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Effect of Liberalization of Amman Stock Market on the Prices Fluctuation for the Period (1994-2015)

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Abstract

This study aimed to identify the relationship between the information and fluctuations in stocks return following the liberalization process of financial market, and illustrate the effect of liberalization of Amman Stock Exchange on price fluctuations, and the trend of this influence. To achieve this goal the researcher depended on the data of the daily stocks returns for Amman stock market for the period (1994-2015). The study was based on the analytical descriptive method. The period from which the financial data were taken was divided into two periods: first, the pre-liberalization of the financial market (1994-2000), and the second period, the post-liberalization which extended from 2001 to 2015, the appropriate statistical analysis was conducted through (e-views) program, and using the (GARCH) model. The results showed that there is an effect of the stock market liberalization on the fluctuations pattern in the Jordanian Stock Exchange, the speed and accuracy of information flow to the market has increased after stock market liberalization, it also appeared that there are some events and factors such as wars and catastrophes which lead to strong and illogical fluctuations in the stock market, and that the variation in price changes before the liberalization period was integrated variation which indicates that news have perpetual influences on price changes.

Keywords: liberalization, Stock Market, Prices fluctuation

Introduction

Financial liberalization is considered a relatively new phenomenon which started in the 1960s in many developed countries, followed by the developing countries through reforms and economic transformation.

This reform includes a set of procedures that work on developing the financial markets, applying an indirect monetary control system, establishing a strong supervisory system, privatization of public sectors' banks, encouraging the private sector to establish banks, allowing the entry of foreign banks in the local banking market, free interest rate, liberalization of exchange prices, and free capitals inflow and outflow (Hamanah and Ben Ma'zo, 2013).

Jordan, and based on the economic and financial structure reform program agreed upon with the World Bank and the International Monetary Fund, adopted by the end of 1980s and the early 1990s from the 20th century the financial liberalization policy, which aims to move from the planned economy to the free economy (market economy), by liberalization of the financial sector from the constraints to raise the capacity and capability of its financial system by motivating saving and encouraging investment, aiming to acquire high and sustained rates of economic growth.

Following an extreme financial crisis that influenced all major financial indicators, the Jordanian monetary and financial authorities applied interest rate liberalization programs, decreasing financial confinements and privatization of many financial institutions, and opening the financial sector to foreign investors in order to encourage economic growth.

Financial liberalization policy goes back to (shaw and Mckinnon, 1973) when they introduced theoretical and analytical studies through which they severely criticized the process of applying the financial control by most of the developing countries, because it has left negative effects on both the financial and economic development of those countries. Considering that abandonment of the policy of financial confinement and applying the financial liberalization policy in the developing countries is the optimal solution for these countries to improve their financial and monetary systems abilities to bring and mobilize financial resources sufficiently to allow achieving positive economic growth rates, and advanced levels of financial development.

They have demonstrated from their studies that applying the financial liberalization policy can encourage the accumulation of savings and rising investment, this will lead to achieving high economic growth and advanced levels of financial development (Ghassan and Al-Hajhooj, 2012).

Problem and Study Questions

Financial market represents the field in which the wishes of economic units with financial surplus meet up with economic units with financial deficit through financial intermediaries.

Financial market performs many functions for the national economy most importantly, gathering, mobilizing, and channeling financial resources, contributing to specifying the economic resources effectively, facilitating trading, distribution and diversification of risks, and increasing investments. Thus, the financial market works on achieving economic efficiency in resources utilization by transferring financial surpluses from accumulated savings to productive uses that widen the productive base and increase employment opportunities and the national income, leading to increase of economic welfare levels.

The important role the financial market plays, must be taken into consideration, and different policies that make it plays its role to the fullest, must be followed. Jordan's adoption of the policy of financial liberalization will affect the financial sector and consequently the volatility of stock returns. It was therefore necessary to identify the direction and magnitude of this effect, and the extent of this effect positively.

This study aims to answer the following questions:

1. Does the financial market liberalization process affect the stocks returns fluctuations (Market fluctuations)?

2. If there is an impact of market liberalization on stock fluctuations, how is the market affected?

3. What is the relationship between the information and fluctuations in stocks returns that follows the financial market liberalization process?

Study importance

Significance of the study comes from the financial development occurred in Jordan, for example, accession to free trade organization, making agreements with both America and European Union, which requires removing all the constraints of the capital. These developments affect all economic sectors, including the financial sector.

Study Objectives:

This study aims to:

1. Searching the effect of market liberalization on stocks returns fluctuations in Amman stock market depending on the daily stocks incomes statements.

2. To know the effect of financial market liberalization processes on the fluctuation of the stock returns by using (GARCH) model.

3. To know how Amman stock market is affected by financial liberalization , and the relationship between information and fluctuations in the stocks returns following the financial market liberalization process.

Study Hypotheses

Ho1: There is no effect with statistical significance at the level ($\alpha \leq 0.05$) of the financial liberalization process on the stocks returns fluctuations in Amman stock market.

Ho2: there is no statistical relationship at the level ($\alpha \leq 0.05$) between the information and the fluctuations which follow the financial liberalization process on stocks returns in Amman stock market.

Financial Liberalization

Financial liberalization policy aspects have appeared in the beginning of 1970s, as an inevitable consequence after the failure of the financial restraint policy adopted by most of the developing countries, which resulted in constraining the interest rate, which negatively affected the economy of these countries.

As a result, many countries followed the economic liberalization program, opened their markets and liberalized them from the constraints, and pursued attracting new financial instruments and institutions to increase their competitive capabilities in the financial services field, and to facilitate the flow of capitals (Shakoori, 2010).

Also, the financial liberalization policies involve a set of procedures and methods that reduce financial sector constraints. Thus, the financial liberalization includes liberalization of the banking and insurance sectors, liberalization of capital flows, liberalization of exchange markets, and liberalization of the capital market.

The concept of financial liberalization

Financial liberalization based on eliminating the restrictions and obstacles that prevent the free activity of the financial sector at the local and international level. The financial liberalization process in the developed countries has started and has been complemented by the expansion of the financial sector activities and globalization. It has expanded to include many developing countries, especially those that are known as the transition or unstable economies from planned ones to market economy, known as policies of financial restraint, for economic liberalization can only be completed by paying attention to financial sector reform and liberalization, from all aspects of financial suppression to play its role in economic activity (Shakoori, 2010).

And so, financial liberalization can be defined as: "a set of procedures by countries to remove any conditions imposed on the financial sector by opening markets to foreign and external companies to invest in it." (Orj, et al., 2015)

Financial Suppression Policies:

Shaw and Mckinnon (1973) defined financial suppression as “the state’s intervention in the financial sector that is characterized by determining the interest rate limit below its balance level, and imposing building of big compulsory reserves, and directing the credit .So, financial suppression is a financial policy with group of imposed constraints from the countries which do not permit the mediation to employ its full capabilities available to it.

However, this policy has caused harm to countries’ financial systems, with the following negative effects (Hariri, 2014) :

- Financial sector lack of diversity, as marked by the dominance of banking sector, and the decline in the relative importance of the financial securities markets.

- Decrease in the nominal interest rates on deposits and loans, which reflected negatively on all returns of other financial assets and then on their prices.

- putting negative pressures on banks profitability and its capital base. This came up with a higher margin between interest rates on deposits and interest rates on loans, which led to shrinkage of the banking activity.

- Local financial assets became less attractive than other alternatives of the foreign assets. This led to shrinkage of the official system measured by the ratio of domestic financial assets to gross domestic product.

And thus, financial liberalization strategy and the financial reform took place which aim at mobilizing domestic savings and encouraging direct and indirect foreign investments in a way that guarantees efficiency, mobilization of resources and allocation to investments, with the need of foreign capital flow in the form of direct or indirect investments. Financial liberalization includes liberalizing the following transactions (Akpan, 2004):

- Transactions related to investment in the financial market, such as the shares, bonds and the investment securities and derivatives.

- Transactions related to real-estate assets, transactions specific to buying or selling real-estate locally by the non-residents or buying the real estates in the outside by the residents.

- Transactions specific to financial and commercial credit, guarantees, and financial facilities that include the inflows and outflows of capital.

- Transactions related to the commercial banks, including the local deposits, banks credit from outside that represent the inflows, the loans and foreign deposits that represent outflows.

- Transactions related to personal capitals movements, including transactions specific to deposits, loans, gifts, grants, heritage, or debts settlements.

- Transactions related to direct foreign investment, including liberalization from the imposed constraints on the direct investment flowing inside or directed outside, or earnings clearance across borders.

Development of financial liberalization

The financial and monetary markets have witnessed an expanding pattern towards the canceling or decreasing of restrictions, including legislation, regulations and confinements that limit its freedom and movement. After its failure and inefficiency in restricting capital and achieving monetary policy objectives, the process of restrictions removal has begun. This process aims to put an end to the direct governmental interference in monetary and banking systems, by which the period after the Second World War was featured. This process, which took many forms, involving determining the maximum interest rates that can be paid on deposits, and those that are loaded on loans, determining legal reserve ratios and the minimum ratio of capital to assets, and specifying banks allocating and its specialty and the allowed services provided (Ghassan and Al-hajhooj, 2012).

There was a difference between countries at the beginning of the implementation of the liberalization policy by restrictions removal. It took many forms, such as credit and debit rates restrictions removal, abolition of control of external financing processes, decreasing restrictions and procedures limiting the movement of capitals flow, removing commissioning restrictions, pricing of banking services, cancelling credit limits, and foreign exchange processes restrictions removal (Ghassan and Al-Hajhooj, 2012).

Thus, the essentiality of financial market liberalization is to liberalize the capital account by restrictions and controls removal on capital movements of short periods across national borders, giving the market an absolute effectiveness in the processes of guaranteeing, distributing and allocating financial resources, determining the prices of financial processes depending on supply and demand, cancellation of governmental financial control and giving banks and financial institutions complete independence, and not to impose any restrictions on the free entry and exit of the financial services industry. (Hamanah and Ben Ma'zo, 2013)

And so, the process of financial liberalization is to give the financial market the freedom in financial resources distributing, redistributing, and allocating according to the law of supply and demand forces, in addition to local credit allocation restrictions abolition and interest rates liberalization, giving banks and financial institutions the freedom to manage their financial activities through canceling different restrictions and regulations on banking, stopping the government intervention in the financial sector, in addition to liberalization of transactions related to capital account and financial accounts of balance of payments (Mnif, 2013)

Financial liberalization involves two types: internal (domestic) financial liberalization and external financial liberalization. The first is the liberalization of interest rates, leaving policies of credit guidance and mandatory reserve, reliance of indirect tools of monetary policy, encouraging the competition among financial institutions, and opening the financial system to external competition.

The second means liberalization of capital account transactions and the financial accounts of the balance of payments, including transactions related to different forms of capital, such as debt, equity, direct investment, real estate and personal wealth, and liberalization of the capital account means the abolition of restrictions on foreign financial transactions and other controls related to these transactions (Adeusi, et al., 2012).

There are many indicators of financial liberalization, according to the Bekaert et al. (2006). These indicators are considered the newest of financial liberalization:

1 - Liberalizing interest rates: elimination of restrictions on the movements of interest rates so that the interest rate is determined depending on the equilibrium between the supply and demand of funds, that can be loaned according to the market mechanism, without interference of the Central Bank.

2. Privatization: transferring of ownership of the public sector to ownership of the private sector, which means the transition from the totalitarian economy to market economy and financial liberalization.

3. Improving laws related to capital adequacy issue: The increasing competition between large and small banks resulted in increased banking risks, and to increase the bank's capability of managing credit risk, laws of capital adequacy are getting improved, and so improvement of laws related to capital adequacy reflect the increase in financial liberalization.

4. Reducing credit restrictions and the legal reserve: The central bank regulates and manages credit in economy through economic policy. The more the central bank tends to reduce credit restrictions and reduce the legal reserve, the more it indicates the direction of the economy towards liberalization of monetary policy, which proves the trend towards financial liberalization.

5. Increasing foreign ownership in banks: by opening all sectors for foreign investments, restrictions abolition on foreign ownership, allowing the transfer of profits and capital abroad, and confinements removal on foreign ownership has made the ownership of economic sectors common between foreign and local investors, at rates to be determined based on an agreement of the parties.

Financial liberalization and the stock market:

Financial liberalization is considered an important option in the macro-economic policies, because the correlation between the movement of capital and its speed depends on communication among these markets. And the evolution and the development of the financial liberalization have been an important factor in accelerating that movement, and the growth of the current capitals size in the international financial markets which helped in the liberalization of the securities market (Omet and Maghyereh, 2003).

Thus, it is possible to define the stock markets liberalization as: "the deletion of all imposed restrictions and obstacles facing the foreign investor's acquisition of stocks that listed on the Stock Exchange, and issued by local financial institutions (like shares and the financial derivatives), and limiting the forced localization of capital, premium profits, and interests, i.e., abolition of limitations at invested foreign funds and its profits inside to exit, this is by allowing the foreigners to buy shares in the local stocks market which is considered encouraging to increase the foreign capitals that enter in the companies' equity (Adamopoulos, 2010).

Many rising economies have opened stock markets to foreign investors, but in some countries and to a large extent, stock markets stayed closed to foreign participation. And may be the fear of financial and economic crises in these countries due to decrease of government oversight role and fear of foreign control, but the reality indicates that foreign participation in the stock market contributes to improve sharing of risk, and better distribution of these risks, and so, reducing the cost of the share. Moreover, improvement in risk distribution between the investors and increasing liquidity in the stock market will reduce the risks, and at the end will lead to reducing of capital cost, and increasing of private investments which positively reflects on the economic growth. So, the improvement in risk distribution between the investors and increasing liquidity in the stock market leads to more efficient capital distribution, and this has a direct positive effect on productivity and growth (Agu et al., 2014).

Liberalization of stock markets objectives: (Al-Asali2006)

- Achieving more efficiency and greater efficacy for stock market work, in order to mobilize local and foreign savings and take advantage from them in financing the stock market economics, as well as increasing their investment rates, also rising the access of investors and local borrowers to the fields of investment and international financing sources. This will increase the involvement of investors, local borrowers, and local and foreign financial companies, thus, facilitating the entry of foreign companies and investors in the domestic financial markets.

- Stock markets liberalization policies correspond with the strong trend towards liberalization of international trade and the globalization of financial transactions, as well as in commercial transactions, especially after introducing public services trading and the trade of financial and banking services in particular, within the commercial negotiations of several parties of the International Trade Organization OMC and put it under its guardianship, through coming out with the general agreement on the liberalization of services trade (GATS).

- Increasing the competition among the financial markets across the world to get the largest possible amount of capitals internationally, so abundance of changes that spread through the capitalist economies, most importantly by changes in the exchange rates of international currencies especially the dollar and the euro in the last years of the twenty-first century, changes in international interest rates, which have changed the international monetary and financial system, for it pushed many of these economies to give greater freedom to external transferences with the liberalization of currency exchange. These changes have weakened the effectiveness of control of the country over capital movement.

And so, the liberalization of stock markets aims to make these markets work more efficiently and more effectively, having the ability to compete with the rest of the international financial markets to give investment chances and loan resources. However, it is clear that these effects are greater in the first year of applying of liberalization and then decrease and vanish gradually over the following years. It is may be because of the expectations that arise by the participants in the market before and during the application of liberalization stage .

Effect of the financial liberalization on the stock prices fluctuation:

Stock prices fluctuation issue has gained a great interest in the financial literature. The studies that have predicted the fluctuation have included the prices and its explanation using different models.

The first one who has analyzed the stock prices fluctuations so far was (Schwert, 1989), and noticed the presence of great fluctuations in the stock prices in many economic variables, such as interest rate and inflation, but none of these economic variables only can explain the behavior of stock prices fluctuation through history (Adamopoulos, 2010).

It has been found that the economic recession is mostly preceded by regression in the stock market prices, this assures that the total economic variables and the recession's periods, financial crises, and different banking crises are directly related to the stock prices fluctuation.

High level fluctuation can leads to a negative future of stock prices, which can reduce the performance of the financial system as a whole. Moreover, frequent fluctuations drive the investors and the depositors to resent from the financial market. Also, stock prices fluctuations lead to increase in the capital cost for the companies, this will make waiting a more valuable option and so delaying the investments.

Fluctuations can work on reducing institutions work in the stock market, and attempt to collect the funds by other means, and thus, high level of market fluctuations can impair investments and slow down the total economic growth (Mnif, 2013).

Stock prices fluctuation might negatively affect the consumer's spending through wealth changes and consumer trust. In addition, great stock price fluctuations may cause a crisis in the financial system, and disruption in the financial mediatory, which cause monetary and credit problems in the economic system (Mnif, 2013).

From the latter, it is clear that there are many other factors affecting the fluctuation of the stock prices incomes**. So, does liberalization and the trend towards a greater capital markets increase the fluctuation in the local stock prices incomes?**

It is believed that the foreign capitals flows are very sensitive in the economic expectations at the short-term in the emerging markets, which makes the flow of capitals very fluctuated, without restrictions.

In addition to that, market liberalization means the exposure to the foreign influence, so if the foreign stocks prices are more fluctuating for any reason, the local prices also might become more fluctuating. Hence, the presence of greater fluctuations in the stocks prices makes the investors resent to the stock contract, demanding a higher risk bearing premium, which indicates an increase in capital cost and a fewer investment (Omet and Maghyereh, 2003).

Amman Stock market:

Stock markets play an important role in transforming financial resources from residual units to deficit units, they represent excellent investment opportunities and important factor in attracting foreign and local capitals. Also the importance of investment in the stock markets appears in the risk of investment decision making, and forming the appropriate investment portfolio according to the investor's desire of the investment. It is difficult for the investor to decide accurately the expected return rate on the investment. The expected return and the surrounding risks represent the two basic variables for the investment decision (Al-Omari, 2007).

Amman stock market is founded according to the temporary Amman stock market law No. (31) year 1976, because of the increasing importance of the stock markets, and the necessary economic goals it achieves, such as the financial liquidity. There was a cooperation between

Jordan Central Bank and the World Bank's International Finance Corporation, however, business didn't precede and wasn't officially opened. It started its work officially in 1/1/1987, (Saleh, 2009).

The Amman Stock Market managed to grow rapidly since the beginning of its work in 1978 in response to the increasing demand for stocks in Jordan. Amman Stock Market is facing qualitative changes in various fields of investment, regulatory, and technical fields, to cope with its special position among many emerging markets.

The most important goals established by Amman financial market for the stocks: (Saleh, 2009)

1. Developing saving through encouraging investment of stocks, and directing the savings for serving the national economy.

2. Regulating and monitoring the stocks issuance and dealing with it in a way that guarantees its speed and simplicity, and to ensure the country's financial interest and protection of small depositors.

3. Collecting and disseminating information and statistics from the related companies to the market's work, which allows investors to make decisions that serve the economic development.

4. Working on investment advantages on the largest extent of shareholders by operating the capitals of the large productive units to improve living levels.

5. Working on attracting capitals and operating it by its distribution to the more productive investment alternatives, to achieve capitals accumulation and strengthen the economy.

Development of financial liberalization in Jordanian market

In the framework of inducing foreign investment, the maximum foreign ownership of 50% has been canceled. So, investors other than Jordanian ones are being treated the same, and they have the right to possess a part or all of any project or company except for some sectors which limit the maximum range for foreigners as 50%, which are three sectors; construction & contracting sector, general retail sales, and mining (Amman Stock Market location).

The ratio of the value of shares bought by foreign investors to trading value reached 1.6% in 1996, 28.3% in 1997, 44.1% in 1998, 24.1% in 1999, and 20.4% during the first half of the year. 2000 (Khatib, 2008).

In July 2001, 14.8 million JDs was the value of purchased shares by investors who are not Jordanian. 58.8% of it were purchased by non-Arab investors. Foreign investors sold, simultaneously, shares of 82 million JDs, 95.7% of it were sold by Arab investors. This means that there is a total declined of foreign investment reaching a negative value of 67.3 million JDs, compared to a net inflow of 1.5 million JDs at the same period last year. Not to mention, net foreign investments have reached a positive value of JD 12.7 million in the first quarter of 1999 (Khatib, 2008).

On the other hand, during 1997, and for the first time, GDR'S certificates of deposit were issued outside Jordan for the Arab Potash Company with a value of $ 32.5 million in the London market. And it was fully covered. The Jordan Phosphate Mines Company also issued bonds worth $ 141.2 million in European markets. These bonds were fully covered at competitive interest rates, reflecting the confidence of international investors in these exporting companies (Khatib, 2008).

Previous studies

- Orj et al., 2015 entitled as Financial liberalization and growth outcomes in Nigeria.

This study included the effect of financial liberalization on the gross domestic product growth in Nigeria during the period 1986-2011. The researcher used the method of least- squares in his analysis. The experimental results revealed that the financial liberalization policy is negatively correlated with the growth of the gross domestic product in Nigeria during that period. Also, the researcher indicated in this study that financial liberalization in Nigeria has a role in encouraging the gross domestic product growth and shows that there is a need for banks and financial institutions to review methods of lending the private sector and giving loans available for those with profitable business plans and willing to invest in the local economy.

- Farhani et al., 2015, entitled: The Effect of Financial Liberalization on the Probability of Banking Crises.

The study inspected the relationship between financial liberalization and the possibility of banking crises due to institutional quality. The researcher utilized information from 50 countries from 1990 to 2014. The study concluded that there is a positive relationship between financial liberalization and banking crises, and the reinforcement of institutional quality overcomes the banking crises obstacle.

- Agu et al., 2015, entitled Financial liberalization, interest rate framework and savings mobilization.

This study aimed to know the nature of the causal relationship between financial liberalization, real interest rate, mobilization of savings and how they interact with each other in Nigeria. The researcher used the statistical model VAR (Vectorial Auto-Regressive) to see how financial liberalization, real interest rate, and savings mobilization interact with each other. The results showed no causal relationship between financial liberalization, real interest rate and savings mobilization.

- A study of Hamanah and Ben Ma'zo (2013), entitled: Measuring the relationship between financial liberalization and economic growth in Algeria.

The purpose of this study is to know the relationship between financial liberalization and economic growth on an extreme and between trade openness on the other extreme on the long-term by depending on the KAOPEN index in the period 1970-2010. The study concluded that there is a long-term adverse relationship between financial liberalization and economic growth, And that there was a negative relationship between trade openness and financial liberalization.

- Mnif, 2013, entitled: Effects of Financial Liberalization on Stock Market Courses.

The study aimed to compare the market cycles behavior in the wake of financial liberalization in the short and long term in Latin American countries (Argentina, Brazil and Chile) and Asian countries (Philippines, Korea, Taiwan and Thailand) during 1975-2005. It concluded that, liberalization makes stock market more fluctuating, yet, more stable over the longer term to create financial markets. Stock market cycles in Asian countries continue to be very high in the period after reparation; however, after financial liberalization, the Latin American stock market leads to more stable cycles.

- The study of Ghassan and Al hajhooj (2012) entitled: The impact of liberalization of the capital market on instability in Saudi stocks.

This study is meant to analyze the instability in the Saudi stock market by testing the structural changes through the GARCH model, depending on a daily database for the period 2001-2010. The results of the return equation show a positive relationship between return and risk. This result indicates high risk, also it indicates a negative relationship between size and risk. Moreover, results show that the opening up phase of domestic and foreign capital is more important for information inflow to the market in comparison with the period preceding 2005. Additionally, Equity prices influence the value of the ongoing index in the first phase of 2001-2005, while it weakens in the second phase 2005-2010, It has been confirmed that entry of foreign investors may reduce the instability of returns in the trading market, and that giving a chance for foreign investment has led to significant decrease in volatility in the short-term, while the existence of foreigners has not made it in decreasing long-term volatility, and the extent of the temporary effect is more sharp and relatively larger in comparison to the impact of the global financial crisis, especially during 2008.

- Adeusi et al. (2012): The Effect of Financial Liberalization on the Official Capital Market.

The study inspected the impact of financial liberalization on the performance of informal capital market institutions in Nigeria. The researcher used the method of the least- squares for regression analysis for ten years (2001-2010). The researcher came up with three models: The first model discussed the change in financial liberalization (savings rate) with the loans granted by the informal capital market in Nigeria, and the second model inspected the change in financial liberalization (the lending rate) with the total deposits in the informal capital market in Nigeria and the loans granted. The last model studied changes of financial liberalization (savings and lending rates) with total deposits and loans granted by the informal capital market in Nigeria and the net surplus from the market.

The researchers found that financial liberalization had a great effect on the total deposits and loans granted by the market but it did not have a significant impact on the net surplus, and therefore the researcher recommended that the market should be under the supervision of policies that would enhance the performance of the informal financial sector in Nigeria in addition to reducing the gap between loans and saving rates in banks.

-Al-Asali study (2006). “The effect of the Financial Liberalization on the returns and trading volume in the shares of the Jordanian Banking Sector”

This study aimed at measuring the effect of the Financial Liberalization’s indicators on the development of the trading volume and shares' return of the Jordanian banking sector for the period (1980-2004). In addition to knowing the concepts of shares' returns, trading volume, It also contains how to measure them. Study population consisted of a sample included nine banks excluding the banks that were initiated after 1980, based on the assumption that there is a relation with statistical significance between Financial Liberalization indicators and returns on shares of the Jordanian banking sector.

The study depended on four indexes of the financial liberalization, which are: liberalization of interest rates, improving the laws related to capital sufficiency, eliminating the constraints on the foreign property and on the credit.

The researcher used measurement models based on (panel data), and to show the effect and the increase of the explanatory capability, control variables were added.

The study concluded the absence of a relation between financial liberalization indexes and each of the trading volume and the shares' returns of the Jordanian Banking Sector.

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Study methodology

The study adopted a descriptive analytical approach , which included a survey of the library's resources by referring to the references and ready- made resources to build the theoretical framework and previous studies, and then the use of the descriptive analytical method to estimate the standard model used , based on the previous studies, to analyze financial data statistically to test the validity of the study hypotheses, in order to achieve the objectives of the study, and the findings and recommendations..

Data Collection sources

The study adopted a descriptive and analytical method to collect the data and information necessary for the completion of this study, based on:

- Secondary Sources: originally dependent on the library survey and the financial books and periodicals specialized in financial liberalization, and Amman Stock Exchange as well as some Arabic and foreign publications and studies and some financial reports published on the Internet.

- Primary sources: which are aggregate financial data for the purposes of the study, through periodic bulletins and the monthly bulletin of Amman Stock Exchange as well as the annual reports published by the Amman Stock Exchange, which are specific to the market indicators, return on shares, and closing prices for public shareholding companies listed on the Amman financial Market for the period (1994-2015)t.

Study Model

This study aimed to know the effect of the financial market liberalization on the fluctuations of the shares' returns. To achieve this goal, market price indexes were analyzed, and stock return reached during the closing prices of the companies listed in Amman financial market for the period (1994-2015).

(GARCH) model was used which indicates that the market's fluctuations take the following equations (1a,1b):

$$y_t = \eta_0 + \sum_{i=1}^{p} \eta_i \varepsilon_{t-i} + \upsilon_t , \quad \upsilon_t / \psi_{t-1} \sim N(0, h_t) \qquad (1a)$$

$$h_t = \alpha_0 + \sum_{i=1}^{p} \alpha_i \varepsilon^2_{t-i} + \sum_{j=1}^{q} \beta_j h_{t-j} \qquad (1b)$$

Where is:

1a = conditional mean equation

1b = conditional mean equation

Ψt-1= information in the time period

α and η =equation's constant

β= independent variable's coefficient (accompanying).

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When conducting data analysis process to know the effect of financial market liberalization on the market's fluctuations through stocks' return, there is a need for answering the following questions:

1. Does the financial market liberalization process influence the stock return's fluctuations (market fluctuations)?

2. In the case of the presence of effect for the market liberalization process on the stock' fluctuations, how the market is influenced by it?

3. What is the relationship between the information and the fluctuations in stock' returns that follows the financial market liberalization?

To achieve that and to answer the first question, the conditional variation equation was used, and the dealing with the (Dummy variable), which takes two values (0) for data before liberalization, and (1) for the data after liberalization, so the conditional variation equation (2) becomes as follows:

$$h_t = \alpha_0 + \sum_{i=1}^{p} \alpha_i \varepsilon_{t-i}^2 + \sum_{j=1}^{q} \beta_j h_{t-j} + \gamma D \tag{2}$$

Where (D) is the Dummy variable, and if the dummy variable was statistically significant, this means that the financial market liberalization process effects the market fluctuations (stock' returns), and:

α = equation's constant

β= independent variable's coefficient (accompanying).

To answer the second and third questions, the time period was divided for the stocks' returns in the financial market into two periods; before and after the market liberalization process, and predicting by using (GARCH) model in its two forms (La) and (Lb) for the two periods (before and after the financial market liberalization process), which enables the comparison between the fluctuation nature before and after the financial liberalization.

Data Analysis and Hypotheses Testing:

Financial data related to the closing prices are collected through Amman financial market, then calculating the stocks' return using the difference between the logarithmic base (Ln) of the closing prices for the period (1994-2015), and dividing the period from which the financial data was taken into two periods; the first period was before the financial market liberalization (1994-2000) and the second period was after the market liberalization, which extended from (2001-2015);

Following the cancellation of the days in which there was no trading including the days during which the market closed, official holidays, it was found that the daily timed series for each of the closing prices, market indicators and return on shares, was (5423) days, Figure (1) explains the direction of the market price index before and after the liberalization, which were obtained from the publications and reports of the Amman financial Market, Whereas Figure (2) shows the direction of Stock Return, which were calculated by the researcher, according to the following equation(3) as follow:

$$R_t = Ln(p_t) - Ln(p_{t-1}) \tag{3}$$

Where is:

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Rt = stock' Returns.

P = Market Price index.

t, t-1 = today and the previous day

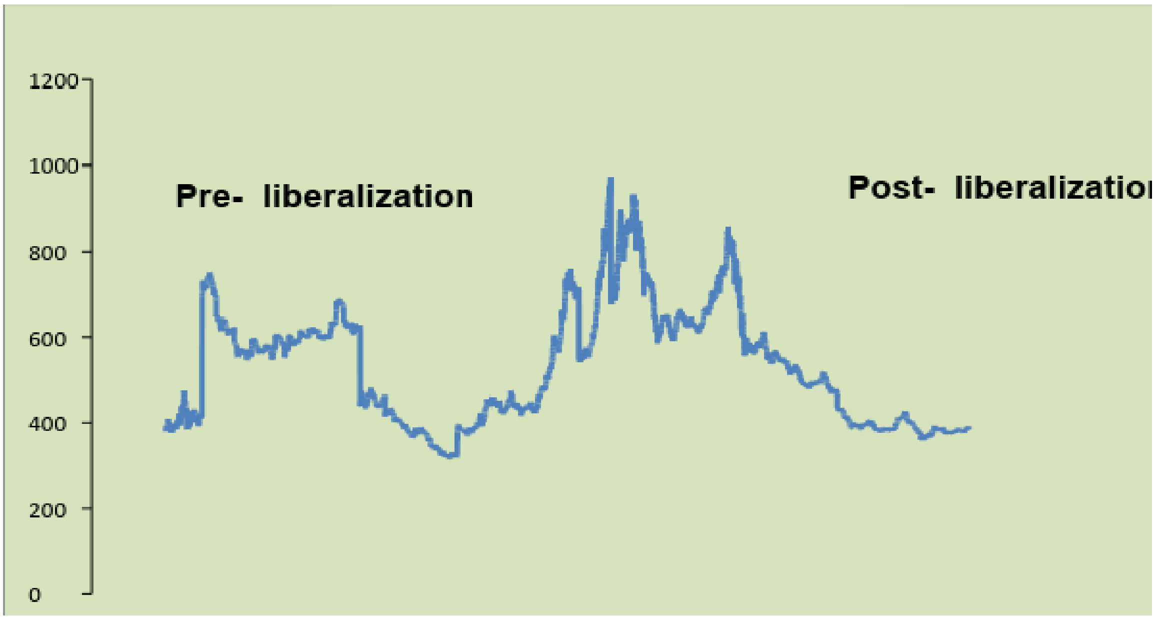

Figure 1. Time chain of the market price index direction

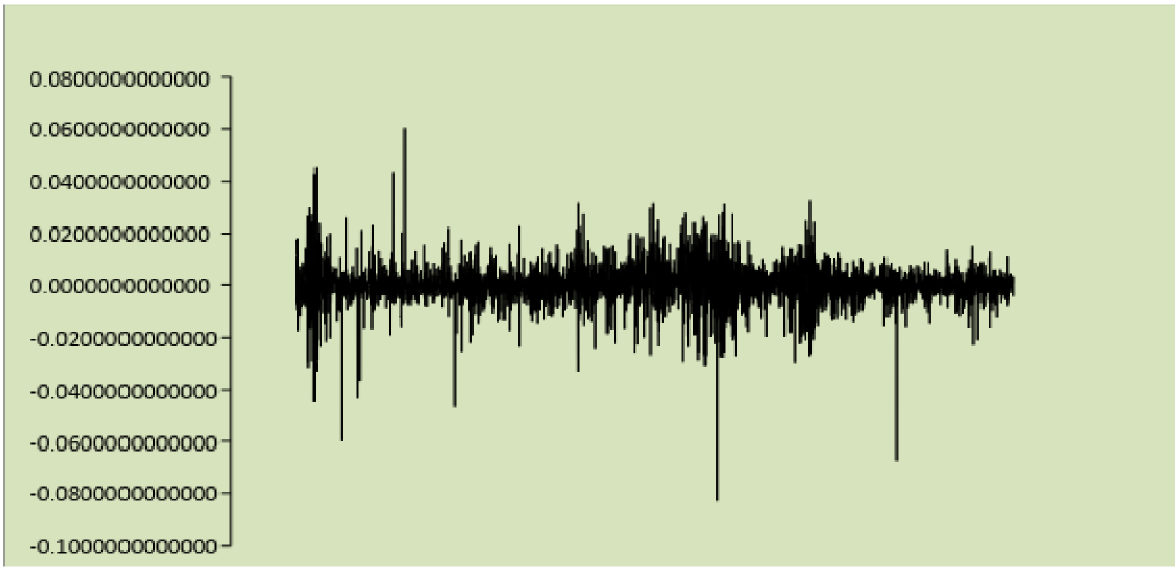

Figure 2. Time chain of the stock return direction

Table 1 below shows a summary of the main statistical characteristics for the stock' returns in Amman stock market for the year (2000) as a year separating between the two time series, which explain the stock' daily returns before and after liberalization.

Table 1. Descriptive analysis of stock' return before and after liberalization.

Period	No	Mean	Median	SD	SKW	Flatten	Normality	Auto Correlation
(1994-2015)	5423	0.0000822	0.0000	0.007202	-0.5909	14.56	30511.98	256.21*
Pre-liberalization	1718	-0.0000017	0.00031	0.00685	-0.0730	18.69	17635.99	77.2*
Post-liberalization	3705	0.000121	0.00018	0.00709	-0.8086	12.88	15488	24.3*
Variance test		0.549	2.598*	6.066*				

Table 1 shows the presence of statistical significance of the natural distribution for the whole period, and the coefficient of Skewness was (0.5909.). This indicates that, there is very non-identical time series, the natural distribution inclines to the left. This deviation confirms the high statistical significance to the normal distribution test (jarque-bera). The high value of self-Link Test (Q12), amounting (256.21) refers to the presence of statistically significant self-link for the whole time period, and this indicates the presence of fluctuations in the time series of the values of stock' returns during the period (1993-2014).

The results shown previously in Table (1) agree with (Mnif, 2013) study whose results showed that liberalization makes the stock market more fluctuating.

Results in table 1 also showed that the stock' return mean before liberalization was negative (-0.0000017), and this is might be due to the deceleration in value of this index and its value rose after liberalization to (.000121). That was because of the occurrence of high fluctuations in the stock' returns, in addition to the desire to buy them by the foreign investors which led to rise in the demand and price for the stock.

Table 1 also shows that the rising value of the coefficient of Skewness for the stock' return (0.0730-) for the time period before liberalization in comparison with that after liberalization (-0.8086) indicates the presence of big changes in the stock' prices, and the change in the stock' prices increase before liberalization was greater than after liberalization.

When using the standard deviation of the shares' returns for the non-conditional fluctuations, The table shows the presence of fluctuations in the market for the period that preceded the market liberalization process, this is inconsistent with the hypothesis put forward by the supporters of the liberalization of financial markets, which presupposes the alleviation of fluctuations in the financial markets as a result of liberating them. In addition, results in table (1) also show that the standard deviation of the changes in the stock' returns for the period after the liberalization was greater than the standard deviation of the changes in the stock' returns for the period before the liberalization.

After explaining the statistical properties of the stock' returns of market during the period

(1994-2015), considering that the year (2000) is the year of separation, in which liberalization occurred, GARCH model will be used to detect the impact of liberalization on the Amman financial market fluctuations.

To achieve that, GARCH model was used for all groups (p=1.2.3.4.5) and (q=1.2.3.4.5), by the equations(4a, 4b) as follow:

$$R_t = \eta_0 + \sum_{i=1}^{p} \eta_i \varepsilon_{t-i} + \upsilon_t, \varepsilon_t / \psi_{t-1} \sim N(0, h_t) \tag{4a}$$

$$h_t = \alpha_0 + \sum_{i=1}^{p} \alpha_i \varepsilon_{t-i}^2 + \sum_{j=1}^{q} \beta_j h_{t-j} + \gamma D \tag{4b}$$

Where: R_t= daily stock' returns

D= Dummy variable / (0) value for the period before liberalization and (1) value for the period after liberalization.

4a = conditional mean equation

4b = conditional variance equation

Ψt-1= information in the time period

α and η = equation's constant

β= independent variable's coefficient (accompanying).

Table 2. Complete sample results for the period (1994-2015) with the dummy variable (*D*) by using the previous two equations(4a, 4b):

$$R_t = \eta_0 + \sum_{i=1}^{p} \eta_i \varepsilon_{t-i} + \upsilon_t, \varepsilon_t / \psi_{t-1} \sim N(0, h_t)$$

$$h_t = \alpha_0 + \sum_{i=1}^{p} \alpha_i \varepsilon_{t-i}^2 + \sum_{j=1}^{q} \beta_j h_{t-j} + \gamma D$$

γ	$_1\beta$	$_1\alpha$	$_0\alpha$	$_1\eta$	
0.499	0.4322	0.3660	0.99	4.562	-0.498
(4.873)*	(12.321)*	(10.285)*	(8.922)*	(2.667)**	(2.124-)*

** Statistical significance at (0.01)

* Statistical significance at (0.05)

R_t= daily stock' returns

D= Dummy variable / (0) value for the period before liberalization and (1) value for the period after liberalization.

4a = conditional mean equation

4b = conditional variance equation

Ψt-1= information in the time period

α and η = equation's constant

β= independent variable's coefficient (accompanying).

Results in the above table (2) show the variance in the market fluctuations during the period (1994-2015) depending on the dummy variable.

With acknowledging that in order to better read figures, the coefficient of (η0) was multiplied by (10^3) and the coefficient of (α0) was multiplied by (10^5).

The table (2) also shows that all coefficients are statistically significant at level (0.05) and level (0.01). The significance of the parameter (α1) in the model indicates the direction towards the sudden change in the stock' returns for the entire period, and the coefficients of the parameters of the continuous fluctuation (α1+β1), the value of each individually and combined was less than one unit, and this refers to the tendency or direction of market fluctuations to respond to sudden changes in the short term.

Data from table (2) also indicates that the positive value of the dummy value (γ) concludes that the increase in the stock' prices fluctuation in the financial market may be due to the fully open of the financial market completely to the foreign investment, or due to the process of financial market liberalization by itself. This means that this stage of the analysis neither affirmed nor confirmed the cause of this change, and in order to make sure of the results of the (GARCH) Model to know the behavior of the parameters and the direction of impact, this model has been tested for two periods: the first, before liberalization and the second after the liberalization, as shown in table (3).

Table 3. Full sample results for two periods: before liberalization (1994-2000) and after liberalization (2001-2015) by using equations(5a, 5b) as follow:

$$R_t = \eta_0 + \eta_1 \varepsilon_{t-1} + \upsilon_t \qquad (5a)$$

$$h_t = \alpha_0 + \alpha_1 \varepsilon^2_{t-1} + \beta_1 h_{t-1} \qquad (5b)$$

	$_0\eta$	$_1\eta$	$_0\alpha$	$_1\alpha$	$_1\beta$
Pre-liberalization n= 1718	-0.596	11.642	0.552	0.278	0.489
	(2.091-)*	(1.889)**	(6.987)*	(9.265)*	(20.641)*
Post-liberalization n= 3705	-0.754	2.622	1.99	0.397	0.256
	(1.856-)*	(2.010)**	(5.942)*	(7.112)*	(4.023)*

** Statistically significant at (0.01)

* Statistically significant at (0.05)

R_t= daily stock' returns

V= fluctuations' value

ε = the estimated standard error

α and η = equation's constant

β= independent variable's coefficient (accompanying).

Results in the above table (3) show the variance in the market fluctuations during two periods; the first is before the full liberalization of the market (1994-2000) and the second is after liberalization (2001-2015). With acknowledging that in order to better read figures, the coefficient of (η0) was multiplied by (10^3) and the coefficient of (α0) was multiplied by (10^5).

Through table (3), it is clear that all coefficients are statistically significant at level (0.05) and level (0.01). The first point that can be observed through the comparison between the pre-liberalization period and the period after the liberalization is that the nature of the fluctuations of the market did not change. The big rise of (α0) and change for each of the (α1 and β1) in the period after the liberalization refers to the rise in the provisional variance which was calculated by the equation (α0/1-α1-β1) which equals (2.369) for the period before liberalization, and (5.734) for the period after the liberalization, this gives more information as a result of the full liberalization of the financial market.

The value of (α1) in the period after the liberalization rose, suggesting a higher market fluctuations for this period, since the (α1) is a parameter linked to the remoteness of the squares of coefficient standard error (squared error term), and in this analysis, the divergence of the standard error is due to price change in the previous day that is attributed to a particular factor or a specific component, and assuming that the market is highly efficient (an efficient market), this change in price is due to receiving of the information identifying the market prices. It can therefore be regarded that (α1) as the coefficient of news or information, on the basis that the information of the specific stock' prices had arrived or been clarified in the past. Thus, the higher the value of the current information specifying current prices means more impact on price changes, therefore, the rise in the value of the (α1) in the period after the liberalization, refers to the impact of prices' information on the prices and configuration of the market.

Considering the coefficient of (α1) reflects the impact of the recent news about prices in the financial market, the coefficient of (β1) reflects the impact of old news; the coefficient of (β1) for the heterogeneous variation shows the impact of change in prices of the previous days; thus, any news that arrive the day before yesterday.

The rise in the rate of information that follows the process of change is expected to reduce the issue of uncertainty on the previous news, which in turn will lead to a decrease in the continuity of information, thus, the old news and information will have decreased impact on the change in the price of the current days, and this is confirmed by the decline in value (β1) for the period after liberalization.

This finding further supports the fact that the model before liberalization was a candidate for (I-GARCH) model, while the model after the liberalization is not fully clear. When comparing the total transactions of (α1) and (α1) before liberalization of (0.77) with the total of the same transactions after liberalization, amounting (0.65), we conclude that the opening of the stock' market increases the risk of changes with time and the continuation of the market fluctuations with the passage of time. All the results that were reached through the change in the parameters of (GARCH) model suggests or indicates that the market is exposed to further fluctuations in the post-liberalization, but this is as a result of the increase in the rate of flow of information to the market. This result agreed with the result of the study (Hamanah, and Ben Ma'zo, 2013), which indicates that the liberalization of markets and their opening for the foreign investors freely increase the flow of information about prices and other prices-relevant information. It also agreed with the study (Ghassan et al., 2012), the results of which indicated that the stage of openness on domestic and foreign capitals are of even greater importance for the flow of information coming to the market compared to the pre-openness stage.

Anyhow, there are some events or general conditions, lead to fluctuations in the financial markets, such as the sadness in the death of a leader or an important beloved figure, and this is what happened on the death of the late King Hussein Bin Talal in (1998) and its impact on Amman financial Market, in addition to some movements or other events, such as the holding of peace talks in the Middle East, as well as the occurrence of wars and disasters, as happened in US-Iraq war and the occupation of Baghdad in (2003), and other incidents.

To learn how the results of the Model (GARCH) are affected in accordance with the abnormal and severe changes that happen for a sudden and unexpected reason as previously stated, the model will be re-assessed after deleting all views where the average return exceeds the standard deviation value more than once, as shown in table (4) below, the results of this table are close to the results of Table (3), which was previously reported.

Table 4. Full sample results for two periods: before liberalization (1994-2000) and after liberalization (2001-2015) after omitting the cases with severe deviation by using the previous equations (5a, 5b):

$$R_t = \eta_0 + \eta_1 \varepsilon_{t-1} + \upsilon_t$$

$$h_t = \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + \beta_t h_{t-1}$$

	$_0\eta$	$_1\eta$	$_0\alpha$	$_1\alpha$	$_1\beta$
Pre-liberalization n= 1718	-0.7223	10.132	0.754	0.272	0.488
	(1.255-)*	(2.425)*	(3.882)*	(6.871)*	(15.574)*
Post-liberalization n= 3705	-0.332	2.263	3.442	0.387	0.322
	(1.091-)*	(2.899)**	(4.651)*	(5.092)*	(3.895)*

** Statistically significant at (0.01)

* Statistically significant at (0.05)

R_t= daily shares' returns

V= fluctuations' value

ε = the estimated standard error

α and η = equation's constant

β= independent variable's coefficient (accompanying).

The results of table (4) show the variation in market fluctuations during two periods, the first is before the full liberalization of the market (1994-2000) and the other after liberalization (2001-2015), with the deletion of some observations for years during which abnormal events have occurred, which led to severe and illogical fluctuations, With acknowledging that in order to better read figures, the coefficient of (η0) was multiplied by (10^3) and the coefficient of (α0) was multiplied by (10^5).

It is clear from the table that all coefficients are statistically significant at level (0.05) and level (0.01).

Results

The results came as follow:

1. There is an effect of the financial market liberalization on the fluctuations mode in Amman financial market (Jordanian Stock Exchange).

2. After liberalization of the financial market, speed and accuracy of information flow to the market were increased.

3. There are some events and factors like wars and disasters that suddenly occur leading to severe and illogical fluctuations in the financial market, this has happened to Amman financial market at the death of late King Hussein Ben Talal, the event was repeated during the American- Iraqi war and Baghdad occupation in 2003.

4. Variance in the prices changes before the liberalization period was integrated which means that the news has permanent influence on the prices changes.

Recommendations

1. The necessity for studying the market fluctuations mode before undertaking the liberalization process, and predicting what the market liberalization will cause on those fluctuations.

2. The necessity for taking into consideration some important factors and events which might occur on the financial markets environment and dealing with them with severe reservation.

3. The work to study the news and information in a scientific way and delivering it to the target investors, whether they were small or senior investors, and in a preservative way.

4. Establishing a national center for information to work permanently on the delivery of news and information appropriately to the investors, and confounds the wrong news and rumors.

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