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RESEARCH ARTICLE

DETERMINANTS OF THE STOCK RETURNS FOR SELECTED INDUSTRIAL COMPANIES LISTED IN THE JORDANIAN AMMAN STOCK EXCHANGE

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ABSTRACT

The paper's problem lies in seeking to identify the determinants governing stock returns in the industrial sectors, specifically in the food and drinks companies in Amman Stock Exchange. The paper aims to discuss the impact of inflation on the stock returns; gross domestic product on the stock returns; and government expenditure on the stock returns of selected food and drinks companies listed in Amman Stock Exchange from 2007 to 2016. The paper found that there isn't any statistically significant impact for inflation on the stock returns; there isn't any statistically significant impact for gross domestic product; and there isn't any statistically significant impact for government expenditure on the stock returns of the food and drinks companies in Amman Stock Exchange. The study's significance arises from the significance of investigating the determinants affecting the stock returns. In other words, stock returns are used for identifying the earning per share of the net profit of the concerned period. Gaining stock returns is considered the main goal of various companies that belong to different economic sectors.

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INTRODUCTION

Financial markets are considered a significant tool for trading securities between investors. In such markets, the processes of exchanging securities between investors are governed by a certain price determined in the financial market based on the demand – supply related factors. Such markets play a significant role in influencing the social and economic development processes and increasing the savings of individuals and institutions. That shall lead to increasing the activity of the financial market and its ability to compete with global markets (Al-Rawashdeh, 2010). The main goal of investing in securities is represented in seeking to magnify wealth through gaining stock returns. Such returns are considered one of the most significant factors that affect one's choice in choosing the optimal investment to invest in that is desired by investors. In order for the investor to make the best investment decision in stock exchange for achieving high returns associated with low risks, adequate information must be available for predicting future stock returns.

Statement of the problem

The paper's problem lies in seeking to identify the determinants governing stock returns in the industrial sectors – specifically in selected food and drinks companies listed in

Amman Stock Exchange between 2007 to 2016. Based on the aforementioned, the study's problem is represented in seeking to provide answers for the following questions:

- Is there any statistically significant impact for inflation on the stock returns of selected food and drinks companies listed in Amman Stock Exchange?
- Is there any statistically significant impact for gross domestic product on the stock returns of the food and drinks companies listed in Amman Stock Exchange?
- Is there any statistically significant impact for government expenditure on the stock returns of selected food and drinks companies listed in Amman Stock Exchange?

The Study's Significance

The study's significance arises from the significance of investigating the determinants affecting the stock returns. For instance, stock returns are considered as a financial indicator used for measuring the profitability of each share in JDs. In other words, stock returns are used for identifying the earning per share of the net profit of the concerned period. Gaining stock returns is considered the main goal of various companies that belong to different economic sectors. The present study aimed at identifying the determinants affecting stock returns of the industrial sector, specifically in the food and drinks companies in Amman Stock Exchange.

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The study's objectives

This paper aims at achieving the following:

- Identifying the impact of inflation on the stock returns of selected food and drinks companies listed in Amman Stock Exchange.
- Identifying the impact of gross domestic product on the stock returns of selected food and drinks companies listed in Amman Stock Exchange.
- Identifying the impact of government expenditure on the stock returns of selected food and drinks companies listed in Amman Stock Exchange.

The study's hypotheses

The researcher of the present study proposed the following null hypotheses:

- H0.1:** There isn't any statistically significant impact for inflation on the stock returns of selected food and drinks companies listed in Amman Stock Exchange.
- H0.2:** There isn't any statistically significant impact for gross domestic product on selected stock returns of the food and drinks companies listed in Amman Stock Exchange.
- H0.3:** There isn't any statistically significant impact for government expenditure on the stock returns of selected food and drinks companies listed in Amman Stock Exchange.

Overview

The concept and goals of financial markets

A financial market refers to an organization at which buyers and sellers meet with each other to buy and sell a certain type of securities or certain financial asset through brokers or companies specialized in this field. The term financial market refers to the place or setting at which the buyer meets the seller indirectly through brokers or directly to circulate various kinds of securities (stocks and bonds) through buying and selling them. The financial market aims at achieving the following (Yousif, 2008):

- Providing a market that is characterized with fairness, efficiency, and transparency, and providing a strong and safe environment for trading securities.
- Increasing savings through investing them in trading securities in a way that serves the national economy.
- Organizing the process of issuing securities, facilitating the process of trading them and increasing the velocity of their circulation.

The advantages gained by the financial markets

The most significant advantages gained by the financial markets for the favor of the national economy are the following ones:

- The financial market is considered a tool for collecting savings and invest them in safer places under the supervision of the state. The average of citizens' savings is estimated to be 13 % of their income.

- Providing an index about price trends, savings rate, and investment conditions.
- Attracting foreign investors to invest their money in local companies in accordance with the investment law and administrative procedures that govern the economic activity.

The factors affecting stock returns

There are several factors that affect companies' stock returns. These factors are the following: (Yousif, 2008).

First: Internal factors:

They refer to the factors that concern the company' internal environment which can be controlled by the company. Such factors may include:

- **Capital size:** Having an increase in the company's capital size shall lead to an increase in the investment operations conducted by the company. That shall affect the company's stock returns
- **Number of employees:** Having a high number of employees is considered as an indicators for the production size and quantity. Thus, having a high number of employees is considered an indicator of the company's stock returns.

Second: External factors:

They refer to the factors that affect the outcomes of the company's operations. These factors can't be controlled by the company. Such factors may include:

- **The interest rate:** Having a rise in the interest rate shall lead to a decrease in the number of available investment opportunities that companies seek to seize. Thus, that shall reduce the company's stock returns.
- **Inflation:** Inflation leads to a significant increase in the prices of goods and services. That shall lead to an increase in the company's stock returns.
- **Government expenditure:** Having an increase in the government expenditure shall lead to increasing the investment opportunities. That shall positively affect the stock returns.
- **Gross domestic product:** Having an increase in the gross domestic product shall lead to an increase in the production size and number of available investment opportunities. That shall positively affect the company's stock returns.

Literature Review

Shanini (2014) conducted a study titled (The impact of the credit policy on the stock returns of the companies in the financial market: A sample chosen from the companies in Kuwait Stock Exchange for the period (2010 – 2012). The present study aimed at identifying the impact of the credit policy on the stock returns of the industrial companies in the financial market during the period (2010 – 2012). The study's sample consists from thirty four (34) industrial companies in the financial market. A model was built for conducting a linear regression analysis. This model connects the study's variables with each other and analyze them through using the least

squares method. The latter study concluded that there is a statistically significant positive correlation between the stock returns from one hand and the ratio of the long term debts to the total assets from another hand. Al-Sbahi and Al-Hamdouni (2012) conducted a study titled: (The relationship between financial leverage and stock returns: A sample chosen from the Jordanian Joint Stock Companies) The present study aimed at exploring the relationship existing between financial leverage and the stock returns of Jordanian joint stock companies during the period (2005 – 2009). The sample of the latter study consists from a group of Jordanian joint stock companies. The researcher of the latter study developed a model for conducting a linear regression analysis. This model connects the study's variables with each other and analyze them through using the least squares method. The latter study concluded that there is a statistically significant positive relationship between the stock returns from one hand and the financial leverage from another hand.

Ateya (2012) conducted a study titled (An analysis for the substantive factors affecting the stock market performance with reference to the Iraqi stock market). The present study aimed at identifying the most significant substantive factors affecting the circulation of stocks and bonds in stock market performance with reference to the Iraqi stock market. The latter study adopted a deceptive approach in identifying the substantive factors affecting the circulation of stocks and bonds. That was done through using diagrams and tables and conducting a comparison. The latter study focused on money supply variable in its broad and narrow meaning. It also focused on the following variables: exchange rate, inflation, interest rate, and returns of securities (stocks and bonds). It was concluded that there is a positive impact for money supply, and exchange rate on the stock market performance. It was also concluded that there is a negative impact for interest rate on the stock market performance. Yousif (2008) conducted a study titled (Identifying the factors affecting the stock returns in Amman Stock exchange). The present study aimed at identifying the external and internal factors affecting the stock returns of the companies in Amman Stock exchange during the period (2000 – 2006).

The study's sample consisted from sixty (60) joint stock companies in Amman stock exchange. These companies represent a percentage of 30 % from all the joint stock companies in Amman stock exchange. The researcher of the latter study collected the data about the sampled companies. Such data is related to their stock returns, and independent variables. Such variables include internal and external factors. The internal factors include: (number of the company's employees and the company's capital size). As for the external factors, they include: (inflation, interest rate, surplus or deficit of the balance of payments, the deficit of the government budget, and gross domestic product). The researcher of the latter study developed a model for conducting linear regression analysis. It was concluded that there is a statistically significant relationship between stock returns from one hand and (monetary inflation, interest rate, number of employees, and the company's capital size) from another hand. It was also concluded that there isn't any statistically significant relationship between stock returns from one hand and (surplus or deficit of the balance of payments, the deficit of the government budget, and gross domestic product) from another hand. Bilal et al. (2013) conducted a study titled: (Influence of Bank Specific and Macroeconomic Factors on Profitability of

Commercial Banks: A Case Study of Pakistan). The latter study aimed at identifying the impact of major internal determinants affecting the profitability of commercial banks in Pakistan during the period (2011 – 2007). These determinants are represented in the following: (deposit to assets ratio, bank size, and the ratio of capital, net interest margin, and troubled loan to the total value of loans). The latter study aimed at identifying the impact of macroeconomic factors on the profitability of commercial banks in Pakistan during the period (2011 – 2007). These macroeconomic factors include: (inflation, industry growth rate, and the actual gross domestic product). In order to achieve the goals of the latter study, a model was built for conducting a linear regression analysis. It was concluded that there is a positive impact for bank size, net interest margin, and industry growth rate on the return on assets and return on equity. It was also concluded that there is a negative impact for the ratio of troubled loan to the total value of loans on the return on assets. It was also concluded that there is a negative impact for inflation on the return on assets. It was also concluded that there is positive impact for the ratio of capital to the total value of loans on the return on equity.

Methodology and Outcomes

The present study adopted an analytical descriptive approach. That was done through developing a model for conducting a linear regression analysis. The return on assets and the economic variables for the selected companies listed in Amman Stock Exchange between 2007 to 2016 are available in Appendix (1) and Appendix (2) respectively.

The study's mathematical model

The study's mathematical model is represented in the following:

$$ROA = \alpha + \beta_1 \text{CPI} + \beta_2 \text{GDP} + \beta_3 \text{GE}$$

Whereas:

ROA: Return on Assets

CPI: Consumer Price Index

GDP: gross domestic product

GE: Government expenditure

$\beta_1, \beta_2, \beta_3$: Regression coefficient

α : constant value

The study's population and sample

The study's population: It consists of all the industrial companies in Amman Stock exchange.

The study's sample: It consists of all the industrial companies working in the food and drinks industry.

Statistical Analysis Results

Results of testing the first hypothesis

H0.1: There isn't any statistically significant impact for inflation on the stock returns of the food and drinks companies in Amman Stock Exchange.

The following table presents the results of testing the first hypothesis:

Table 1. Model summary for the first hypothesis test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.071 ^a	.005	-.005-	2.26082E14

a. Predictors: (Constant), CPI

Based on table (1), the following can be concluded:

- The value of the regression coefficient (R) between inflation and return on assets is (7.1 %). That means that there is a weak positive correlation between the two variables.
- The coefficient of determination (R²) is 0.005. That means that the independent variable (i.e. inflation) can interpret (0.005 %) of the changes that occur in the dependent variable (i.e. return on assets). It means that there are other factors that can interpret 99.995 % of the changes that occur in the dependent variable.

Results of the regression equation of the first hypothesis

The following table presents results of the regression equation of the first hypothesis:

Table 2. Results of the regression equation of the first hypothesis

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.22312	1.646E14		.044	.965
	CPI	-1.12712	1.610E12	-.071-	-.700-	.486

a. Dependent Variable: ROA

Table 3. Model Summary for the second hypothesis test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.067 ^a	.004	-.006-	2.26138E14

a. Predictors: (Constant), GDP

Table 4. Results of the regression equation of the second hypothesis Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6.95013	6.064E13		-1.146-	.255
	GDP	-3.2639	4.912E9	-.067-	-.664-	.508

a. Dependent Variable: ROA

Table 5. Model Summary for the third hypothesis test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.055 ^a	.003	-.007-	2.26309E14

a. Predictors: (Constant), EXP

Based on Table (2), it can be concluded that the statistical significance value (sig.) is 486 which is not statistically significant at the significance level of ($\alpha \leq 0.05$). Based on that, the alternative hypothesis shall be rejected and the researcher shall accept the null hypothesis which states the following:

H0.1: There isn't any statistically significant impact for inflation on the stock returns of the food and drinks companies in Amman Stock Exchange.

As for the regression equation, it can be written in the following form:

Return on assets = 7.22312 – 1.12712 * inflation.

Results of testing the second hypothesis

H0.2: There isn't any statistically significant impact for gross domestic product on the stock returns of the food and drinks companies in Amman Stock Exchange.

The following table presents the results of testing the second hypothesis:

Based on Table (3), the following can be concluded:

- The value of the regression coefficient (R) between gross domestic product and return on assets is 6.7 %. That means that there is a positive weak relationship between the two variables.
- The coefficient of determination (R²) is 0.004. That means that the independent variable (i.e. gross domestic product) can interpret (0.004 %) of the changes that occur in the dependent variable (i.e. return on assets). It means that there are other factors that can interpret 99.995 % of the changes that occur in the dependent variable.

Results of the regression equation of the second hypothesis

The following table presents results of the regression equation of the second hypothesis:

Based on table (4), it can be concluded that the statistical significance value (sig.) is (0.508) which is not statistically significant at the significance level of ($\alpha \leq 0.05$). Based on that, the alternative hypothesis shall be rejected and the researcher shall accept the null hypothesis which states the following:

H0.2: There isn't any statistically significant impact for gross domestic product on the stock returns of the food and drinks companies in Amman Stock Exchange.

Table 6. Results of the regression equation of the third hypothesis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-8.13413	5.236E13		-1.554-	.124
	EXP	-7.4659	1.381E10	-.055-	-.541-	.590

a. Dependent Variable: ROA

As for the regression equation, it can be written in the following form:

Return on assets = 6.95013 – 3.2639 * gross domestic product.

Results of testing the third hypothesis

H0.3: There isn't any statistically significant impact for government expenditure on the stock returns of the food and drinks companies in Amman Stock Exchange.

The following table presents the results of testing the third hypothesis:

Based on Table (5), the following can be concluded

- The value of the regression coefficient (R) between government expenditure and return on assets is 5.5 %. That means that there is a positive weak relationship between the two variables.
- The coefficient of determination (R²) is 0.003. That means that the independent variable (i.e. government expenditure) can interpret (0.003 %) of the changes that occur in the dependent variable (i.e. return on assets). It means that there are other factors that can interpret 99.995 % of the changes that occur in the dependent variable.

Results of the regression equation of the third hypothesis

The following table presents results of the regression equation of the third hypothesis:

Based on Table (6), it can be concluded that the statistical significance value (sig.) is .590 which is not statistically significant at the significance level of ($\alpha \leq 0.05$). Based on that, the alternative hypothesis shall be rejected and the researcher shall accept the null hypothesis which states the following:

H0.3: There isn't any statistically significant impact for government expenditure on the stock returns of the food and drinks companies in Amman Stock Exchange.

As for the regression equation, it can be written in the following form:

Return on assets = -8.13413 – 7.4659 * government expenditure.

Results and recommendations

The following results were concluded

- There isn't any statistically significant impact for inflation on the stock returns of the food and drinks companies in Amman Stock Exchange.

- There isn't any statistically significant impact for gross domestic product on the stock returns of the food and drinks companies in Amman Stock Exchange.
- There isn't any statistically significant impact for government expenditure on the stock returns of the food and drinks companies in Amman Stock Exchange.

Conclusion

Financial markets are considered a significant tool for trading securities between investors. In such markets, the processes of exchanging securities between investors are governed by a certain price determined in the financial market based on the demand – supply related factors. The main goal of investing in securities is represented in seeking to magnify wealth through gaining stock returns. Such returns are considered one of the most significant factors that affect one's choice in choosing the optimal investment to invest in that is desired by investors. The paper's problem lies in seeking to discuss the determinants governing stock returns in the industrial sectors, specifically in the food and drinks companies in Amman Stock Exchange. The paper aim was to discuss the impact of inflation on the stock returns; the impact of gross domestic product on the stock returns; and the impact of government expenditure on the stock returns of selected food and drinks companies listed in Amman Stock Exchange from 2007 to 2016.

The paper found that there isn't any statistically significant impact for inflation on the stock returns of the food and drinks companies in Amman Stock Exchange; there isn't any statistically significant impact for gross domestic product on the stock returns of the food and drinks companies in Amman Stock Exchange; and there isn't any statistically significant impact for government expenditure on the stock returns of the food and drinks companies in Amman Stock Exchange. The paper suggests for future researches to conduct similar studies on companies that belong to other industrial sectors and in Amman Stock exchange and conduct similar studies through conducting a comparison between various economic sectors in Amman Stock exchange in relation to their stock returns.

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Appendices

Appendix (1). Return on assets for the selected companies

Amana agricultural & industrial investment Co (Source: http://www.amanahld.wanadoo.jo)	
ROA	Year
-4.90311	2007
-3.33765	2008
-2.18558	2009
-5.10514	2010
-7.039	2011
-5.684	2012
1.107	2013
-9.190	2014
-12.061	2015
-12.0606	2016
Jordan Vegetable Oil Industries Co (Source: http://www.vegoils.net)	
ROA	Year
5.142145	2007
2.140997	2008
1.89943	2009
1.375476	2010
5.172	2011
4.607	2012
6.096	2013
3.941	2014
-0.868	2015
-4.98377	2016
Jordan Poultry Processing & Marketing Co Ltd (Source: http://www.hammoudeh.com)	
ROA	Year
-1.19371	2007
0.11024	2008
0.380794	2009
-1.92434	2010
0.407087	2011
-10.014	2012
-14.052	2013
-15.493	2014
-2.455	2015
0.373211	2016
Nutridar (Source: http://www.nutridar.com)	
ROA	Year
-4.70797	2007
-2.53334	2008
-0.86414	2009
-0.88208	2010
1.163	2011
2.853	2012
3.736	2013
5.489	2014
6.579	2015
3.926	2016
Universal Modern Industries Co. Ltd (Source: http://www.unic.jo)	
ROA	Year
-7.81848	2007
1.617829	2008
0.0611	2009
5.939985	2010
2.886	2011
2.559	2012
6.540	2013
10.139	2014
7.335	2015
2.874	2016

.....Continue.

Arab International Food Factories & Investment Co (Source: http://www.mahfaza.com.jo)	
ROA	Year
8.184714	2007
9.224334	2008
8.704954	2009
4.003451	2010
1.995	2011
-0.798	2012
3.686	2013
1.376	2014
2.305	2015
1.988853	2016
Al-Qaria Food & Vegetable Oil Industries Company (Source: http://www.npsc.com.jo)	
ROA	Year
-12.606	2007
-1.21912	2008
-18.0899	2009
8.243044	2010
2.820	2011
8.501	2012
6.574	2013
-7.904	2014
-29.835	2015
-43.6529	2016
Jordanian Dairy Co (Source: http://www.baladna.com.jo)	
ROA	Year
13.67795	2007
14.02844	2008
11.36634	2009
10.44075	2010
12.061	2011
4.406	2012
4.750	2013
6.042	2014
3.839	2015
4.056735	2016
National Poultry Co (Source: http://www.npc-jordan.com)	
ROA	Year
3.641311	2007
9.334096	2008
6.377476	2009
7.11246	2010
14.937	2011
12.819	2012
8.754	2013
5.988	2014
7.413	2015
4.699	2016
General Investment Co. Ltd (Source: http://www.gicjo.com)	
ROA	Year
9.075071	2007
6.851929	2008
10.62046	2009
6.843866	2010
6.182	2011
8.775	2012
6.705	2013
7.182	2014
4.715	2015
10.176	2016

Appendix (2). The Economic variables

Government expenditure (GE)	Gross Domestic Product (GDP)	Consumer Price Index (CPI)	Year
2316.3	6363.7	85.06	2007
2396.2	6794	86.58	2008
2809.8	7228.7	88.64	2009
3180.5	8090.7	90.909	2010
3538.9	8925.4	94.113	2011
3912.2	11,092.60	100	2012
4586.5	12595.7	104.7	2013
5431.9	16108	119.3	2014
6,030.50	17815.6	118.5	2015
5,708.2 6,030.5	19527.9	124.5	2016
