



Policy Paper

# Amman Stock Exchange: The Way Forward

September 2017



منتدى الاستراتيجيات الأردني  
JORDAN STRATEGY FORUM



## منتدى الاستراتيجيات الأردني JORDAN STRATEGY FORUM

The Jordan Strategy Forum (JSF) is a not-for-profit organization, which represents a group of Jordanian private sector companies that are active in corporate and social responsibility (CSR) and in promoting Jordan's economic growth. JSF's members are active private sector institutions, who demonstrate a genuine will to be part of a dialogue on economic and social issues that concern Jordanian citizens. The Jordan Strategy Forum promotes a strong Jordanian private sector that is profitable, employs Jordanians, pays taxes and supports comprehensive economic growth in Jordan.

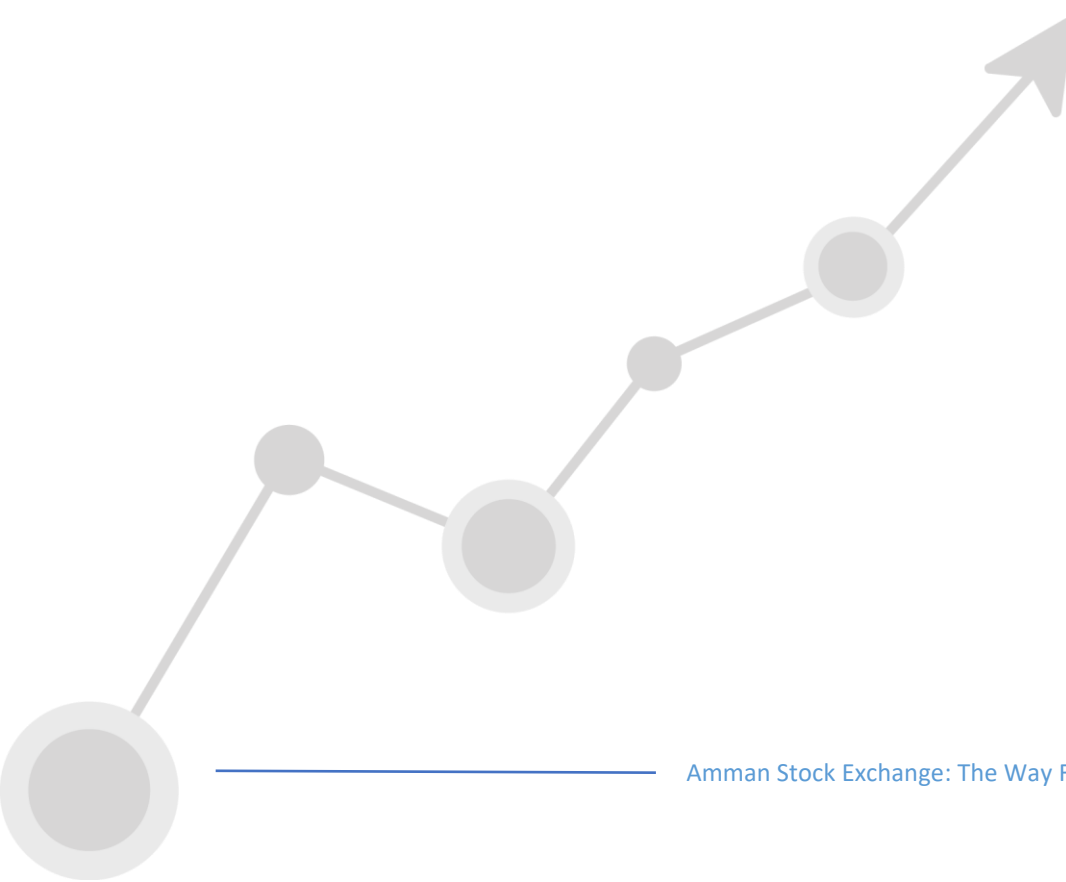
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# EXECUTIVE SUMMARY

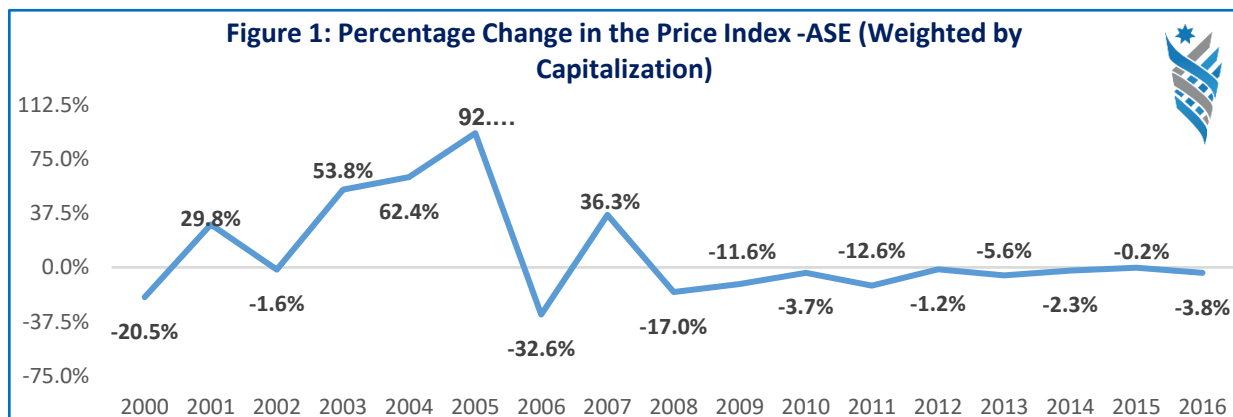
Stock markets provide economies with a number of financial services which promote real economic growth. This is why, the number of stock exchanges around the world has increased from around 50 in 1975 to more than 170 by the end of 2016.

The Jordanian government called for the establishment of a stock exchange in 1975. The Central Bank of Jordan (CBJ), in collaboration with the International Finance Corporation (World Bank Branch), examined the idea, and on the *1st of January 1978 the Amman Financial Market (AFM) was established.*

Since its establishment, the AFM witnessed a number of changes. These include, for example, the June 2000 implementation of the Electronic Trading System, *establishment of the Amman Stock Exchange (ASE) in 1999* as a non-profit independent institution, and the 2017 ASE's registration as a public shareholding company.

During its initial stages, the market had modest figures. For example, in 1978, the number of listed firms, and the market's capitalization to GDP ratio were equal to 66 companies and 36 percent respectively. *By the end of 2016, the ASE has 224 listed firms, and 63.2 percent market capitalization to GDP ratio.*

**During the past 10 years, the performance of the market in terms of stock returns has been rather disappointing. The behavior of the price index during the period 2000-2008 was highly volatile. What is more disappointing, however, are the consistent losses realized since the year 2008. During the period (2008-2016), the cumulative percentage change in the price index was equal to -57.9 percent. Within this context, it is also worth noting that in 2016, the closing market prices of 102 listed companies were less than one Dinar (less than their par value!). Trading volume in the market has also been deteriorating.**



There is no doubt that the reasons behind the fall in stock prices are various. However, irrespective of what they are, this policy paper argues that one issue that must be dealt with is *liquidity.*

**Liquid stock markets allow investors to get their orders executed as quickly (immediacy), and as cheaply as possible.**

***The ASE suffers from illiquidity in terms of both of its dimensions:***

**First**, investors cannot get their orders executed any moment they choose regardless of what the price is.

**Second**, even when investors get their orders executed, they usually do so at a high cost (bid-ask spread).

**The implications of illiquidity are too serious to ignore:**

**First**, stock price changes tend to be volatile (risky) because they move between wide bid and ask prices.

**Second**, the international evidence clearly shows that stock returns in illiquid markets tend to be low.

**Third**, low stock returns discourage listed firms to issue stocks on the primary market to finance their investments. Indeed, in illiquid markets, the cost of capital is relatively high.

In this policy paper, the **Jordan Strategy Forum** analyzes the ASE in terms of its secondary market liquidity.

Based on the analysis which covers 11 years, and building on international best practices, experience and evidence, five policy recommendations are suggested to help move the Market forward.

1. **Reduce the “minimum tick”** from the currently existing multiples of one piastre to, say, half of one piastre. The international experience shows that the cost of liquidity becomes lower following such a change.
2. The fact that the market price of so many listed stocks are low (for many, price is even lower than one Dinar), any change in the price (multiples of one piastre) tends to be large. This is why it is worth encouraging firms to **“reverse split”** their stocks. **Doing this would increase stock prices and hence reduce liquidity cost.**

3. It is worth looking into **licensing interested companies to provide liquidity by acting as market-makers**. As market-makers, will be obliged (by law) to continuously offer their bid and ask prices, immediacy in trading will be achieved. This recommendation need not be applied to all listed companies at once. The market can start by selecting a list of companies. Again, the international evidence shows that such a move (change) increases liquidity (trading volume) and reduces liquidity cost (bid-ask spread).
4. Once the market improves in its liquidity dimension, **short-selling can be introduced to improve liquidity** even further. Again, the international evidence shows that short selling does reduce liquidity cost (bid-ask spread) in liquid markets.
5. The government must seriously consider **“activating” the secondary market for the issued treasury bills and bonds and making them liquid**. Naturally, this is a complex task and needs some detailed analysis. Within this context, it is also in the interest of listed firms themselves to have a liquid corporate bonds market. Such a market would provide them with an additional source of financing their capital investments.

# INTRODUCTION

For so long, economists, as well as others, have tried to understand what impacts economic growth and development. Relying on various theories, and using different methodologies, the economics literature attempts to explain, in particular, why some nations succeed in achieving strong and stable real growth, while others fail.

As expected, the cumulative, and on-going research effort has placed particular emphasis on a wide array of factors. These factors include, for example, investment, human capital, foreign direct investment (FDI), political stability, innovation and research and development, openness to trade, institutional framework, demographic trends, monetary and fiscal policy, and many others.

Recently, there has been a growing interest in how financial development (the establishment and expansion of banks and stock exchanges) may affect economic growth. *It is argued that financial systems can mobilize savings, allocate economic resources, facilitate the trading, hedging, diversifying and pooling of risk, and monitor managers and exert good corporate governance principles (World Bank).*

Relative to the functions of financial systems, it is not surprising that the World Bank has launched the online database on financial development in 205 countries. This database ranks countries' financial systems in terms of financial depth, financial access, financial services efficiency, and financial stability.

Financial depth captures the size of the financial sector relative to the economy. It is the size of banks, financial markets, and other financial institutions. As far as financial markets are concerned, the two proxy measures of financial development in terms of depth are stock market capitalization to GDP ratio and trading volume to market capitalization (turnover ratio).

Based on the relationship between financial development and growth, it is stated that *"a large body of economic literature supports the premise that, in addition to many other important factors, the performance and long-term economic growth and welfare of a country are related to its degree of financial development"* (World Economic Forum).

Within the context of the economic importance of stock markets, the research community stresses the instrumental role of liquid secondary markets. *Liquid stock markets allow investors to get their orders executed as quickly (immediacy), and as cheaply as possible. Liquidity refers to the ease with which buyers and sellers of securities promptly transact with minimal impact on the price.*

For all stock markets, this concept (liquidity) is extremely important for two main reasons:

The first reason, known by the *level effect*, is due to Levine (1991). The fact that profitable capital investment projects require long-term commitments of funds, the presence of liquid secondary markets encourages savers to invest in the issued securities because they know that they can quickly and cheaply sell them on the secondary market whenever they want.

The second reason, known by the *efficiency effect*, is due to Greenwood and Jovanovic (1990). Liquid secondary markets provide investors with better or superior diversification benefits (maximizing returns and minimizing risk) and this leads to a shift in their investment portfolios from safe with low-return projects to riskier with high-return projects. Such shifts in the capital flows improve the efficiency in the capital allocation process.

The fact that stock markets can be economically beneficial, the number of countries with a stock market since 1975 has actually more than tripled, from about 50 to more than 170 by the end of 2016. Within this context, the Jordanian

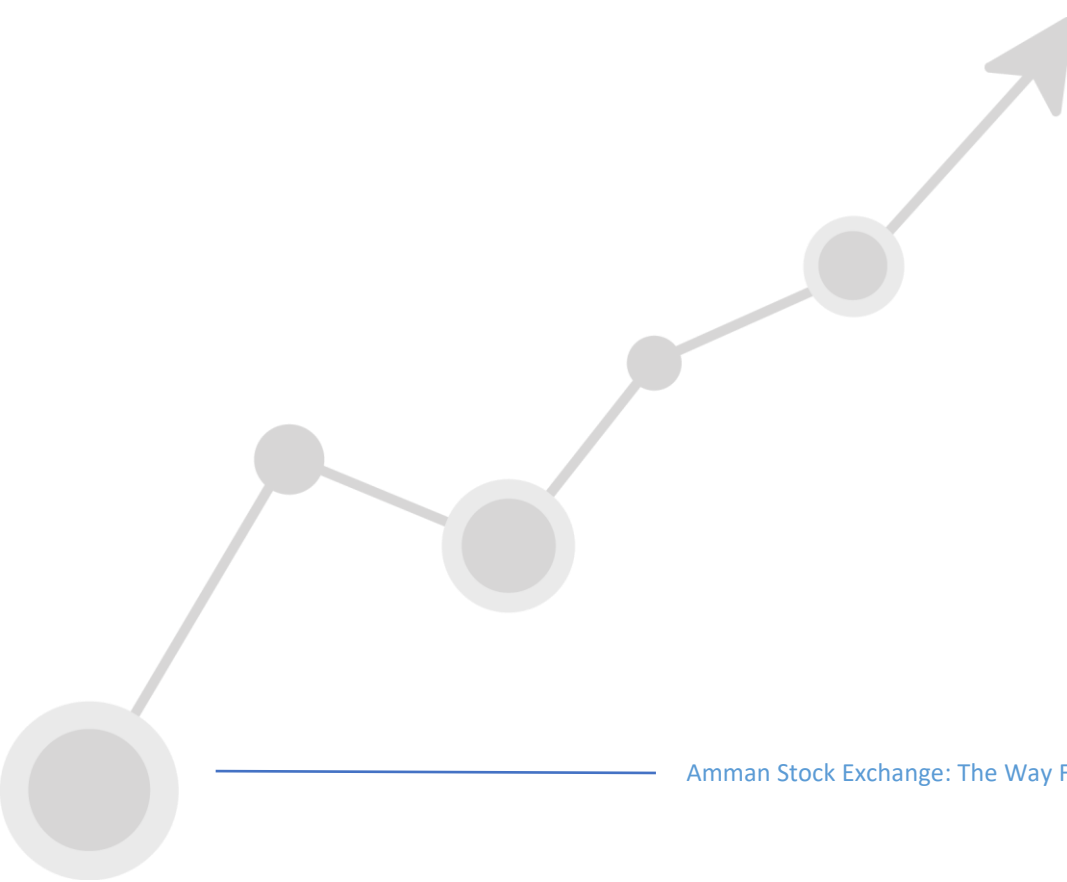
government called for the establishment of a stock exchange in 1975. The Central Bank of Jordan (CBJ), in collaboration with the International Finance Corporation (World Bank Branch), examined the idea, and on the 1<sup>st</sup> of January 1978 the Amman Financial Market (AFM) was established.

Since its establishment, the AFM witnessed a number of changes. These include, for example, the June 2000 implementation of the Electronic Trading System, establishment of the Amman Stock Exchange (ASE) in 1999 as a non-profit independent institution, and the 2017 ASE's registration as a public shareholding company with the following objectives (ASE):

1. "Creating an attractive, safe, competitive, transparent and credible investment environment".
2. "Developing processes, methods, and systems for trading securities in the stock market according to the latest international standards".
3. "Developing and delivering an outstanding service to the related parties".

4. "Disseminating trading information to the largest possible number of traders and interested parties".
5. "Enhance the public awareness of all segments of society, while devoting especial attention to traders of securities".
6. "Increasing the depth and the transparency of the ASE and diversifying the financial instruments available to investors".
7. "Enhancing the cooperation with the Arab, regional and international exchanges, organizations and federations".

This policy paper evaluates the performance of the ASE in terms of its secondary market liquidity. Based on the analysis, a number of policy recommendations are put forward. In section 2, we briefly discuss the concept of stock market liquidity and its benefits. In section 3, we provide some general observations about the performance of the ASE. Our analysis of liquidity is presented and discussed in section 4. Finally, section 5 is left for a summary of the main findings and a number of policy recommendations.



# THE CONCEPT OF LIQUIDITY

From the beginning, it must be stated that the decision to list on a stock exchange implies that management is willing to run the company transparently. By getting listed, companies become obliged to inform the public of all undertaken activities on a regular basis, and to provide shareholders with a fair view of their financial position / performance.

Listed companies, as well as investors, realize a number of advantages from listing their financial securities.

**First**, companies have easier means to raise additional capital as they become well-known to potential investors.

**Second**, listing provides companies with wide publicity as their activities and performances are covered in stock market reports, newspapers, magazines, and even in television channels.

**Third**, investors can convert their securities into cash by selling them as and when they require.

**Fourth**, all transactions are executed in a transparent and well-defined manner. This assures all investors of fair dealings.

**Finally**, listed securities enable investors to apply for loans by providing them as collateral security.

**A liquid stock market allows investors to get their orders executed as quickly (immediacy), and as cheaply as possible.**

In addition to the above-mentioned benefits, the importance of liquidity can be appreciated by considering its impact on various market stakeholders (Wyman, 2016):

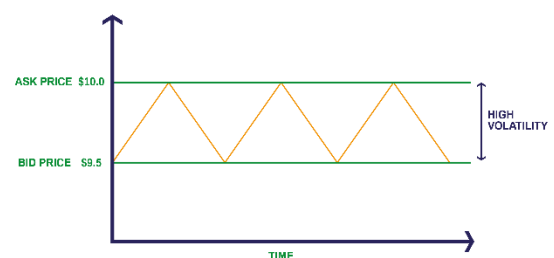
1. **“For investors**, more liquid markets are associated with lower costs of trading, an ability to move more easily in and out of assets, lower price volatility, and improved price formation”.
2. **“Issuers** are attracted to more liquid markets, as they reduce the cost of raising

capital and produce more accurate share price valuation”.

3. **“Stock exchanges** value the increased attractiveness to issuers and investors, as this translates into greater use of the market, greater confidence, greater ability to attract new stakeholders, and greater ability to do business, which drives revenues both directly (through trading fees) and indirectly (through extending their product offering, for example)”.
4. **“Economies** as a whole benefit, with companies able to access capital at a reasonable cost, subsequently increasing investment in their business and driving increased employment and their overall contribution to the economy”.

**The concept of liquidity has multiple dimensions and these are:**

**Breadth:** The cost of reversing a position (buy and then sell) over a short period. This dimension is measured by the difference between the highest available price of a buy order (bid) and the lowest available price of a sell order (ask). This difference is called the bid-ask spread. Naturally, stock markets should aim at tighter bid-ask spreads (risk tends to be lower).



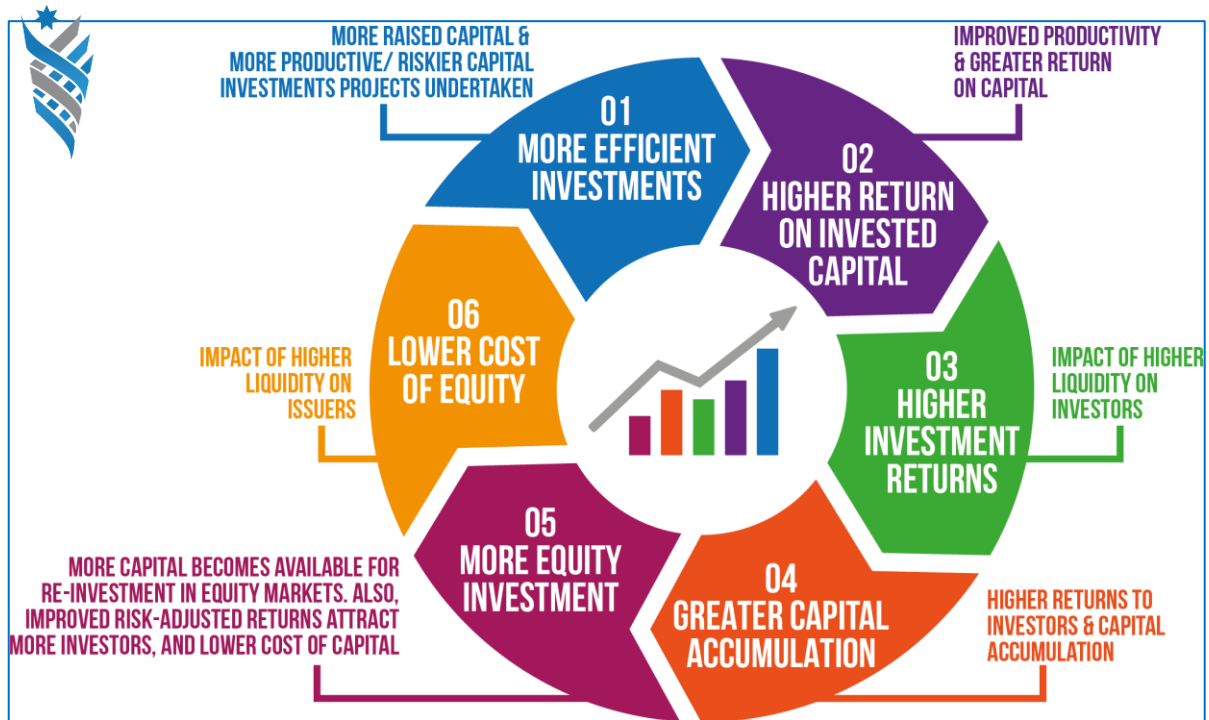
**Depth:** In deep markets, a large number of orders (buy and sell) on both sides of the bid-ask spread exist. If this is the case, the impact of orders on prices tends to be limited.

**Immediacy:** In liquid markets, investors can get their orders executed in a speedy manner (immediacy) at a given cost.



To summarize, Figure 2 (adapted from Wyman, 2016) highlights the benefits of higher liquidity to companies and national economies.

Figure 2: Benefits of Market Liquidity



Relative to the establishment and importance of stock markets in their primary and secondary aspects, one should not forget the importance of developing government (and corporate) bonds markets. Indeed, bond markets have long been a stable and reliable source of long term financing for both governments and corporates in the world. Bond markets constitute an alternative source of funding to equity and bank financing.

The establishment of liquid government bond market involves other benefits (USAID, 2010):

1. "It provides a risk-free benchmark yield curve that other financial markets can use as a reference for pricing financial assets, thereby imparting liquidity to such markets. An efficient GSM must exist if a corporate bond market is to develop. This ensures that savings are allocated to their most productive uses while private investment is enhanced".
2. "It facilitates the monetary policy "transmission mechanism" through the existence of the yield curve and by acting as a channel of integration of various segments

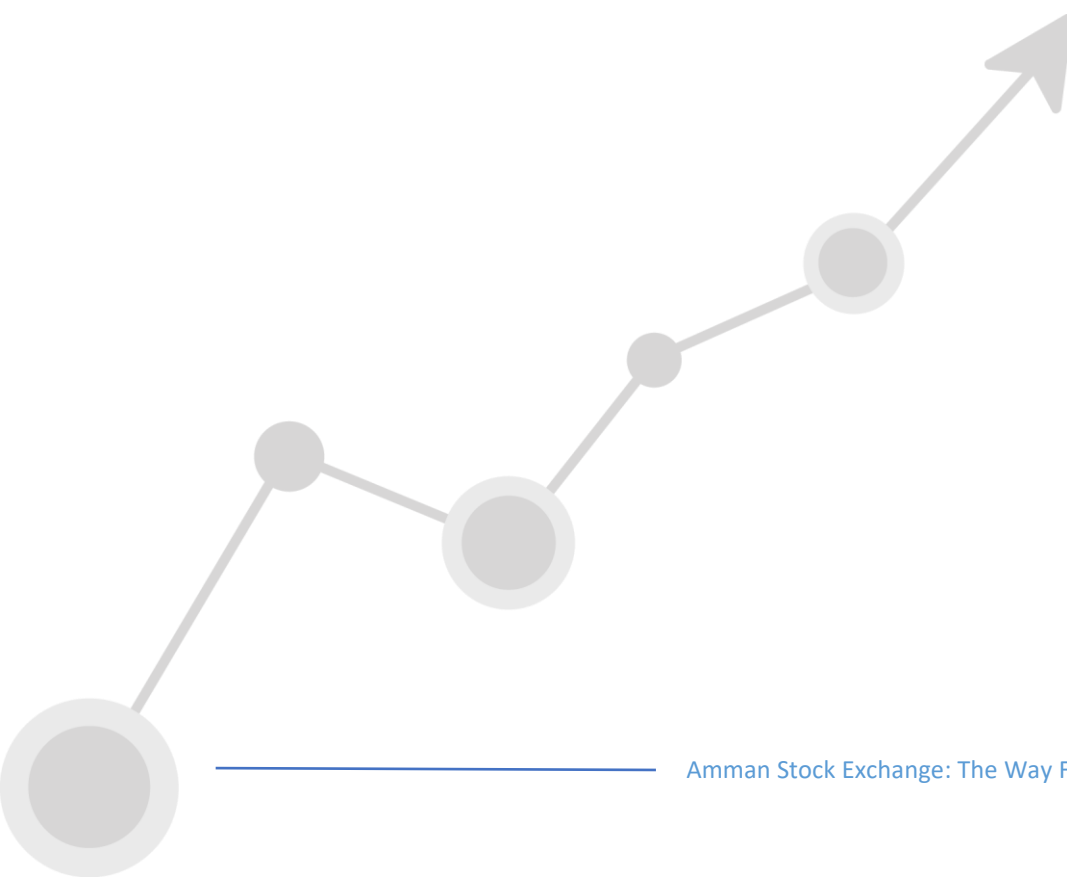
of the financial market. T-bill and bond yields provide an efficient alternative for regulating domestic money and credit conditions than changing bank liquidity and reserve requirements, or issuing directives to banks regarding lending practices, all of which are relatively blunt instruments in a liberalized economy".

3. "It provides greater flexibility to CBs in the conduct of monetary policy by using market based instruments such as open market operations, including repurchase agreements (repos)".
4. "It reduces a financial system's dependence on the banking sector and contributes to budgetary discipline by exposing the government to financial discipline. For example, in the event of lax fiscal policies, market participants can increase the government's cost of funding by seeking higher yields (i.e., to lower the price of GS)".
5. If a wide and deep GSM does not exist to finance the government's budget deficit, the government might have to raise taxes to

generate revenue. In addition to allowing a smooth execution of the budget deficit with no need to resort to cash rationing as a budgetary device, a vibrant GSM contributes to tax stability and, therefore, to overall efficiency of the economy.

In addition to the above-mentioned benefits, it is stated that “unexpected events that quickly

require large government expenditures, such as banking crises or natural disasters, necessitate the rapid issuance of government paper to the private sector if the government wants to avoid inflationary monetization. Rapid financing is facilitated by government security markets sufficiently liquid to absorb large new issues at relatively low cost” (IMF).

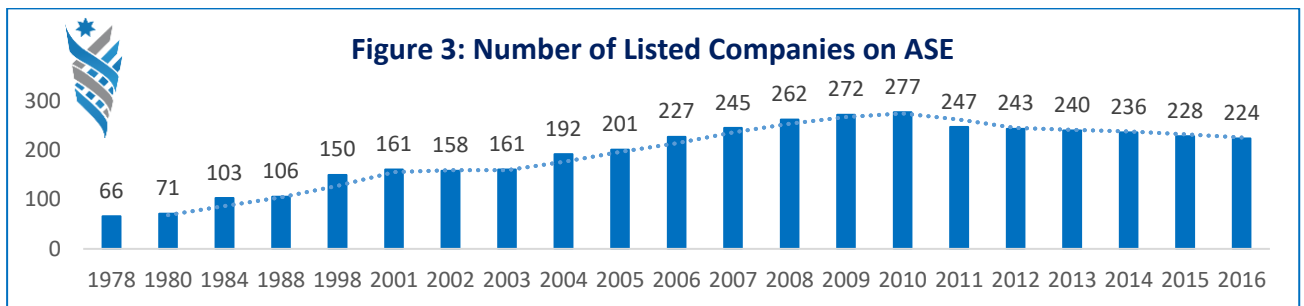


# THE JORDANIAN CAPITAL MARKET: SOME BASIC INFORMATION

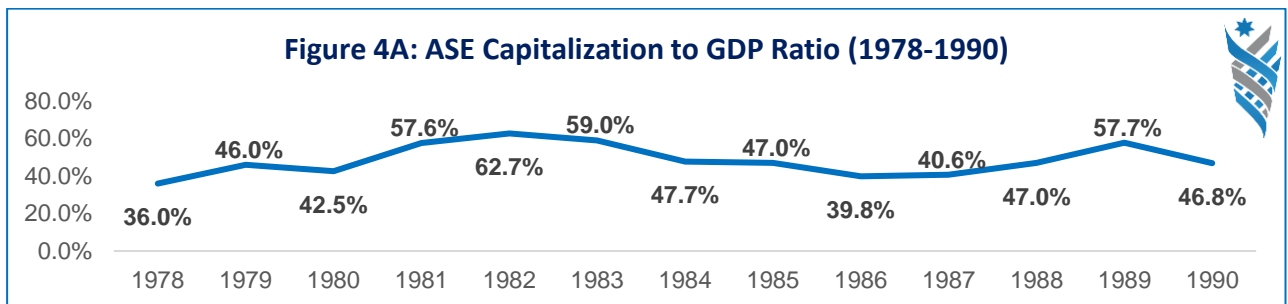
The ASE constitutes a major part of the Jordanian financial system and private sector. Indeed, the market lists most of the largest firms in terms of assets and employment levels in the economy. These firms include, for example, all licensed Jordanian banks, Arab Potash, Jordan Telecom, Jordan Phosphate Mines, Jordan Cement

Manufacturing, Arab Pharmaceutical Company, and Jordan Electric Power.

Initially, the ASE reflected some modest figures. By the end of 1978, the market had a total of 66 listed companies (Figure 3). While this number peaked at 277 in 2010, since then, it decreased consistently to reach 224 in 2016.



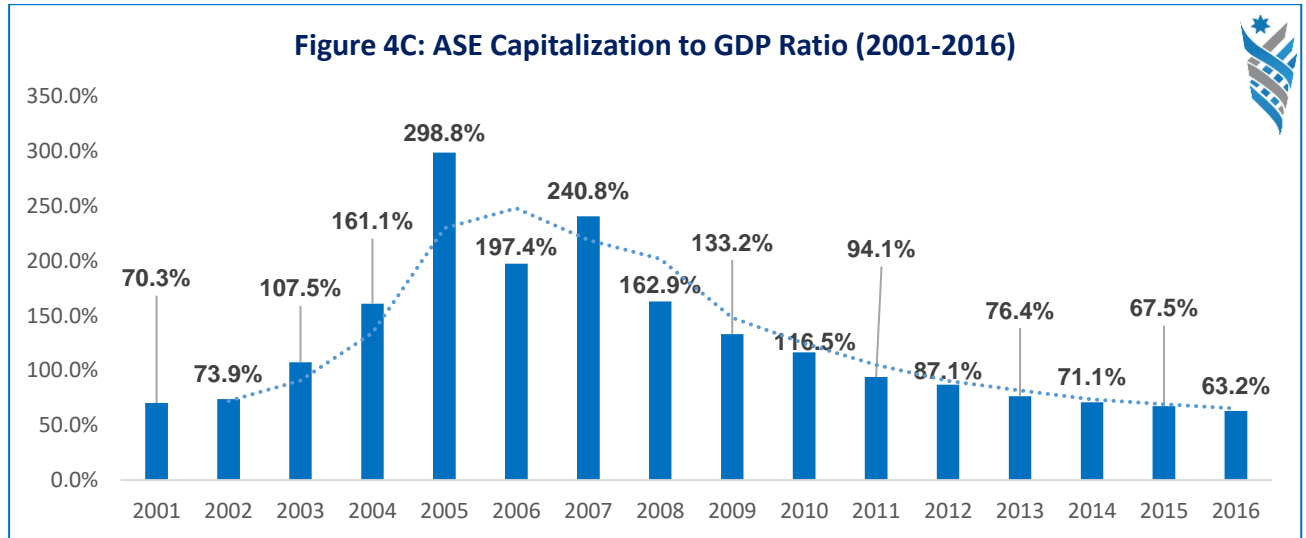
The size of the market relative to the national economy was also modest. The market value of all listed stocks to GDP ratio was equal to 36 percent in 1978. However, since then, three sub-periods are worth noting (Figures 4A, 4B, and 4C).



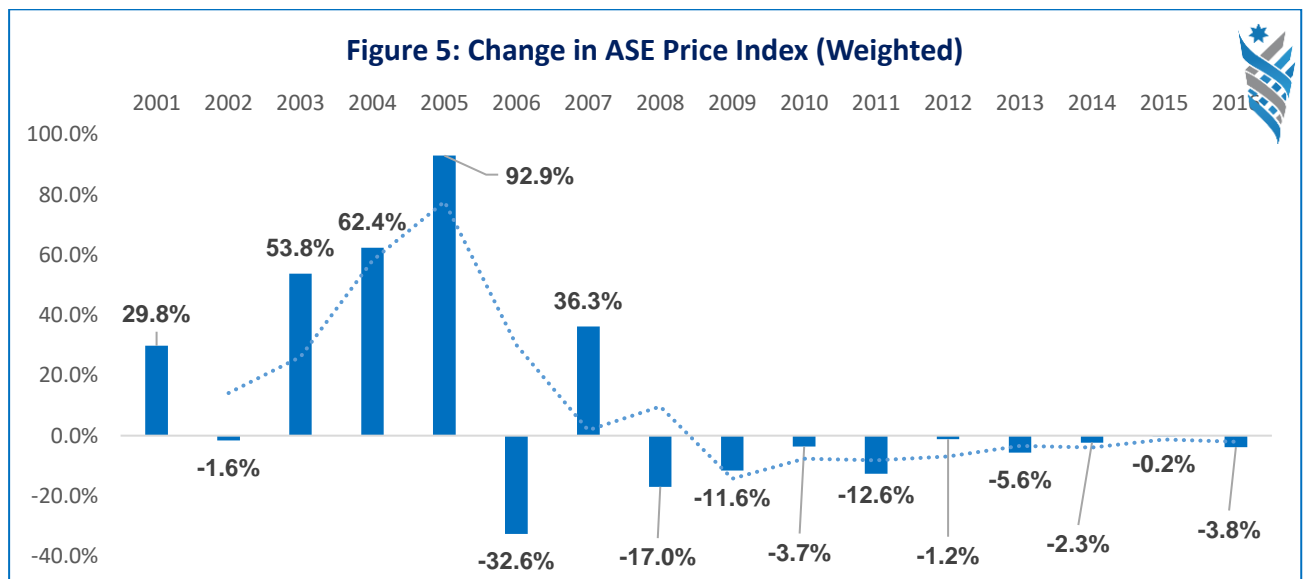
During the first sub-period (1978-1990), the market reflected a modest increase in its capitalization to GDP ratio from 36 percent to 46.8 percent.

The second sub-period (1991-2000) witnessed no growth in market capitalization. While capitalization to GDP ratio increased from 57.7 percent in 1991 to 89.2 percent in 1993, it decreased and reached 58.5 percent by the end of 2000 (Figure 2B).

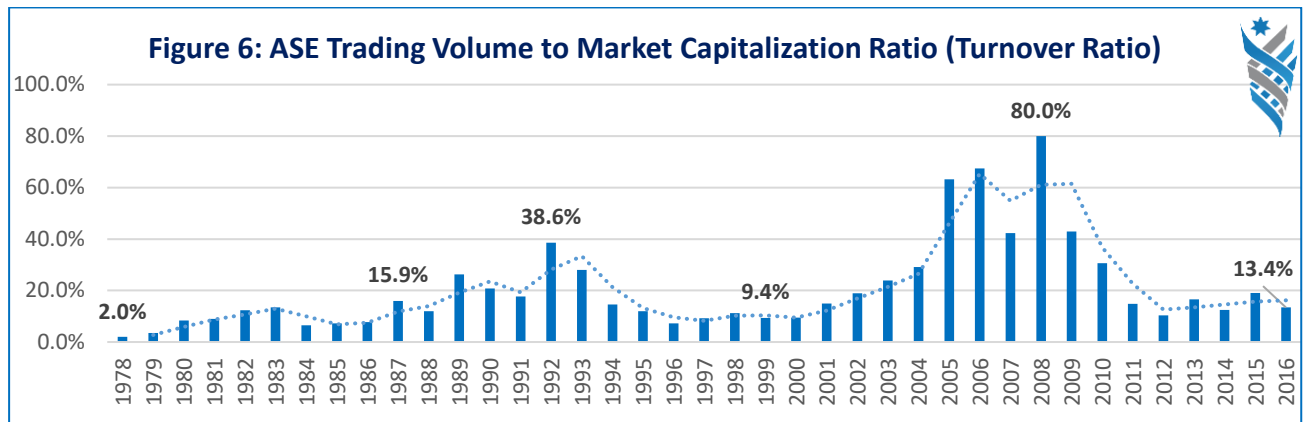
The third sub-period (2001-2016) reflects a different experience (Figure 2C). *The market's value suddenly increased from 70.3 percent in 2001 to 298.8 percent of GDP in 2005.* Since then, the market's size has fallen consistently. To appreciate this collapse, it is worth noting that in 2007 and 2016, the capitalization of the market was equal to JD29.2 billion and JD16.3 billion respectively.



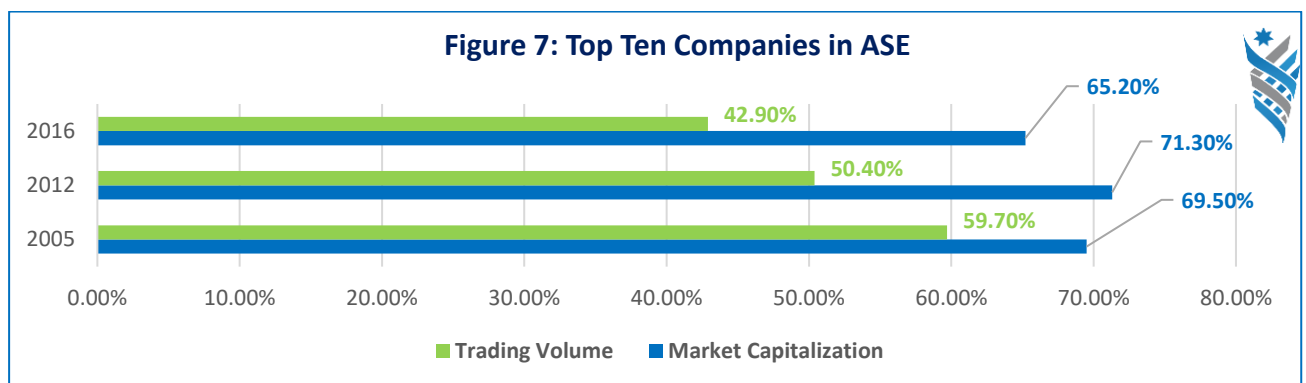
As expected, the “collapse” in the market’s capitalization to GDP ratio (2006-2016) is reflected in the behavior of the price index. This can be seen in Figure 5 where in 2005 the percentage change in the price index was equal to 92.9 percent, and during 2008-2016, this index was consistently negative.



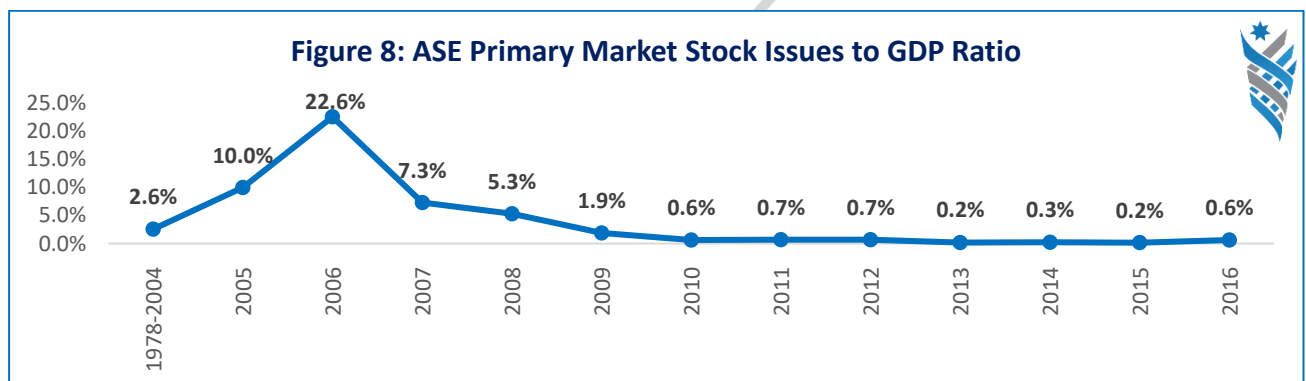
The volatility of the market in terms of its capitalization to GDP ratio is also reflected in the secondary market trading activity. The turnover ratio of the market (trading volume to market capitalization) reflects some large changes during the period 1978-2016 (Figure 6). However, what is disappointing is the consistent decrease in this ratio since its peak value in 2008.



The collapse in the size of the ASE in terms of capitalization and trading volume notwithstanding, it is useful to note that the market has always been highly concentrated. For example, in 2016 the top 10 companies accounted for 65.2 percent of the capitalization and 42.9 percent of the trading volume of the whole market (Figure 7).

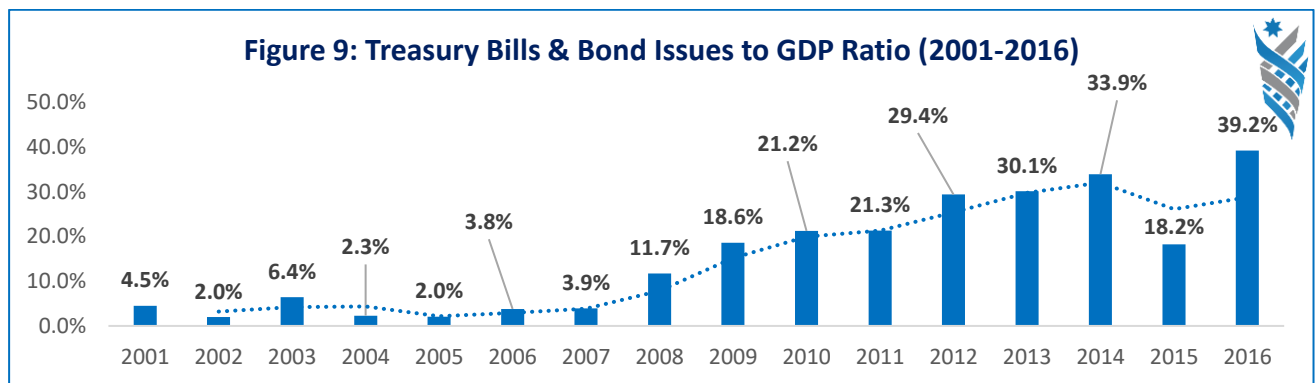


As far as the new primary market issues are concerned, the record is not encouraging. The privatization program led to significant stock issues in 2005 and 2006. However, since 2010, the value of new stock issues to GDP ratio has been consistently below one percent (Figure 8).

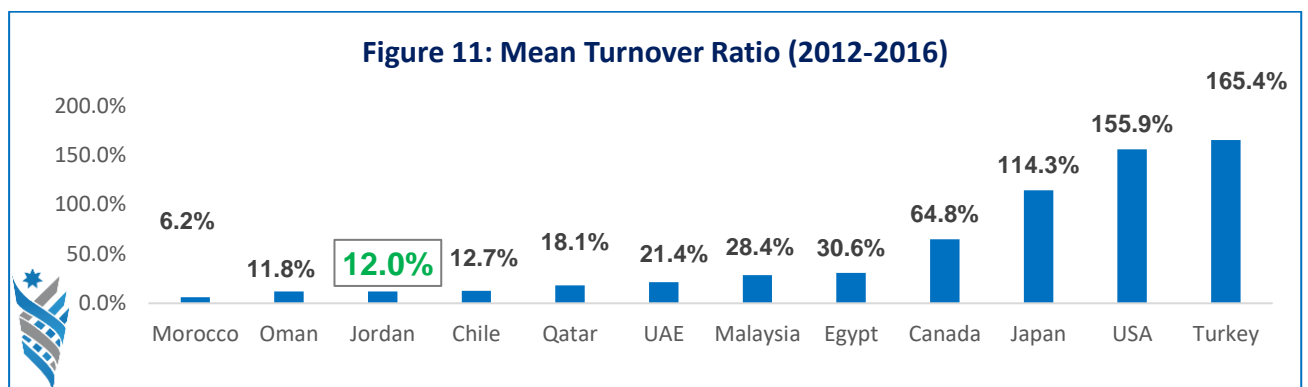
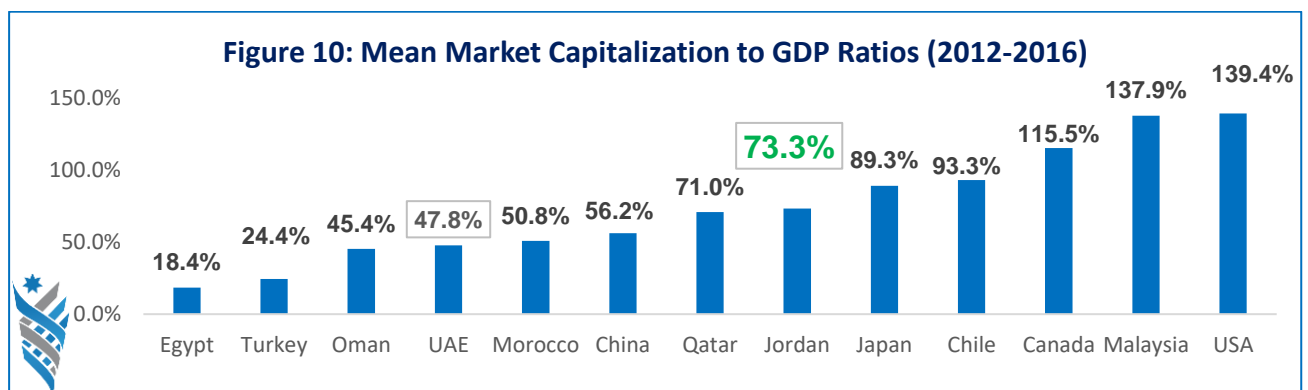


Relative to the corporate stock issues, the government has been an active issuer of treasury bills and treasury bonds. Since 2002, these issues have been growing at a fast rate (Figure 9). However, these securities are largely bought by licensed banks. In other words, there is no secondary market for these

issues. Currently, and on average, these securities account for about 22 percent of total banking assets. Within this context, it is also discouraging to note that trading in corporate bonds is almost non-existent.



Finally, and to put the ASE in its international perspective, Figures 10 and 11 report the mean market capitalization to GDP ratio and the turnover ratio for a number of countries. The reported figures reveal that the AFM is relatively large in terms of capitalization to GDP ratio. However, in terms of trading activity on the secondary market, its turnover ratio which is equal to 12.0 percent is higher than those in only Morocco and Oman.



# THE JORDANIAN STOCK EXCHANGE: THE LIQUIDITY ISSUE

**“Market Liquidity: is the ability of the market to transact buy and sell order immediately and at the right prices”**

All stock markets have one thing in common and that is to bring buyers and sellers of securities together. *In the ASE, the market-making mechanism is order-driven.* Under this system, strict price and time priority rules are followed. For example, for any two or more buy (sell) orders, the one with the highest (lowest) price has the priority in execution. If two or more orders of the same type are noted, the order which was noted first has the execution priority.

The trading mechanism of the ASE suffers from one disadvantage and that is lack of immediacy. *This problem can be highlighted using only four simple scenarios:*

**First Scenario:** Someone could come into the market to buy 1000 shares at JD10.0 each. What happens if no counter sell order is forthcoming (Table A)?

**TABLE A: ORDER-DRIVEN MARKET**

Buy Orders		Sell Orders	
Shares	Price	Shares	Price
1000	JD 10.0		

**Second Scenario:** Someone could come into the market to sell 1000 shares at JD10.0 each. What happens if no counter buy order is forthcoming (Table B)?

**TABLE B: ORDER-DRIVEN MARKET**

Buy Orders		Sell Orders	
Shares	Price	Shares	Price
		1000	JD10.0

**Third Scenario:** Someone could come into the market to sell 1000 shares at JD10.0 each. What happens if the existing counter buy order is at JD9.8 (Table C)?

**TABLE C: ORDER-DRIVEN MARKET**

Buy Orders		Sell Orders	
Shares	Price	Shares	Price
1000	JD9.8	1000	JD10.0

**Fourth Scenario:** A “desperate” investor, even for liquidity purposes, comes into the market to sell 1000 shares at JD10.0 each.

The absence of counter buy order makes him reduce the selling price to JD9.8, JD9.6, and to even JD9.4. If a counter buy order comes into the market at JD9.4, a transaction would occur at JD9.40 (Table D). The question then is: *What is the reason behind the “sudden” decrease in price from JD10.0 to JD9.4?*

If the same “desperate” investor wanted to buy, would the price increases reflect the same proportions? Are increases and decreases symmetrical in magnitude?

**TABLE D: ORDER-DRIVEN MARKET**

Buy Orders		Sell Orders	
Shares	Price	Shares	Price
1000	JD9.4	1000	JD10.0
		1000	JD9.8
		1000	JD9.6
		1000	JD9.4

Based on the above-mentioned four scenarios, one can understand why the turnover ratio in the market is relatively low. Also, why the top ten companies account for a large proportion (each year) of the trading volume. *In addition, because successive sell orders (desperate investors) are likely to result in a larger percentage change (decrease) in price than successive buy orders would, this problem (illiquidity) tends to discourage price increases.*

To analyze the ASE liquidity issue, it is useful to note that at the close of each trading day, the market publishes the highest bid price and lowest ask price. The fact that these orders are not executed, the difference between them can be used as a measure of liquidity cost. Naturally, it would have been better if the market published the highest bid and lowest ask prices

continuously during trading days. However, the fact that the arrival times of the closing best bid and best ask prices are random in nature, the difference is a good measure of liquidity cost.

Based on the daily closing bid and ask prices during the years 2002-2016, we calculate for each year the daily spread for all listed stocks:

$$Spread_i = [(Ask_i - Bid_i) / (Bid_i + Ask_i / 2)] * 100$$

where Spread refers to the percentage bid-ask spread of stock i at the end of the trading day t, Ask<sub>i</sub> is the ask price and Bid<sub>i</sub> is the bid price at the end of day t.

We also estimate the impact of stock price, trading volume, and risk on liquidity cost (Box 1).

### BOX 1

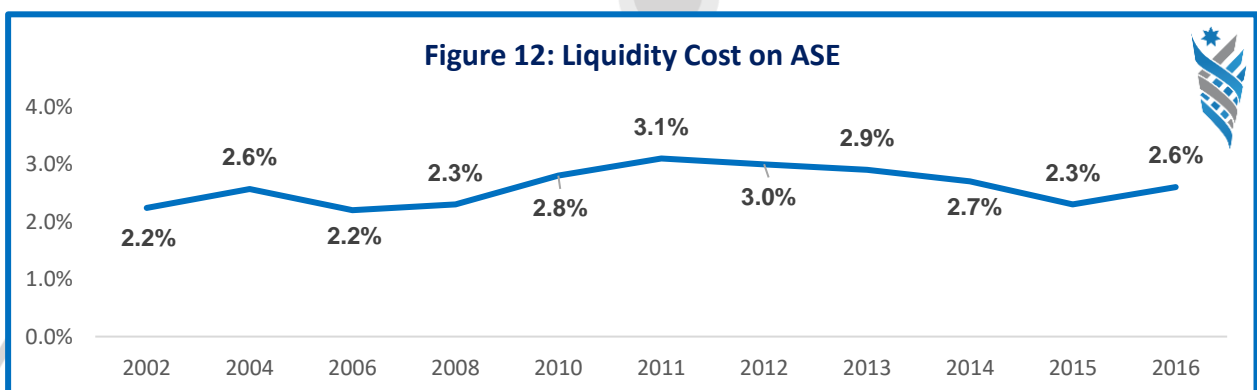
$$SPREAD_{i,t} = \alpha_0 + \alpha_1 \ln(PRICE_{i,t}) + \alpha_2 \ln(VOLUME_{i,t}) + \alpha_3 (Risk_{i,t}) + \epsilon_{i,t}$$

where SPREAD is the bid-ask spread (as defined above) in day t; PRICE is the natural logarithm of the daily closing stock price; VOLUME is natural logarithm of trading volume defined as the daily trading volume (in Dinars); and Risk is the difference between the highest and lowest price divided by the opening price.

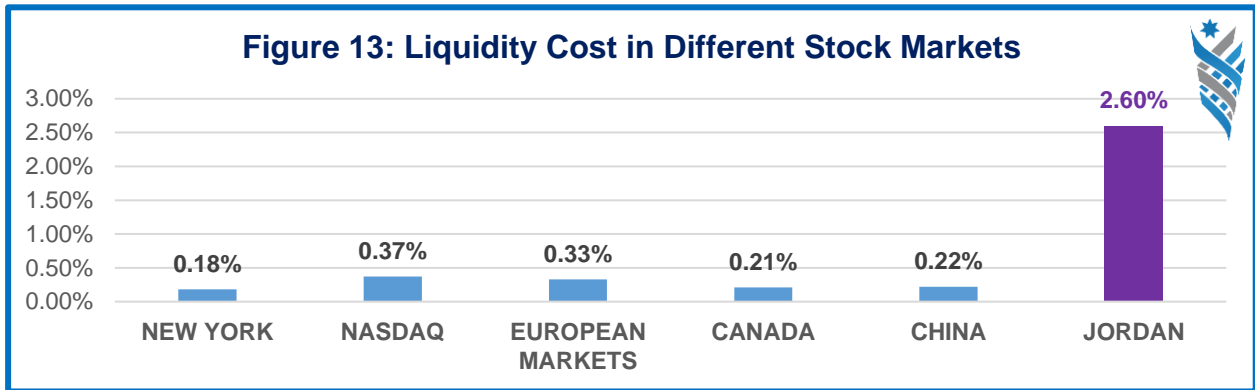
In Figure 12, we report the overall mean liquidity costs for a number of years. A look at the reported spread values, one conclude that liquidity cost that prevails in the Jordanian capital market is relative high. *The mean spread values that range between a minimum of 2.2 percent in 2002 and 2006 and a maximum of 3.1 percent are much higher than the 0.18 percent and the 0.37 percent that exist in the NYSE and NASDAQ markets respectively.* These costs are also higher than those which exist in European

markets (0.331 percent), Canada (0.213 percent), and in China (0.217 percent).

As far as government bond markets are concerned, the international evidence shows that their liquidity cost is also low (0.149 percent during recessions and 0.101 during non-recession periods). Also, for treasury bills (short-term bonds), liquidity cost is equal to 0.049 percent in recessions and 0.002 percent in non-recession periods.







Relative to the high liquidity cost in ASE, it is useful to note that the international experience provides us with some useful insights. For example, many markets encourage listed firms to carry-out “reverse stock splits” in order to increase their stock prices and hence reduce the bid-ask spread. Similarly, some markets have reduced what is called the “*minimum tick*” (multiples of currency unit by which prices are allowed to change) to reduce liquidity cost. More importantly, *experience shows that the introduction of market-makers results in lower liquidity costs, easier security trading, and stronger liquidity.* Even more interesting, and within the context of the Oslo Stock Exchange, it is stated that “a recent innovation in equity markets is the introduction of market maker services paid for by the listed companies themselves... We also find significant reductions in liquidity risk and cost of capital for firms that hire a market maker. Firms that prior to hiring a market maker have a high loading on a liquidity risk factor, reduce their liquidity risk down to a level similar to that of the larger and more liquid stocks on the exchange”.

We report the results of the impact of stock price, trading volume, and risk on the estimated liquidity costs. These results are reported in Table E. These results are as expected.

**First**, the coefficient of stock price is negative. *This implies that higher-priced stocks tend to have, on average, lower liquidity cost.*

**Second**, the coefficient of trading volume is negative. *This finding implies that stocks which are more actively traded tend to have lower liquidity cost.*

**Finally**, the impact of risk is positive indicating that stocks whose risk is higher tend to suffer from higher liquidity cost.

**Table E: Impact of Price, Trading Volume, and Risk on Bid-ask Spread**

Years	PRICE	VOLUME	RISK
2010	-0.094	-0.394	0.218
2011	-0.199	-0.388	0.270
2012	-0.295	-0.357	0.316
2013	-0.300	-0.344	0.222
2014	-0.223	-0.381	0.204
2015	-0.280	-0.336	0.162
2016	-0.352	-0.322	0.197

*“The international experience shows that the introduction of market-makers results in lower liquidity costs, easier security trading, and stronger liquidity.”*

*The Market-Maker is obliged by law to provide investors with liquidity by continuously quoting his bid and ask prices. In addition, the Market-Maker is responsible to maintain an orderly and stable market.*

# SUMMARY OF FINDINGS AND RECOMMENDATIONS

At a broad level, “financial development can be defined as improvements in the quality of five key financial functions: (a) producing and processing information about possible investments and allocating capital based on these assessments; (b) monitoring individuals and firms and exerting corporate governance after allocating capital; (c) facilitating the trading, diversification, and management of risk; (d) mobilizing and pooling savings; and (e) easing the exchange of goods, services, and financial instruments” (World Bank).

Within the context of financial development, one should not underestimate the importance the services which stock markets provide to listed companies, investors, and to national economies. Indeed, this is why the number of stock exchanges around the world has increased from around 50 in 1975 to more than 170 by the end of 2016.

The recent performance of the ASE in terms of stock returns has been rather disappointing. For example, the performance of the price index during the period 2000-2008 was highly volatile. More disappointing, however, are the consistent losses realized since the year 2008.

**In a Nutshell,** there is no doubt that the reasons behind the recent (since 2008) fall in stock prices are various. However, irrespective of what these reasons are, this paper argued that one issue that must be dealt with is liquidity. Liquid stock markets allow investors to get their orders executed as quickly (immediacy), and as cheaply as possible. It is argued that the **ASE suffers from illiquidity in terms of both of its' dimensions:**

**First,** investors cannot get their orders executed any moment they choose regardless of what the price is.

**Second,** even when investors can get their orders executed, the difference between the price of the highest available buy order (bid) and

the lowest available sell order (ask) is relatively large. The JSF estimations show that, on average, liquidity cost (bid-ask spread) has never been less than 2 percent and this is much higher than the 0.18 percent and 0.37 percent that exist in advanced markets.

In addition, and as expected, JSF found that the impact of stock price and trading volume on the estimated bid-ask spreads is negative. The higher the stock price and trading volume the lower the bid-ask spread.

The comparatively high liquidity cost in the ASE is too important to ignore. Indeed, it has a number of negative implications.

First, stock price changes tend to be volatile (risky) because they move between wide bid and ask prices.

Second, the international evidence clearly shows that stock returns in illiquid markets tend to be low.

Third, low stock returns discourage listed firms to issue stocks on the primary market to finance their investments. Indeed, in illiquid markets, the cost of capital is relatively high.

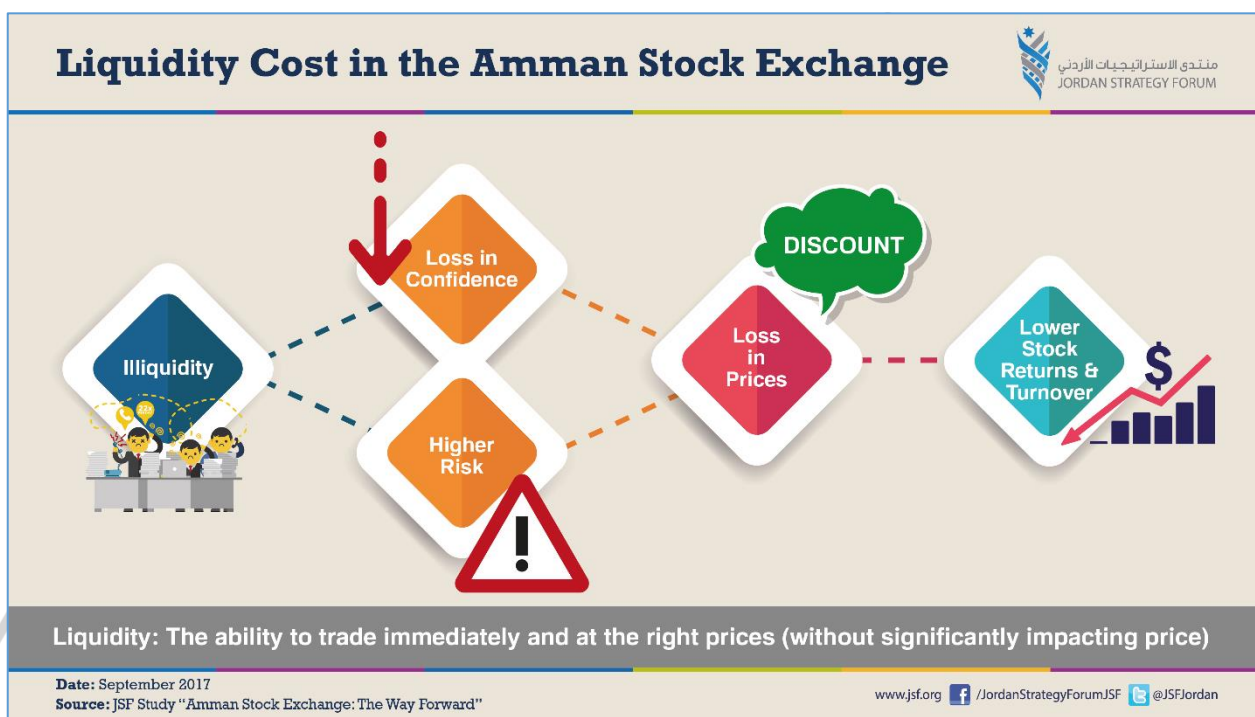
Relative to these implications, it is good to remember that during the period 2003-2007, the ASE's capitalization to GDP ratios were equal to 107 percent, 161 percent, 298 percent, 197 percent, and 240 percent respectively. These ratios indicate that the market grew in size. It was also volatile. Moreover, no one doubts that the increase in capitalization was due to the privatization program, large increase in the number of listed companies, and the rising “confidence” in the market. However, the issue of market's illiquidity was also an influencing factor.

Based on the analysis and findings, the JSF recommends a number of policy options to help revive the financial market. These are outlined below:

1. **Minimum tick:** JSF recommends looking into reducing the “*minimum tick*” from the currently existing multiples of one piastre to, say, half of one piastre. The international experience shows that liquidity cost becomes lower following such a change.
2. **Reverse split:** The fact that the market prices of so many listed stocks are low (for some even lower than one Dinar), any minimum change in the price (multiple of one piastre) tend to be large. This is why JSF recommends encouraging firms to “reverse split” their stocks. Doing this would increase stock prices and hence reduce liquidity cost.
3. **Market makers:** JSF recommends looking into licensing interested companies to provide liquidity by acting as market-makers. As market-makers, are obliged (by law) to continuously offer their bid and ask prices, liquidity would improve. This recommendation need not be applied to all listed companies at once. The market can start by selecting a list of companies. Again, the international evidence shows that such a move (change) increases liquidity (trading volume), reduces liquidity cost (bid-ask

spread), and reduces volatility (improves price stability). Here, it is worth remembering that Abu Dhabi Securities Exchange and the Dubai Financial Market introduced market-makers in 2015. Indeed, this experience should be valuable to the ASE’s case.

4. **Short selling:** Once the market improves in its liquidity dimension, JSF recommends introducing short-selling to improve liquidity even further. Again, the international evidence shows that short selling does reduce liquidity cost (bid-ask spread) in liquid markets. In addition, it is worth noting that short-selling is allowed in the Saudi Stock Exchange, and a number of other Gulf markets are about to introduce this facility. Again, we can learn from these experiences.
5. **Secondary market for Government treasury bills:** The government must seriously consider “activating” the secondary market for the issued treasury bills and making it liquid. Naturally, this is a complex task and needs some detailed analysis. Within this context, it is also in the interest of listed firms themselves to have a liquid corporate bonds market. Indeed, such a market would provide them with an additional source of financing their capital investments.

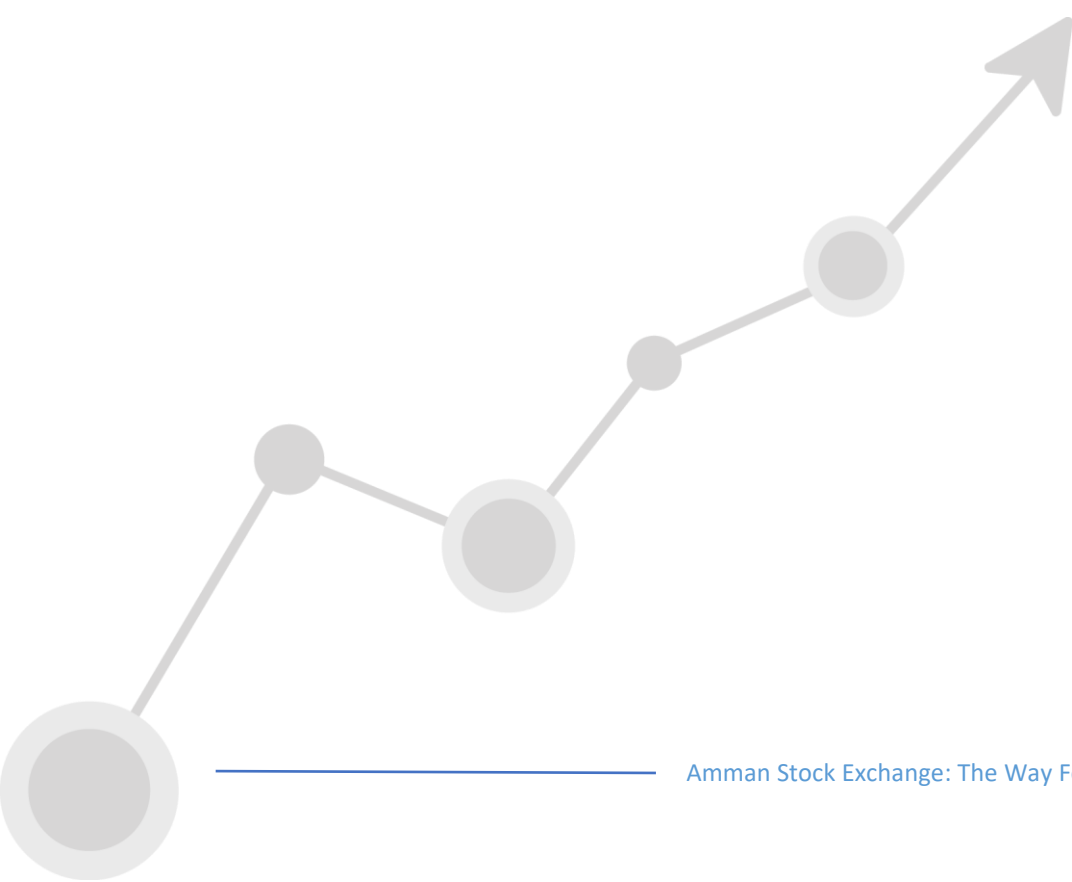


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