmiş ve ardından Eşitlik 7 yardımıyla TFPGDP ve TFPGNP değişkenleri artık terim olarak (EViews 10.0 ekonometri paket programında) elde edilmiştir. Bu bağlamda, TFPGDP ve TFPGNP değişkenleri çalışmada kapsanan tüm ülkeler için WB veri tabanından alınan serilerin kişi başına düşen değerlerinin kullanılmasıyla yazarlar tarafından türetilmiştir. TFPGDP değişkeni türetilmesinde kullanılan Y üretim değişkeni, ilgili veri tabanından kişi başına düşen reel GSYİH (2010-USD) değerleri olarak alınmıştır. K fiziksel sermaye değişkeni, reel sabit sermaye yatırımları (2010-USD) serisinin, yıl ortasındaki

toplam nüfus serisine oranlanmasıyla elde edilmiştir (bu değişkenin türetilme yöntemi hakkında bakınız: RGFCF). L işgücü değişkeni, toplam işgücü serisinin yıl ortasındaki toplam nüfus serisine oranlanmasıyla elde edilmiştir. Diğer taraftan, TFPGNP değişkeni türetilirken K fiziksel sermaye ve L işgücü değişkenleri TFPGDP değişkeninin türetilmesindeki formlarıyla kullanılırken, Y üretim değişkeni, ilgili veri tabanından kişi başına düşen reel GSMH (2010-USD) değerleri olarak alınmıştır (bu değişkenin türetilme yöntemi hakkındaki diğer açıklamalar için bakınız: RNFI). Bununla birlikte, TFPGNP değişkeni türetilirken, kişi başına düşen reel değerler üzerinden hesaplanan net faktör gelirleri (bu değişkenin türetilme yöntemi hakkında bakınız: RNFI), çalışma kapsamındaki ülkelerin yurtdışındaki fiziksel sermaye ve işgücü birikimlerini temsilen Eşitlik 6 ve 7'deki denklemlere eklenmiştir.

Çalışmada TFPGDP ve TFPGNP değişkenlerinin türetilmesiyle W-20 grubundaki ekonomilerin teknolojik gelişmişlik düzeylerinin; Ar-Ge yatırımları, patent sayısı, aktif nüfusun eğitim düzeyini, dışa açıklık oranını vb. şeklinde literatürde sıklıkla kullanılan değişkenlerle ayrı ayrı temsil edilmesine yerine, tüm bu değişkenlerin etkilerini içerdiği varsayılan toplulaştırılmış tek bir değişkenle ölçülmesi amaçlanmıştır. Bu temel amaç doğrultusunda, literatürde fiziksel sermaye birikimindeki yıpranmaları ve kapasite kullanım oranlarındaki değişimlerin etkilerini varsayımlarla dikkate alarak daha kapsamlı TFP serilerinin elde edilmesine olanak sağladığı belirtilen çeşitli yaklaşımlara çalışmada başvurulmamıştır. (Bu yöntemler hakkında ayrıntılı bilgi için bakınız: (Collins ve Bosworth (2003), Saygılı ve Cihan (2005), Serdaroğlu (2013)). Bununla birlikte, çalışmada kapsanan ülkelerin sayısı, ülkelerin veri kısıtları, ülkeleri etkileyen dinamiklerin farklılığı ve varsayımlarda toplulaştırma hatalarından kaçınılması vb. şeklindeki gerekçeler bu yaklaşımlara başvurulmasının diğer nedenleri arasında yer almıştır.

5. EKONOMETRİK YÖNTEM VE BULGULAR

Bu çalışmada, W-12 ve W-8 ekonomilerinde, doğrudan yabancı yatırım girişlerinin/çıkışlarının GSYİH/GSMH (ekonomik büyüme) üzerindeki etkilerini belirlemek üzere tahmin edilecek ekonometrik modeller, Cobb-Douglas (CD) tipi Neo-Klasik toplam üretim fonksiyonunun genişletilmesiyle elde edilmektedir. CD tipi toplam üretim fonksiyonu, teknolojik gelişme düzeyinin ve doğrudan yabancı yatırım girişleri ile çıkışlarının ekonomik büyüme üzerindeki etkilerini de içerek şekilde genişletilerek Eşitlik 8'deki gibi yazılabilmektedir:

$$y_{it} = A_{it} K_{it}^{\alpha} L_{it}^{\tau} F_{it}^{\gamma} e^{\varepsilon_{it}} \quad (8)$$

Eşitlikteki (ε_{it}) terimi hata faktörünü belirtirken (i) ve (t) terimleri ise sırasıyla ülkeleri ve zamanı temsil etmektedir. Üretim fonksiyonunda bulunan; (y_{it}) terimi ekonomik büyümeyi (reel GSYİH/GSMH), (A_{it}) terimi teknolojik gelişme düzeyini, (K_{it}) terimi fiziksel sermaye birikimini (reel sabit sermaye yatırımlarını), (L_{it}) terimi beşeri sermaye birikimini (istihdam edilen işgücünü) ve (F_{it}) terimi doğrudan yabancı yatırım girişleri ile çıkışlarını belirtmektedir. İktisadi büyüme teorilerinin ekonomik büyüme sürecini ve teknolojik gelişme düzeyini açıklama noktasındaki evrimi dikkate alınarak üretim fonksiyonundaki teknolojik gelişme düzeyinin (A_{it}) toplam faktör verimliliğinden (TFP) oluştuğu kabul edilmektedir. Bu varsayımlar altında CD tipi üretim fonksiyonunda, TFP artışlarından oluşan teknolojik gelişme düzeyi aşağıdaki gibi yazılabilmektedir:

$$A_{it} = f(TFP)_{it}^{\theta} \quad (9)$$

Bu kapsamda Eşitlik 8'de tanımlanan ve ekonometrik olarak tahmin edilecek CD tipi model genişletilmiş olarak aşağıdaki gibi türetilmektedir:

$$y_{it} = \beta_{it} + \alpha_{it} K_{it} + \tau_{it} L_{it} + \partial_{it} TFP_{it} + \gamma_{it} F_{it} + \varepsilon_{it} \quad (10)$$

CD tipi üretim fonksiyonunun, ekonomik büyümenin diğer potansiyel belirleyicilerini içerecek şekilde genişletilmesiyle ekonometrik modellerin tanımlanması ampirik literatürde sıklıkla kullanılmaktadır. (Bu kapsamdaki bazı çalışmalar için bakınız: Barro (1991), Levine ve Renelt (1992), Sala-i-Martin (1997), Temple (2000), Rodrik (2012)). Eşitlik 10'da tanımlanan model, W-12 ve W-8 ekonomilerinde doğrudan yabancı yatırım girişlerinin/çıkışlarının reel GSYİH/GSMH üzerindeki etkilerine göre uyarlanarak çalışmada tahmin edilecek ekonometrik modeller elde edilmektedir. Yatay kesit bağımlılığını (YKB) dikkate alan ikinci nesil panel veri analizi metodolojisi kapsamında ve tam logaritmik olarak tahmin edilecek ekonometrik modellerin temel formları aşağıdaki eşitliklerde gösterilmektedir:⁸

$$\text{Model-1 ve 2: } \ln RGDP_{it} = \alpha_{it} + \beta_1 \ln RGFCI_{it} + \beta_2 \ln EL_{it} + \beta_3 \ln TFPGDP_{it} + \beta_4 \ln INFDI_{it} + \varepsilon_{it} \quad (11)$$

$$\text{Model-3 ve 4: } \ln RGNP_{it} = \alpha_{it} + \theta_1 \ln RGFCI_{it} + \theta_2 \ln EL_{it} + \theta_3 \ln TFPGNP_{it} + \theta_4 \ln RNFI_{it} + \theta_5 \ln OUTFDI_{it} + \varepsilon_{it} \quad (12)$$

⁸Çalışmada, doğrudan yabancı yatırım girişleri INFDI-1 ve INFDI-2, doğrudan yabancı yatırım çıkışları OUTFDI-1 ve OUTFDI-2 şeklindeki iki farklı değişkenle temsil edildiğinden, çalışmada çoklu doğrusal bağlantı sorununu önlemek ve daha tutarlı sonuçlarla karşılaşmak üzere, eşitliklerde tanımlanan temel modellerin yukarıdaki sıralamayla uyumlu olarak iki farklı varyasyonu tahmin edilmektedir. Çalışmada tanımlanan modeller, Gauss 10.0 ve EViews 10.0 ekonometri paket programları kullanılarak tahmin edilmektedir.

Modellerdeki; (α) terimleri sabit parametreyi, (β) ve (θ) terimleri eğim parametrelerini, (ϵ) terimleri hataları, (i) ve (t) terimleri ise sırasıyla paneldeki yatay kesit birimleri ve panelin zaman boyutunu göstermektedir. Panel veri metodolojinde sahte regresyon olgusunu önlemek ve tutarlı sonuçlara ulaşabilmek üzere modellerdeki değişkenlerin durağanlık koşulunun belirlenmesi önem arz etmektedir (Tatoğlu, 2013). Panel veri metodolojinde, değişkenlerin durağanlık koşulunu belirlemede kullanılacak birim kök testleri ise paneli oluşturan birimler arasındaki YKB'nin dikkate alınıp alınmamasına göre birinci ve ikinci nesil şeklinde ikiye ayrılmaktadır. İlkinde, paneli oluşturan kesitlerin birinde oluşabilecek kısa süreli bir şoktan diğer tüm birimlerin aynı ölçüde etkilendikleri, ikincisinde ise böyle bir şoktan tüm birimlerin farklı ölçülerde etkilendikleri varsayılmaktadır. Bu doğrultuda, paneli oluşturan kesitlerde YKB'nin bulunması durumunda Hadri (2000), Levin vd., (2002), Im vd., (2003) vb. şeklindeki birinci nesil birim kök testleri tutarlı sonuçlar üretemeyebilirken, Taylor ve Sarno (1998), Breuer vd., (2002), Pesaran (2007), Palm vd., (2011), Hadri ve Kurozumi, (2012), Pesaran vd., (2013) vb. şeklindeki ikinci nesil panel birim kök testleri daha tutarlı sonuçlar üretebilmektedir. Bu açıdan panel veri metodolojinde, öncelikle paneli oluşturan kesitler arasındaki YKB'nin araştırılması ve analiz sürecinde kullanılması gerekli birim kök ile diğer ardıl testlerin belirlenmesi gerekmektedir (Menyah vd., 2014). Paneli oluşturan kesitler arasındaki YKB araştırılırken serilerin zaman (T) ile yatay kesit (N) boyutlarının gözütılması ve (T>N) durumunda Breusch ve Pagan (1980) CD-LM1 testinin, (T<N) ile (T=N) durumlarında ise Pesaran (2004) CD-LM2 testinin kullanılması gerekmektedir. CD-LM1 ve CD-LM2 testleri Eşitlik 13'teki denkleme dayandırılarak hesaplanmaktadır:

$$CD-LM = \check{\rho}_{ji} = \frac{\sum_{t=1}^T e_{it} e_{jt}}{(\sum_{t=1}^T e_{it}^2)^{1/2} (\sum_{t=1}^T e_{jt}^2)^{1/2}} \quad (13)$$

Eşitlikteki ($\check{\rho}_{ji}$) terimi, hata terimleri arasındaki korelasyonu gösterirken, (e_{it}) terimi en küçük kareler yöntemiyle t sayıda gözlem için $i=1, \dots, n$ 'e giderken yatay kesitlerden elde edilen hata terimlerini belirtmektedir. Bunun yanında, grup ortalaması sıfır ve birim ortalaması sıfırdan farklı olduğunda sapmalı bulgular verebilen CD-LM1 ile CD-LM2 testleri, Pesaran vd., (2008) tarafından test istatistiğine yatay kesitlerin ortalaması (μ_{Tij}) ile varyansı (ν_{Tij}) eklenerek CD-LM_{adj} testiyle Eşitlik 18'deki gibi geliştirilmektedir:

$$CD-LM_{Adj} = NLM^{**} = \sqrt{\frac{2T}{N(N-1)}} \left(\sum_{i=j}^{n-1} \sum_{j=i+1}^n \frac{(T-K)\check{\rho}_{ij}^2 - \mu_{Tij}}{\nu_{Tij}} \right) \quad (14)$$

Bu açıdan CD-LM_{adj} test istatistiği, grup ortalaması sıfır ve birim ortalaması sıfırdan farklı olduğunda CD-LM1 ve CD-LM2 test istatistiklerine kıyasla daha tutarlı sonuçlar verebilmektedir. Düzeltilmiş CD-LM testi olarak da adlandırılan bu test, paneldeki zaman ve kesit boyutlarının bütün alternatiflerinde kullanılabilir (Pesaran vd., 2008). Standart normal dağılım özelliği gösterdiği varsayılan CD-LM testlerinin tümünde YKB, "seride veya modelde yatay kesit bağımlılığı bulunmamaktadır" şeklindeki temel hipotezlerle sınanmakta ve temel hipotezlerin reddedilmesi durumunda seride veya modelde YKB olduğu sonucuna ulaşılmaktadır. W-12 ve W-8 ekonomileri üzerine tanımlanan modellerin değişkenlerinde ve eş-bütünleşme denklemlerinde YKB, T ve N boyutlarına uygun olarak CD-LM1 ile CD-LM_{adj} testleriyle araştırılarak sonuçları Tablo 2'de sunulmaktadır.

Tablo 2: Yatay Kesit Bağımlılığı Sınama Test Sonuçları

Sabit+Trend	W-12			W-8		
	CD-LM Test İstatistikleri		L	CD-LM Test İstatistikleri		L
Değişkenler	CD-LM1	CD-LM _{adj}		CD-LM1	CD-LM _{adj}	
InRGDP	568.25*[0.000]	84.27*[0.000]	3	84.37*[0.000]	47.59*[0.000]	4
InRGNP	360.70*[0.000]	68.70*[0.000]	4	89.46*[0.000]	47.51*[0.000]	4
InRGFCI	342.87*[0.000]	81.68*[0.000]	3	80.97*[0.000]	53.46*[0.000]	3
InEL	267.48*[0.000]	111.68*[0.000]	2	48.23**[0.025]	45.88*[0.000]	3
InTFPGDP	196.11*[0.000]	61.66*[0.000]	4	45.85**[0.018]	72.75*[0.000]	2
InTFPGNP	181.75*[0.000]	79.36*[0.000]	4	50.56*[0.006]	45.43*[0.000]	3
InRNFI	111.43*[0.000]	93.37*[0.000]	2	43.04**[0.034]	61.49*[0.000]	2
InINFDI-1	212.64*[0.000]	97.37*[0.000]	2	76.42*[0.000]	64.45*[0.000]	2
InINFDI-2	222.31*[0.000]	97.73*[0.000]	2	77.03*[0.000]	56.02*[0.000]	3
InOUTFDI-1	208.34*[0.000]	78.07*[0.000]	3	54.83*[0.000]	53.71*[0.000]	3
InOUTFDI-2	185.92*[0.000]	77.58*[0.000]	3	52.03*[0.000]	72.75*[0.000]	1
Model-1	869.25*[0.000]	7.23*[0.001]	2	335.02*[0.000]	2.40*[0.008]	2

Model-2	789.18*[0.000]	7.62*[0.000]	410.45*[0.000]	2.45*[0.007]
Model-3	689.44*[0.000]	6.41*[0.006]	347.92*[0.000]	2.34**[0.010]
Model-4	601.10*[0.000]	6.69*[0.002]	272.60*[0.000]	2.57*[0.007]

Not: Sabit+Trend formlarından elde edilen CD-LM test istatistiklerinin önündeki “*” ve “**” işaretleri serilerde ve modellerde sırasıyla % 1 ve % 5 önem düzeyinde YKB'nin bulunduğunu belirtmektedir. Tablodaki “L” sütunu değişkenler için Schwarz bilgi kriterleri eşliğinde belirlenen optimal gecikme uzunluklarını ve köşeli “[]” parantez içindeki değerler test istatistiklerine ait olasılıkları göstermektedir.

Tablo 2'deki sonuçlar izlendiğinde, W-12 ve W-8 ekonomileri üzerine tanımlı modellerdeki bütün değişkenler ile eş-bütünleşme denklemleri için hesaplanan CD-LM test istatistikleri olasılık değerlerinin 0.05 değerinden küçük olduğu görülmektedir. Bu durum, W-12 ve W-8 ekonomilerinde tüm değişkenler ile eş-bütünleşme denklemleri için oluşturulan temel hipotezlerin reddedilmesini gerektirmektedir. Bu sonuçlar, her iki ülke grubunda paneldeki kesit birimlerin tanımlı modellerdeki değişkenler ve eş-bütünleşme denklemleri açısından birbirine bağımlı olduğunu göstermekte ve bu bağımlılığı dikkate alarak tahminleme yapabilen ikinci nesil panel veri test yöntemlerinin kullanılmasının gerekliliğine işaret etmektedir (Baltagi, 2008). Çalışmada tanımlı modellerdeki değişkenlerin durağanlık durumu, Pesaran (2007) tarafından geliştirilen ve YKB'yi gözetken CADF (Cross-sectional Augmented Dickey Fuller) ikinci nesil panel birim kök testiyle araştırılmaktadır. Bu teste, ilk olarak paneldeki yatay kesitlerin tümü için CADF test istatistikleri hesaplanmakta, ardından CADF değerlerinin aritmetik ortalaması alınarak panel genelinde CIPS (Cross-Sectionally Augmented IPS) istatistikleri oluşturulmaktadır. T ve N boyutları arasındaki alternatif bütün durumlarda kullanılabilen ve tutarlı sonuçlar verebilen CADF ve CIPS test istatistikleri aşağıdaki eşitliklere dayalı olarak hesaplanmaktadır:

$$t(N, T) = \frac{\Delta y_i' \bar{M}_i y_{i-1}}{\bar{\sigma}^2 (\Delta y_{i-1}' \bar{M}_i y_{i-1})^{1/2}} \quad (15)$$

$$CIPS = N^{-1} \sum_{i=1}^n t(N, T) \quad (16)$$

Hesaplanan CADF ve CIPS test istatistikleri Monte Carlo simülasyonlarıyla oluşturulan kritik tablo değerleriyle karşılaştırılarak durağanlık için hipotezler sınanmaktadır. Test sonucunda, CADF ve CIPS test istatistik değerlerinin kritik tablo değerlerinden mutlak değerce büyük olması durumunda “seride birim kök bulunmaktadır” şeklindeki temel hipotez reddedilmektedir (Pesaran, 2007). Çalışmada tanımlı modellerdeki değişkenlerin durağanlık durumu, CADF Panel Birim Kök testiyle araştırılmakta ve sonuçları Tablo 3'te gösterilmektedir.

Tablo 3: CADF Panel Birim Kök Testi Sonuçları

Sabit+Trend	W-12			W-8		
	CIPS Test İstatistikleri		L	CIPS Test İstatistikleri		L
	Seviye	Birinci Fark		Seviye	Birinci Fark	
InRGDP	-2.71	-3.03**	3	-2.58	-2.97**	4
InRGNP	-2.74	-2.96**	4	-2.59	-3.91*	4
InRGFCI	-2.50	-3.01**	3	-2.47	-2.94**	3
InEL	-2.52	-3.30*	2	-2.50	-2.93**	3
InTFPGDP	-2.24	-3.08**	4	-2.25	-3.99*	2
InTFPGNP	-2.02	-3.13**	4	-2.15	-3.88*	3
InRNFI	-1.54	-3.96*	2	-2.14	-3.28*	2
InINFDI-1	-2.56	-3.20*	2	-2.74	-3.69*	2
InINFDI-2	-2.55	-3.02**	2	-2.56	-2.92**	3
InOUTFDI-1	-1.78	-3.38*	3	-2.40	-3.31*	3
InOUTFDI-2	-1.79	-3.35*	3	-2.09	-3.44*	1
Kritik Değerler	(%1)	-3.15			-3.15	
	(%5)	-2.88			-2.88	

Not: CIPS test istatistiklerinin önündeki “*” ve “**” işaretleri değişkenlerin sırasıyla % 1 ve % 5 anlamlılık düzeyinde durağan olduklarını göstermektedir. CIPS kritik tablo değerleri Pesaran (2007) çalışmasından alınmıştır. “L” sütunu hakkında bakınız: Tablo 2.

Tablo 3'teki sonuçlar izlendiğinde, W-12 ve W-8 ekonomileri üzerine tanımlanan modellerdeki bütün değişkenlerin % 5 anlamlılık düzeyine göre seviye değerinde durağan olmadıkları ve/fakat birinci farklarında durağanlaştıkları görülmektedir. Bu sonuca, değişkenlerin birinci farklarında hesaplanan CIPS istatistiklerinin kritik değerlerden 0.05 önem düzeyinde mutlak değerce büyük olmasıyla ve temel hipotezlerin reddedilmesiyle ulaşılmaktadır. CADF testi sonuçlarına göre birinci farklarında durağanlaştıkları belirlenen tanımlı modellerdeki değişkenlerin durağanlık durumu, sahte birim kökten kaçınabilmek ve sonuçların tutarlığını tespit etmek üzere, Pesaran vd., (2013) tarafından geliştirilen MPURT (Multifactor Panel Unit Root Test) testiyle de incelenmektedir. MPURT testi, CIPS Panel Birim Kök Testi ile Sargan ve Bhargava (1983) tarafından geliştirilen SB testinin YKB'yi dikkate alarak geliştirilmesiyle oluşturulan CSB (Simple Average of Cross-Sectional Augmented Sargan-Bhargava) Panel Birim Kök Testlerine dayanmaktadır. MPURT Panel Birim Kök Testinde, paneli oluşturan kesitlerin çok faktörlü hata yapısı içerisinde k adet gözlemlenebilen zaman serisine bağlı olan ve m adet gözlemlenemeyen faktöre ait bilgiler içerilmekte ve faktörlerin hata yapısından kaynaklanan otokorelasyonun ortadan kaldırılmasına izin verilmektedir. Böylece, hesaplanan CIPSm ve CSBm test istatistikleriyle, üretim, faiz oranı, işsizlik oranı vb., makroiktisadi değişkenler ile teknolojik şoklar, mali politikalar vb., şeklinde değişkenler üzerinde YKB'nin oluşmasına yol açabilecek ortak faktörlerin etkileri gözetilerek durağanlık analizi yapılmaktadır. T ve N boyutları arasındaki alternatif bütün durumlarda kullanılarak tutarlı sonuçlar verebilen CIPSm ve CSBm testi istatistikleri aşağıdaki eşitliklere dayalı olarak hesaplanmaktadır:

$$CIPS^*_{NT} = N^{-1} \sum_{i=1}^N t_i^*(N, T) \quad CSB_{NT} = N^{-1} \sum_{i=1}^N CSB_i(N, T) \quad (17)$$

Burada, $(t_i^*(N, T))$ terimi panelin örneklem dağılımını göstermektedir. MPURT testi sonucunda hesaplanan CIPSm ve CSBm test istatistik değerleri Pesaran vd., (2013) tarafından stokastik simülasyon yöntemiyle oluşturulan kritik tablo değerleriyle karşılaştırılmakta ve durağanlık için hipotezler sınanmaktadır. Hesaplanan CIPSm ve CSBm test istatistiklerinin kritik tablo değerlerinden büyük olması durumunda "paneli oluşturan tüm yatay kesit birimler için seride birim kök bulunmaktadır veya seri eş-bütünleşik değildir" şeklindeki temel hipotez kabul edilmektedir (Pesaran vd., 2013). Tanımlı modellerdeki değişkenlerin durağanlık durumu, YKB'nin oluşmasında etkili olduğu düşünülen ortak faktörlerin kullanıldığı CIPSm ile CSBm test istatistikleriyle araştırılmakta ve sonuçları Tablo 4'te sunulmaktadır.

Tablo 4: MPURT Panel Birim Kök Testi Sonuçları

W-12		MPURT Test İstatistikleri (Sabit+Trend)				
Multi Faktörler	Değişkenler	Seviye		Birinci Fark		L
		CIPSm	CSBm	CIPSm	CSBm	
InTFPGDP- InINFDI-1- InINFDI-2	InRGDP	-0.97	0.086	-3.49*	0.053**	1
InTFPGNP- InOUTFDI-1- InOUTFDI-2	InRGNP	-0.85	0.098	-2.99**	0.043*	1
InRGDP- InINFDI-1- InINFDI-2	InTFPGDP	-1.11	0.145	-2.98**	0.053**	1
InRGNP- InOUTFDI-1- InOUTFDI-2	InTFPGNP	-0.92	0.136	-3.28**	0.052**	1
	InRNFI	-1.03	0.107	-4.19*	0.046*	1
Multi Faktörler	Değişkenler	Seviye		Birinci Fark		L
		CIPSm	CSBm	CIPSm	CSBm	
InRGDP- InRGNP	InRGFCI	-1.76	0.126	-4.12*	0.035*	2
	InEL	-1.87	0.082	-4.84*	0.037**	2
InRGDP- InTFPGDP	InINFDI-1	-2.52	0.102	-3.80*	0.034*	2
	InINFDI-2	-2.68	0.113	-3.83*	0.035*	2
InRGNP- InTFPGNP	InOUTFDI-1	-2.03	0.130	-3.59*	0.037**	2
	InOUTFDI-2	-2.13	0.123	-3.54*	0.035*	2
W-8		MPURT Test İstatistikleri (Sabit+Trend)				
Multi Faktörler	Değişkenler	Seviye		Birinci Fark		L
		CIPSm	CSBm	CIPSm	CSBm	
InTFPGDP- InINFDI-1- InINFDI-2	InRGDP	-0.77	0.226	-3.53*	0.045**	1
InTFPGNP- InOUTFDI-1- InOUTFDI-2	InRGNP	-2.85	0.131	-4.63*	0.041*	1
InRGDP- InINFDI-1- InINFDI-2	InTFPGDP	-1.51	0.174	-3.75*	0.046*	1

InRGNP- InOUTFDI-1- InOUTFDI-2	InTFPGNP	-2.69	0.129	-3.89*	0.049**	1
	InRNFI	-2.39	0.109	-3.45*	0.047*	1
Multi Faktörler	Değişkenler	Seviye		Birinci Fark		L
		CIPSm	CSBm	CIPSm	CSBm	
InRGDP- InRGNP	InRGFCI	-2.20	0.054	-3.75*	0.032*	2
	InEL	-1.89	0.116	-3.86*	0.020*	2
InRGDP- InTFPGDP	InINFDI-1	-0.82	0.104	-3.67*	0.034*	2
	InINFDI-2	-1.30	0.100	-3.67**	0.024*	2
InRGNP- InTFPGNP	InOUTFDI-1	-1.06	0.099	-4.77*	0.018*	2
	InOUTFDI-2	-1.28	0.117	-3.50*	0.039**	2
Kritik Değerler	% 1	-3.43	0.048	-3.43	0.048	1
	% 5	-2.97	0.057	-2.97	0.057	1
	% 1	-3.43	0.036	-3.43	0.036	2
	% 5	-2.77	0.043	-2.77	0.043	2

Not: Test istatistiklerinin önündeki “*” ve “***” işaretleri sırasıyla değişkenlerin % 1 ve % 5 anlamlılık düzeyinde durağan olduklarını göstermektedir. CIPSm ve CSBm test istatistikleri için kritik tablo değerleri Pesaran vd., (2013) çalışmasından alınmıştır. “L” sütunu hakkında bakınız: Tablo 2.

Tablo 4’teki sonuçlar incelendiğinde, W-12 ve W-8 ekonomileri üzerine tanımlı modellerdeki bütün değişkenlerin % 5 anlamlılık düzeyine göre seviye değerinde durağan olmadıkları ve/fakat birinci farklarında durağanlaştıkları görülmektedir. Bu sonuca, değişkenler için birinci farklarda hesaplanan CIPSm ile CSBm istatistiklerinin, kritik değerlerden 0.05 önem düzeyinde küçük olmasıyla ve temel hipotezlerin reddedilmesiyle ulaşılmaktadır. Bu sonuçlar, tanımlı modeldeki değişkenlerin durağanlık koşullarının değişkenlerde YKB’nin oluşmasında etkili olduğu düşünülen ortak faktörlerin kullanılması durumunda dahi geçerli olduğunu göstermektedir.

Panel birim kök testleri sonuçlarına göre birinci farklarında durağanlaşan değişkenlerdeki fark alma işlemi, değişkenlerde meydana gelmiş kısa süreli şokların etkilerini ve model değişkenleri arasında uzun vadede olması olası bütünleşik ilişkileri de ortadan kaldırmaktadır. Bu değişkenlerin durağan oldukları bir bileşim bulunabilmekte ve bu durum eş-bütünleşme analizleriyle belirlenebilmektedir (Tari, 2010). YKB’nin bulunmadığı modellerde değişkenler arasındaki uzun dönemli ilişkiler birinci nesil panel eş-bütünleşme testleriyle (Johansen 1988, Pedroni 1999, Kao 1999 vb.,) araştırılabilirken, YKB’nin olduğu modellerde (Westerlund ve Edgerton 2007, Westerlund 2008, Gengenbach et al., 2016 vb.,) ikinci nesil panel eş-bütünleşme testleriyle incelenebilmektedir. Bu çalışmada kullanılan Westerlund ve Edgerton (2007) Panel Eş-Bütünleşme Testi, McCoskey ve Kao (1998) Lagrange Multiplier (LM) testine dayanmakta ve paneldeki kesit birimler arasındaki korelasyonu dikkate almak için bootstrap özelliğini kullanmaktadır. Eş-bütünleşme denkleminde otokorelasyonun ve değişen varyansın etkilerine izin veren testte, model değişkenleri arasındaki uzun dönemli ilişkiler normal dağılıma sahip LM test istatistikleriyle aşağıdaki denkleme dayandırılarak araştırılmaktadır:

$$LM_N^+ = \frac{1}{NT^2} \sum_{i=1}^N \sum_{t=1}^T \widehat{w}_i^{-2} S_{it}^2 \quad (18)$$

(S_{it}) terimi sıfır ortalamalı-varyanslı ve bağımsız-özdeş dağıtılmış hata teriminin FMOLS (Fully Modified Ordinary Least Square) yöntemiyle tahmin edilen kısmi toplamlarını belirtirken, (\widehat{w}_i^2) terimi uzun dönemli varyans tahminlerini göstermektedir. Hesaplanan LM istatistiklerinin kritik tablo değerlerinden (1.65) büyük olması durumunda temel hipotez “paneldeki yatay kesitlerde eş-bütünleşme ilişkisi bulunmaktadır” % 5 önem düzeyinde kabul edilmektedir (Westerlund ve Edgerton, 2007). Bununla birlikte, model değişkenleri arasındaki uzun dönemde olası eş-bütünleşik ilişkilerin panel genelinde geçerli olup olmadığı, diğer bir deyişle eş-bütünleşme denklemindeki eğim katsayılarının homojenlik durumu SHP (Slope Homogeneity Tests) testiyle incelenebilmektedir. Pesaran ve Yamagata (2008) tarafından geliştirilen SHP testinde, eş-bütünleşme denklemindeki eğim katsayılarının paneldeki yatay kesitler arasında farklılık gösterip göstermediği ($\tilde{\Delta}_{adj}$) test istatistiğiyle ve “eğim katsayıları homojendir” şeklindeki temel hipotezle araştırılmaktadır. Hesaplanan ($\tilde{\Delta}_{adj}$) test istatistiği olasılık değerlerinin 0.05 önem düzeyinden büyük olması durumunda temel hipotez % 5 anlamlılık düzeyinde kabul edilmekte ve eş-bütünleşme katsayılarının paneli oluşturan yatay kesitlerde homojen olduğu sonucuna ulaşılmaktadır (Pesaran ve Yamagata, 2008). W-12 ve W-8 ekonomileri üzerine tanımlanan modellerde sırasıyla değişkenler arasındaki uzun dönemli ilişkileri ve eğim katsayılarının homojenliğini araştıran LM ile ($\tilde{\Delta}_{adj}$) test istatistiklerine ait sonuçlar Tablo 5’te gösterilmektedir.

Tablo 5’teki LM sonuçları incelendiğinde, W-12 ve W-8 ekonomileri üzerine tanımlı bütün modellerde temel hipotezlerin % 1 önem düzeyinde kabul edildiği görülmektedir. Bu durum, tanımlı modeller için Sabit+Trend formunda hesaplanan LM test istatistik değerlerinin kritik değerlerden (2.33) büyük olmasından anlaşılmakta ve modeldeki değişkenlerin uzun dönemde

bütünleşik olduklarını göstermektedir. Tablo 5'teki SHP sonuçları incelendiğinde ise tanımlı modeller için hesaplanan ($\tilde{\Delta}_{adj}$) test istatistiği olasılık değerlerinin 0.05'ten büyük olduğu ve temel hipotezlerin kabul edildiği görülmektedir. Bu sonuçlar, tanımlı modellerin eş-bütünleşme denklemlerindeki, sabit terim ile eğim katsayılarının yatay kesitlerde homojen olduğunu ve panel genelinde uzun dönemli eş-bütünleşik ilişkilerin geçerli olduğunu belirtmektedir.

W-12 ve W-8 ekonomileri üzerine tanımlı bütün modellerin eş-bütünleşik ve eğim katsayılarının homojen olduğunun belirlenmesiyle birlikte, modellerdeki uzun dönemli katsayıların uygun yöntemlerle tahmin edilmesi önem arz etmektedir. Bu kapsamda çalışmada, W-12 ve W-8 ekonomilerinde doğrudan yabancı yatırım girişlerinin ve çıkışlarının ekonomik büyüme üzerindeki etkileri, YKB durumunda kullanılabilen İki Basamaklı En Küçük Kareler (Two Step Least Squares-TSLS) yöntemiyle araştırılmaktadır. Breitung (2005) tarafından geliştirilen ve Vektör Hata Düzeltme Modeline (VECM) dayanan TSLS tahmincisinde, bağımsız değişkenlere ait uzun dönemli katsayılar eş-bütünleşme denklemindeki katsayıların paneli oluşturan yatay kesitler arasında değişimine izin verilerek elde edilmektedir. TSLS tahmincisinin birinci basamağında ilk önce paneli oluşturan yatay kesitlere ait parametreler tahmin edilmekte, ikinci basamağında ise panel geneline ait uzun dönemli parametreler genelleştirilmiş en küçük kareler yöntemiyle elde edilmektedir. Breitung (2005), bu şekilde TSLS yöntemiyle yapılan parametrik tahminlerin, FMOLS gibi bağımsız değişkenlerdeki içsellikleri yarı-parametrik yöntemlerle düzeltilen tahminlerden, özellikle de küçük örneklerde daha etkin sonuçlar verdiğini belirtmektedir. TSLS tahmincisinde eş-bütünleşme denkleminde ait uzun dönemli katsayılar, aşağıdaki dönüştürülmüş VECM modeline dayandırılarak hesaplanmaktadır:

$$\gamma_i' \Delta y_{it} = \gamma_i' \alpha_i \beta' y_{i,t-1} + \gamma_i' \varepsilon_{it} \quad (19)$$

Eşitlikteki, (ε_{it}) terimi hata vektörünü ve $E(\varepsilon_{it})=0$ olmak üzere kovaryans matrisini belirtmektedir. Denklemdaki (α_i) terimi yatay kesit birimlere göre farklılaşan eş-bütünleşme matrisini ve (β') terimi ise paneli oluşturan bütün yatay kesitler için ortak olan eş-bütünleşme matrisini göstermektedir. Denklemden ilk önce paneli oluşturan yatay kesit birimlere ait (α_i) matrisi ayrı ayrı tahmin edilmekte, ardından (α_i) matrisinden elde edilen sonuçlar kullanılarak sistem dönüştürülmekte ve panel geneli için (β') eş-bütünleşme matrisi panel genelleştirilmiş en küçük kareler yöntemiyle elde edilmektedir. (Breitung, 2005). W-12 ve W-8 ekonomilerinde doğrudan yabancı yatırım girişlerinin/çıkışlarının GSYİH/GSMH üzerindeki etkilerini araştırmak üzere oluşturulan alternatif modellerin Panel TSLS tahmin sonuçları Tablo 5'te gösterilmektedir.

Tablo 5: Uzun Dönemli Eş-Bütünleşme Katsayıları: Panel TSLS Sonuçları

Modeller	W-12				W-8			
	Model-1		Model-2		Model-1		Model-2	
Değişkenler	Katsayılar	SE.	Katsayılar	SE.	Katsayılar	SE.	Katsayılar	SE.
InRGFCI	1.0404*	0.0066 [0.000]	1.0448*	0.0066 [0.000]	1.0210*	0.0129 [0.000]	1.0226*	0.0129 [0.000]
InEL	0.1564*	0.0117 [0.000]	0.1515*	0.0116 [0.000]	0.2278*	0.0178 [0.000]	0.2276*	0.0179 [0.000]
InTFPGDP	0.9628*	0.0061 [0.000]	0.9685*	0.0057 [0.000]	0.9645*	0.0172 [0.000]	0.9659*	0.0172 [0.000]
InINFDI-1	0.0040*	0.0010 [0.000]	—	—	0.0017*	0.0007 [0.000]	—	—
InINFDI-2	—	—	0.0032*	0.0009 [0.000]	—	—	0.0017*	0.0007 [0.000]
LM	13.08 ^o [0.734]		13.02 ^o [0.766]		8.94 ^o [0.970]		9.11 ^o [0.967]	
($\tilde{\Delta}_{adj}$)	0.909 ^a [0.182]		0.911 ^a [0.181]		0.444 ^a [0.329]		0.469 ^a [0.319]	
Modeller	Model-3		Model-4		Model-3		Model-4	
Değişkenler	Katsayılar	SE.	Katsayılar	SE.	Katsayılar	SE.	Katsayılar	SE.
InRGFCI	1.0334*	0.0071 [0.000]	1.0379*	0.0071 [0.000]	0.8274*	0.0694 [0.000]	0.8375*	0.0685 [0.000]
InEL	0.1686*	0.0146 [0.000]	0.1560*	0.0145 [0.000]	0.6904*	0.0935 [0.000]	0.6846*	0.0934 [0.000]
InTFPGNP	0.9643*	0.0067 [0.000]	0.9719*	0.0062 [0.000]	0.7373*	0.1582 [0.000]	0.7468*	0.1585 [0.000]
InRNFI	0.7334*	0.0362 [0.000]	0.7465*	0.0364 [0.000]	0.6625*	0.0519 [0.000]	0.6693*	0.0511 [0.000]
InOUTFDI-1	0.0051*	0.0013	—	—	0.0096	0.0096	—	—

		[0.000]				[0.999]		
InOUTFDI-2	—	—	0.0036*	0.0013 [0.000]	—	—	0.0097	0.0096 [0.999]
LM	21.20 ^a [0.917]		21.76 ^a [0.848]		16.51 ^a [0.957]		16.76 ^a [0.945]	
($\tilde{\Delta}_{adj}$)	0.817^a [0.207]		0.829^a [0.204]		1.228^a [0.110]		1.228^a [0.109]	

Not: Tablodaki “SE.” terimi katsayıların standart hatalarını, “*” işareti katsayıların t-istatistiklerinin % 1 önem düzeyinde anlamlı olduğunu göstermektedir. LM test istatistiklerinin önündeki “^a” ve ($\tilde{\Delta}_{adj}$) test istatistiklerinin önündeki “^a” işaretleri % 1 anlamlılık düzeyinde sırasıyla modellerdeki seriler arasında eş-bütünleşme ilişkisinin bulunduğunu ve eş-bütünleşme denklemindeki eğim katsayılarının homojen olduğunu belirtmektedir. Tabloda “[]” köşeli parantez içindeki değerler katsayılara ve test istatistiklerine ait olasılıkları belirtmektedir.

Tablo 5’teki modellerin sonuçları W-12 ekonomileri açısından incelendiğinde, InRGFCI, InEL, InTFPGDP, InTFPGNP, InRNFI, InINFDI-1, InINFDI-2, InOUTFDI-1 ve InOUTFDI-2 şeklindeki tüm açıklayıcı değişkenlerin katsayılarının beklentilerle uyumlu olarak pozitif yönlü ve istatistiki açıdan % 1 önem düzeyinde anlamlı olduğu görülmektedir. Bununla birlikte modellerin sonuçları incelendiğinde, açıklayıcı değişkenlerinin katsayılarının W-12 ekonomilerinin ekonomik büyüme performansları üzerindeki etkilerinin büyüklüğünün tüm modellerde sırasıyla; InRGFCI, InTFPGNP, InTFPGDP, InRNFI, InEL, InOUTFDI ve InINFDI şeklinde olduğu anlaşılmaktadır. Bu durum, W-12 ekonomilerinde tüm açıklayıcı değişkenlerin ekonomik büyüme üzerindeki pozitif yönlü/istatistiki olarak anlamlı olan etkilerinin büyüklüğünün sırasıyla; fiziksel sermaye birikimi, teknolojik gelişmişlik düzeyi, net faktör gelirleri, beşeri sermaye birikimi, doğrudan yabancı yatırım çıkışları ve girişleri şeklinde olduğunu göstermektedir.

Bu sonuçlar, gelişmiş W-12 ekonomilerinin inceleme dönemindeki reel GSYİH artışları ile sağlanan ekonomik büyüme performanslarının sırasıyla daha çok fiziksel sermaye birikiminden, teknolojik gelişmişlik düzeyinden, beşeri sermaye birikiminden ve doğrudan yabancı yatırım girişlerinden kaynaklandığını ortaya koymaktadır. Bununla birlikte sonuçlar, gelişmiş W-12 ekonomilerinin inceleme dönemindeki reel GSMH artışları ile sağlanan ekonomik büyüme performanslarının ise sırasıyla daha çok fiziksel sermaye birikimine, teknolojik gelişmişlik düzeyine, net faktör gelirlerine, beşeri sermaye birikimine ve doğrudan yabancı yatırım çıkışlarına dayandığını göstermektedir.

Tablo 5’teki modellerin sonuçları W-8 ekonomileri açısından incelendiğinde ise InRGFCI, InEL, InTFPGDP, InTFPGNP, InRNFI, InINFDI-1, InINFDI-2, InOUTFDI-1 ve InOUTFDI-2 şeklindeki tüm açıklayıcı değişkenlerin katsayılarının beklentilerle uyumlu olarak pozitif yönlü ve istatistiki açıdan % 1 önem düzeyinde anlamlı olduğu (InOUTFDI-1 ve InOUTFDI-2 değişkenleri hariç) görülmektedir. Bununla birlikte modellerin sonuçları incelendiğinde, açıklayıcı değişkenlerinin katsayılarının W-8 ekonomilerinin ekonomik büyüme performansları üzerindeki etkilerinin pozitif yönlü ve istatistiki açıdan anlamlı olan etkilerinin büyüklüğünün sırasıyla; InRGFCI, InTFPGDP, InTFPGNP, InEL, InRNFI ve InINFDI şeklinde olduğu izlenmektedir. Bu durum, W-8 ekonomilerinde ilgili açıklayıcı değişkenlerin ekonomik büyüme üzerindeki pozitif yönlü/istatistiki olarak anlamlı olan etkilerinin büyüklüğünün sırasıyla; fiziksel sermaye birikimi, teknolojik gelişmişlik düzeyi, beşeri sermaye birikimi, net faktör gelirleri ve doğrudan yabancı yatırım girişleri şeklinde olduğunu göstermektedir. Bu sonuçlar, gelişmekte olan W-8 ekonomilerinin inceleme dönemindeki reel GSYİH artışları ile sağlanan ekonomik büyüme performanslarının sırasıyla daha çok fiziksel sermaye birikiminden, teknolojik gelişmişlik düzeyinden, beşeri sermaye birikiminden ve doğrudan yabancı yatırım girişlerinden kaynaklandığını ortaya koymaktadır. Sonuçlar, gelişmekte olan W-8 ekonomilerinin inceleme dönemindeki reel GSMH artışları ile sağlanan ekonomik büyüme performanslarının ise sırasıyla daha çok fiziksel sermaye birikimine, teknolojik gelişmişlik düzeyine, beşeri sermaye birikimine ve net faktör gelirlerine dayandığını göstermektedir. Bununla birlikte sonuçlar, gelişmekte olan W-8 ekonomilerinin reel GSMH artışları ile sağlanan ekonomik büyüme performansları üzerinde doğrudan yabancı yatırım çıkışlarının inceleme dönemi itibarıyla anlamlı bir etkiye sahip olmadığını (katsayıları pozitif olsada istatistiki açıdan anlamsız olmaları) belirtmektedir.

Diğer taraftan, Tablo 5’teki modellerin sonuçları çalışmanın özünü oluşturan doğrudan yabancı yatırım girişlerini ve çıkışlarını temsilen kullanılan değişkenler açısından değerlendirildiğinde ise ortaya çıkan bulguları şu şekilde açıklamak mümkün olmaktadır. Model-1 ve Model-2 incelendiğinde, W-12 ve W-8 ekonomilerinde InINFDI-1 ve InINFDI-2 değişkenlerinin katsayılarının sırasıyla (0.0040-0.0032) ve (0.0017-0.0017) olarak hesaplandığı ve istatistiki açıdan anlamlı olduğu görülmektedir. Bu sonuçlar, çalışma döneminde her iki ülke grubunda doğrudan yatırım girişlerinin (nasıl ölçüldüğünden bağımsız olarak) ekonomik büyüme (reel GSYİH) üzerindeki uzun dönemli etkilerinin pozitif yönlü/istatistiki açıdan olduğunu göstermekle birlikte, bu etkilerin büyüklüğünün gelişmiş W-12 ekonomilerinde yaklaşık iki kat daha fazla olduğunu ortaya koymaktadır. Buna karşılık Model-3 ve Model-4 incelendiğinde, W-12 ekonomilerinde (0.0051-0.0036) ve W-8 ekonomilerinde (0.0096-0.0097) değerlerini alacak şekilde hesaplanan InOUTFDI-1 ve InOUTFDI-2 değişkenlerinin katsayılarının pozitif yönlü ve istatistiki açıdan sırasıyla anlamlı/anlamsız olduğu görülmektedir. Bu sonuçlar, çalışma döneminde doğrudan yabancı yatırım çıkışlarında meydana gelen artışların, gelişmiş W-12 ekonomilerinde ekonomik büyümeyi (reel GSMH) pozitif ve istatistiki açıdan anlamlı bir şekilde etkilediğini, gelişmekte olan W-8 ekonomilerinde ise ekonomik büyüme üzerinde herhangi bir etkiye sahip olmadığını ortaya koymaktadır. Bu durum ise doğrudan yabancı

yatırım çıkışlarının ekonomik büyüme (reel GSMH) üzerindeki uzun dönemli etkileri itibarıyla gelişmiş W-12 ve gelişmekte olan W-8 ekonomileri arasında mutlak bir farklılık yarattığını göstermektedir.

Tanımlanan modellerde, doğrudan yabancı yatırım girişlerinin ve çıkışlarının ekonomik büyüme üzerindeki uzun dönemli etkileri belirlendikten sonra, ilgili değişkenler arasındaki ilişkilerin yönü nedensellik testleriyle incelenebilmektedir. Çalışmada, doğrudan yabancı yatırımlar ve ekonomik büyüme değişkenleri arasındaki nedensellik ilişkilerinin yönü YKB'yi dikkate alan Dumitrescu ve Hurlin (2012) Panel Nedensellik Testiyle (DH) araştırılmaktadır. DH testi, paneli oluşturan yatay kesitlerin homojenlik ve heterojenlik durumunu dikkate almakta ve dengesiz paneller için de tutarlı sonuçlar üretebilmektedir. DH testinde, ilk olarak paneli oluşturan tüm kesit birimler için Wald ($W_{i,T}$) istatistikleri hesaplanmakta, ardından bu değerlerin aritmetik ortalaması kullanılarak panel geneline ait Wald ($W_{N,T}^{HNC}$) istatistikleri elde edilmektedir. Hesaplanan Wald istatistiklerinin kullanılmasıyla değişkenler arasındaki nedensellik ilişkilerinin yönü panelin zaman (T) ve kesit (N) boyutları dikkate alınarak ($Z_{N,T}^{HNC}$) ve (Z_N^{HNC}) test istatistikleriyle araştırılmaktadır. T>N durumunda asimptotik dağılıma sahip ($Z_{N,T}^{HNC}$) test istatistiğinin, N>T durumunda ise yarı asimptotik olan (Z_N^{HNC}) test istatistiğinin daha tutarlı sonuçlar verdiği kabul edilmektedir. Monte-Carlo simülasyon yöntemiyle hesaplanan ($Z_{N,T}^{HNC}$) ve (Z_N^{HNC}) test istatistiklerine ait olasılık değerlerinin 0.05'ten küçük olması durumunda "bütün yatay kesitlerde seriler arasında nedensellik ilişkisi bulunmamaktadır" şeklindeki temel hipotez % 5 anlamlılık düzeyinde reddedilmektedir. Bu durumda, paneli oluşturan yatay kesitlerin en azından bazılarında değişkenler arasında nedensellik ilişkisinin olduğuna karar verilmektedir (Dumitrescu ve Hurlin, 2012). Doğrudan yabancı yatırım girişleri ve çıkışları ile ekonomik büyüme değişkenleri arasındaki nedensellik ilişkileri DH ($Z_{N,T}^{HNC}$) test istatistiğiyle araştırılmakta ve sonuçları Tablo 6'da sunulmaktadır.

Tablo 6: DH Panel Nedensellik Test Sonuçları

	W-12	W-8	W-12	W-8	
Test istatistiği $Z_{N,T}^{HNC}$	lnRGDP → lnINFDI-1		lnINFDI-1 → lnRGDP		L
	7.70* [0.000]	6.83* [0.000]	4.39* [0.000]	6.48* [0.000]	1
	6.02* [0.000]	7.55* [0.000]	10.19* [0.000]	2.77* [0.006]	2
	lnRGDP → lnINFDI-2		lnINFDI-2 → lnRGDP		L
	6.75* [0.000]	3.40* [0.001]	4.13* [0.000]	6.30* [0.000]	1
	6.02* [0.000]	4.56* [0.000]	10.15* [0.000]	2.21** [0.027]	2
	lnRGNP → lnOUTFDI-1		lnOUTFDI-1 → lnRGNP		L
	7.43* [0.000]	7.12* [0.000]	2.86* [0.004]	-0.60 [0.549]	1
	3.32* [0.000]	2.78* [0.006]	2.79* [0.005]	-0.96 [0.337]	2
	lnRGNP → lnOUTFDI-2		lnOUTFDI-2 → lnRGNP		L
	7.64* [0.000]	2.98* [0.000]	2.75* [0.006]	0.19 [0.845]	1
	4.06* [0.000]	2.93* [0.003]	2.81* [0.005]	-0.72 [0.469]	2

Not: Test istatistiklerinin önündeki "*" ve "***" işaretleri değişkenler arasında sırasıyla % 1 ve % 5 önem düzeyinde nedensellik ilişkisinin bulunduğunu belirtmektedir. "[]" köşeli parantez içindeki değerler test istatistiği olasılık değerlerini göstermektedir. "L" sütunu hakkında bakınız: Tablo 2.

Tablo 6'daki 1-2 gecikmeli sonuçlar W-12 ekonomileri açısından incelendiğinde, doğrudan yabancı yatırım girişleri ve çıkışları ile ekonomik büyüme değişkenleri arasında çift yönlü bir nedensellik ilişkisinin bulunduğu görülmektedir. Tablodaki sonuçlar W-8 ekonomilerinde; doğrudan yabancı yatırım girişleri ile ekonomik büyüme değişkenleri arasında çift yönlü, doğrudan yabancı yatırım çıkışları ile ekonomik büyüme değişkenleri arasında ise ekonomik büyümeden doğrudan yabancı yatırım çıkışlarına doğru işleyen tek yönlü bir nedensellik ilişkisinin olduğunu göstermektedir. Bu durum, ilgili değişkenler için 1 ve 2 gecikmede hesaplanan test istatistikleri olasılık değerlerinin 0.05'ten küçük olmasından ve temel hipotezlerin reddedilmesinden anlaşılmaktadır. Bu sonuçlar, gelişmiş W-12 ekonomilerinde doğrudan yabancı yatırım girişleri ve çıkışları ile ekonomik büyümenin karşılıklı etkileşim içerisinde olarak birbirlerini arttırıcı yönde uyardıklarını göstermektedir. Bununla birlikte sonuçlar, gelişmekte olan W-8 ekonomilerinde doğrudan yabancı yatırım girişleri ile ekonomik büyümenin karşılıklı etkileşim içerisinde birbirlerini arttırıcı yönde uyardıklarını gösterirken, sadece ekonomik büyümede meydana gelen artışların doğrudan yabancı yatırım çıkışlarını arttırıcı yönde uyardığını ortaya koymaktadır. Tüm bunlar, Panel TSLs sonuçlarıyla uyumlu olarak; W-12 ve W-8 ekonomilerinde doğrudan yabancı yatırım girişleriyle ekonomik büyüme arasındaki bağıntıların benzer ölçüde olduğunu ancak, doğrudan yabancı yatırım çıkışlarıyla ekonomik büyüme arasındaki bağıntıların W-12 ekonomilerinde W-8 ekonomilerine kıyasla daha güçlü olduğunu göstermektedir.

5. SONUÇ

Bu çalışmada, gelişmişlik düzeylerine göre gelişmiş W-12 ve gelişmekte olan W-8 olarak gruplandırılan dünyanın en büyük ilk 20 ekonomisinin (W-20), sermaye ithalatçısı/ihracatçısı konumları gözetilerek doğrudan yabancı yatırım girişlerinin/çıkışlarının ekonomik büyüme (GSYİH/GSMH) üzerindeki etkileri ekonometrik olarak incelenmektedir. Bu yönüyle çalışmada, W-12 ve W-8 ekonomilerinde, doğrudan yabancı yatırım girişlerinin ve çıkışlarının ekonomik büyüme

üzerinde teorik çerçevede geçerli olan etkilerinin ampirik açıdan sınanması amaçlanmaktadır. Çalışmada, W-12 ve W-8 ekonomilerinde, doğrudan yabancı yatırım girişlerinin/çıkışlarının GSYİH/GSMH üzerindeki etkilerini tespit etmek üzere Cobb-Douglas tipi üretim fonksiyonunun genişletilmesiyle oluşturulan ekonometrik modeller, 1992-2016 dönemi için yatay kesit bağımlılığını dikkate alan ikinci nesil panel veri analizi metodolojisi kapsamında tahmin edilmektedir. Çalışmada, tahmin edilen modellerin teorik yazınla uyumlu sonuçlarını bir bütün olarak şu şekilde özetlemek mümkün olmaktadır.

Sermaye ithalatçısı konumları dikkate alındığında W-12 ve W-8 ekonomilerinde, örneklem döneminde doğrudan yabancı yatırım girişlerinin ekonomik büyüme (GSYİH) üzerinde pozitif ve istatistiki açıdan anlamlı bir etkiye sahip olduğu belirlenmiştir. Bununla birlikte, doğrudan yabancı yatırım girişlerinin GSYİH üzerindeki pozitif yönlü ve istatistiki açıdan anlamlı olan etkilerinin büyüklüğünün gelişmiş W-12 ekonomilerinde gelişmekte olan W-8 ekonomilerine kıyasla yaklaşık iki kat daha fazla olduğu tespit edilmiştir. Bu sonuçlar, W-12 ve W-8 ekonomilerinde doğrudan yabancı yatırım girişlerinin yurtiçindeki üretim olanaklarının artırılmasında ve GSYİH artışları ile sağlanan ekonomik büyüme performanslarının finansmanında önemli bir rol oynadığını göstermekle birlikte, W-12 ekonomilerinde doğrudan yabancı yatırım girişleri ile ekonomik büyüme arasındaki bağıntıların nispeten daha güçlü olduğunu ortaya koymaktadır.

Sermaye ihracatçısı konumları dikkate alındığında ise doğrudan yabancı yatırım çıkışlarının, örneklem döneminde W-12 ekonomilerinde ekonomik büyüme (GSMH) üzerinde pozitif yönlü ve istatistiki açıdan anlamlı bir etkiye sahip olduğu, buna karşılık W-8 ekonomilerinde GSMH üzerinde herhangi bir etkiye sahip olmadığı belirlenmiştir. Bu durum, doğrudan yabancı yatırım çıkışlarının GSMH üzerindeki etkileri itibarıyla gelişmiş W-12 ve gelişmekte olan W-8 ekonomileri arasında mutlak bir farklılık yarattığını göstermektedir. Bu sonuçlar, W-12 ekonomilerinde doğrudan yabancı yatırım çıkışlarının yurtdışındaki üretim olanaklarının genişletilmesinde ve GSMH artışları ile sağlanan ekonomik büyüme performanslarının finanse edilmesinde önemli bir rol oynadığını göstermekle birlikte, W-8 ekonomilerinde doğrudan yabancı yatırım çıkışları ile ekonomik büyüme arasındaki bağıntıların zayıf kaldığını ortaya koymaktadır. W-12 ve W-8 ekonomilerinde doğrudan yabancı yatırım girişlerinin/çıkışlarının ekonomik büyüme üzerindeki etkilerinin büyüklüğü çalışmada değişkenler arasındaki nedensellik ilişkilerinin yönü itibarıyla da doğrulanmaktadır. Bu kapsamda, W-12 ve W-8 ekonomilerinde doğrudan yabancı sermaye yatırım girişleriyle GSYİH arasındaki nedensellik bağıntılarının benzer ölçüde olduğu ancak, doğrudan yabancı sermaye yatırım çıkışlarıyla GSMH arasındaki nedensellik bağıntılarının W-12 ekonomilerinde W-8 ekonomilerine kıyasla daha güçlü olduğu tespit edilmiştir.

Çalışmadan elde edilen tüm bu sonuçlar, gelişmiş W-12 ekonomilerinin inceleme dönemindeki ekonomik büyüme performansları üzerinde hem doğrudan yabancı yatırım girişlerinin hem de doğrudan yabancı yatırım çıkışlarının önemli bir etkiye sahip olduğunu göstermektedir. Buna karşılık sonuçlar, gelişmekte olan W-8 ekonomilerinin inceleme dönemindeki ekonomik büyüme performansları üzerinde doğrudan yabancı yatırım girişlerinin önemli bir etkiye sahip olduğunu gösterirken, doğrudan yabancı yatırım çıkışlarının ise herhangi bir etkiye sahip olmadığını ortaya koymaktadır. W-12 ve W-8 ekonomilerinin gelişmişlik düzeyleriyle de paralellik gösteren bu sonuçlar; W-12 ekonomilerinin katma değer yaratabilen yenilikçi süreç ürünlerini üretmek doğrudan yabancı yatırımlar yoluyla ihrac edebilme, yurtdışındaki üretim imkânlarını genişletebilme ve böylece ulusal tasarruf fazlalıklarını değerlendirerek ekonomik büyüme performanslarını arttırabilme potansiyellerinin yüksek olduğunu göstermektedir. Sonuçlar, W-8 ekonomilerinin ise hâlihazırda bu yönde bir etkinliğe nispeten sahip olmadıklarını düşündürmektedir.

Bu kapsamda, gelişmekte olan W-8 ekonomilerinde politika yapıcılar tarafından, katma değer yaratabilen yenilikçi süreç ürünlerinin üretilerek doğrudan yabancı yatırımlar yoluyla ihrac edilebilmesine, yurtdışındaki üretim imkânlarının genişletilebilmesine ve böylece ulusal tasarruf fazlalıklarının değerlendirilebilmesine yönelik uzun vadeli politikaların geliştirilip uygulanması gereklilik arz etmektedir. Böylelikle, W-8 ekonomilerinden yönelen doğrudan yabancı yatırım çıkışlarının arttırılabilmesi, W-12 ekonomilerinin ortalamalarına yaklaştırılabilmesi, ekonomik büyümeyle olan bağıntısının güçlendirilebilmesi ve küresel rekabet gücüne katkılarının arttırılabilmesi mümkün olabilecektir. Bu yolla, W-12 ve W-8 ekonomileri arasında doğrudan yabancı yatırım çıkışlarının ekonomik büyüme üzerindeki etkileri ve gelişmişlik düzeyi açısından inceleme dönemi itibarıyla olduğu belirlenen farklılıkların da belli bir ölçüde azaltılabilmesi olanaklı hale gelebilecektir. Aksi halde, örneklem döneminde W-12 ve W-8 ekonomileri arasında doğrudan yabancı yatırım çıkışları ve ekonomik büyüme ilişkileri ile gelişmişlik düzeyi açısından mevcut olan farklılıkların yakın gelecekte de benzer olacağını öngörmek olasılıklar dâhilinde bulunmaktadır. Tüm bunların yanında, doğrudan yabancı yatırım girişlerinin/çıkışlarının ekonomik büyüme üzerindeki etkilerini tespit etmek üzere yapılacak ampirik çalışmalarda, verilerinin erişilebilir olması durumunda gelişmişlik düzeyi farklılıkları gözetilerek daha fazla sayıda ülke üzerinde çalışılmasının bu konudaki literatürün gelişimine katkı sağlayacağı düşünülmektedir.

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EVALUATION OF THE PERFORMANCE OF TURKISH EQUITY UMBRELLA FUNDS USING THE MORNINGSTAR RATING SYSTEM

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ABSTRACT

Purpose - Different types of funds exist depending on the assets the portfolio is composed of. The main types of funds include; bond umbrella funds, equity umbrella funds, precious metal umbrella fund, fund basket umbrella funds, money market umbrella funds, participation umbrella fund, balanced umbrella funds, free umbrella funds, guaranteed umbrella fund, umbrella fund for protection purposes. The subject of our study is equity umbrella funds. These kinds of funds receive at least 80% of the share of investment by domestic and/foreign issuers. Purpose of this study is evaluating the performance of 57 Turkish equity umbrella funds which operate continuously between January 2012-December 2016 by using Morningstar rating system.

Methodology - The Morningstar (star) rating system, which has proven to be an effective system for ranking mutual funds, has become the focus of both academic work and applications. This system, developed by Morningstar, ranks the performance results of mutual funds by assigning them 1 to 5 stars according to their adjusted risks.

Findings - The results of the study reveal a lack of effective management of the equity umbrella funds, and that they perform below Treasury bond yields. The mutual funds, consequently, showed overall negative Morningstar performance results. It was determined that while foreign equity weighted mutual funds are more successful, mutual funds that invest in equity in the index are not quite successful.

Conclusion- The study used the Morningstar rating system to evaluate 57 equity umbrella funds operating in Turkey between the periods of January 2012 and December 2016. The results obtained in the study regarding performance rankings and performance are not meant as a prediction of the future performance of the concerned funds, they are only intended to assess the value of the equity umbrella funds at a specific period in the past using an internationally accepted rating system. The data obtained indicated that the equity umbrella funds have an overall negative Morningstar performance.

The equity umbrella funds are considered to be underperforming since they performed poorly compared to the Treasury bills used in the study. Under the assumption that past performance results will continue in the future, it is thought that the results are meaningful and should be followed.

Keywords: Equity umbrella funds, performance, morningstar rating, risk, fund management

JEL Codes: G11, G23,G24

1. INTRODUCTION

Collective investment institutions are known as investment trusts when they are established as separate and independent legal entity according to the legal structures, and as mutual funds when they are established within the scope of a contract by another legal entity. Mutual funds collect money from the public in exchange of partnership shares, and, on their behalf, manage portfolios made of securities such as equity and bonds, and precious metals. By owning a share that represents part of the portfolio owned by the mutual fund each investor becomes a partner to the fund's portfolio. Thus, when investors sell their shares, they receive their share of the increase/decrease in the portfolio of the mutual fund up to the time (www.spk.gov.tr/Sayfa/AltSayfa/253).

Just as one can become a partner to a company by owning its equity, so can they become a partner to a mutual fund portfolio with share certificate. When an investor invests in an investment fund, a new share is added to the fund leading to an increase in the size and number of shares in the fund. The money of the new investor is combined with the money of the other investors. Portfolio managers then invest (including the new shares) in various investment instruments.

Small investors, with small savings, get to enjoy the advantage of professionally managed and diversified portfolios of different securities by the mutual fund. This situation also reduces the risk. In addition, investors can convert their investments and the realized earning into cash whenever they feel the need.

The biggest mistake people commit when deciding on which investment fund to invest in is trying to compare apples and oranges. The asset class making the investment fund is of great importance. Let's say we have invested in a gold fund, if the fund earns 25% when gold increases by 30% then it is clear we are dealing with a non-successful fund. Or, if an equity fund loses only 25% when the BIST 100 index falls by 30%, then we say it is an effectively managed fund. For this reason, the success of a fund is only measured by the performance of the asset class it invests in compared to the benchmark.

When choosing a fund as an investor, it is necessary to consider one's risk and return preferences. Mutual funds take different names depending on the assets they invest in. In this study, equity weighted funds are considered.

The most basic way to measure the success of an investment fund is by comparison with the result of the benchmark that the identified by fund. However, this comparison alone may not be enough due to the complex structure of the industry. For this reason, there is a continuous academic effort in this area of work.

It is possible, though, to say that the following three sector ratios are used to a considerable extent for actively managed funds.

Sharpe Ratio: The return on any portfolio corresponds to the risk that the investor is exposed to. The risk here is standard deviation. The Sharpe ratio is based on the comparison between the residual return and the risk involved in achieving this return (Sharpe, 1966:119). The Sharpe index indicates the total risk of the portfolio vis a vis the additional return demanded by the investor at the risk-free interest rate (Civan, 2010:339). The Sharpe index calculated for any portfolio is not significant by itself. This index needs to be compared with other portfolios or with the market portfolio. The ranking of the performance is then done from the highest to the lowest value. If the value obtained for this portfolio is as high as the others, then the portfolio can be said to a high performer (Sharpe, 1966:120).

Treynor Ratio: the ratio takes into account the sensitivity (beta) of the portfolio index. Like in Sharpe ratio, Treynor ratio considers the systematic risk that reflects the market risk as opposed to the total risk the portfolio is faced with (Treynor, 1965:64). According to Treynor, in order to obtain a satisfactory measure of performance, the first requirement is to establish a relationship between the expected return of the portfolio and an appropriate market return rate. Treynor states that besides the risk arising from fluctuations in the market, a portfolio that is well diversified faces the risks arising from fluctuations in the value of each of the securities making up the portfolio. He asserts that trying to assess the performance of a portfolio at a given time period by looking at the average return of that portfolio may be deceptive (Treynor, 1965).

Jensen Performance Index: The performance of a portfolio is measured using a single value. This value is the alpha, which is the coefficient of the constant term of the regression equation formed between the returns of the fund and the market returns (Ayaydin, 2013:67). When calculating the Jensen's measure, the alpha coefficient is calculated by subtracting the return obtained according to the capital asset pricing model (CAPM). The performance is determined by whether the alpha coefficient is positive or negative. A positive alpha indicates that the portfolio manager is successful while negative alpha shows that the manager has failed (Aksoy and Tanrıöven, 2007:661).

In this study, we use Morningstar rating system to obtain and evaluate performances of Turkish equity umbrella funds during the period January 2012-December 2016

2. LITERATURE REVIEW

Loviscek and Jordan (2000) used the Morningstar method in selecting the best portfolios to be chosen by mutual funds. They didn't find results that could be applicable to individual investors. However, when Guercio and Tkac (2002) investigated the Morningstar effect by estimating the star's value in terms of the asset flow generated for a typical fund, they found the Morningstar rating to be a unique strength in influencing asset flow. Morey and Vinod (2001) tried to find out the risk of estimating the performance by the system. In his study, Morey (2002) revealed the age bias of the Morningstar system. He found that older funds received higher star ratings than younger funds. In 2004, however, Adkisson and Fraser (2003) investigated the sources of age bias. They have found evidence that the age bias persisted even if the market conditions shifted from bullish to bearish market conditions.

Morey (2003) found that funds that received 5 stars changed their portfolio at the end of the first year. For this reason, Morey cautioned investors against using a 5-star rating as a performance signal for the 3 years following the rating.

Morey and Gottesman (2006) conducted a review of how a new Morningstar rating system predicts future fund performance. They observed and concluded that a new Morningstar performance system, created from 3 different methodologies based on 4 different performance metrics, provided a great support in forecasting future performance in the first 3 years. They pointed out that high-rated funds, especially, perform significantly better than low-rated funds. These results contrast the results of Morey (2002) and Blake and Morey (2000) which show that the old Morningstar rating system does not predict future performance well.

Gerrans (2006) noted that the Morningstar rating system as used in Australia is a useful source of information for investors, and that in time, the system will come to command a similar position in North America. However, he also noted that Morningstar is not a force that can be predicted.

Knuutila, Puttonen and Smythe (2007) concluded that in Finland, funds that had 5-star Morningstar ratings, but which were not managed by banks registered good performance in terms of high cash flows, which was not the case for funds managed by banks. Antypas et al. (2009) conducted a different research in which they concluded that the Morningstar rating system is more effective in selecting the worst performing funds as opposed to the best performers. However, Kaur and Liu (2010) found conflicting results in their study of Canadian equity mutual funds. The study performed dummy variable regression analysis using three performance measures (Sharpe ratio, Jensen's alpha and two-index alpha). They found that higher-rated funds showed significantly better performance than the lower-rated funds.

Barron and Ni (2013) studied the effects of Morningstar ratings on mutual fund replacement. They found that Morningstar ratings by themselves did not affect the probability of a fund managers being changed even though they had better predictive performance on manager change than other alternatives that measured fund performance.

Chotivethamrong (2015) proved that in Thailand, upon receiving high ratings like 5 stars, fund performances in terms of size fell heavily. Bolster et al. (2016) evaluated the performance of portfolios created using the Morningstar system. The results provide evidence that the Morningstar equity rating system helps investors in the formulation of portfolios that give long-term, high-risk adjusted returns. It was concluded that the system could be used to distinguish between long-term undervalued and overvalued equity.

3. DATA AND METHODOLOGY

The "Morningstar Star Rating System", used by the Morningstar company in rating investment funds, is one of the most widely used performance measurement systems in the US since the 1980s (Sindell, 2005: 30).

In the Morningstar star rating, just like it is done for hotels, movies and restaurants, investment funds are assigned stars from 1 to 5 where 5 stars represents the best performing investment fund, and 1 star represents the worst performing investment fund (Morey, 2002; 56). In this respect, the Morningstar rating system helps in making better investment decisions, at least theoretically, by determining the quality of the funds when investors are faced with the challenge of choosing from thousands of funds (Apak and Taşçıyan, 2009:82).

It is assumed that a fund crowned as 5-Star by the Morningstar star rating system will be preferred more and more by the public just like other high performing products. Examples of this have been observed in America where, for instance, it was recorded that of the investments made in the period of January - August of 1995 90% went to investment funds assigned 4 and 5 stars while funds with 3 stars or less experienced mostly negative cash flows. Similarly, a research conducted by the Financial Research Corporation of Boston in 1999 found that while the 4 and 5-star funds received a cash inflow of 223.6 million dollars in the year, funds with 3 stars or less had a negative cash flow to the tune of 132 million dollars (Apak and Taşçıyan, 2009:82).

3.1. The Application Steps of Morningstar Star Rating System

Step One: First, the Morningstar return is calculated for periods for 3,5 and 10 years. To do this, first of all, the "adjusted return" is calculated by deducting all commission and management expenses from the return of the investment fund. Then the adjusted return in excess of the 90-day interest rate is found. Finally, the Morningstar return ratio is obtained by dividing the resulting figure by the greater of the two variables given: The difference between the average return of the category and the 90-day average Treasury bill, or the 90-day average Treasury bill.

$$\text{Morningstar Return} = \frac{\text{Adjusted Return on the Fund} - \text{Treasury Bill}}{(\text{Average Category Return} - \text{Treasury Bill}) \text{ or } \text{Treasury Bill}} \quad (1)$$

According to the formula above, the result of the equation actually can be called 'load-adjusted relative return'. Morningstar divides one of these two variables in order to avoid distortion which might occur because of the low or negative average excess returns in the denominator of equation. If the adjusted return obtained by deducting management expenses and the return on the commission is equal to the average category return, then the Morningstar return will be

equal to 1. However, if the return on the fund is less than the average category return, Morningstar return will be less than 1 and vice versa.

Step Two: The second step of the star rating process is the calculation of the Morningstar risk. Here, the maximum risk is taken as the measure of risk. The risk of the fund is compared to the maximum risk calculated for the category. The Morningstar risk for the relevant period is obtained by dividing the maximum risk calculated for the fund by the maximum risk of the relevant category.

Step Three: the raw score is obtained by deducting the Morningstar risk from the Morningstar return calculated for 3, 5 and 10-year periods.

Step Four: The raw score for each period is weighted depending on the age of the fund.

- For funds with less than 5 years but more than 3 years of return data (young funds) Morningstar weights the 3-year star rating by 100 percent.
- For funds with less than 10 years but more than 5 years of return data (middle-aged funds) Morningstar weights the 3-year star rating by 60 percent and the 5-year star rating by 40%.
- For funds with more than 10 years of return data (seasoned funds) Morningstar weights the 3-year star rating by 20 percent, the 5-year star rating by 30% and the 10-year star rating by 50%.

Fifth Step: The final star rating is done according to the weights calculated for each of the funds. The funds score that reach the top 10% in the category receive a time-specific rating of 5 stars; funds in the next 22.5% receive a time-specific star rating of 4 stars; funds in the middle 35% receive a time-specific rating of 3 stars; those in the next 22.5% receive a time-specific rating of 2 stars, and those in the bottom 10% receive a time-specific rating of 1 star.

The Morningstar star rating system has been the subject of several academic studies. In his (1998) study, Blume made reference to a rating system by the Chicago based Morningstar company that rates the investment performance of mutual funds by assigning the 1 to 5 stars. Blake and Morey (2000) used the Morningstar rating system as a forecasting system for the performance of local capital funds. As a result, they found that the Morningstar system performs slightly better than other alternatives in estimating future performance of funds.

3.2. Calculation of Returns

The first step in the Morningstar fund rating system is to calculate the returns to be used to measure fund performance. In the study, the 60-month return (%) data for 57 equity umbrella funds covering the period between January 2012 and December 2016 were used. This data is obtained from the CMB (Capital Markets Board) website. Month end unit prices were used to make calculations. The returns of the equity intensive mutual funds were calculated using the following formula.

$$r_p = \frac{V_t - V_{t-1}}{V_{t-1}}$$

r_p = Monthly return of the mutual fund

V_t = Month end unit price for the mutual fund

V_{t-1} = Previous month end unit price for pension mutual fund

In the next stage, the excess return on the funds' risk-free interest rate (Treasury bills) is calculated. Morningstar return is calculated by dividing the difference between the adjusted average return of a fund from the average return of the treasury bill by either (whichever is larger) the excess return on the average of the category fund or the average treasury bill return. The study used the monthly returns of 91-day Treasury bills to represent risk-free returns.

3.3. Calculating Risk

The Morningstar star rating system considers the maximum risk as the measure of risk. The Morningstar risk is obtained by dividing the maximum risk calculated for the fund by the maximum risk of the relevant category. In the calculation of risk, there are months in which the fund's returns in excess of the risk-free interest rate were negative. The negative returns are summed, and the resulting figure divided by the number of months in the calculation period.

4. FINDINGS AND DISCUSSIONS

Fund data which we used to obtain Morningstar results was provided from the website of Capital Markets Board of Turkey. The results of 57 equity umbrella funds according to the Morningstar risk rating system are shown in Table 1. According to

the results, there are 6 equity umbrella funds with 5-star rating, 13 equity umbrella funds with 4-star rating, 19 equity umbrella funds with 3-star rating, 13 equity umbrella funds with 2-star rating and 6 1-star rated equity umbrella funds.

Table 1: Morningstar Ratings of Funds

RANK	FUNDS	3 YEAR RAW YIELD * 0,4	3 YEAR STAR	5 YEAR RAW YIELD * 0,6	5 YEAR STAR	MORNINGSTAR SCORE	MORNINGSTAR RATINGS
1	Ak Asset Management America Foreign Equity Fund	0,758	*****	0,690	*****	0,717	*****
2	Ak Asset Management European Foreign Equity Fund	0,365	*****	0,078	*****	0,193	*****
3	Yapı Kredi Asset Management Foreign Technnology Sector Equity Fund	0,091	*****	0,050	*****	0,067	*****
4	Ak Asset Management Foreign Securities Fund	-0,113	*****	-0,027	*****	-0,062	*****
5	Gedik Asset Management G-20 Countries Foreign Securities Fund	-0,622	*****	-0,564	*****	-0,587	*****
6	Strateji Asset Management Second Equity Fund	-0,770	****	-1,003	*****	-0,910	*****
7	İş Asset Management Participation Equity Fund	-0,595	*****	-1,163	****	-0,936	****
8	Ak Asset Management Asia Foreign Equity Fund	-1,082	****	-1,485	****	-1,324	****
9	İstanbul Asset Management Equity Fund	-0,943	****	-1,642	****	-1,362	****
10	İş Asset Management BIST Technology Index Equity Fund	-2,052	****	-1,348	****	-1,630	****
11	Ziraat Asset Management Dividend Paying Corporations Equity Fund	-1,793	****	-2,060	****	-1,953	****
12	Gedik Asset Management Second Equity Fund	-1,834	****	-2,037	****	-1,956	****

13	Tacirler Asset Management Equity Fund	-2,387	****	-1,798	****	-2,033	****
14	Ak Asset Management BRIC Countries Foreign Equity Fund	-2,362	****	-1,861	****	-2,061	****
15	Yapı Kredi Asset Management Koc Holding Affiliate and Equity Fund	-2,421	****	-2,306	****	-2,352	****
16	Azimet PYS First Equity Fund	-2,300	****	-2,441	****	-2,385	****
17	Fokus Asset Management Equity Fund	-2,196	****	-2,588	****	-2,431	****
18	Qinvest Asset Management Equity Fund	-2,445	****	-2,548	****	-2,507	****
19	Bizim Asset Management Energy Sector Equity Fund	-2,708	***	-2,666	****	-2,683	****
20	İş Asset Management İsbank Subsidiaries Fund	-2,781	***	-2,705	***	-2,736	***
21	Ziraat Asset Management Equity Fund	-2,593	***	-2,927	***	-2,794	***
22	Gedik Asset Management First Equity Fund	-2,471	****	-3,037	***	-2,810	***
23	Şeker Asset Management Equity Fund	-2,865	***	-2,983	***	-2,936	***
24	Kare Asset Management Equity Fund	-2,933	***	-2,972	***	-2,956	***
25	Ata Asset Management First Equity Fund	-2,864	***	-3,122	***	-3,019	***
26	Strateji Asset Management First Equity Fund	-3,367	***	-2,907	***	-3,091	***
27	Finans Asset Management First Equity Fund	-2,877	***	-3,364	***	-3,169	***
28	Global MD Asset Management First Equity Fund	-3,188	***	-3,378	***	-3,302	***
29	Global MD Asset Management Second Equity Fund	-3,356	***	-3,290	***	-3,317	***
30	İş Asset Management	-3,305	***	-3,343	***	-3,328	***

	Privia Private Equity Fund						
31	İş Asset Management Dividend Paying Corporations Equity Fund	-3,363	***	-3,387	***	-3,377	***
32	İş Asset Management Equity Fund	-3,404	***	-3,407	***	-3,405	***
33	Bizim Asset Management Construction Sector Equity Fund	-3,440	**	-3,407	***	-3,420	***
34	Ak Asset Management Equity Fund	-3,334	***	-3,481	***	-3,422	***
35	Yapı Kredi Asset Management First Equity Fund	-3,414	***	-3,478	***	-3,452	***
36	ING Asset Management First Equity Fund	-3,389	***	-3,511	***	-3,462	***
37	Deniz Asset Management Equity Fund	-3,432	***	-3,517	***	-3,483	***
38	Finans Asset Management Second Equity Fund	-3,466	**	-3,527	**	-3,503	**
39	Garanti Asset Management Equity Fund	-3,567	**	-3,460	***	-3,503	***
40	TEB Asset Management Equity Fund	-3,430	***	-3,572	**	-3,515	**
41	Halk Asset Management Equity Fund	-3,424	***	-3,609	**	-3,535	**
42	Yapı Kredi Asset Management BIST 100 Index Equity Fund	-3,516	**	-3,620	**	-3,578	**
43	Ak Asset Management BIST 30 Index Equity Fund	-3,595	**	-3,676	**	-3,643	**
44	Ak Asset Management BIST Bank Index Equity Fund	-3,515	**	-3,769	**	-3,667	**
45	Yapı Kredi Asset Management BIST 30 Index Equity Fund	-3,702	**	-3,726	**	-3,716	**
46	İş Asset	-3,699	**	-3,790	**	-3,754	**

	Management BIST 30 Index Equity Fund						
47	Vakif Asset Management BIST 30 Index Equity Fund	-3,762	**	-3,774	**	-3,770	**
48	Deniz Asset Management BIST 100 Index Equity Fund	-3,826	**	-3,759	**	-3,786	**
49	Ziraat Asset Management BIST 30 Index Equity Fund	-3,801	**	-3,789	**	-3,794	**
50	HSBC Asset Management BIST 30 Index Equity Fund	-3,785	**	-3,856	**	-3,828	**
51	Finans Asset Management Dow Jones İstanbul 20 (Equity Intensive) Exchange Traded Fund	-3,833	**	-3,829	**	-3,830	**
52	İş Asset Management BIST 30 (Equity Intensive) Exchange Traded Fund	-3,868	*	-3,889	*	-3,881	*
53	Garanti Asset Management BIST 30 Index Equity Fund	-3,909	*	-3,909	*	-3,909	*
54	Finans Asset Management BIST 30 (Equity Intensive) Exchange Traded Fund	-3,965	*	-3,950	*	-3,956	*
55	HSBC Asset Management Equity Fund	-4,153	*	-3,971	*	-4,044	*
56	İş Asset Management BIST Bank Index Equity Fund	-4,449	*	-4,332	*	-4,379	*
57	Finans Asset Management Turkey Large-Cap Banks (Equity Intensive) Exchange Traded Fund	-5,509	*	-5,289	*	-5,377	*

www.spk.gov.tr (Capital Markets Board of Turkey)

When the 57 equity umbrella funds are ranked according to the Morningstar rating system, the first 6 equity mutual funds that have the 5-star rating are, Ak Asset Management America Foreign Equity Fund, Ak Asset Management European Foreign Equity Fund, Yapı Kredi Asset Management Foreign Technology Sector Equity Fund, Ak Asset Management Foreign Securities Fund, Gedik Asset Management G-20 Countries Foreign, Strateji Asset Management Second Equity Fund. The common feature of the first five funds is that they are foreign equity funds. The 6 equity umbrella funds that got the 1-star rating included İş Asset Management BIST 30 Index Equity Fund, Garanti Asset Management BIST 30 Index Equity Fund Finans Asset Management BIST 30 (Equity Intensive) Exchange Traded Fund, HSBC Asset Management Equity Fund, İş Asset Management BIST Bank Index Equity Fund, Finans Asset Management Turkey Large-Cap Banks (Equity Intensive) Exchange Traded Fund. The common feature of these funds is that they follow the index that invests in the indexed assets.

5. CONCLUSION

Mutual funds ensure that funds of investors with savings are managed by professional and reliable managers. To the investors, mutual funds also provide the following benefits.

- The array of securities that can be included into their portfolio like fixed income, foreign exchange indexed, and partnership interest instruments increase their diversification hence the possibility of reducing risks.
- With the valuation and control of securities, resources could be saved on collection and tracking of coupons, interest and dividends since they are carried out under the fund management.
- They provide opportunities for investment in high-potential securities which would otherwise be difficult for small savers.
- Since the value increases in the fund portfolio are reflected daily to the portfolio value, investors can convert their realized earning to cash to the desired amount or even as a whole.
- The portfolio saves time and money due to the large amount of transactions.

Even though mutual funds provide important benefits to investors, questions still persist on which funds investors will invest in. Determination of today's performance of mutual funds acts as an important source of information for comparisons with future performances. In this regard, the study used the Morningstar rating system to evaluate 57 equity umbrella funds operating in Turkey between the periods of January 2012 and December 2016. The results obtained in the study regarding performance rankings and performance are not meant as a prediction of the future performance of the concerned funds, they are only intended to assess the value of the equity umbrella funds at a specific period in the past using an internationally accepted rating system.

It was determined, according to the data obtained, that equity umbrella funds have an overall negative Morningstar performance result. The equity umbrella funds are considered to be underperforming since they performed poorly compared to the Treasury bills used in the study. As can be seen from the table above, only 3 funds have positive Morningstar score's even if 6 funds get the five stars due to Morningstar's rating methodology. Funds with the negative Morningstar scores and raw returns might get high star ratings in this rating system. So that doesn't mean funds that have high stars always outperform and show superior performance. Also, it can be concluded funds that invest foreign securities perform better than the other funds. This might be the result of the lower volatility or in other words might arise from the more stable and sustained performance of the foreign stocks.

Under the assumption that past performance results will continue in the future, it is thought that the results are meaningful and should be followed. But on the other hand, Morningstar rating system should not be used as the sole indicator of the fund performances and should be used as the first step of the fund selection process. After that, it can be used to eliminate the alternatives and distinguish funds. Besides, other determinants related to fund performances need to be considered as well. Even if almost all the performance evaluation methods have several deficits, traditional measures like Sharpe, Treynor, Jensen ratios or the other methods that evaluates funds' performances can be used to get more comprehensive standpoints and to do more accurate analyzes and evaluations.

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THE DETERMINANTS OF EMPLOYEE PERFORMANCE IN JORDANIAN ORGANIZATIONS

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ABSTRACT

Purpose- The study aims to explore the determinants of employees' performance in Jordanian industrial sector, which is traded on the Jordanian stock markets. Specifically, the study looks to explore the impact of employees' satisfaction, management standards and trainings on employee's performance, while employee engagement mediates the relationship between three independant and the dependant variable.

Methodology- A sample of 100 administrative and executive managers is selected from industrial sector of Jordan through convenient sampling. Primary data is collected, distributing 2 questionnaires to each organization; one for the administrative manager and one for the executive manager individually. Structural equation modeling is implemented for quantitative data analysis.

Findings- The study found that employees satisfaction, management standards and trainings are significant factors for employees' performance, having significant impact on employee engagement that ultimately leads towards employees' performance.

Conclusion- Organizations should focus on employee satisfaction, management standards and trainings to enhance their engagement towards work, hence improving their performance.

Keywords: Employees performance, employee satisfaction, management standards, trainings, employee engagement

JEL Codes: L61, J83, J89

1. INTRODUCTION

Business sector is facing fierce competition across the globe thus organizations being aware about the importance of their human resource as a competitive advantage of organization. Employees create competitive advantage for organization through their performance thus organizations are mostly busy in finding out ways to attain highest possible levels of employees' performance (Liao and Chang, 2004). Managers are aimed at achieving corporate goals through enhanced employee performance in an effective and efficient way. Employees' performance may be enhanced through focusing on the factors that significantly influence their performance like their satisfaction (Harter, Schmidt and Hayes, 2002), management standards (Mackay et al, 2004) as well as trainings Liao and Chang, 2004). Due to fierce competition, organizations also try to attract others' best performing employees so that they may capture the competitive advantage in the market thus it has also become crucial for the organizations to retain their existing employees (Ellinger, Ellinger and Keller, 2003). Because organizations spend their resources to bring out the best from their employees like through trainings and developments etc. thus the trained employees are an asset for the organization and no organization wants to give their assets to anyone else. Such assets retain with the organization unless they are satisfied from their jobs (Gitongu, Kingi and Uzel, 2016). Thus, organizations are required to focus on such factors like employees' satisfaction, their trainings etc. to have an enhanced performance from them (Gruman and Saks, 2011). Moreover, the management standards to achieve their goals are also among the factors that are required to be analysed through their role in employees' performance (Mackay et al, 2004).

Thus, organizations are required to focus on the factors that contribute well in enhancing employees' performance because employees' performance has a direct link with the goal attainment of the organization. Employees' performance indicates their efficiency as well as their productivity leading towards organizational goal achievement through their positive contribution as employees' performance will ultimately result in the overall performance of the organization (Markos and

Sridevi, 2010). Thus, organizations have realized the importance of enhanced employees' performance as organizations' goals cannot be achieved unless employees' performance is up to the marks (Anitha, 2014). They are required to focus on the factors that contribute in enhancing employees' performance.

Current research aimed at finding out the impact of such factors on employees' performance through their engagement towards work. Relationships among variables is analysed through structural equation modelling using AMOS because structural equation modelling best explains the relationship among independent and dependant variables in the presence of mediating variable.

The current study incorporates five sections. First section briefly introduces the key concept of study along with its purpose and contribution. Section 2 illustrates the review of previous relevant literature to develop a clear understanding of the variables and their interrelationship. Section 3 incorporates the data and methodology adopted by the study. Section 4 incorporates the findings and discussion. Section 5 is the last one, concluding the whole work.

2. LITERATURE REVIEW

The fierce competition in the business market, emerged due to globalisation, has forced organizations to create a competitive advantage for their survival or to move away from the market. thus, due to such emerging competition the importance of human resource has also been emerged as employees are the important source of competitive advantage (Rich, Lepine and Crawford, 2010). Organizations can enjoy the benefits of such competitive advantage if employees are performing up to the required levels i.e. contributing positively in the organizational growth and goal attainment (Liao and Chang, 2004). Thus, organizations are required to focus on the factors that may contribute positively in enhancing employees' performance to develop and retain the competitive advantage for them.

2.1 Employee Performance

Performance incorporates the resulting outcomes of the performed actions of employees based on their expertise and skills. In organizational settings, employees' performance is the accumulates result of the skills, efforts and abilities of all the employees contributed in organizational improved productivity leading towards its goal achievement. Improved organizational performance indicates the efforts towards goal achievement while requiring more efforts in terms of improved employee performance (Ellinger et al, 2003).

Employee performance is among the critical factors that contribute significantly in organizational success. Learning organizations play important role in enhancing employee performance through providing trainings and developments for their employees (Gitongu et al, 2016). Moreover, management standards to evaluate employee performance also play critical role in improving employee performance as they provide the picture of actual performance and its alignment with the benchmarks. If discrepancies found, then these standards help bringing the outputs again towards their required levels (Mackay et al, 2004). Employees performance also depends on their internal satisfaction towards their job. If employees are satisfied from their jobs as well as the organization than they are more keenly interested to perform well towards organizational goal achievement (Harter et al, 2002).

2.2 Employees' Satisfaction

Employees satisfaction indicates the happy and contented employees as they can fulfil their own desires and requirements through their jobs. Employee satisfaction leads towards their motivation and high morale to perform well enough to achieve the organizational goals (Harter et al, 2002). If organizational goals are aligned with the employees' personal goals than employees feel happier and contented towards their jobs and organizations. Thus, organizations are required to align the organizational goals in terms of employees' personal goal achievement as their satisfaction will lead them to enhance their contribution towards organizational goal achievement (Liao and Chang, 2004). Employee satisfaction can also be gained through treating them with respect, providing them with recognition in the organization, offering benefits beyond industry averages, offering employee perks and empowering them. These factors will contribute well in attaining employee satisfaction that will engage them more towards their work and ultimately improving their contribution towards goal attainment (Ellinger et al, 2003). According to Flammer and Luo (2017), organizations having satisfied employees are mre successful in obtaining higher returns.

2.4 Management Standards

Management standards indicate traditional proven frameworks and methods based on comprehensive models and practice that are up-graded with the evolvment of industry, society and technology over time. Such standards are developed and retained by well-known industry bodies and facilitate organizations to attain success in repeatable manners by providing a consistent approach of evaluation. Management standards are a collection of conditions that illustrate good actions through step by step approach and facilitates the evaluation of current position based on pre-existing techniques, data and surveys (Mackay et al, 2004).

Management standards facilitate identifying the underlying risk factors for the organization and facilitate the employers to focus the basic causes and the ways to prevent such risks. Such standards also facilitate the organization to evaluate its goal achievement through evaluation of its employees' performance by making its comparison with the benchmarks (Gitongu et al, 2016). Management standards serve as a bench mark for evaluating employee performance thus having a direct relation with the employee performance. Management standards are also associated with the employee engagement as when addressed clearly to the employees, these provide a self-evaluation criterion for the employees thus motivating them to be more engaged towards their work to achieve their personal as well as organizational goals (Mackay et al, 2004).

2.5 Training

The success and failure of organizations' employees depends on their performance and it is considered that winning organizations are mostly more concerned about the training and development of their employees knowing that it will aid in employees; knowledge ultimately improving their performance in the organization (Liao and Chang, 2004). Training requirements amplify with the advancement in industry as well as the global markets. Training improves employee performance through developing a sense of teamwork among employees as well as contributing positively towards their knowledge and information about their job (Gruman and Saks, 2011). Trainings providing information about innovation aid more to the employees' knowledge and helps improving employees' performance aligning with the changing requirements of organization, industry and the market. Trainings influence employee performance in a positive manner, thus organizations are more focused about employees' training and development to improve their performance and gain the competitive advantage in the market (Ellinger et al, 2003).

2.6 Employee Engagement

Employees' engagement incorporates the willingness of individuals to completely invest their selves into an organizational role. It is found that when employees are contended with their jobs as well as organizations, they are motivated to contribute in the organization at their maximum level. They provide their complete efforts to attain the organizational goals. Such engagement of employees helps them improving their performance in the organization (Saks, 2006).

Organizations are striving for improving their performance as now enhanced efficiency and productivity is required by the organizations to survive in the market. Thus, management is facing challenges to cope with the fierce competition of the market, hence focusing on improving employees' engagement towards their work ultimately improving their performance (Anitha, 2014). According to Sharma and Anupama (2010) employee engagement is driven by the employee satisfaction because employees are not ready to be engaged with their work unless they are satisfied from their jobs. Organizations providing trainings to their employees are also successful in engaging their employees with their work as trainings help them improve their knowledge and skills and being more skilful towards their jobs they are even more engaged towards them (Mehzri and Singh, 2016).

Management standards are found to be significantly associated with employee engagement as they provide a benchmark for organization to evaluate employees' performance as well as providing such benchmarks for employees for self-assessment. Employees' self-assessment motivates them to be more engaged towards their work so that they can perform up to the mark (Mackay et al, 2004). According to Bailey et al, (2017) employee engagement is positively linked with individual morale and organizational performance.

2.7 Employees' Satisfaction and Employee Engagement

According to Harter et al (2002) employees' when satisfied for their jobs and their organization are found to be more engaged towards their work, thus employee satisfaction leads towards employee engagement. Organizations requiring enhanced performance should focus on satisfying their employees. Employees are satisfied when organizations successfully align their individual goals with the organizational goals, such alignment also attracts them to be more engaged towards their jobs because they are satisfied that organizational goal achievement will ultimately result in their own goal attainment (Mokaya and Kipyegon, 2014).

2.8 Management Standards and Employee Engagement

As management standards are the benchmarks and proven frameworks adopted by the organizations to evaluate performance at different levels. Such standards not only provide benchmarks for the management, but also for the employees to evaluate and compare themselves to improve their contribution towards organization (Mackay et al, 2004). Thus, comparing themselves with the management standards employees are motivated to be more engaged towards their work. While employee engagement ultimately leads them towards improved performance. Management standards also highlight the discrepancies and differences between the required and the actual performance thus facilitate employees to know that how much they are required to be further engaged towards their work to attain their individual and

organizational goals (Rich et al, 2010). According to Saks and Gruman (2014) employees are more capable of facing challenges imposed by organizations or administrative authorities if they are more engaged towards their work.

2.9 Training and Employee Engagement

Organizations focus on training and development of their employees as they have realised the significance of employees as an important source generating competitive advantage for the organization. Trainings contribute positively in enhancing employees' knowledge of their jobs as well as enhance their skills required for the job (Saks, 2006). When employees get all the required skills and knowledge required for their jobs, they are more confident performing it, hence enhancing employee engagement (Mehrzi and Singh, 2016).

2.10 Employees' Engagement and Employee Performance

More engaged employees are found to be more performing ones as it is found that when employees are engaged towards their jobs they try their best to perform up to their maximum possible levels (Anitha, 2014). Hence employee engagement is among one of the major factors influencing employee performance in the organization. When employees are engaged towards their job, they contribute positively in attaining organizational goals, but it only happens when organizations are successful in attaining employees' satisfaction (Rich et al, 2010). According to Markos and Sridevi (2010) satisfied employees are more engaged towards enhancing their performance and contributing well in organizational goal attainment.

The review of previous studies has highlighted the relationships among variables of current study. The literature review indicates that all factors under study are explored in different previous studies, but their combined impact is not studied yet. Thus, current study not only examines their combined impact as well as their relationships in quite different manner. Thus, the proposed conceptual framework is given below that highlights the proposed relationships among all variables of study.

Figure 1: Conceptual Framework

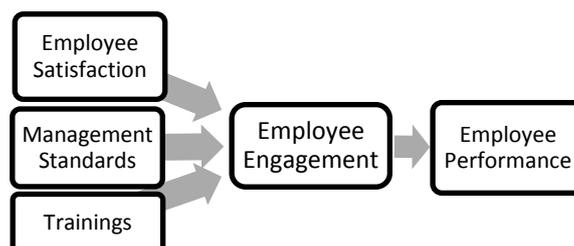


Figure 1 indicates the hypothesised relationship among the variables of study. The conceptual framework indicates that employee satisfaction, management standards and training are the independent variables that influence employee engagement. Employee engagement is the mediating variable of study that being influenced by the independent variables, has an impact on employee performance.

2.11 Proposed Hypothesis

Current study tests the following hypothesis:

Ho1: Employee Satisfaction has significant influence on Employee engagement.

Ho2: Management Standards has significant influence on Employee engagement.

Ho3: Training has significant influence on Employee engagement.

Ho4: Employee engagement has significant influence on Employee Performance.

3. DATA AND METHODOLOGY

Current study adopts quantitative research method collecting data from administrative managers and executive managers of 50 manufacturing firms from Jordanian industrial sector; delivering 2 questionnaires to each firm where one for the administrative manager and one for the executive manager individually. They were asked different questions about

employee satisfaction, management standards, trainings, employee engagement and employee performance. Following questions are asked through questionnaire on a five-point Likert scale indicating 1 for strongly agree to 5 strongly disagree:

1. Employees satisfaction is necessary to get them engaged towards their work.
2. Satisfied employees are more engaged towards their tasks in the organization.
3. Employees' satisfaction engages the employees towards their jobs more keenly, hence resulting in their improved performance.
4. Management standards provide the bench mark to evaluate employee performance.
5. Management standards provide the benchmark for employees for their self-assessment.
6. Employees when find discrepancies among their performance and management standards, become more engaged towards their jobs.
7. Employee training provides them with the necessary skills and knowledge required for their job performance.
8. Employee training makes them more confident towards their jobs.
9. Employee training enhances employees' interest towards their jobs, thus being more engaged towards it.
10. More engaged employees perform well comparatively.
11. Employee engagement enhances employee performance.

Data collected through this questionnaire is organized in SPSS and then analysed through structural equation modelling in AMOS. Descriptive analysis and structural equation modelling are implemented to find out the results of study.

4. FINDINGS AND DISCUSSIONS

The reliability of the measurement scales of study are tested through alpha having minimum acceptable level of 0.7 while alpha values for employee satisfaction, management standards, training, employee engagement and employee performance are 0.86, 0.72, 0.81, 0.79 and 0.84 respectively, hence indicating the internal consistency of the scales. Descriptive statistics, tested through SPSS, for demographics indicate the following results: Table 1: Demographics of Study

Table 1: Demographics of Study

Gender	Male	Female		
Frequency (%)	69.6%	31.4%		
Age	20-30	30-40	40-50	
Frequency (%)	47%	30.5%	22.5%	
Experience	1-5	5-10	10-15	15+
Frequency (%)	21.3%	34.8%	26%	17.9%

The proposed relationships among variables according to the model of study are analysed through structural equation modelling in AMOS while results are drawn based on different fit indices like GFI, CMIN, NFI, RMSEA and chi-square. The null hypothesis proposed by chi-square indicates that estimated model is good fit, indicating that the proposed relationships of variables of study are true. Chi-square value of estimated model is 0.005 with a p-value of 0.932, indicating that chi square has insignificant results, hence could not reject the null hypothesis. Thus, the results obtained from chi-square indicate that the proposed relations are good. The results are further validated by other badness and goodness fit indices. Results are drawn on different criteria like for goodness of fit of the model, CMIN should have lower value, GFI and NFI should have values near to 1. While RMSEA having greater value like near to 1 shows the badness of fit of the estimated model. the results obtained for these indices are as follows:

Table 2: Model Fit Indices

CMIN	GFI	NFI	RMSEA
0.004	0.92	0.93	0.000

The results of indices, shown in table 2 illustrate that the estimated model has goodness of fit according to all indices. Hence, the proposed relationships among the independent, dependant and mediating variables are accurate. Following g regression weights are obtained for the estimated model of study.

Table 3: Regression Weights of Estimated Model

	Estimate	S. E	P
Employee Satisfaction → Employee Engagement	.668	.053	***

Management Standards → Employee Engagement	.197	.028	***
Training → Employee Engagement	.568	.074	***
Employee Engagement → Employee Performance	.178	.039	***

Table 3 illustrates that significant relationships are found among the variables of study. Thus, employee satisfaction, management standards and training have significant positive impact on employee engagement while employee engagement has significant positive impact on employee performance. The obtained results indicate that all the proposed hypothesis of study is supported and can be summarised as follows:

Table 4: Results of Hypothesis

Hypothesis	Result
Ho1: Employee satisfaction has significant influence on employee engagement.	Supported
Ho2: Management standards has significant influence on employee engagement.	Supported
Ho3: Training has significant influence on employee engagement.	Supported
Ho4: Employee engagement has significant influence on employee performance.	Supported

Current study explored the determinants of employee performance. Employee satisfaction, management standards and training are the significant factors influencing the employee performance while having direct impact on employee engagement that ultimately results in enhancing employee performance. The results obtained from empirical testing of data indicate that the variables of study have significant positive relationships among each other. It is found that employee satisfaction has significant positive relationship with employee engagement while employee engagement has significant positive relationship with employee performance. Similarly, management standards and trainings also have significant positive relationship with employee engagement and employee engagement significantly influences employee performance positively. The current study found that employee satisfaction, management standards, and trainings influence employee performance through their engagement towards their work. Thus, employee satisfaction, management standards, trainings and employee engagement are the influencing factors of employee performance. Thus, current study found these four determinants of employee performance.

5. CONCLUSION

Fierce competition in business world has forced the organizations to generate and retain any competitive advantage that is vital for their survival in the market. All economies across the world are facing similar situations due to emergence of globalisation and same is the case with Jordan. Thus, to cope with such situations, organizations have realised the value of human resource as one of the important source generating competitive advantage for the organization. Employees are an important asset of the organization as they contribute positively in organizational goal attainment through their performance. Thus, organizations always try to enhance their performance to lead them towards goal attainment. For this purpose, they are required to find out the factors that contribute positively in enhancing employees' performance. Current study explored such factors and found that employee satisfaction, management standards, trainings and employee engagement are the determinants of employee performance. Satisfied employees are more engaged towards their jobs thus try to improve their performance and their engagement towards work helps them enhancing their performance. Management standards through providing benchmarks leads towards employee engagement. Similarly, trainings contribute in enhancing skills and knowledge of the employees and being more confident after trainings they become more engaged towards their jobs, ultimately focusing on enhancing their performance in the organization. The study found that employee satisfaction, management standards and trainings have significant positive impact on employee engagement that ultimately have significant positive impact on employee performance.

Current study significantly contributes to the knowledge and practice of management through highlighting the determinants of employee performance. The study highlights the importance and positive contribution of different factors towards employee performance. Researchers can further validate the impact of these factors in different aspects. While managers can focus on these factors to enhance their employees' performance to attain their organizational goals. The sample size for study is small as only 100 respondents are involved in the study while such study can be conducted on a large sample to obtain more reliable results. Moreover, the model may incorporate few other factors like employee motivation, employee evaluation etc. it may also explore the mediating role of other factors as well as the direct and indirect impacts of factors can be explored that are not investigated by the current research.

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THE INFLUENCE OF CHARACTERISTICS OF THE BOARD OF COMMISSIONERS, AUDIT COMMITTEE MEETINGS AND AUDITOR TYPE ON INTELLECTUAL CAPITAL DISCLOSURE

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ABSTRACT

Purpose – To analyse the influence of characteristics of the board of commissioners, audit committee meetings and auditor type on the intellectual capital disclosure of service companies listed on the Indonesian Stock Exchange in 2015.

Methodology – The sample size used was 107 service-industry firms listed on the Indonesian Stock Exchange in 2015.

Findings – The frequency of the board of commissioners' meetings, the frequency of the audit committee's meetings and auditor type each have a positive and significant influence on intellectual capital disclosure. Gender diversity in the board of commissioners has a negative and significant influence on intellectual capital disclosure.

Conclusion – The Independent variables board of commissioners meeting frequency, audit committee meeting frequency and auditor type have a positive and significant influence on intellectual capital disclosure. Gender diversity in the board of commissioners has a negative and significant influence on intellectual capital disclosure.

Keywords: Board of commissioners' meeting, gender diversity, audit committee's meeting, auditor type, intellectual capital disclosure.

JEL Codes: M41

1. INTRODUCTION

Intellectual capital is a current topic of discussion due to the fact that companies are no longer competing solely in terms of tangible assets but are also now focusing on intangible assets. Companies' advantages in terms of intellectual capital are expected to enable them to survive in the midst of dynamic competition. In Indonesia, the topic of intellectual capital began to develop following the advent of Indonesian Statement of Financial Accounting Standard/*Pernyataan Standar Akuntansi Keuangan* (PSAK) No. 19 revision 2000 on intangible assets (Faza and Hidayah, 2015).

The disclosure of intellectual capital remains a voluntary activity for a company, and there are no standard rules governing the components and procedures for its reporting. However, this does not mean that intellectual capital disclosure has no effect on those companies that do choose to report it, especially considering the shift in reporting towards integrated reporting, whereby the company focuses not only on financial information but is also beginning to include related information strategy, governance, performance and future prospects, thus providing some clarity in terms of the ways in which a company contributes to the (wider) society.

Research on the effects of intellectual capital disclosure itself has begun to emerge, both inside and outside the country. Widarjo (2011) found that intellectual capital disclosure has a positive effect on corporate value as it is considered able to minimise the level of information asymmetry so that investors can carefully assess and analyse a company for the foreseeable future. Similar research was conducted by Jihene and Robert (2013), who also stated that the disclosure of information related to intellectual capital has a positive influence on the formation of a company's value.

Boujelben and Affes (2013) found that intellectual capital disclosure, especially with regard to the components of human capital and structural capital, could reduce the cost of equity capital of companies listed on the French Stock Exchange. Similarly, Prastiwi and Wulandari (2014), in their research, found that companies that reveal more information related to intellectual capital are considered to encourage greater confidence among those investors associated with the company. A company's reduced cost of capital means that it is able to reduce its stock return rate due to a reduced level of information asymmetry between management and investors.

Taliyang et al. (2014) found that the disclosure of information related to intellectual capital in the company's annual report for firms in the information technology, consumer goods, manufactured goods and financial services industries listed on the Bursa Malaysia had an influence on market capitalisation. Research with similar results has also been carried out by Abdiani and Nugrahanti (2014), finding that companies with high intellectual capital disclosure also have high market capitalisation. Prasanti and Putra (2014) found that a wider disclosure of intellectual capital reduces the amount of underpricing of newly-issued Initial Public Offerings (IPOs).

Some of the above research illustrates that intellectual capital disclosure has the ability to shape the public perception of a company. It should therefore become a reference point for companies to begin focusing on intellectual capital, since if a company has good intellectual capital, then the tendency to disclose information related to its intellectual capital will also increase. In theory, the more information a company discloses, the more positive its perception in the community, meaning that people may become convinced that companies in Indonesia also have a competitive value that is not less than foreign companies.

According to Muttakin et al. (2015), relatively little research has been conducted into the influence of the components of corporate governance implementation on intellectual capital disclosure. In Indonesia, research tracing the relationship of both has started to be developed in recent years. Studies conducted by Yuniasih et al. (2014), Rahim and Wahyudin (2015), Uzliawati (2015) and Wahyuni and Rasmini (2016), as examples, have examined the effect of the board of commissioners on intellectual capital disclosure. Other studies have also been conducted outside Indonesia; for example, Taliyang et al. (2011), Gan et al. (2013), Moeinfar et al. (2013) and Muttakin et al. (2015). Therefore, this research is a replica of research that has been carried out previously and examines the factors that encourage a company to carry out intellectual capital disclosure. Based on this, the researcher will conduct a study entitled 'The Influence of Characteristics of the Board of Commissioners, Audit Committee Meetings and Auditor Type on Intellectual Capital Disclosure'.

This research will demonstrate the impact of non-financial factors, namely the frequency of meetings of the board of commissioners, gender diversity in the board of commissioners, the frequency of audit committee meetings and auditor type on intellectual capital disclosure in service-industry companies listed on the Indonesian Stock Exchange in 2015. Board of commissioners meetings will increase the possibility of discussion regarding intellectual capital disclosure, all the while considering the risks and benefits of disclosing information about intellectual capital. A board of commissioners that has gender diversity will enable it to have a broader view, since women have different ways of thinking and tend to weigh up risks and benefits in more detail than do men. The outcomes of audit committee meetings will be taken by the board of commissioners as recommendations for the company's future; in this case, a recommendation on the level of intellectual capital information a company should disclose in its annual report. Auditor type plays a role in connecting a company with its shareholders and will maintain its image by minimising the degree of information asymmetry in such a way that enables it to advise the company to disclose information related to intellectual capital.

2. LITERATURE REVIEW

According to Certo et al. (2011), signalling theory has three important components. The first component is the signaller. A signaller is a party who is directly involved with a company and who knows all of the information related to the company concerned. The second component is the signal. The signal comprises the information that the signaller knows, both positive and negative. This information is special because it is known only by the signaller. The final component is the receiver; a party lacking information about a company but who wants to obtain this information (i.e. the signal). Signalling theory focuses on the communication that takes place between the signaller and receiver to reduce the occurrence of information asymmetry. Usually, such communication conveys positive information about a company so that the company becomes a positive value in the eyes of stakeholders. In order for this aim of the signalling to be achieved, the signaller will provide information that will trigger the receiver to perform a favourable action based on the information received from the signaller.

2.1. Intellectual Capital Disclosure

According to the OECD (2008), intellectual capital comprises non-physical resources that are used for the establishment of value in the future. Sveiby, in Unerman et al. (2007), states three categories of intellectual capital: (1) Internal (Structural)

Capital; (2) External (Relational) Capital; and (3) Competence (Human) Capital. A company's disclosure of intellectual capital is voluntary; however, it is something that companies are increasingly required to do due to the fact that nowadays they compete in areas such as innovation, ideas and creativity. According to Siahaan (2005), the disclosure of intellectual capital by a company provides valuable information to investors that can help them to reduce the level of uncertainty pertaining to the company's future prospects and aid their evaluation of the company. Intellectual capital disclosure is thus a tool with which a company is able to communicate with stakeholders (Chariri and Pratama, 2013). According to Ismail, in Neysi et al. (2012), the content of a company's intellectual capital disclosure relates to its intangible assets and the results of its knowledge-based activity.

Intellectual capital disclosure is able to produce not only credibility for the company in the eyes of its employees and stakeholders, it can also help prevent financial loss and the spreading of rumours that can affect the company's reputation. A company will include intellectual capital disclosure in its annual report with the aim of assisting it in the areas of strategy formulation, evaluating the implementation of its strategies and assisting in withdrawal decisions related to diversification and expansion, in addition to serving as the basis of its compensation and communication to external shareholders (Marr et al. (2003), in Taliyang (2011)).

2.2.Characteristics of the Board of Commissioners

According to Indonesian Financial Services Authority/Otoritas Jasa Keuangan (OJK) Regulation number 33 /POJK.04/2014 Chapter I Article 1 Subsection 3, the Board of Commissioners is a public company that has a duty to carry out either general supervision or supervision that is specifically related to a base calculation, as well as giving advice to management. The board of commissioners can thus affect the performance of a company through its use of strategic supervision and the degree of control it exerts over management. The board of commissioners develops a company's strategy, protects shareholders' rights and also oversees the work of its directors and the company's operational performance. The board of commissioners usually becomes visible in the event that a company faces a financial crisis.

2.3.Meeting Frequency of the Board of Commissioners

Meetings of the board of commissioners are held when the company wishes to take decisions related to policy. In its meetings, the board of commissioners will discuss the performance, activity and mechanisms in place within the company. The commissioners should ensure that meetings of the board as well as those of any related committees are conducted according to an agreed schedule/agenda, and members of the board of commissioners should have sufficient time to enable them to perform their duty. The board of commissioners of a company should ensure there are regulations in place with regard to its members also serving on the boards of commissioners of other companies.

OJK Regulation number 33 /POJK.04/2014 Chapter III Third Section Article 31 Subsection 1-4 states that the board of commissioners must conduct a meeting at least once every two months, at which a majority of the members must be present. The board of commissioners must also hold a meeting with management at least once every four months. Such meetings provide the opportunity for more in-depth discussion to take place in relation to the company's intellectual capital disclosure.

H1: The frequency of meetings of the board of commissioners has a positive effect on intellectual capital disclosure.

2.4. Gender Diversity in the Board of Commissioners

According to Indonesia Company Law (ICL) 2007 Article 108 section 5, a company whose activity is related to the accumulation or management of funds from the society, the issuing of debt to the public, as well as the public company, should have a board of commissioners comprising at least two members. In practice, however, there is no firm regulation in Indonesia stating that a company's board of commissioners must contain any female members, or, if there are female members, how many the board should contain. However, there is a growing tendency all over the world for boards of commissioners to contain female members.

There is a tendency for boards of commissioners with a more balanced male/female ratio to more effectively identify the criteria required for strategy formulation. Females tend to obey the code of conduct and ensure that communication is good as well as focus on the non-financial measurements of performance such as employee and customer satisfaction, diversity and social responsibility.

H2: Gender diversity in the board of commissioners has a positive effect on intellectual capital disclosure.

2.5. Meeting Frequency of the Audit Committee

The audit committee is a committee that operates under the board of commissioners and plays an important role in the delivery of good corporate governance. The duty of the audit committee is to assist in the control function that is

conducted by the board of commissioners. The audit committee is in charge of overseeing the integrity of the company's financial reports and qualification. It monitors the independence of the company's external auditors and the performance of both the internal audit and external auditors, in addition to preparing the company's annual report for settlement by the OJK (Indonesia's CG Manual).

As with the board of commissioners, the audit committee also meets periodically. OJK Regulation number 55 /POJK.04/2015 Chapter IV Article 13-16 states that meetings of the audit committee must be held at least once every three months. Meetings conducted by the audit committee will give impact to the board of commissioners in terms of its provision of suggestions for withdrawal decisions; thus, frequent meetings of the audit committee will indirectly increase the possibility of intellectual capital disclosure.

H3: Meeting frequency of the audit committee positively affects intellectual capital disclosure.

2.6.Types of Auditor

The independence of its external auditors is one of the important elements of control conducted by the company. An independent audit that is conducted by an audit office, the results of which are made available to the public, has the effect of increasing the credibility of a company as well as attracting investors (Indonesia's CG Manual). There are two kinds of Public Accounting Firms/Kantor Akuntan Publik (KAP) in Indonesia: KAPs affiliated with the Big Four (Price Waterhouse Coopers, Ernst & Young, Deloitte and KPMG), and KAPs that are not affiliated with the Big Four. The external auditor is responsible for acting as a bridge between the company and its stakeholders. The larger the size of the independent external auditing firm, the more the independent external auditor is able to protect the company's reputation. This can be seen in the quality of the audit that is conducted, whereby the independent external auditors will seek to minimise the degree of information asymmetry that occurs.

H4: The type of auditor positively affects intellectual capital disclosure.

3. DATA AND METHODOLOGY

3.1. Sample and Data

The population of this research comprised the 302 companies operating in the service sector that were registered on the Indonesian Stock Exchange in 2015. The sample of companies used was determined using the non-probability sampling method, which gave a sample size of 107 companies.

Table 1: Sampling Criteria

Criteria	Number
Service-industry companies listed on the Indonesian Stock Exchange in 2015	302
Companies that did not publish an annual report in 2015	(18)
Companies that have zero women on their Board of Commissioners in 2015	(162)
Companies with no clear explanation regarding the meeting frequency of its Board of Commissioners and/or Audit Committee	(15)
Sample size	107

3.2. Research Variables

Intellectual capital disclosure was measured using Indonesia's Intellectual Capital Disclosure developed by Ulum (2015), wherein the measurement was adjusted to the condition of the annual report in Indonesia with reference to the Decision of the Chairman of the Capital Market and Financial Institutions Supervisory Agency/Badan Pengawas Pasar Modal dan Lembaga Keuangan (BAPEPAM) and LK Number: Kep-431 / BL / 2012 concerning Submission of Issuer's Annual Report or Public Company. The items measured are as follows:

Table 2: Intellectual Capital Disclosure Measurement Items

Internal Capital	External Capital	Human Capital
1. Vision and Mission	1. Brand	1. Number of employees
2. Ethics code	2. Customer	2. Educational level
3. Patent right	3. Customer loyalty	3. Employees' qualification
4. Copyright	4. Company name	4. Employees' knowledge
5. Trademarks	5. Distribution network	5. Employees' competence
6. Management philosophy	6. Business collaboration	6. Education and training

7. Organisational culture	7. Licence agreement	7. Related training types
8. Management process	8. Profitable contracts	8. Employee turnover
9. Information system	9. Franchise agreement	
10. Network system	10. Acknowledgement	
11. Cooperate governance	11. Certification	
12. Violation reporting system	12. Marketing strategy	
13. Comprehensive financial performance analysis	13. Market share	
14. Debt paying ability		
15. Capital structure		

The calculation of intellectual capital disclosure was carried out using the content analysis method. The company's annual report was then scored 1 (one) if the company discloses the attributes in the intellectual capital disclosure assessment scheme, and 0 (zero) if the company does not disclose the attributes of the intellectual capital disclosure (Wahyuni and Rasmini, 2016). Measurements were then made by dividing the actual number of scores achieved by the company with the supposed total number of scores.

The independent variables are the frequency of meetings of the board of commissioners as measured by the number of meetings of the board of commissioners during the observation year; gender diversity in the board of commissioners, measured by the percentage of female members in the board of commissioners; the frequency of audit committee meetings as measured by the number of board meetings during the observation year; and auditor type, measured using a dummy variable, i.e. 1 (one) for companies audited by a KAP affiliated with the Big Four and 0 (zero) for companies audited by a KAP not affiliated with the Big Four.

3.3. Data Analysis Method

The data collected based on observations then had to pass a series of classical assumption tests in the form of a normality test, multicollinearity test, heteroscedasticity test and autocorrelation test. Data that passed all four of these tests were then subjected to hypothesis testing. This was conducted by multiple regression analysis, using the following equation:

$$ICDScore = \alpha + \beta_1 BOC_{Meeting} + \beta_2 BOC_{Gender} + \beta_3 AC_{Meeting} + \beta_4 AUD_{Type} \quad (\text{Formula 1})$$

ICD = Intellectual Capital Disclosure Score

$BOC_{Meeting}$ = Frequency of Meetings of Board of Commissioners

BOC_{Gender} = Percentage of Women as Members of Board of Commissioners

$AC_{Meeting}$ = Meeting Frequency of Audit Committee

AUD_{Type} = Type of Auditor

α = Constant

$\beta_1 \dots \beta_n$ = Direction of regression coefficient

4. FINDINGS AND DISCUSSION

The classic assumption tests were carried out, with no problems to report. The value of F in the model used is 15.798, which is greater than the F table (15.136 > 2.46). As for the p-value, the value of Sig. is 0.000, which is less than 0.05 (0.000 < 0.05). This means that the model is feasible to use. The value of the Adjusted R Square in the model used for this research is 0.358. This means that the variables Frequency of Meetings of Board of Commissioners, Gender Diversity in the Board of Commissioners, Meeting Frequency of Audit Committee and Type of Auditor affect the intellectual capital disclosure by 35.8%, with the remaining 64.2% influenced by other variables of value that arise from the regression model as well as the results of the hypothesis test.

The regression value of this study is as follows:

$$ICD = 0.409 + 0.006 BOC_{MEET} - 0.279 BOC_{GENDER} + 0.007 AC_{MEET} + 0.054 AUD_{TYPE} + \epsilon$$

4.1. First Hypothesis

A t value of 2680 was obtained, and the value of t was greater than the t table ($2.680 > 1.98350$), thereby indicating that the frequency of board meetings positively affects intellectual capital disclosure. The probability value of t for board meeting frequency was 0.009, where the probability value of t is smaller than 0.05 ($0.009 < 0.05$), thus the effect is significant. Hypothesis 1 is therefore accepted. The greater the frequency with which the board of commissioners meets during a year, the greater the level of information disclosure related to intellectual capital in the company's annual report.

The board of commissioners has two main functions in relation to corporate governance, namely an advisory function, whereby it provides advice to management related to the company's strategic and operational plan; and a supervisory function, whereby it oversees the performance of the company. Both of these functions carry a responsibility, one of which is the responsibility of the board of commissioners to protect the company's reputation. Both functions can be achieved if the board of commissioners of a company is running effectively. Meetings can also be used to measure the effectiveness of a company's board of commissioners. This is because in the meeting, the board of commissioners will discuss the strategic steps that need to be taken by the company to improve the quality and value of the company in the eyes of the public; thus, the more often the board of commissioners meets, the greater the level of discussion concerning what should be disclosed to the community. This will be regarded as greater openness on the part of the company in this era of information transparency, whereby the information provided is also capable of yielding benefits for the company, one of which is the disclosure of intellectual capital.

The disclosure of intellectual capital thus becomes one of the strategic steps that a company can take to improve its reputation, which can then be discussed and decided at the board of commissioners' meeting. This refers to signalling theory, wherein intellectual capital disclosure is considered to be able to signal to investors that a company is worthy of their trust (Chariri and Pratama, 2013). The results of this study support research previously conducted by Uzliawati (2015) and Siahaan and Wahidahwati (2015).

4.2. Second Hypothesis

A t value of 3.425 was obtained, with the value of t being greater than the t table ($3.425 > 1.98350$) and with a negative sign, which indicates the opposite direction; thus, gender diversity in the board of commissioners negatively affects intellectual capital disclosure. The probability value of t for gender diversity in the board of commissioners is 0.001, where the probability value of t is less than 0.05 ($0.001 < 0.05$), meaning the effect is significant. That means that Hypothesis 2 is not accepted. A greater proportion of women in the composition of the board of commissioners will actually reduce the level of intellectual capital disclosure undertaken by a company. Women will instinctively consider risks more mature a greater extent than men, but men are more likely to be risk-takers than women. On the one hand, companies that disclose information related to their intellectual capital run the risk of this information becoming known to their competitors, yet, on the other hand, it can also bring benefits to the company in terms of reputation. And in an era in which companies are under pressure to provide transparency, men are more likely to make decisions about the steps a company needs to take in order to maintain its value in the eyes of the public.

Another element that supports the emergence of these results concerns aspects of the social and cultural values that are present in Indonesia. Indonesia retains a patriarchal culture, whereby men wield greater power than women. Decisions on whether or not to disclose information pertaining to intellectual capital are typically made by the president of the commissioners as part of the strategic planning process, and the majority of the commissioner positions are occupied by men. The lack of women who sit on boards of commissioners, especially those who serve as president of the board of commissioners, acts as proof of the high level of gender inequality in Indonesia.

In relation to signalling theory, a significant negative relationship between gender diversity and intellectual capital disclosure indicates that the presence of women on the board of commissioners may still not be a good signaller in terms of information related to intellectual capital. This is probably due to a lack of competence on the part of those women who do sit on boards of commissioners, particularly with regard to the understanding related to intellectual capital disclosure. The results of this study contradict the research conducted by Yuniasih et al. (2014).

4.3. Third Hypothesis

An arithmetic t value of 2818 was obtained, with the value being greater than that shown in the t table ($2.818 > 1.98350$), thus indicating that audit committee meeting frequency positively affects intellectual capital disclosure. The probability value of t for board meeting frequency is 0.006, where the probability t value is less than 0.05 ($0.006 < 0.05$), thus indicating that the effect is significant. This means that Hypothesis 3 is accepted. The more often the audit committee meets during the course of a year, the greater the level of intellectual capital disclosure of a company.

The audit committee is established by the board of commissioners in order to assist it in the execution of its advisory and oversight functions. One of the oversight functions for which the audit committee is responsible is overseeing the company's financial statements and disclosures. The implementation of this responsibility thus becomes part of the agenda for the audit committee's meetings, whereby the committee reviews the financial information to be issued by the company and ensures the reliability of the company's financial statements. Matters relating to the information that will be included in the company's annual report will also be discussed as part of the audit committee's meetings. The more frequently the audit committee convenes, the greater the opportunity for its members to discuss the items to be included in the information with regard to intellectual capital, taking into consideration that today's stakeholders rely on both Financial and non-financial information. According to Karamanou and Vafeas, in Sudarno and Prameswari (2014), the greater the amount of time an audit committee spends in its meetings, the more efficient its monitoring with regard to a company's report.

In relation to signalling theory, in conducting its meetings to review the financial statements and disclosure, the audit committee ensures that the company's annual report includes not only the mandatory information that investors consider, but also includes voluntary information, since the greater a company's voluntary disclosure of information, the greater the signal sent out by the company concerning its transparency, meaning that the company increasingly has value in the eyes of the public. The results of this study are in line with those from research conducted by Uzliawati et al. (2014) and Wahyuni and Rasmini (2016), but they are contrary to the results obtained by Ghorbel and Hela (2016).

4.4. Fourth Hypothesis

An arithmetic t value of 2,046 was obtained, with the value of arithmetic t being greater than in the table ($2.046 > 1.98350$), meaning the type of auditor positively affects intellectual capital disclosure. The probability value of arithmetic t for auditor type is 0.043, which is smaller than 0.05 ($0.043 < 0.05$), so the effect is significant. This means that Hypothesis 4 is accepted. A KAP which is affiliated with the Big 4 audit firms is allegedly able to persuade its clients to disclose more voluntary information as a measure to maintain its reputation as a large KAP affiliation, since the value of a KAP is perceived by how the users of financial statements use the information contained in audited reports. This is supported by the collateral theory which states that a KAP which is affiliated with the Big 4 will continue to maintain its position in the market by providing independent, accurate and beneficial reports on user reports since the reputation of the KAP becomes a guarantee of the quality of the audits it performs on its clients (DeAngelo in Vaicekauskas, 2014).

The quality of the audit performed by a Big 4-affiliated KAP tends to be better than that carried out by a KAP that is not affiliated with the Big 4. A KAP which is affiliated with the Big 4 has better independence and competency than a KAP which is not affiliated with the Big 4. A KAP that is affiliated with the Big 4 has more better-qualified auditors and the job rotation that is taken to maintain its independence is better than in a KAP which is unaffiliated with the Big 4 (Vaicekauskas, 2014). The competence of the auditors at a Big 4-affiliated KAP is greater due to there being more specialised and skilled auditors, better system support and greater incentives to support the achievement of quality audit results due to tighter regulation and more frequent inspections (Che et al., 2016). Due to the advantages that exist in terms of independence and the competence of the auditors working at a KAP which is affiliated with the Big 4, the company as a client also tends to consider more of the suggestions that are given by the auditor; in this case, one of the suggestions involves increasing the level of information disclosure related to the company, which will in turn encourage the company to make greater disclosures related to intellectual capital in their financial reports. The use of the services of a KAP which is affiliated with one of the Big 4 audit firms also serves to signal to the users of the financial reports that the information provided by the company is more trustworthy and reliable (Aprisa, 2016). The results of this study support research conducted by Branco et al. (2012) and Aprisa (2016), but they are contrary to the research of Al-Hamadeen and Suwaidan (2014).

Table 3: Comparative Results of the 4 Hypotheses

Hypothesis	Result
Frequency of meetings of the board of commissioners positively affects intellectual capital disclosure.	The frequency of meetings of the board of commissioners positively and significantly affects intellectual capital disclosure. Therefore, Hypothesis 1 is accepted.
Gender diversity in the board of commissioners positively affects intellectual capital disclosure.	Gender diversity in the board of commissioners negatively and significantly affects intellectual capital disclosure. Therefore, Hypothesis 2 is not accepted.
Meeting frequency of the audit committee positively affects intellectual capital disclosure.	Meeting frequency of the audit committee positively and significantly affects intellectual capital disclosure. Therefore, Hypothesis 3 is accepted.
Auditor type positively affects intellectual capital disclosure.	Auditor type positively and significantly affects intellectual capital disclosure. Therefore, Hypothesis 4 is accepted.

5. CONCLUSION

The results of this study indicate that of the four independent variables studied, the variables frequency of board of commissioners meeting, audit committee meeting frequency and auditor type have a positive and significant influence on intellectual capital disclosure. Gender diversity in the board of commissioners, however, has a negative and significant influence on intellectual capital disclosure.

This study has some limitations, including the use of non-financial independent variables only, research objects that cover only the service sector and the fact that the period of the study covers only the year 2015. It is thus suggested that subsequent research adds other independent variables such as ownership type or industry type in addition to financial variables such as firm size or leverage. It is also suggested that other sectors are included, such as the manufacturing sector or main sector, and also that the period of years of the research is extended.

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