



FINANCIAL STABILITY REPORT 2012

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Preface

The financial stability report for 2012 shows that Jordan has a safe and sound banking sector able to withstand shocks and high risks as a result of high levels of capital held by banks in Jordan - the highest in the Middle East- as well as having comfortable levels of liquidity. The issuance of this report aimed at highlighting the developments in the banking and financial sector in Jordan and the efforts exerted to further enhance its progress. It also aims to evaluate this sector's performance and identify the risks it may face. This report is the first report issued by the Financial Stability Department in the Central Bank of Jordan since its establishment in 2013. The establishment of this department aims at enhancing the stability of the financial system through identifying and monitoring the risks it may face at the macro- level (systemic risks) to curb them and enhance the ability of the financial system to withstand them. The Financial Stability Department will work with other departments in the CBJ, especially the Banking Supervision Department and the other departments responsible for designing and implementing the monetary policy to enhance monetary and financial stability in Jordan.

The report consists of five chapters. Chapter one addressed the domestic and international financial and economic developments and its outlook. The chapter stated that the world witnessed improvements in the financial conditions and attained a relative financial stability. This improvement was fuelled by the implementation of unconventional monetary policy and a tight fiscal policy. The chapter also evaluated the macroeconomic policies in Jordan and its role in curbing the impact of external and financial imbalances.

As for chapter two, it analyzed the risks and developments in the banking sector in Jordan. The report showed that the Jordanian banking system was able to maintain the safety and soundness of its financial conditions, in spite of the repercussions of the global financial and economic crisis, the situation resulting from Arab Spring, and the political instability in the region accompanied by substantial risks and challenges. Moreover, the chapter conducted a comparative analysis of the banking sector in Jordan with its neighboring countries and emerging markets.

Chapter three was entirely devoted to stress testing which used to measure the ability of the banking sector to withstand shocks. The results of these tests showed that the Jordanian banking sector is able to withstand shocks and high risks, due to the fact that most banks in Jordan are well-capitalized and are considered to have the highest levels of capital in the Middle East region.

Chapter Four investigated the developments in the household debt in Jordan and the risks linked to it. The report showed that the ratio of household debt to household income has increased in the last few years to reach 58%, whereas the ratio of household debt to GDP reached 32%. These ratios are within acceptable levels compared to several other countries in the region and the world.

The last chapter, Chapter Five, discussed the concepts of macroprudential policy and systemic risk, in addition to defining the key tools of the macroprudential policy that aim at curbing the risks that the financial system may encounter at a macro-level.

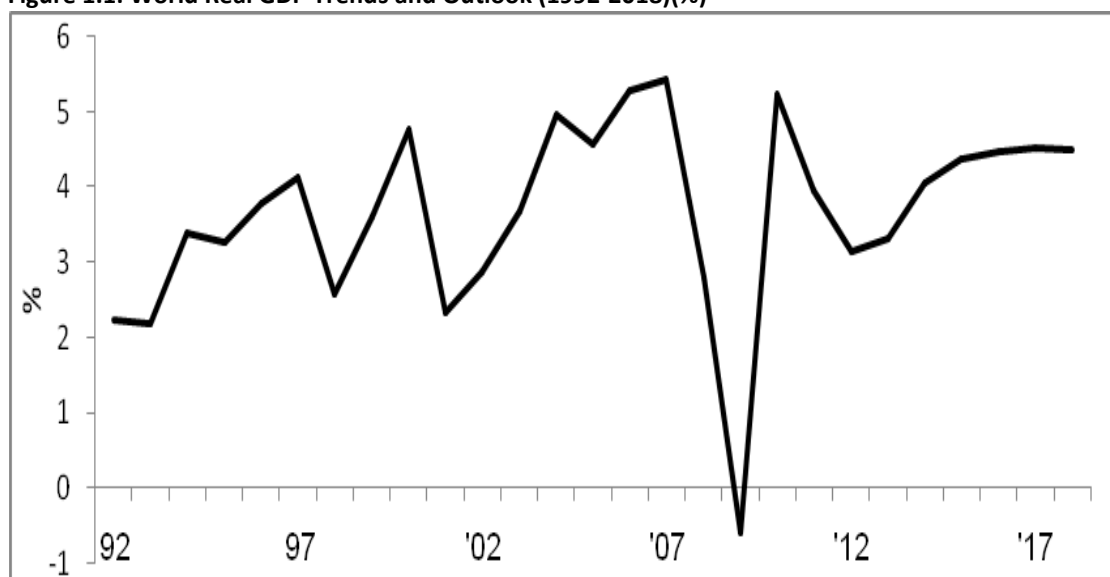
Governor
Dr. Ziad Fariz

Chapter One: Domestic and International Economic and Financial Developments and Outlook

International Economic Developments and Outlook

The world has witnessed an improvement in the financial conditions and attained an unsustainable financial stability since October 2012. This improvement came as a result of adopting unconventional monetary policy and tight fiscal policy (austerity). These two trends in the policy have led to what is called three-speed recovery¹ – as termed by the IMF. However, other economists see that emerging market economies may suffer from slowdown after a period with the decrease in demand in the advanced economies and the cut of the unconventional quantitative easing. As a result of the economic slowdown in the emerging markets, it is likely that this growth may negatively affect the countries producing raw materials.

Figure 1.1: World Real GDP Trends and Outlook (1992-2018)(%)



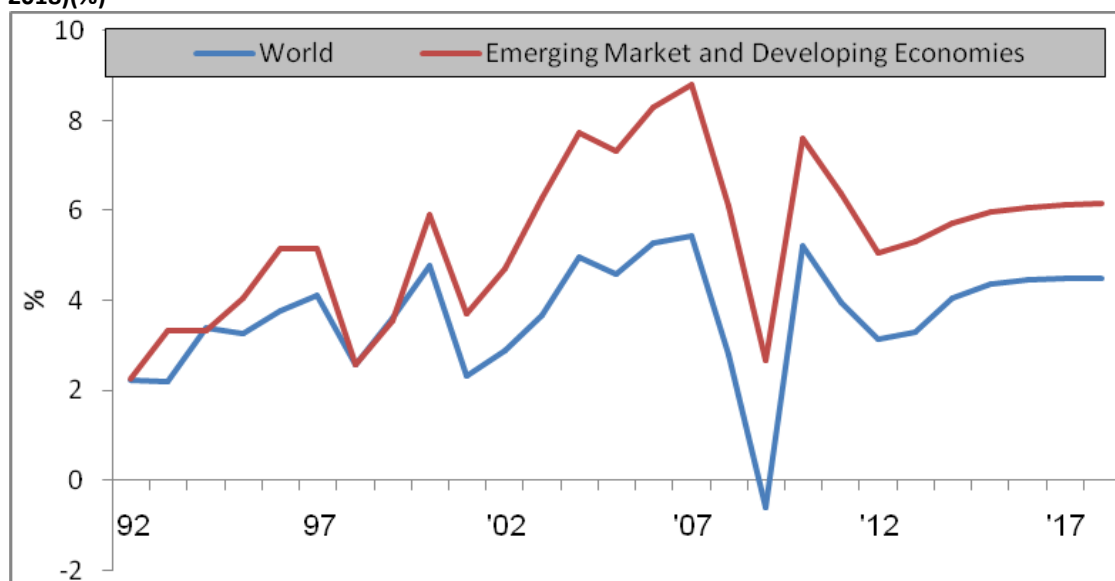
Source: IMF, WEO. April 2013

¹ Three-speed recovery means the diverse economic growth prospects among the USA, euro area and emerging markets economies. The traditional historical trend is a two-speed growth between advanced economies and the other countries in the world.

The world economy witnessed a GDP growth reaching 3.1% in 2012. It is forecasted that it will maintain the same percentage in 2013. However, in 2014, the growth is expected to reach 3.8% as indicated in the July 2013 IMF update, with diverse trends in the growth among the developed countries economies (Figure 1.3).

The emerging markets and developing economies continue to grow faster than the developed economies. However, the 2013 indicators signal a slowdown in the economic growth in these countries. In the developed economies, there appears to be a growing difference between the USA on one hand and the euro area on the other.

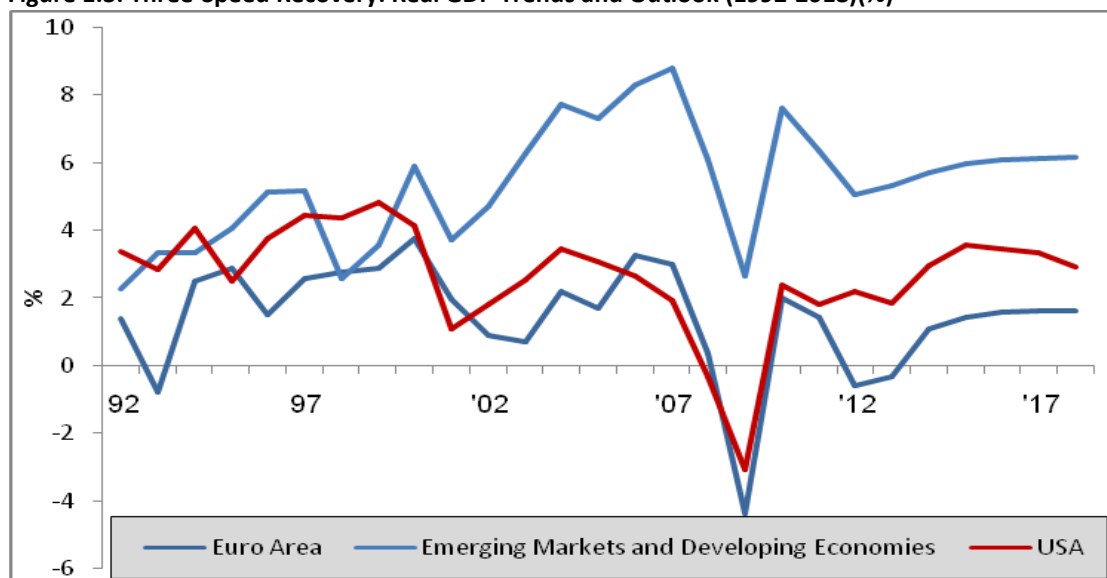
Figure 1.2: Real GDP Trends and Outlook in the Emerging Markets and Developing Economies(1992-2018)(%)



Source: IMF, WEO. April 2013

The IMF predicts that the growth rate in the USA will reach 1.7% and 2.7% in the years 2013 and 2014 respectively, compared to -0.6% and 0.9% in the euro area in the same two years. Even though the growth rate in the USA appears to be high, it is insufficient to make a large change in the high unemployment rates.

Figure 1.3: Three-Speed Recovery: Real GDP Trends and Outlook (1992-2018)(%)



Source: IMF, WEO. April 2013

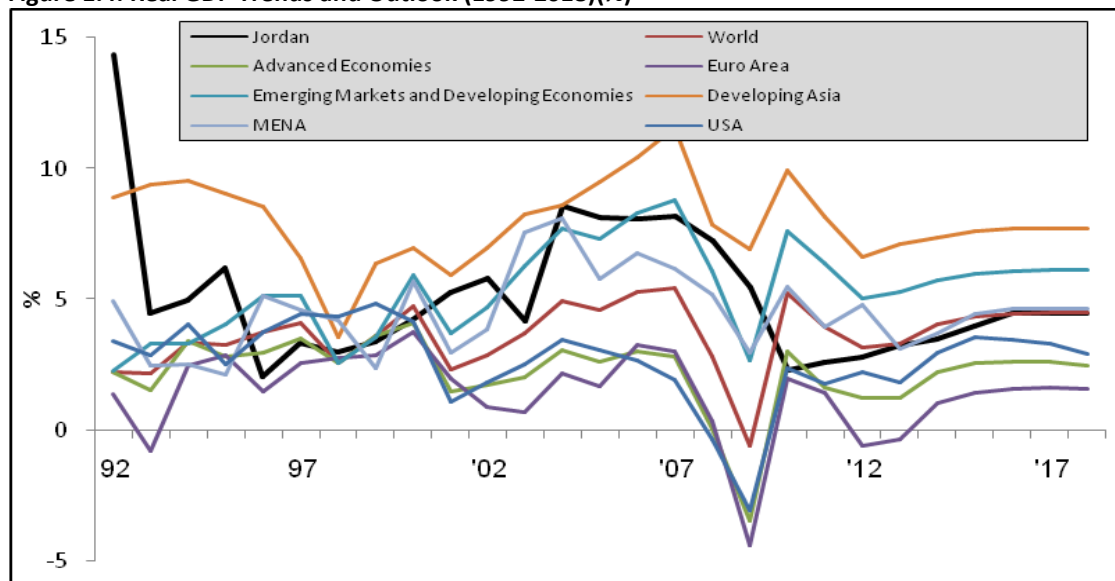
The forecast for negative growth in the euro area reflects not only weakness in the peripheral countries but also some weakness in the core countries. Germany's growth is strengthening but is still forecasted to be less than 1% in 2013. France's growth is forecasted to be negative in 2013, reflecting a combination of fiscal consolidation, poor export performance, and low confidence.

Most euro area peripheral countries, notably Italy and Spain, are expected to have substantial contractions in 2013. The process of internal devaluation is slowly taking place, and most of these countries are slowly becoming more competitive. External demand, however, is just not strong enough to compensate for weak internal demand. Adverse feedback loops between weak banks, weak sovereigns, and low activity are still reinforcing each other. It is worth noting that there are some positive indicators that signal the possibility of the euro area to exit the slowdown stage during 2013.

Japan is forging a path of its own. After many years of deflation, and little or no growth, the new government has announced a new policy, based on aggressive quantitative easing, a positive inflation target, fiscal

stimulus, and structural reforms. This policy will boost growth in the short term, and this is reflected in IMF forecast of 2.0% growth for 2013. Given the high levels of public debt, however, embarking on a fiscal stimulus in the absence of a medium-term fiscal consolidation plan is risky; it increases the probability that investors will require a risk premium, and that this will lead in turn to unsustainable debt.

Figure 1.4: Real GDP Trends and Outlook (1992-2018)(%)

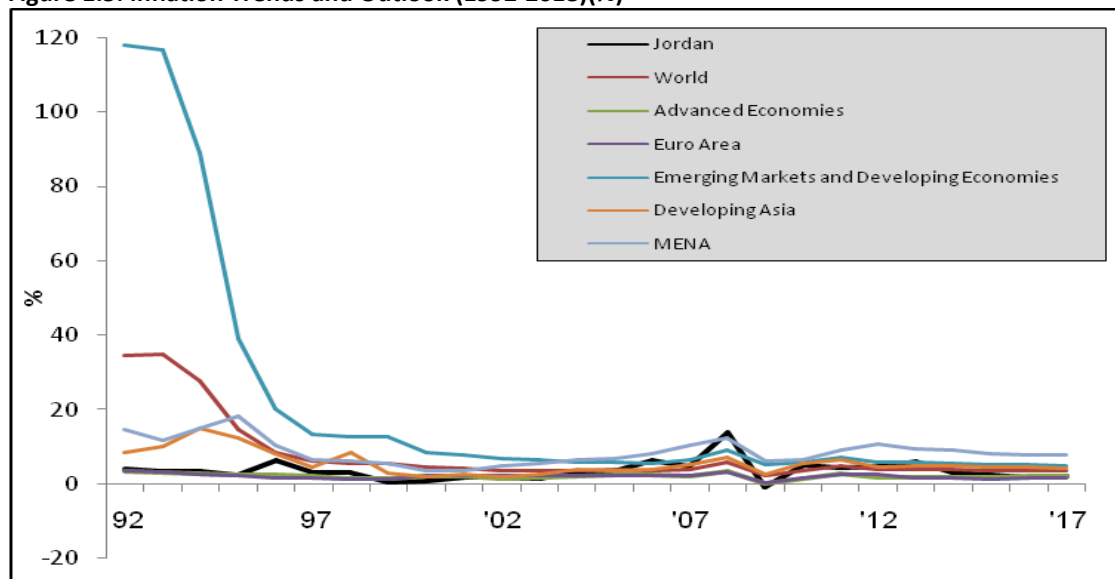


Source: IMF, WEO. April 2013

In contrast to this mixed picture of the developed economies, emerging market economies are doing well. Conditions today are similar to those in the past such as: high commodity prices, low interest rates, large capital inflows that would often lead to credit booms and overheating. This time, however, policymakers have generally succeeded in keeping aggregate demand in line with potential demand. At the same time, potential growth has apparently declined in a number of major emerging market economies, relative to pre-crisis trends. Although circumstances vary across countries, the evidence suggests that policy induced distortions are the source for part of this decline and that these distortions should be addressed.

Global inflation has fallen from 3.75% in early 2012 to about 3.25% on April 2013, and it is projected to stay around this level throughout 2014. Inflation expectations did not change – a case that motivated the IMF researchers to investigate whether inflation was curbed or its importance decreased – inflation expectations are forecasted to move in a descending trend until 2018.

Figure 1.5: Inflation Trends and Outlook (1992-2018)(%)



Source: IMF, WEO. April 2013

World Economic and Outlook

The improvement attained in the last year was due to the prudent policy measures that were adopted in various parts of the world; and that helped reduce the severity of risks. It is worth mentioning that the key note of the last Global Financial Stability Report (April 2013) is summarized in the title: Old Risks, New Challenges – the prudent macroeconomic policies adopted helped curb the economic slowdown and improve the outlook. Monetary policy rates are forecasted to remain very low over the next three years. In the euro area, credit is contracting, mainly reflecting conditions in the peripheral countries, and lending conditions continue to tighten. By contrast, in the United States

credit growth is picking up again, and lending conditions have begun to ease, and this is being supported by recovering house prices and improved household balance sheets. As a result, the financial conditions witnessed an improvement through the implementation of the unconventional monetary policy that in turn helped enhance financial stability. Also, the policy measures applied by the major monetary authorities in the world targeted boosting the economies and hedging against the financial crises through enhancing financial stability in the short term.

Box 1: Monetary Policy Plus

The unconventional monetary policy that is used when the interest rates are extremely low and when there are worries about the current or expected deflation has been termed by the IMF as the Monetary Policy Plus (MP-Plus) to indicate the combination of prolonged periods of extremely low interest rates and unconventional monetary policy.

The MP-Plus tools include quantitative easing, credit easing (direct and indirect) and prolonged interest rates with signaling or forward guidance.

Quantitative Easing includes purchasing government bonds to lower the long-term interest rates. The major central banks were successful in attaining this by use of quantitative easing. The latest data indicate that The Federal Reserve and the BOJ now each hold some 10% of their respective governments' debt, the BOE holds 25%, and the ECB holds an estimated 5% to 6% of the outstanding sovereign debt of Italy and Spain per the IMF April 2013 GFSR. This tool involves a risk to financial stability in term of the possibility that the central bank might sell the bonds when the economic conditions warrant such a procedure which reflects on the expectations of the withdrawal of the monetary stimulus.

Direct Credit Easing tool includes the purchase of bonds from households or businesses in the mortgage and corporate bond markets with an objective to improve liquidity and lower interest rates for borrowers from these markets.

Through Indirect Credit Easing, central banks provide long-term liquidity to banks to enhance their lending ability. This tool could make financial institutions dependent on long-term central bank financing. Which in turn adversely impact the efforts to restore the private sources of funding and providing incentives to allocate bank credit toward borrowers that qualify for the associated lending program. Some of these borrowers might not otherwise qualify for loans, thereby weakening underwriting standards, with potential adverse effects on loan performance in the long term, and, hence, on the future health of banks. Appropriate forward-looking provisions should be made to as a shield against these possible risks of the indirect credit easing.

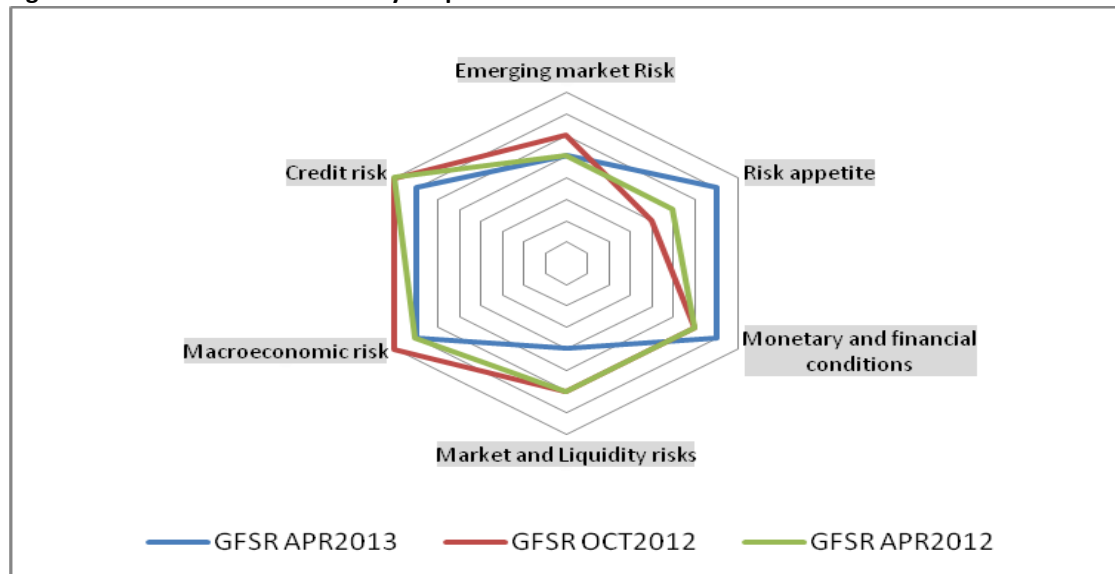
The fourth MP-Plus tool is the Prolonged Periods of Low Interest Rates accompanied by signaling or forward guidance. This can affect the profitability and solvency of financial institutions, increase the net present value of liabilities of pension funds and life insurance companies, and induce excessive risk taking in a search for yield, which may manifest itself in asset price bubbles. The reduced net interest margins may increase the household and corporate leverage.

As discussed above, there are risks to financial stability associated with the exit from the MP-Plus policy. The risks vary by the type of exit. There are two possible exit paths: raising interest rate and selling assets (which are mostly in the form of debt securities). If the interest rates are increase, banks and other financial institutions may incur capital losses on fixed-rate securities. In addition, Credit risk for banks may increase. The risks from the sale of assets include shifts in market sentiment that may lead to sharp increases in yields. Besides, policy missteps may disrupt markets.

Old Risks, New Challenges

A shortcut to realize the improvements in the global financial conditions is the financial stability map.

Figure 1.6: Global Financial Stability Map



Source: IMF, GFSR. April 2013 and October 2012

The improvement in the global financial conditions in April 2013 compared to October 2012 included credit risks, macroeconomic risks, liquidity and market risks and emerging markets risks. The biggest improvement was in the risk appetite, as well as improvement in Monetary and Financial conditions.

The importance of the movements in the real economy on the stability of the financial system is reflected through the so-called satellite models. These models are used to measure the impact of macroeconomic variables on asset quality of the banks through macro-stress testing. Foglia (2009) indicated that most of stress testing models are built using macroeconomic models to predict the trends in the key macroeconomic variables (like GDP, interest rates and housing prices) under certain stressed scenarios that might adversely impact the real economy, and the financial system consequently in order to determine the available policy tools that might be efficient to mitigate the repercussion of possible shocks on the safety and soundness of the financial system.

Hopes, Facts, Risks

The IMF has determined the required measures and action plans to enhance financial stability and recovery. These include addressing the vulnerabilities in the public and private sectors balance sheets, improving the flow of credit and strengthening the global financial system. These measures must be supported by the accommodative monetary policy. Overall, these policies will enhance the gains in the financial stability, strengthen the global financial system and sustain the continuous positive economic outlook.

Domestic Economic Developments and Outlook

The international economic and financial developments and outlook have had its impact on Jordan as a small open oil-importing emerging economy. Jordan has been facing severe shocks since five years. These shocks include global financial crisis, Arab Spring and the resulting shortfalls in gas flows from Egypt and the conflict in Syria exacerbated by the large inflow of refugees from Syria. This adds to the jump in oil and food prices and the cut in aid and grants. The repercussion of these shocks impacted Jordan in several ways. However, the tight fiscal policy accompanied by the prudent monetary policy both helped sustain economic and monetary stability through maintaining positive growth rates, high reserves levels and price stability, as well as maintaining financial stability through the implementation of prudent supervisory and legislative policy on the banking system. In addition to that, the banking system in Jordan is relatively conservative and maintains high levels of capital and comfortable levels of liquidity. It has also low exposure to euro sovereign debt and high-risk investment instruments at the same time it isn't easy to ignore the political stability in Jordan,

which had a positive impact on enhancing stability in other aspects. . Aiming at enhancing economic stability, the CBJ decreased the policy rate to 25 basis points on the 7th of August 2013.

As a small open economy, Jordan is highly interconnected with the world economy. The expected continuous implementation of tight fiscal policy in the advanced economies, for example, is expected to have an apparent impact on Jordan through the slowdown in the external demand and foreign aid and grants.

Jordan's main export partners are Iraq, USA, Saudi Arabia, India, Indonesia and United Arab Emirates. Whereas the main import partners are Saudi Arabia, China, Italy, USA, United Arab Emirates, Germany and Turkey. These countries have passed different paths impacted by the world economy and the political situations. Despite that, Jordan is expected to maintain economic stability that is interconnected with political and social stability, as well as prudent monetary and fiscal policy.

The IMF indicated at the conclusion of its visit to Jordan in its first review for the Stand-By-Arrangements that the performance of the Jordanian economy was good – as Jordan was capable to confront the above-mentioned challenges that increased the severity of the pressure on the Jordanian Economy.

The IMF estimates predicted the economic growth rate to slightly exceed 3% in 2012 compared to 2.6% in 2011. The IMF also predicted the period-average inflation rate to reach 5% approximately in 2012. These, however, did not materialize as the actual growth rate in 2012 was only 2.8%, whereas inflation rate was away higher than the projection and reached 7.2% in 2012. The latter was due to the fiscal

reform of removing direct oil subsidies and targeting the households not the commodity. However, the IMF expectations of the Jordanian economy became more optimistic in the later reviews as shown by the IMF projections updates. Moreover, despite the difficulties that Jordan is facing in all aspects the IMF ratified the prudent implementation to macroeconomic policies to address financial and external imbalances in a socially-acceptable manner.

The decision of the fiscal policy makers to float the prices of oil products except liquid gas and removing the government subsidies in 14/11/2012 represented an important step that reduced the burden and risks on the government budget caused by the fluctuations in oil prices through attaining a sustainable fiscal position. As for the social factor, it was not absent from the government plans, as it helped mitigate the impact of the rise in oil prices on the majority of households through providing direct cash subsidy.

In a working paper prepared by economists in the IMF, the researchers stated that "The macroeconomic conditions in Jordan helped attain financial stability in Jordan, not to ignore the external conditions that were the leading threat to financial stability."

Table 1.1: Selected Economic Indicators for Jordan (2006-2018)*

| Year | GDP Growth (%) | Inflation (End of Period,%) | Inflation Period Average,% | General government primary net lending/borrowing | General government net lending/borrowing | Gross Debt | Net Debt | Debt Rank ⁺ | Unemployment (% of Total Labor Force) | Current Account Balance |
|------|----------------|-----------------------------|----------------------------|--|--|------------|----------|------------------------|---------------------------------------|-------------------------|
| 2006 | 8.1 | 7.5 | 6.3 | 1.2- | 4.0- | 76.3 | 68.9 | 2 | 14.1 | 11.5- |
| 2007 | 8.2 | 5.1 | 4.7 | 1.8- | 4.7- | 73.8 | 67.6 | 1 | 13.1 | 16.8- |
| 2008 | 7.2 | 9.1 | 13.9 | 2.0- | 4.3- | 60.2 | 54.8 | 4 | 12.7 | 9.3- |
| 2009 | 5.5 | 2.7 | 0.7- | 6.3- | 8.5- | 64.8 | 57.1 | 4 | 12.9 | 3.3- |
| 2010 | 2.3 | 6.1 | 5 | 3.5- | 5.6- | 67.1 | 61.1 | 2 | 12.5 | 5.3- |
| 2011 | 2.6 | 3.3 | 4.4 | 4.7- | 6.8- | 70.7 | 65.4 | 2 | 12.9 | 12.0- |
| 2012 | 2.8 | 7.2 | 4.8 | 5.6- | 8.2- | 79.6 | 74.9 | 1 | 12.2 | 18.1- |
| 2013 | 3.3 | 3.2 | 5.9 | 1.4- | 4.8- | 83.8 | 79.6 | 1 | 12.2 | 10.0- |
| 2014 | 3.5 | 2.6 | 3.2 | 1.4- | 5.3- | 87 | 83 | 1 | 12.2 | 9.1- |
| 2015 | 4 | 2.3 | 2.6 | 0.1- | 3.8- | 87.2 | 83.5 | 1 | 12.2 | 6.6- |
| 2016 | 4.5 | 2 | 1.9 | 0.1 | 3.3- | 85.8 | 82.4 | 1 | 12.2 | 5.7- |
| 2017 | 4.5 | 2 | 2.2 | 0.5 | 2.7- | 83.3 | 80.1 | 1 | 12.2 | 5.3- |
| 2018 | 4.5 | 2 | 2.1 | 0.9 | 2.3- | 81 | 78 | 1 | 12.2 | 4.7- |

* Percent of GDP, unless otherwise indicated.

+ With selected emerging economies countries.

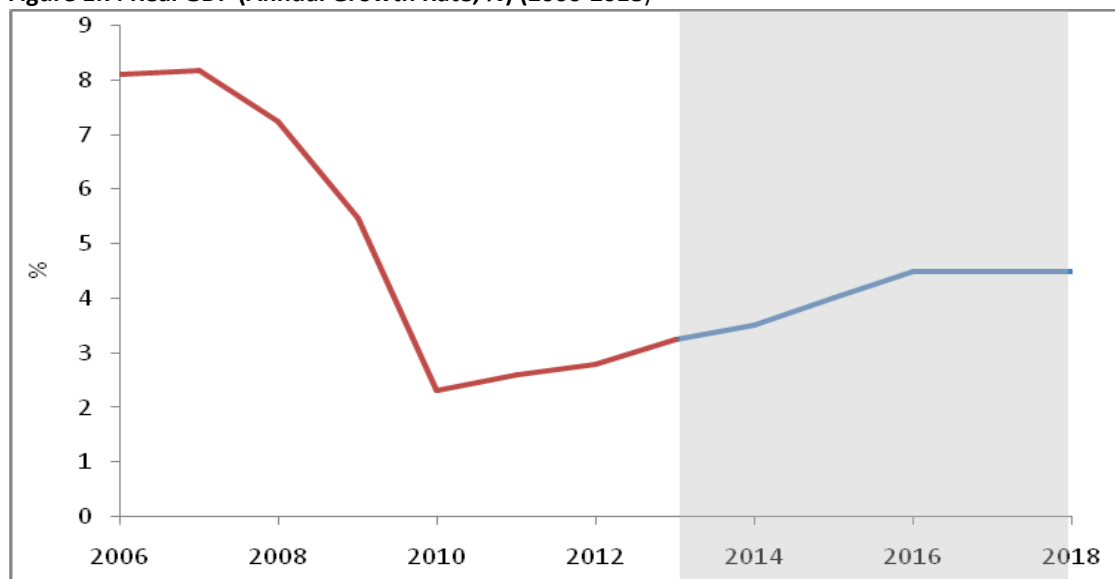
Source: IMF database, estimation are obtained from the IMF publications.

Table 1.1 shows the key economic indicators for Jordan economy and its outlook during the period (2006-2018), given that the estimates for the years 2013 to 2018 were extracted from IMF database.

Macroeconomic Stability

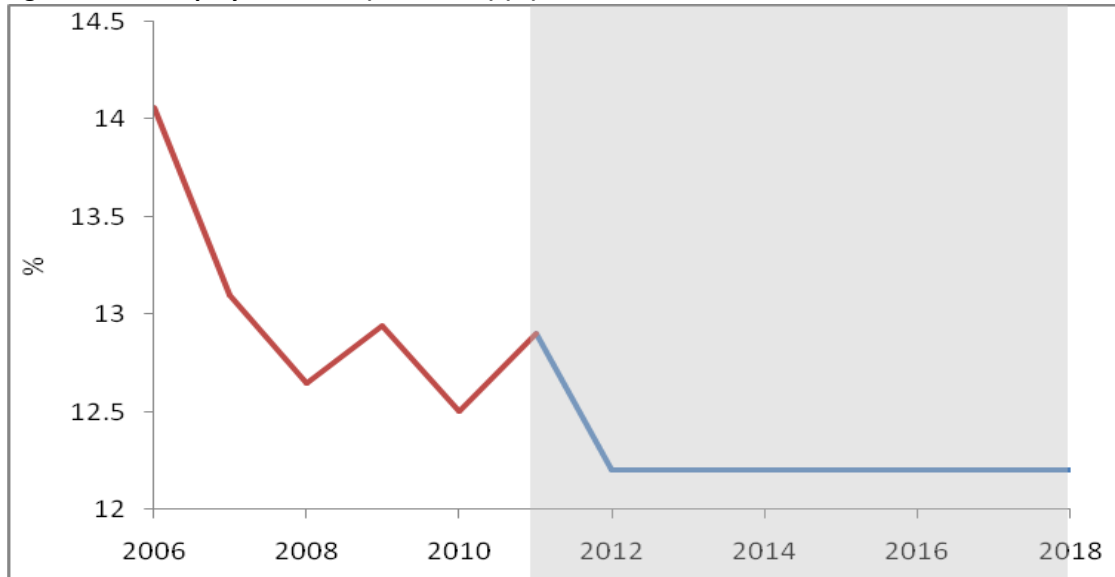
The GDP at current market prices reached JD 20,476.5 million in 2011, with a growth rate of 2.6% from its value in 2010. In 2012, it increased to JD 21,049.8 million. The IMF projections indicate that this rate will maintain its ascending pace until 2015 before peaking to 4.5% during the years (2015-2018). This is considered a good indicator of the relative stability in the Jordanian economy compared to the period (2010-2012) that witnessed one of the lowest growth rates during the last 25 years (Figure 1.7).

Figure 1.7: Real GDP (Annual Growth Rate, %) (2006-2018)



Concerning the unemployment rate, it is forecasted that the rate of 12.2% that was reached in 2012 will remain till 2018 (Figure 1.8).

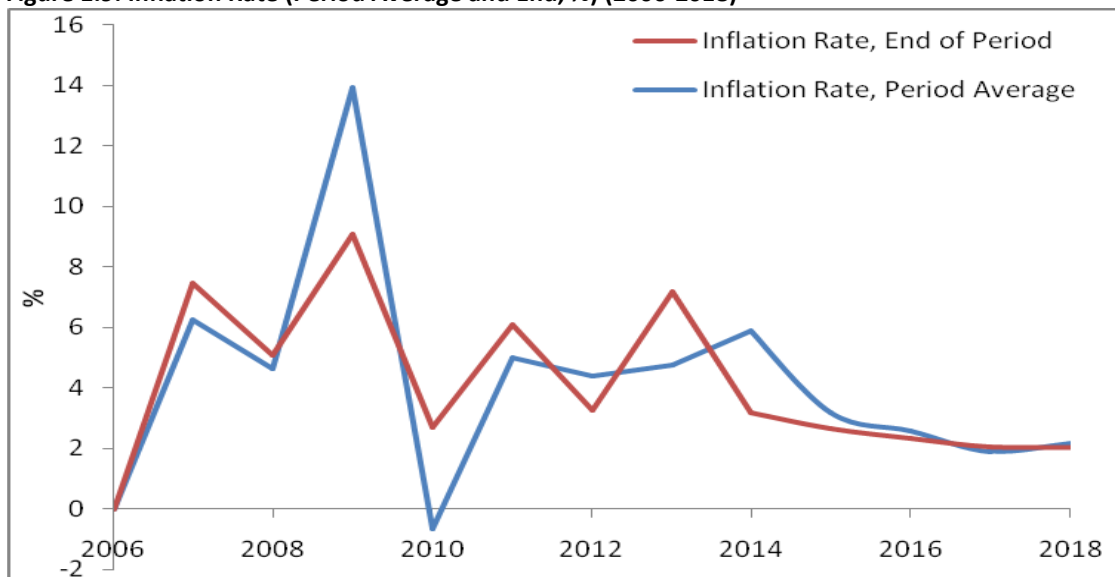
Figure 1.8: Unemployment Rate (2006-2018) (%)



Price Stability

Despite the removal of oil subsidies that consequently increased the pressure on the general price levels, the weak demand lessened the increase in inflation rates that doubled in 2012 relative to 2011, with a period average rate of 7.2%. The IMF projections indicate that the inflation rate will moderate in 2013 to reach 3.2%. It also predicted not to exceed 3% during the years 2014-2017 (Figure 1.9).

Figure 1.9: Inflation Rate (Period Average and End, %) (2006-2018)



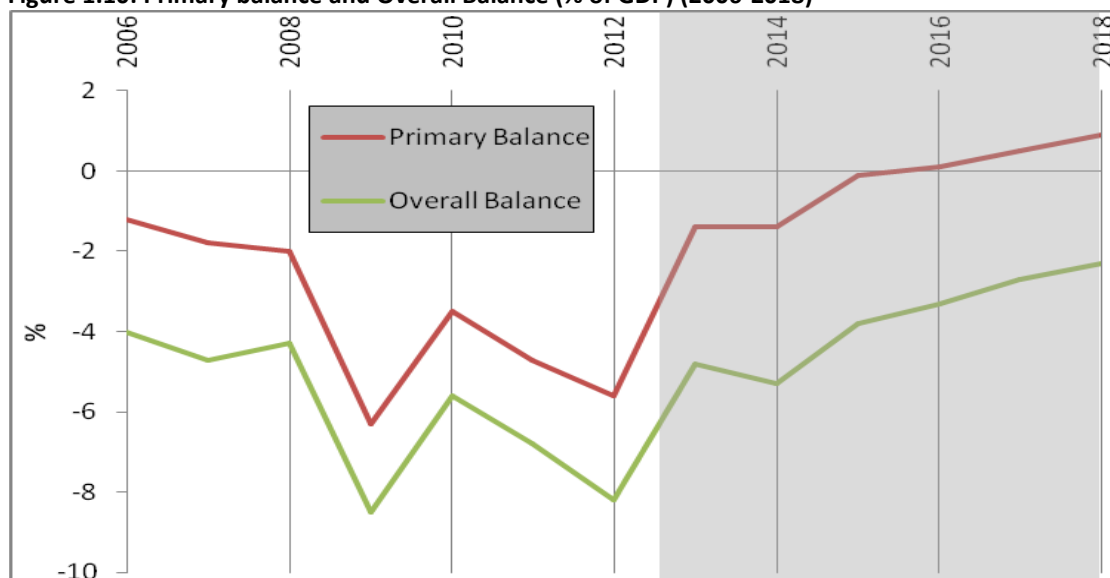
Fiscal Stability

The CBJ's annual report indicated that the fiscal sector witnessed deterioration in its performance in the last few years affected by the global economic and financial crisis and its repercussions that adversely impacted the budget performance as reflected by the increase in fiscal deficit to 8.2% of GDP in 2012, compared to 6.8% of GDP in 2011. The main reasons were the increase in the current expenditures by 30% during the period (2010-2012) because the structural imbalances, of whom the most important was commodity subsidies and the increase in social spending, At the same time, the increase in the revenue was less than the increase in expenditures, with the former being only increased by 12.6% in 2012 (Figure 1.10).

Moreover, the high cost of Syrian refugees and the decline in foreign aid both led to increasing the pressures on the government budget.

These developments in the fiscal stance and the growing financing needs for National Electric Power Company both led to an increase in the financing gap for the Jordanian economy.

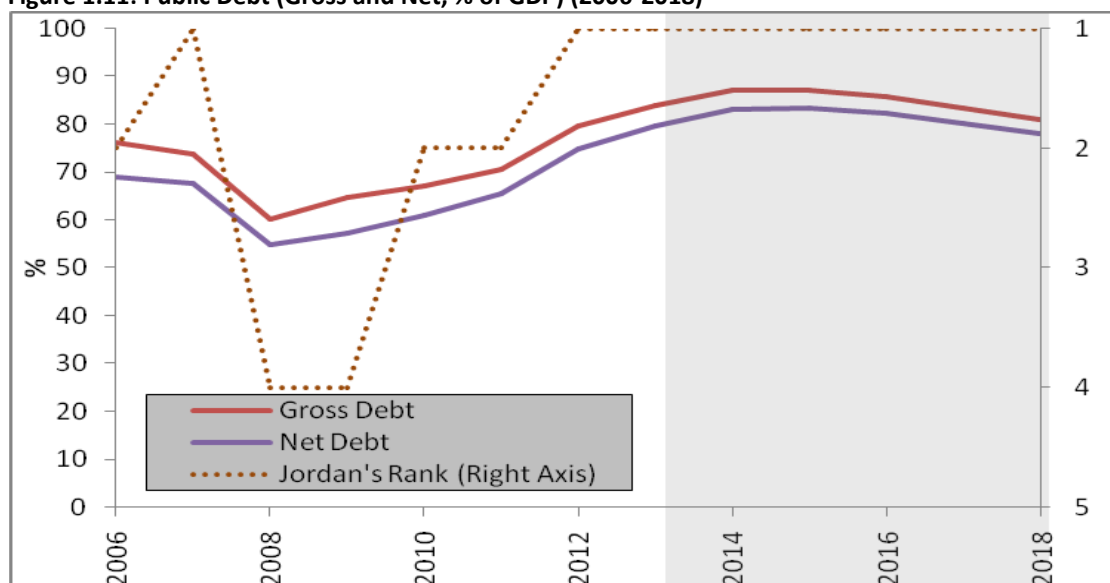
Figure 1.10: Primary balance and Overall Balance (% of GDP) (2006-2018)



These conditions reflected on the cost of borrowing from the domestic market, as the government increased its borrowing from the domestic market through issuing treasury bonds and bills to finance the fiscal deficit, and the government guarantees for the loans granted to some independent public institutions, mainly NEPCO. These forces all resulted in an increase in the ratio of net domestic debt to GDP, as shown in (Figure 1.11).

Even though Jordan ranks first amongst a selected group of countries in the October 2012 IMF Fiscal Monitor, and locates in the high ranks on the world level with regards to the ratio of debt to GDP, the ratio of net debt to GDP is expected to witness a decline during the coming five years.²

Figure 1.11: Public Debt (Gross and Net, % of GDP) (2006-2018)



² The list of selected countries includes India, Argentina, Brazil, Hungary, Morocco, Pakistan, Philippines, Poland, Kenya, Turkey, Thailand, Malaysia, Indonesia, Mexico, Colombia, Peru, South Africa, Saudi Arabia, Bulgaria, Lithuania, China, Ukraine, Romania, Nigeria, Latvia, Russia, Kazakhstan and Chile, in addition to Jordan. According to figures published by the IMF the order of Jordan in the world has reached 38 in 2006 and is expected to reach 28 in 2018. Jordan also ranked 32 in 2006 among the emerging economies of the 154 economies according to IMF classification. This ranking is expected to increase to 14 in 2018. Finally, Jordan is expected to remain fourth in the standings after Lebanon, Egypt and Sudan until 2018 within the MENA's 22 countries.

Chapter Two: Risks and Developments in the Jordanian Banking Sector

One of the most important lessons learnt from the last global financial crisis is that financial stability at the micro level of the banking system is insufficient to achieve financial stability at the macro level because of the presence of systemic risks in the whole financial system. As a result, the importance of the macroprudential policy arises which aims to mitigate the systemic risks and enhance the resilience of the financial system to withstand shocks and address imbalances in order not to negatively impact the financial intermediation process and to help allocate savings to finance feasible investment opportunities.

The CBJ has established the financial stability department in the beginning of 2013, which aims at enhancing the financial stability at a macro level to reduce the possible impacts of systemic risk in the financial system in Jordan.

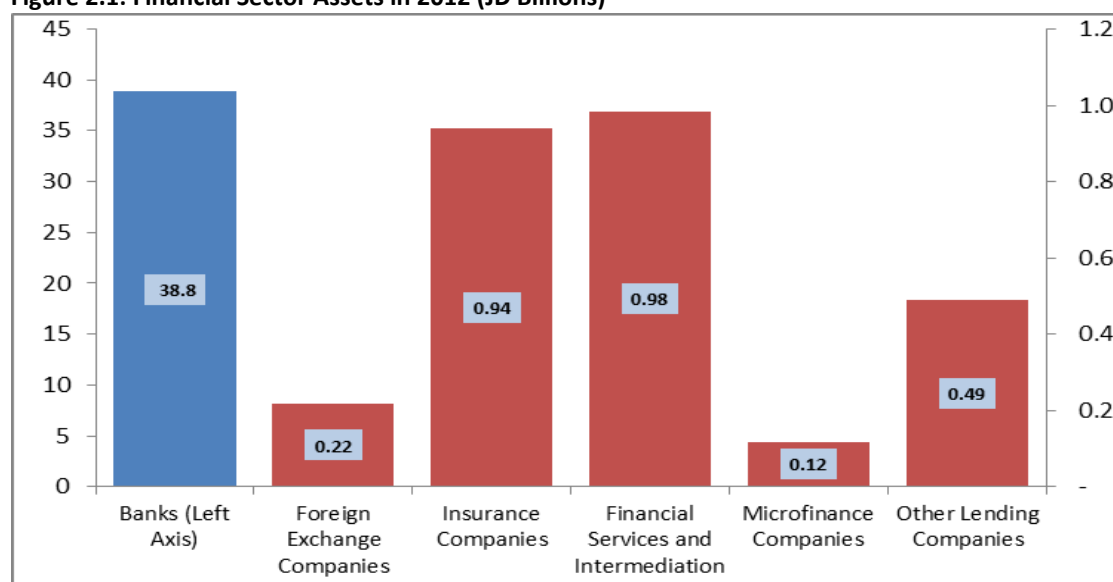
The financial system in Jordan is composed of banks, insurance companies, financial intermediary and financial services companies, currency exchange companies, microfinance companies, specialized credit institutions and other credit institutions.

The CBJ is responsible for monitoring and supervising the banking sector, whereas the Insurance Commission and Securities and Exchange Commission are responsible for monitoring and supervising insurance companies and financial brokerage companies respectively. As for the microfinance companies, there is no specific entity responsible for supervising them. However, the CBJ is studying the possibility of

undertaking the responsibility of monitoring and supervising these companies. For the other credit institutions, there isn't a specific entity responsible for supervising them, but the Ministry of Trade and Industry is responsible for registering them.

The total assets of the financial system in Jordan reached JD41.6 billion at the end of 2012. The assets of the licensed banks constituted 94.2% of them. Therefore, the banks are considered the bulk of the financial system in Jordan (Figure 2.1).

Figure 2.1: Financial Sector Assets in 2012 (JD Billions)

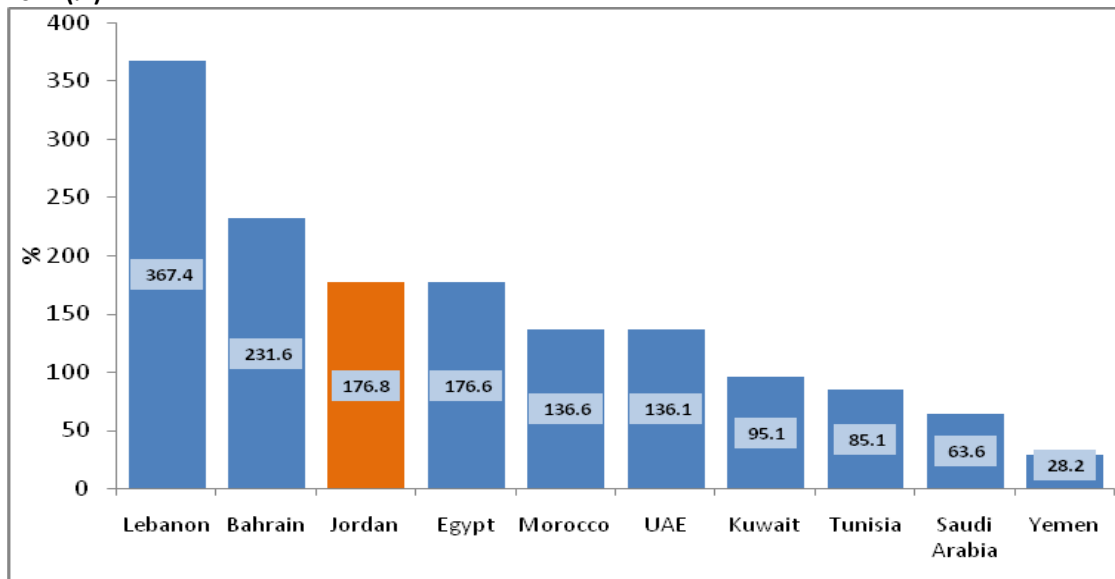


Main Developments of the Banking System in Jordan (Assets and Liabilities)

Jordan Branches

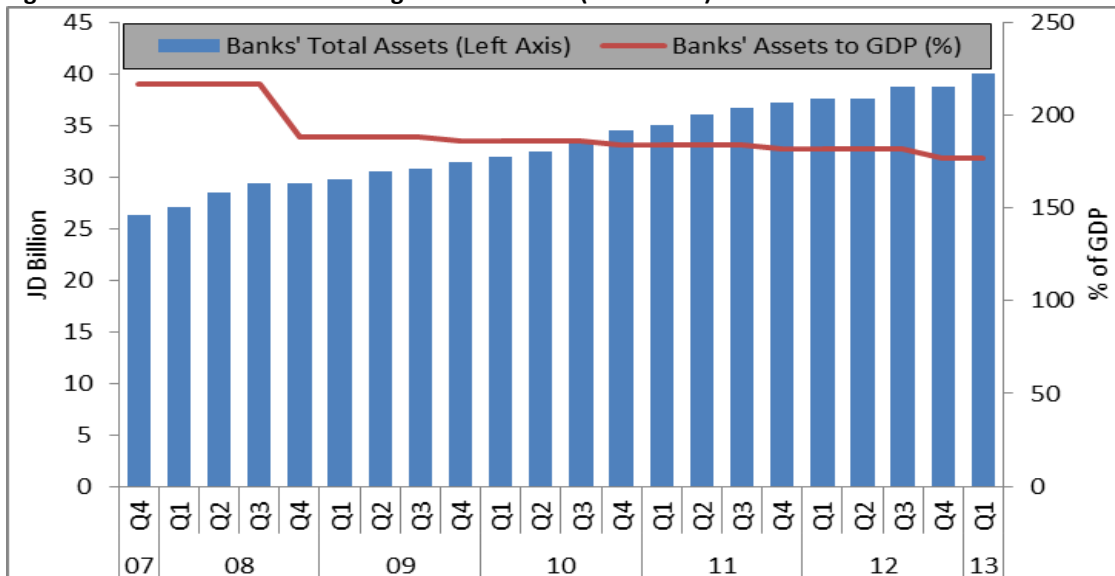
In comparison to other countries in the region, the size of Jordanian banking system is relatively large compared to the size of the Jordanian economy, where the assets of the licensed banks reached JD38.8 billion at the end of 2012- about 177% of GDP. This ratio is the third highest among Arab countries after Lebanon and Bahrain (Figure 2.2).

Figure 2. 2: The Ratio of Banking Sector's Assets to GDP for Jordan and Some Arab Countries for 2012 (%)



Despite the increase in asset to GDP ratio in Jordan, it has been declining at a steady rate from 217.2% in 2007 to 177% at the end of 2012. The main reason for this decline is the accelerated GDP growth that exceeded the growth in banks assets (Figure 2.3).

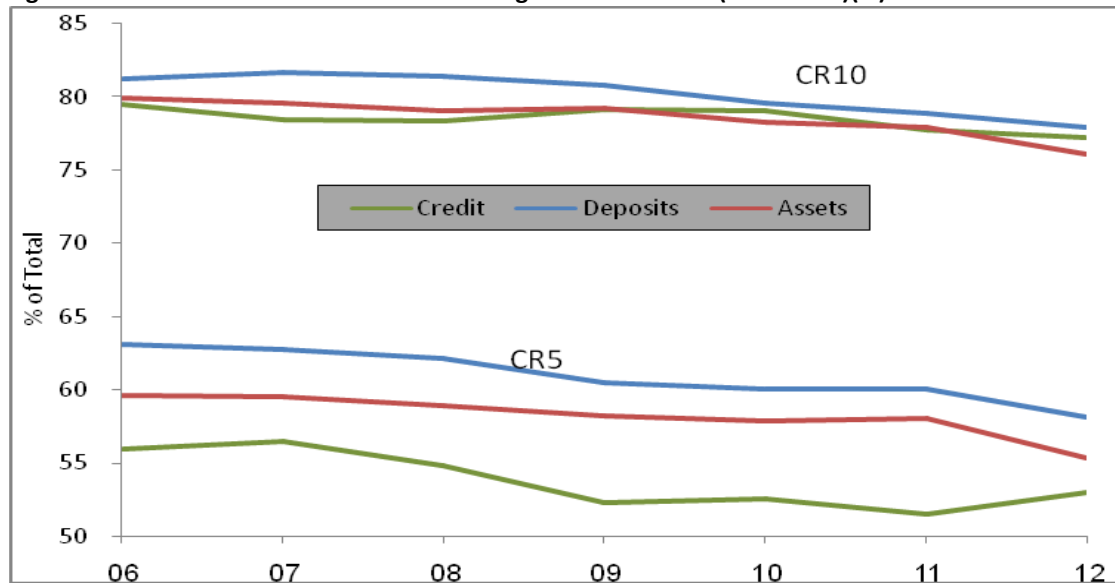
Figure 2.3: The Evolution of Banking Sector's Assets (2007-2013)



Regarding the market share of banks (concentration), the assets of the largest five banks out of 26 banks formed about 55.3% of total assets of the licensed banks at the end of 2012, whereas the assets of the largest ten banks reached 76.1% at the end of 2012. It is worth noting that the

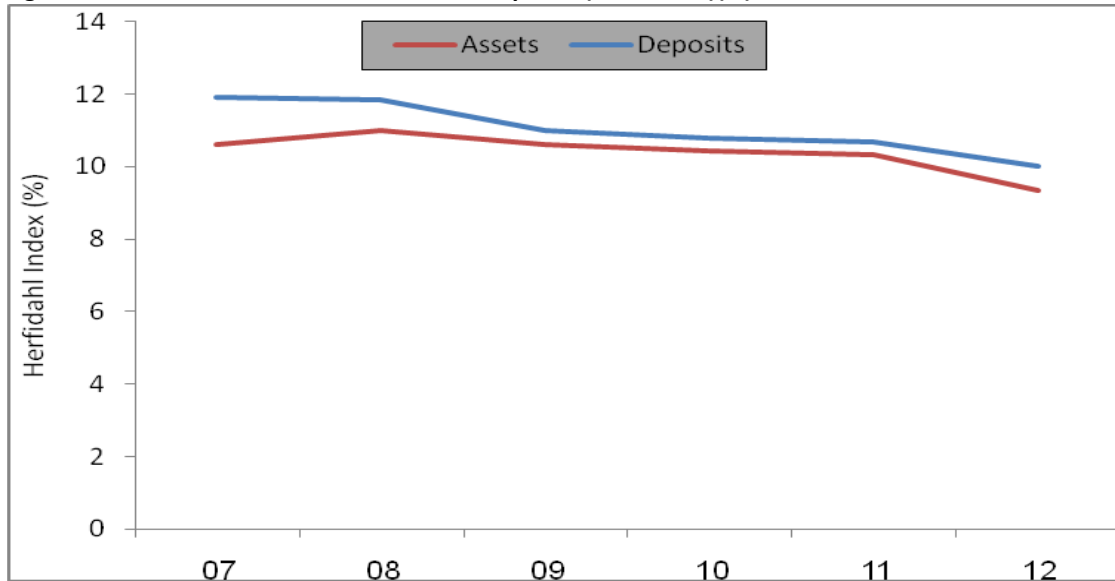
market share of the largest five and ten banks have witnessed a continuous decline since 2006, when it reached 59.6% and 79.9% respectively, indicating a decline in concentration ratio of licensed banks (Figure 2.4). Despite these trends, the concentration level in the banking system is still considered relatively high.

Figure 2.4: Concentration Ratio for the Banking Sector in Jordan (2006-2012)(%)



Regarding competition, and with the use of Herfindahl index, there were some improvements in the competitiveness of the banking sector in Jordan. as indicated in the decline of the index value from 11.9% in 2007 to 10% in 2012. This improvement is due to the licensing of three new banks in 2009 and the development in banks operations through improving their products and services to increase competitiveness. It is worth indicating that the decline in the concentration ratios and the increase in the competitiveness of the banking sector have a positive impact on financial stability in Jordan (Figure 2.5).

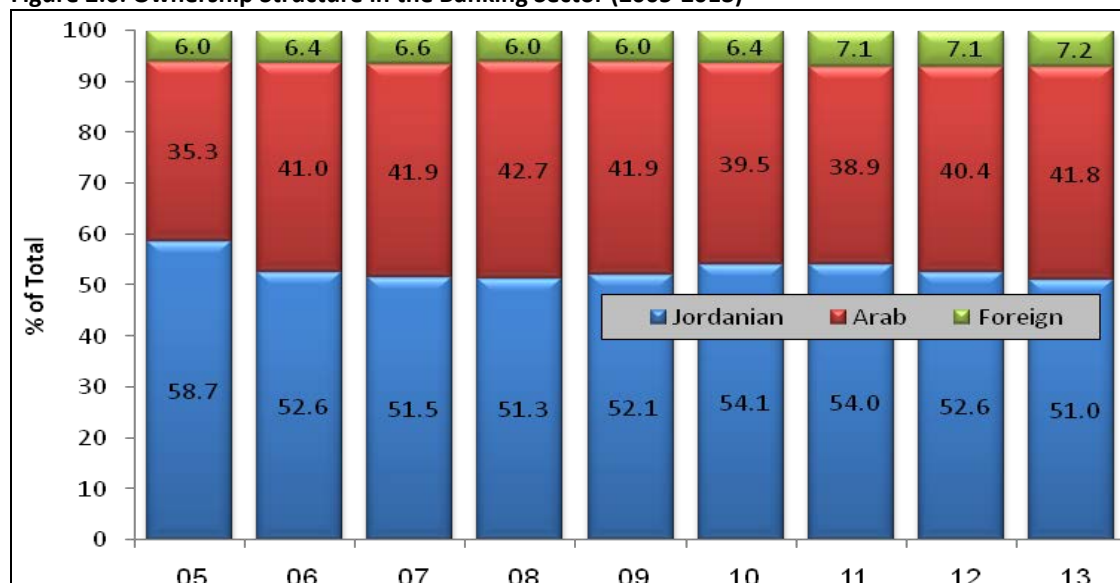
Figure 2.5: Herfindahl Index for Assets and Deposits (2007-2012)(%)



Ownership structure of Banks

The equity share owned by non-Jordanians (Arabs and Foreigners) in the Jordanian banks capital reached 47% in 2012. This share is one of the highest in the region due to the absence of investment restrictions imposed on foreigners in Jordan. However, this share decreased in 2010 and 2011 before increasing in 2012. This is an indication of the increase of investors' confidence in the banking system in particular and the Jordanian economy in general. Given that most of these investments are strategically stable investments (Figure 2.6).

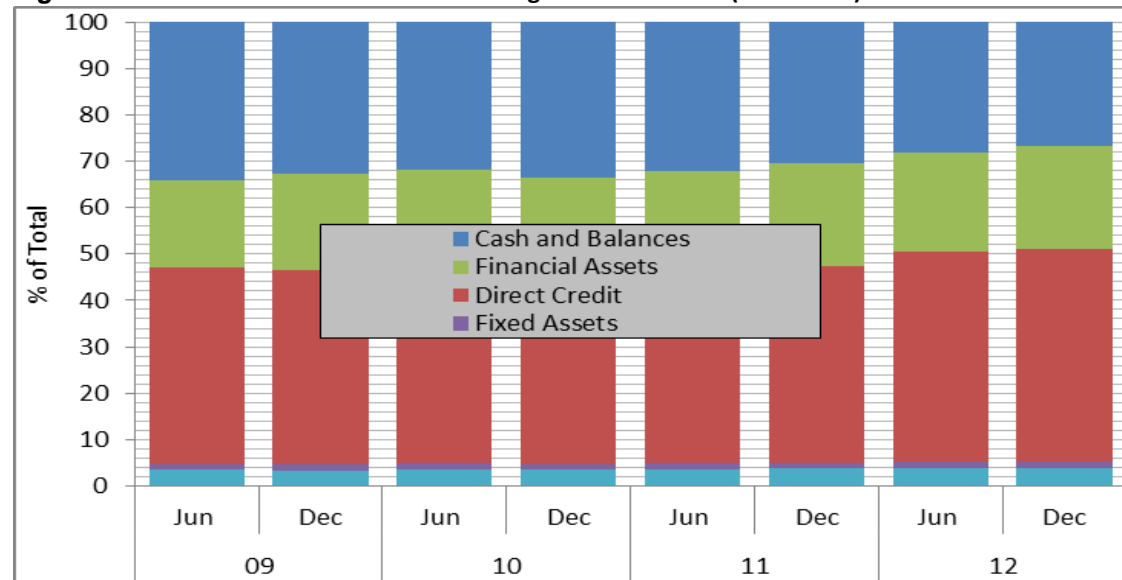
Figure 2.6: Ownership Structure in the Banking Sector (2005-2013)



Uses of Funds (Assets)

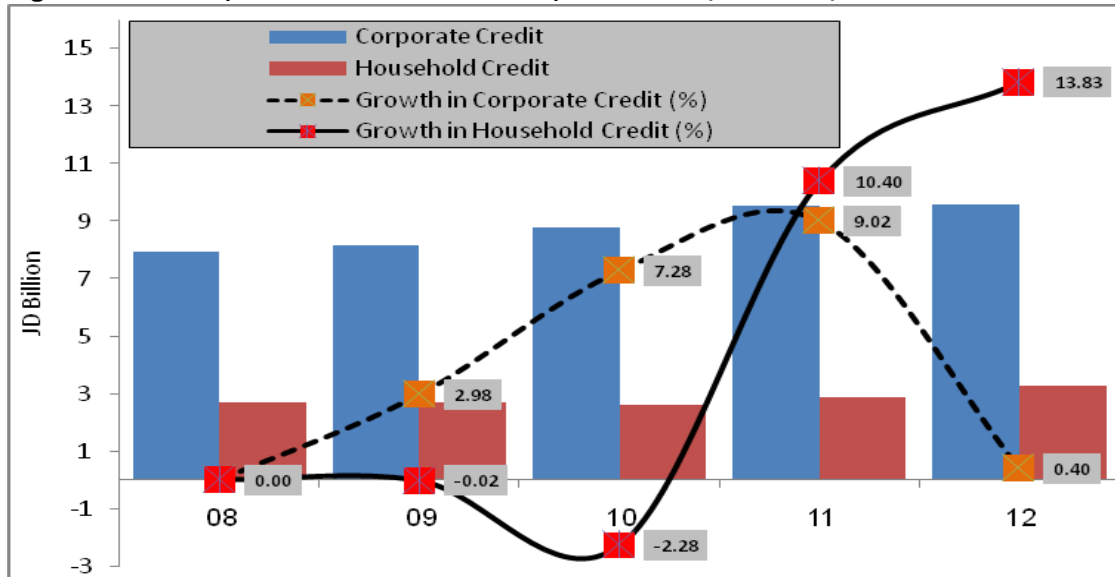
By analyzing the structure of assets of the Jordanian banks (uses of funds), it is noted that credit portfolio is the largest component of the banks' assets, forming 45.6% of them at the end of 2012, compared to 42.3% at the end of 2011 (Figure 2.7).

Figure 2.7: Structure of Assets for the Banking Sector in Jordan (2009-2012)



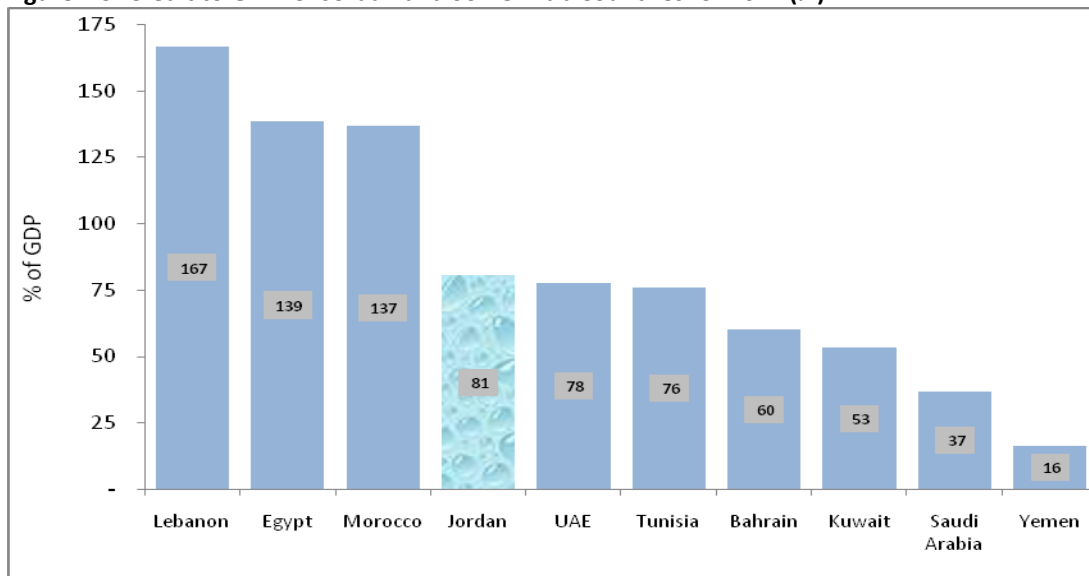
Even though corporate facilities are still the largest component of bank credit facilities, the ratio of corporate facilities to total facilities began to decline in 2009 where it was 51.4% and reached 45.18% in 2012. Household credit facilities composed 36.8% of total credit facilities in 2012, compared to 35.5% in 2009. These facilities grew by 13.83% in 2012, compared to 10.4% in 2011. This means that there is a tendency by the banks to increase the credit granted to households at the expense of corporate sector (Figure 2.8). Chapter four includes detailed analysis of the household debt developments in the kingdom.

Figure 2.8: Developments in Household and Corporate Credit (2008-2012)



Credit facilities grew by 12.57% at the end of 2012 to reach JD17.7 billion, compared to 11.35% at the end of 2011. It is noteworthy to indicate that credit facilities formed 80.64% of GDP in 2012. In comparison with a number of countries in the region, the ratio of credit facilities to GDP in Jordanian banks is relatively high and is preceded by three countries only: Lebanon, Egypt and Morocco (Figure 2.9).

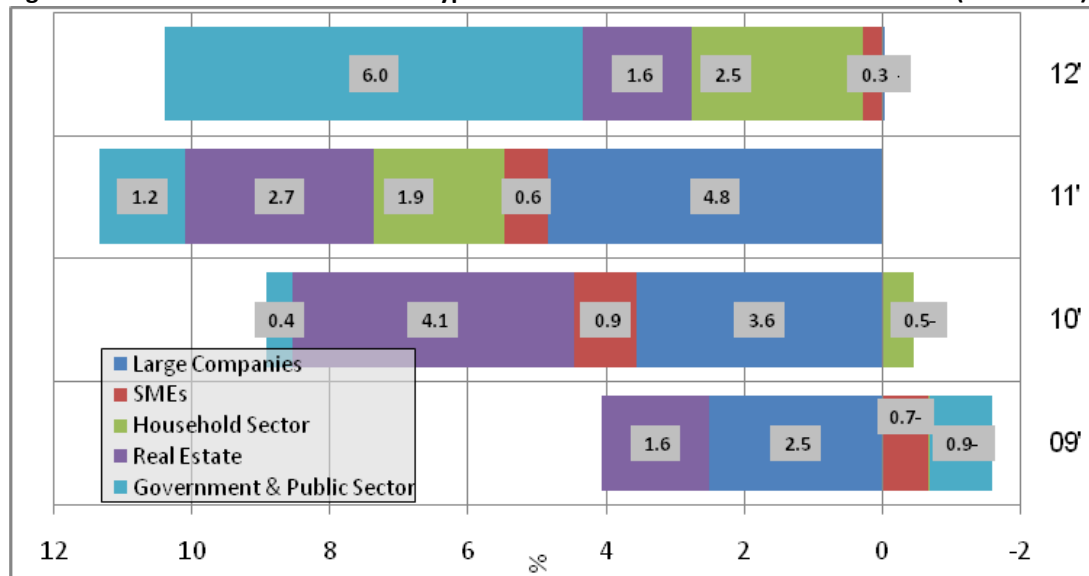
Figure 2.9: Credit to GDP for Jordan and Some Arab Countries for 2012 (%)



In regards to the growth of credit facilities in the banking sector, it is mainly attributed to the growth of the credit granted to NEPCO, Jordan Petroleum Refinery Company and the public sector in general, that

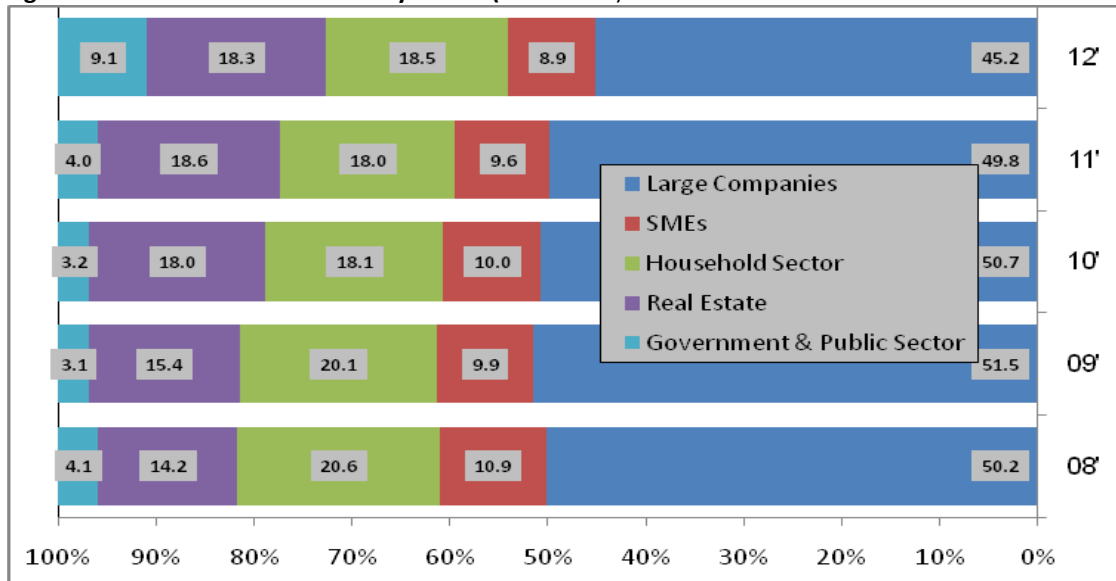
contributed to about 6 percentage points of the growth, followed by the household sector that contributed 2.5 percentage points (Figure 2.10).

Figure 2.10: Contribution of Different Types of Credit Facilities to Total Credit Growth (2009-2012)



Regarding the distribution of credit facilities, as indicated previously, the corporate facilities comprises the largest share of total credit facilities, though it started to decline from 50% at the end of 2010 to 45.25% at the end of 2012. The credit facilities granted to the government and the public sector increased from 4.11% at the end 2008 to 9.1% at the end of 2012, fuelled by the substantial growth in the credit facilities granted to NEPCO that increased by JD1,014 million in 2012 to reach JD1,172 million. The ratio of SMEs credit to total credit facilities is still relatively low, ranging from 9% to 10.9% during the years 2008-2012. As for the household credit facilities (consumption and real estate), they constituted 36.8% at the end of 2012, compared to 34.7% at the end of 2008 (Figure 2.11).

Figure 2.11: Distribution of Credit by Sector (2008-2012)



Regarding the household credit facilities, the largest share of these facilities is for the housing loans that comprised 39.9% of household credit facilities at the end of 2012. It continued to rise until it reached 40.05% in the first quarter of 2013. As for personal loans, they ranked second with a share of 35.7% of the total household credit facilities. The credit facilities granted to car loans constituted 6.9% of total household credit facilities granted to households (Figure 2.12).

Figure 2.12: Distribution of Household Credit (2009-2013)



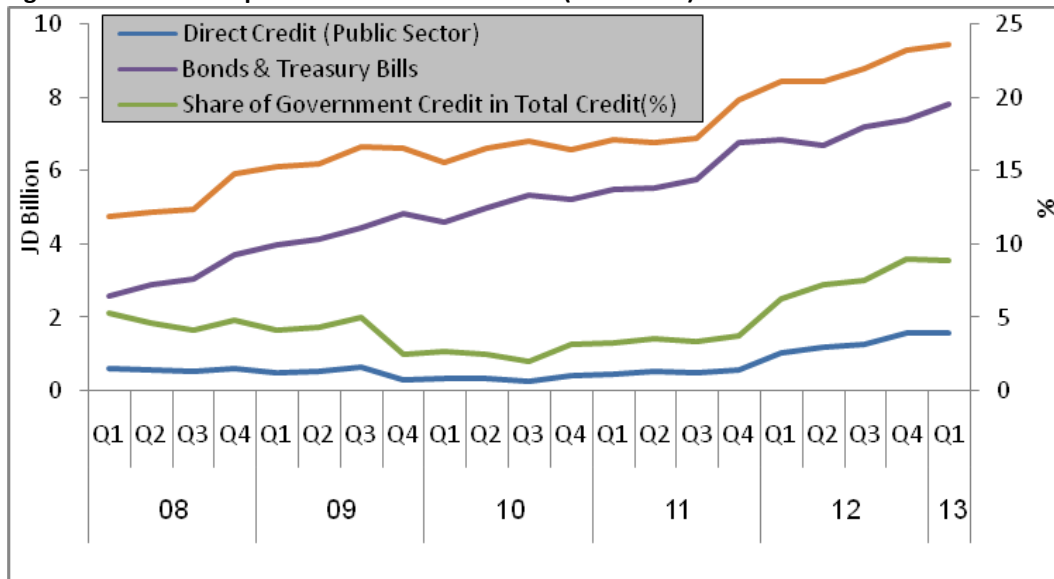
Regarding the exposure of banks to government debt through investment in government bonds or government-guaranteed loans

granted to public institutions, there is an increase in government debt. The total government debt in the form of direct credit facilities and bonds reached JD9,009 million at the end of 2012; forming about 23.2% of the total assets of banks, compared to JD8,501 million at the end of 2011, or 21.9%. The total government debt of 2012 is allocated between JD7,415 million in government bonds and JD1,600 million in direct credit facilities mostly granted to NEPCO.

The exposure of banks to government debt or government-guaranteed debt increased from 11.8% in 2008 to 23.2% in 2012 of the total assets of banks.

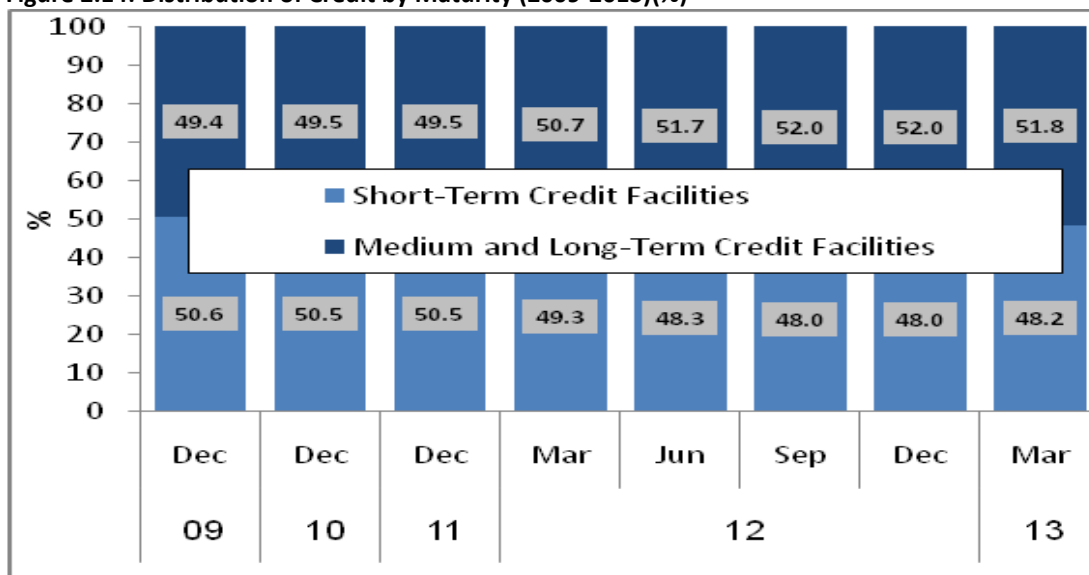
The increased government tendency to borrow locally from banks to reduce its financing gap that resulted from the difficult economic conditions that Jordan passed in 2012 was at the expense of private sector, which adversely impacted the economic growth in Jordan. It is, however, worth mentioning that the last fiscal reforms adopted by the government through the liberalization of oil prices and removal of oil subsidies, besides the increase in aid; grants and external borrowing, will help improve the economic conditions and, hence, reducing the crowding out with the private sector in obtaining funding from banks. However, the banks prefer to finance loans to the government as opposed to private sector because such investment provides a relatively reasonable return with low risks. (Figure 2.13)

Figure 2.13: Banks' Exposure to Government Debt (2008-2013)



Concerning the classification of credit facilities by maturity, the ratio of medium-term and long-term credit facilities to total credit facilities exceeds the short-term credit facilities. The former composed 52% at the end of 2012. It is worth mentioning that banks intended to increase the share of medium-term and long-term credit facilities since 2009 to meet the financing needs of their customers (Figure 2.14).

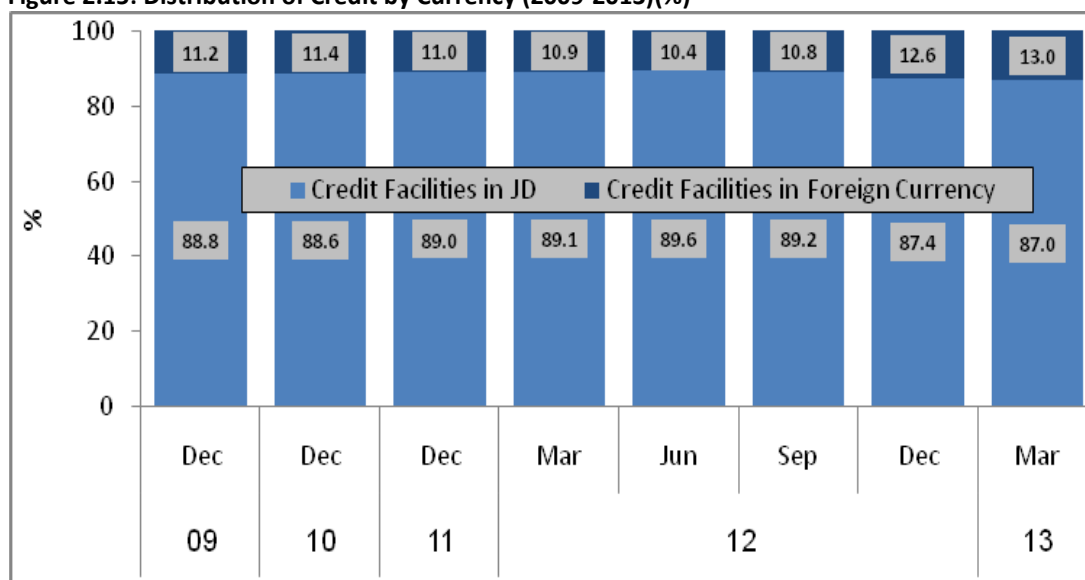
Figure 2.14: Distribution of Credit by Maturity (2009-2013)(%)



Regarding the classification of credit facilities by currency, the credit facilities denominated in Jordanian-Dinar is the major component, forming 87.4% of total credit facilities at the end of 2012. The key reason

of the low share of credit facilities denominated in foreign-currency is the limitations imposed by the CBJ on them – they are restricted to granting credit facilities for export and re-export purposes. (Figure 2.15).

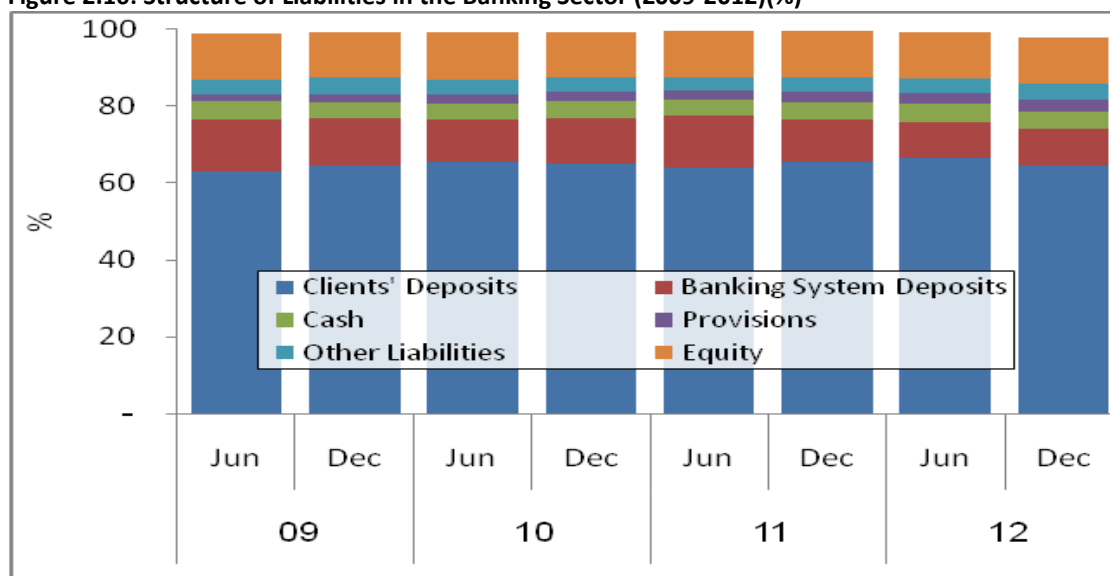
Figure 2.15: Distribution of Credit by Currency (2009-2013)(%)



Sources of Funds (Liabilities)

By analyzing the sources of funds for the banking sector in Jordan, deposits constitute the major source of funds. They compose 64.3% of total liabilities at the end of 2012. This share has been relatively stable in the last few years, generally reflecting funding stability in Jordanian banks. (Figure 2.16)

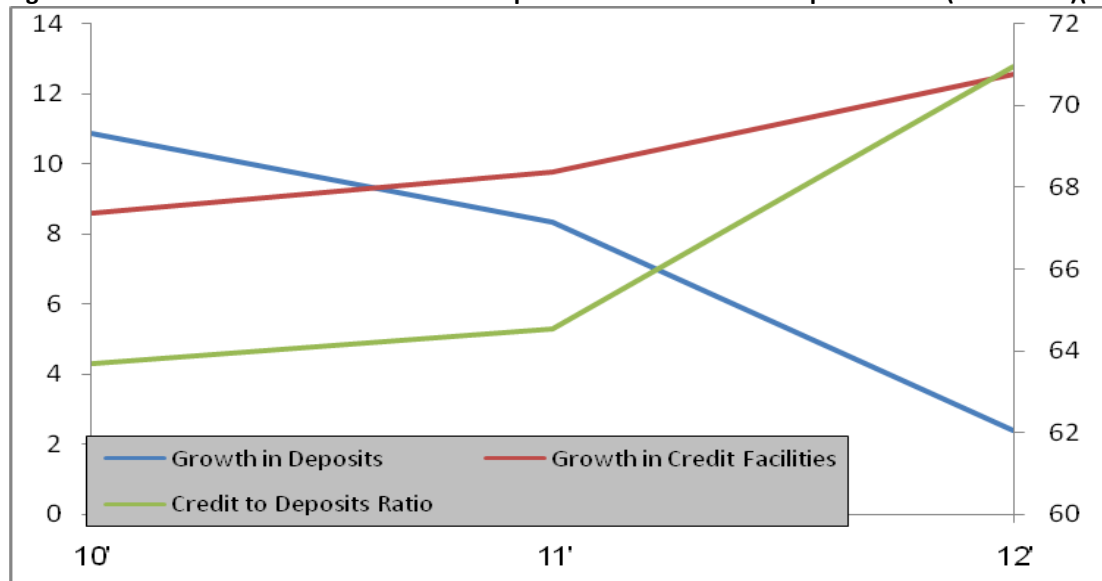
Figure 2.16: Structure of Liabilities in the Banking Sector (2009-2012)(%)



Regarding the development of deposits, they increased by 2% to reach JD25 billion at the end of 2012. In spite of this modest growth, the growth in credit facilities was 12.6%, which implies that Jordanian banks have relied on other sources of funds than deposits. It is worthwhile to indicate here that equity increased from JD3 billion at the end of 2007 to JD4.7 billion at the end of 2012.

The third most important source of fund for banks is banks' deposits. These types of deposits followed an ascending trend from June 2012 until March 2013 to reach 6.3% of total liabilities of the banks, and it is following an accelerated growth. In addition, Loan-to-Deposit ratio increased from 65% to 70.9% at the end of 2009 and 2012 respectively (Figure 2.17).

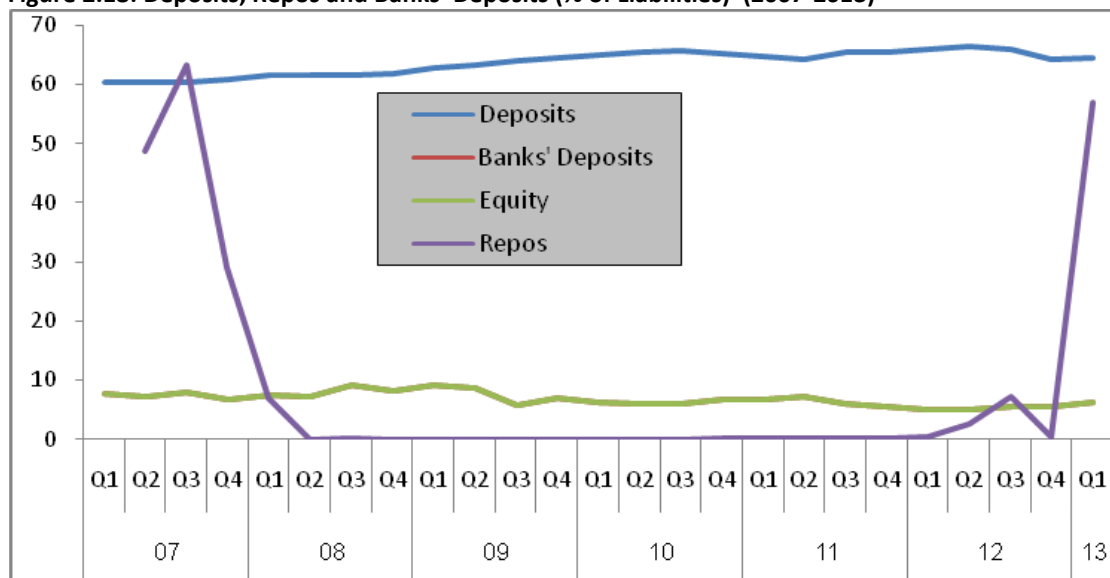
Figure 2.17: Growth in Credit Facilities and Deposits and the Credit to Deposits Ratio (2010-2012)(%)



The repurchase agreements between the CBJ and the licensed banks (repos) witnessed a noticeable activity in the third quarter of 2012 and reached JD255 million. It also continued its upward trend and approximated JD444 million at the end of the first quarter of 2013. This substantial activity came as a result of the new operational framework of the monetary policy that was developed by the CBJ, which aims at

helping banks manage their liquidity and provide them with their liquidity needs to finance the various economic activities and boost economic growth, in addition enhance the distribution of liquidity among banks (Figure 2.18).

Figure 2.18: Deposits, Repos and Banks' Deposits (% of Liabilities) (2007-2013)



The ratio of deposits to GDP, which is used as a proxy for the developments in the uses of funds, reached 113.7% at the end of 2012. In addition, the ratio of credit to GDP and Loan-to-Deposit ratio reached 80.4% and 70.9% at the end of 2012 respectively.

Regarding Jordan's rank with respect to the ratio of deposits to GDP compared to some MENA countries, the ratio in Jordan exceeds its average in the other countries where it is 101.2%. This shows that the size of the banking sector relative to the size of the economy in Jordan is comparatively big. The largest ratio among the MENA countries is found in Lebanon, where it reached 258.3%, while the credit-to-GDP ratio in Lebanon reached 167%.

Table 2.1: Selected Financial Indicators for Jordan and Some MENA Region Countries (2012) (% of GDP)*

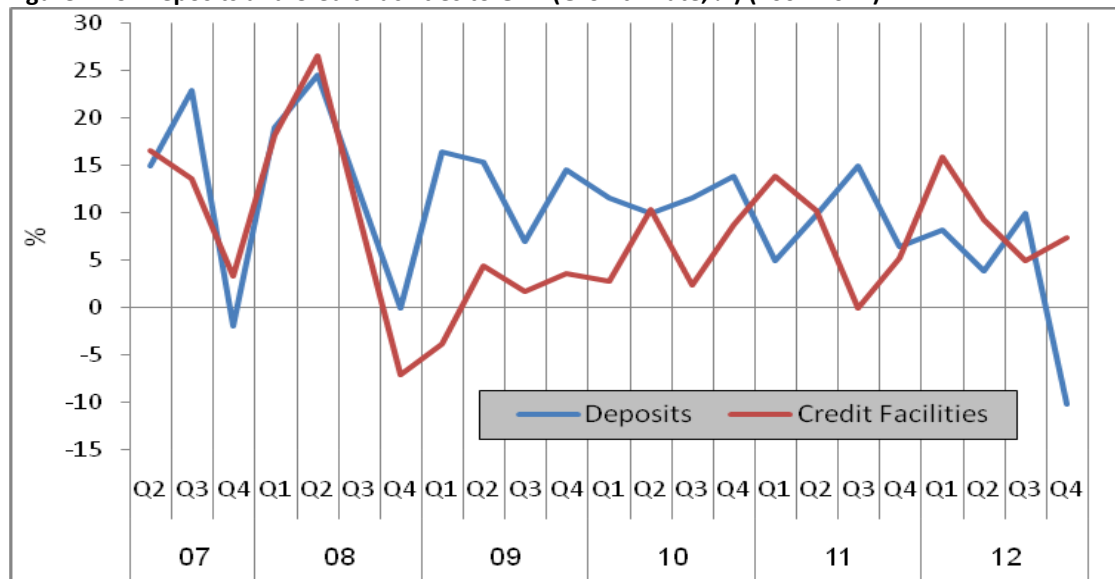
| Country | Asset | Deposits | Credit | Credit to Deposits |
|--------------|-------|----------|--------|--------------------|
| Jordan | 176 | 113.7 | 80.4 | 70.9 |
| Bahrain | 231.6 | 113.5 | 60 | 103.8 |
| Morocco | 136.6 | 110.7 | 136.6 | N/A |
| Egypt | 176.9 | 133.5 | 139 | 103.8 |
| Lebanon | 367.4 | 258.3 | 167 | 64.6 |
| Saudi Arabia | 63.6 | 46.2 | 37 | 79.3 |
| Tunisia | 85.1 | 55.6 | 75.9 | N/A |
| Yemen | 28.2 | 22.9 | 16.3 | N/A |
| UAE | 136.1 | 88.6 | 78 | 87.8 |
| Kuwait | 95.1 | 69.1 | 53 | 77.1 |

* Unless otherwise indicated.

Source: Central Banks of the listed countries except for Tunisia, Morocco and Yemen, where the information were obtained from IMF projections for 2012.

Concerning the growth rates of the deposits-to-GDP and credit-to-GDP ratios, they moved in the same direction. However, the growth rate of the credit-to-GDP ratio is greater than that of deposits to GDP. This implies that banks started to increase its Loan-to-Deposit ratio (Figure 2.19).

Figure 2.19: Deposits and Credit Facilities to GDP (Growth Rate, %) (2007-2012)

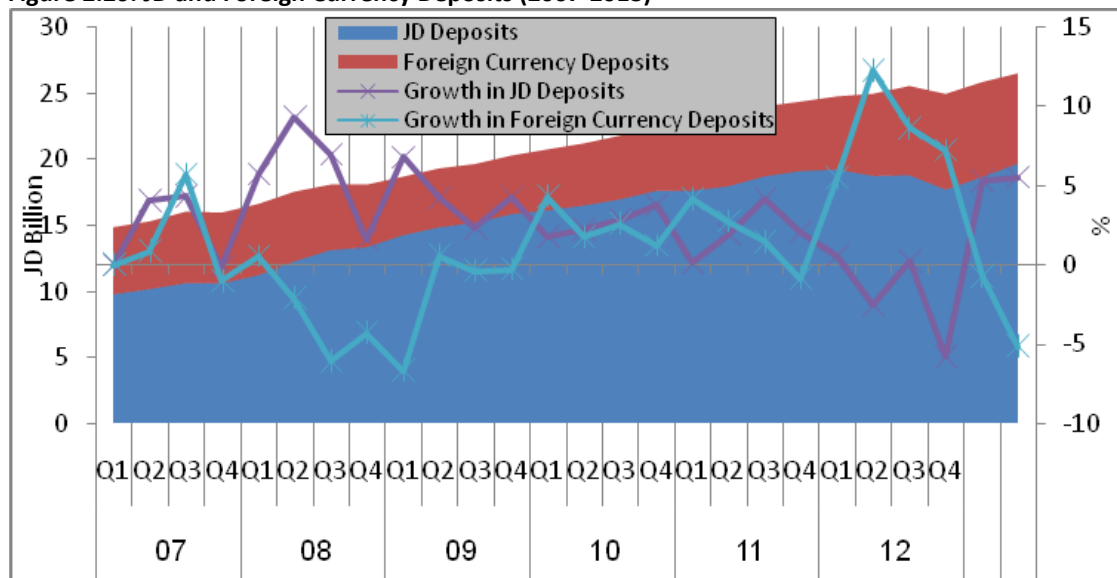


As for the distribution of deposits by currency, the deposits denominated in Jordanian Dinar constitute a large share of 71% at the end of 2012. This share witnessed an upward trend- it increased from 66% at the end of March 2007 to 78% at the end of 2011. After which it began to decline to reach the 71% ratio indicated above. On the other hand, the deposits denominated in foreign currency witnessed a

substantial growth of 38% at the end of 2012 relative to the previous year, compared to a decline in deposits denominated in Jordanian Dinar by 4.7% due to the difficult economic conditions that Jordan faced. Consequently, the CBJ undertook a set of measures to enhance the confidence in the local currency and improve banks' liquidity in Jordanian Dinar. It increased the interest rate three times in 2012, injected liquidity in the market through the new operational framework of the monetary policy by adopting outright purchase and currency swap to provide the banks with necessary liquidity in JD.

They totaled JD1,537 million. These measures help attain the goals that the CBJ aimed from the use of them, like improving the distribution of liquidity among banks. These measures provided banks with the opportunity to obtain the necessary liquidity to finance economic activity (Figure 2.20).

Figure 2.20: JD and Foreign Currency Deposits (2007-2013)

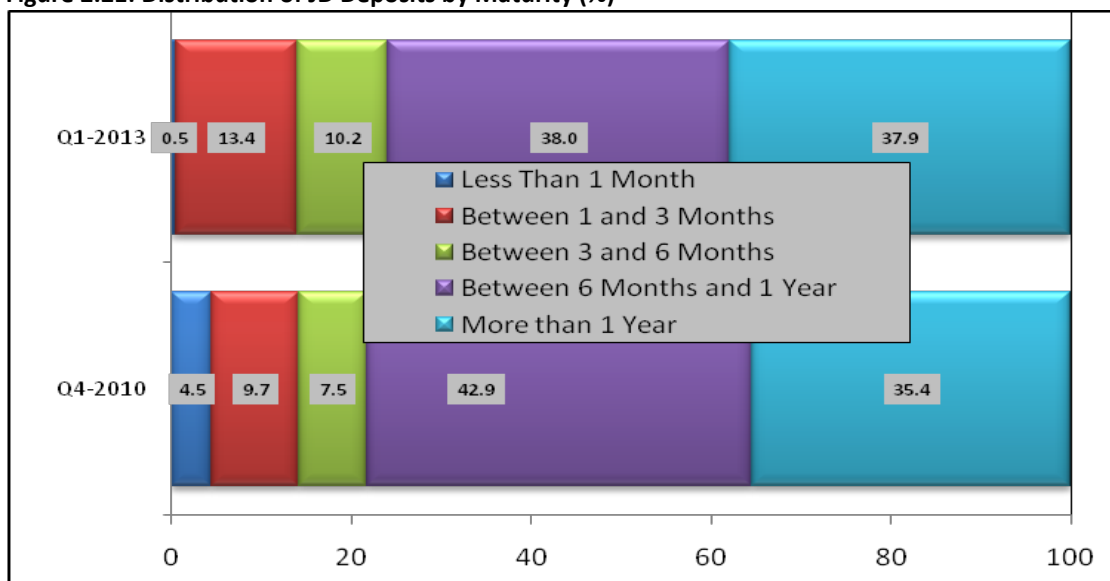


It is worth mentioning here that the year 2013 witnessed a noticeable improvement in the demand for Jordanian Dinar, as the deposits denominated in Jordanian dinar returned to the upward-trending path. It reached 74.2% at the end of June 2013, reflecting the increased

confidence of the depositors in the Dinar as a saving currency and thus enhances the monetary and financial stability in Jordan.

Regarding the maturity of deposits denominated in Jordanian-Dinar; about 76% of these deposits are short-term deposits. In this regard, the share of the very short-term deposits (not exceeding a month) increased from 35.4% at the end of 2010 to 38% at the end the first quarter of 2013, compared to a decrease in the deposits maturing for more than a month and not exceeding three months from 42.9% to 38% during the same period. Whereas the deposits maturing for more than three months and not exceeding six months increased from 7.5% to 10.2% during the same period. Similarly, the deposits maturing for more than six months and not exceeding one year increased from 9.7% to 13.4% during the same period (Figure 2.21).

Figure 2.21: Distribution of JD Deposits by Maturity (%)



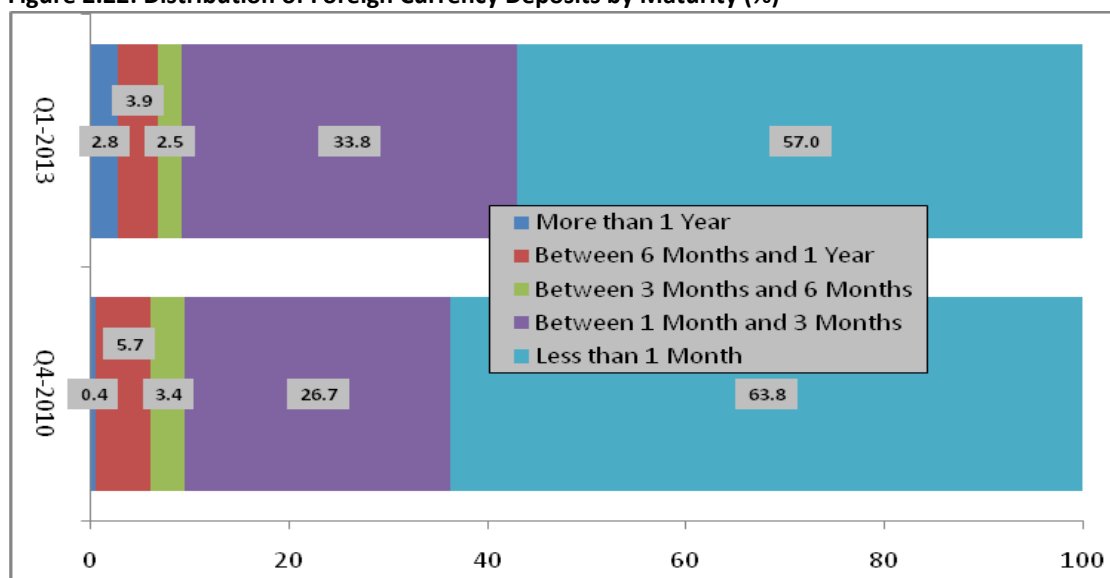
It is worth mentioning in this regard that more than half of the credit facilities are in the form of medium-term and long-term facilities, whereas 76% of deposits are short-term deposits. Thus, requires banks to improve their assets and liabilities management to mitigate the liquidity gap risks (maturity mismatch). It is worth mentioning also that

the CBJ monitors this risk through the Bank liquidity and maturity ladder instructions. It is expected that the implementation of Basel III liquidity requirements will have a positive impact on liquidity management in banks.

Sources of Funds Denominated In Foreign Currency

Regarding the maturity of deposits denominated in foreign currency, it is noticed that about 63.8% of them mature in less than one month- as of the end of the first quarter 2013, compared to 57% at the end of 2010, which indicates that most of the deposits denominated in foreign-currency are considered unstable deposits (Figure 2.22).

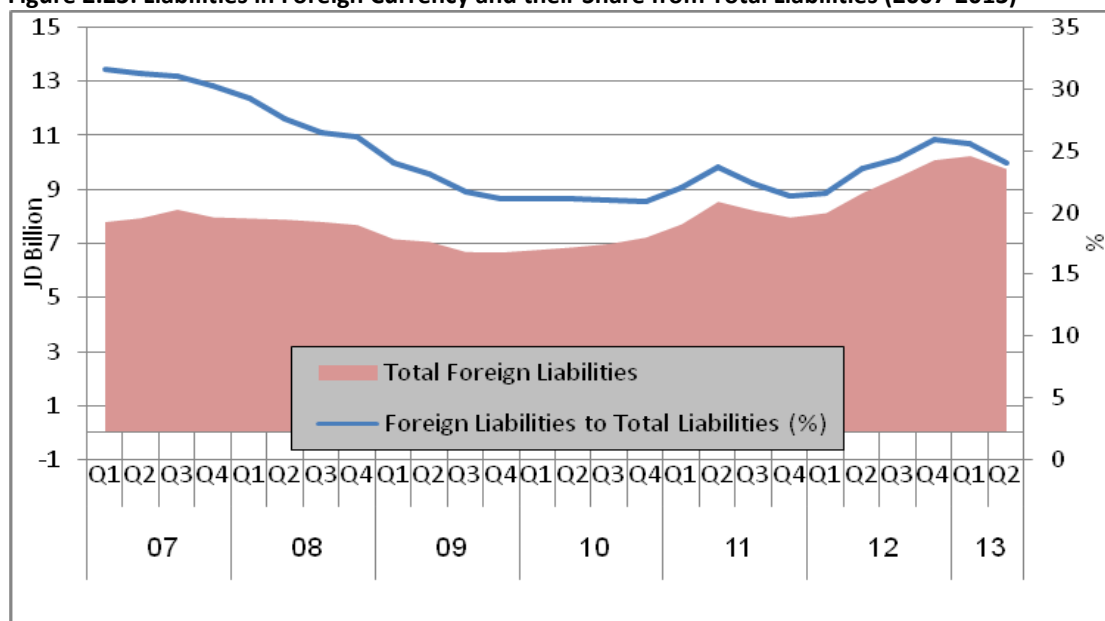
Figure 2.22: Distribution of Foreign Currency Deposits by Maturity (%)



Regarding the liabilities denominated in foreign currency in the banking system, it reached JD10.1 billion at the end of 2012, or 25.9% of total liabilities of the banking system. It is worth mentioning in this regard that this share has witnessed a downward trend during the period (2007-2010) as a result of the repercussion of the global financial crisis and the resulting decline in the interest rate of foreign currencies. After 2010, this share started to increase, especially in 2012, due to the notable increase in the deposits denominated in foreign-currency,

during the year 2012, which is caused by the economic difficulties that Jordan experienced. However, by the end of 2012 and due to the decision of the CBJ to increase the interest rates on its key instruments and providing foreign currency without restrictions, besides the government fiscal reform represented by the liberalization of oil prices, the deposits denominated in foreign currency declined in 2013 which resulted in a decline in liabilities denominated in foreign-currency – a trend that reflects positively on the enhancement of monetary and financial stability in Jordan (Figure 2.23).

Figure 2.23: Liabilities in Foreign Currency and their Share from Total Liabilities (2007-2013)



Consolidated Assets and Liabilities of the Banking System

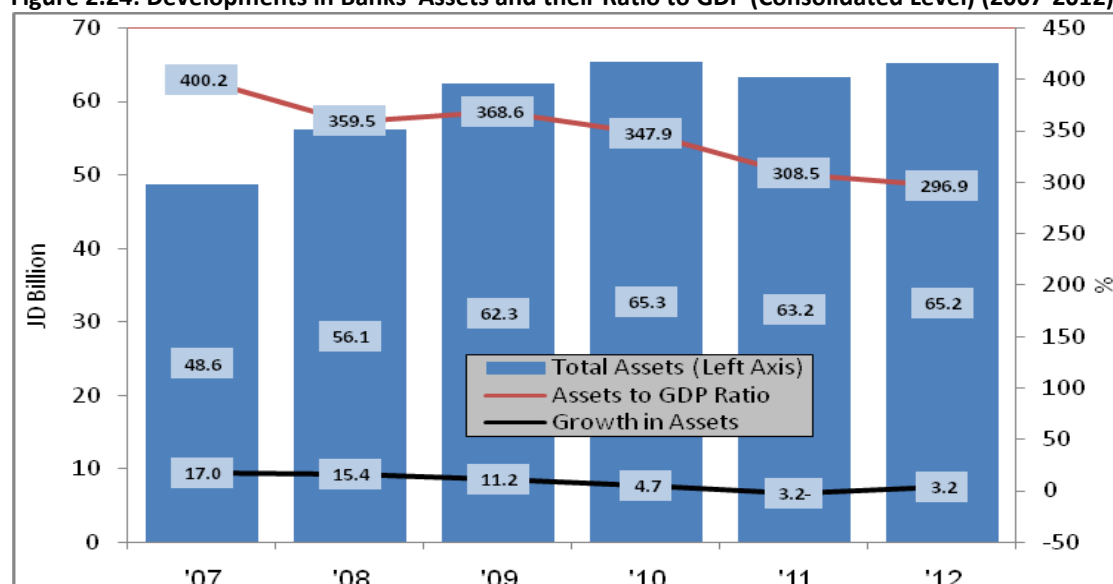
Assets

There are nine Jordanian banks that have branches outside Jordan, with the Arab Bank having the largest number of branches – the balance of its assets outside Jordan forms three quarters of its total assets. The consolidated total assets of the banking system reached JD65.2 billion, compared to JD63.2 billion at the end of 2011, or an increase of JD2 billion and growth rate of 3.2%. The total assets at the banking system

inside Jordan form 60% of total assets at the consolidated level. The remaining percent (40%) belongs at large to the subsidiaries and affiliates and branches of Arab Bank outside Jordan. Despite the rise in the total assets of the banking system at the consolidated level from JD48.6 billion at the end of 2007 to JD65.2 billion at the end of 2012, the growth rate of these assets follows a descending trend- the rate was 17% at the end of 2007 and dropped to 3.2% only at the end of 2012. This trend is expected due to the repercussion of the global financial crisis, the euro sovereign debt crisis and the Arab Spring and the resulting impact on the presence of Jordanian banks outside Jordan.

The ratio of asset-to-GDP at the consolidated level reached 400.2% at the end of 2007 and declined to 296.9% at the end of 2012 – it follows a downward trend because the growth rate of GDP exceeds that of assets (Figure 2.24).

Figure 2.24: Developments in Banks' Assets and their Ratio to GDP (Consolidated Level) (2007-2012)

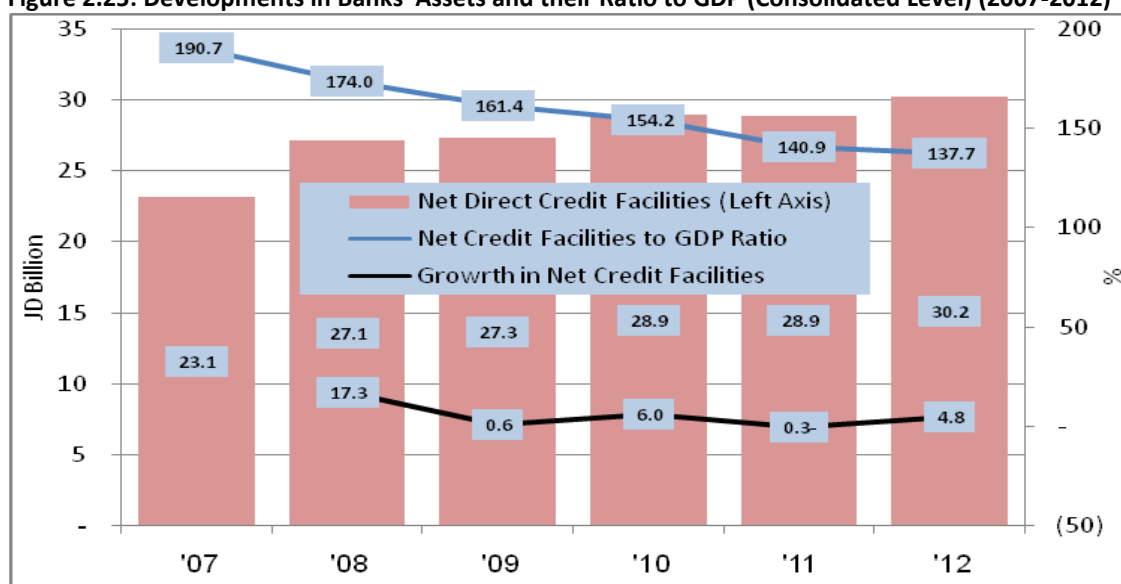


Credit Facilities

The total credit facilities of the banking system at the consolidated level reached JD30.2 billion at the end of 2012 compared to JD28.8 billion at the end of 2011, or a growth of 4.8%. The growth rate follows a

downward trend as it decreased from 17.3% at the end of 2008 to 4.8% at the end of 2012. Regarding the credit-to-GDP ratio at the consolidated level, it reached 190.7% at the end of 2007 and declined to 137.7% at the end of 2012. This trend is expected as a result of the repercussion of the global financial crisis, the euro sovereign debt crisis and the Arab Spring and the resulting impact on the presence of Jordanian banks outside Jordan (Figure 2.25).

Figure 2.25: Developments in Banks' Assets and their Ratio to GDP (Consolidated Level) (2007-2012)



Deposits

The total deposits at the consolidated level reached JD42.5 billion at the end of 2012, compared to JD41.9 billion at the end of 2011, or a growth rate of 1.5%. It is worth mentioning in this regard that the growth rate witnessed a continuous decline during the period 2009-2012. It was 7.5% at the end of 2007 and declined to 1.5% at the end of 2012 (Figure 2.26).

Shareholders' Equity

Shareholders' equity at the consolidated level totaled JD9.8 billion at the end of 2012, compared to JD9.5 billion at the end of 2011. It is worth mentioning in this regard that the growth rate in shareholders' equity

has witnessed a continuous increase since 2009. The capital adequacy ratio at the consolidated level reached 17% at the end of 2012, compared to 17.1% at the end of 2011 (Figure 2.27).

Figure 2.26: Developments in Clients' Deposits in Banks (Consolidated Level)(2009-2012)

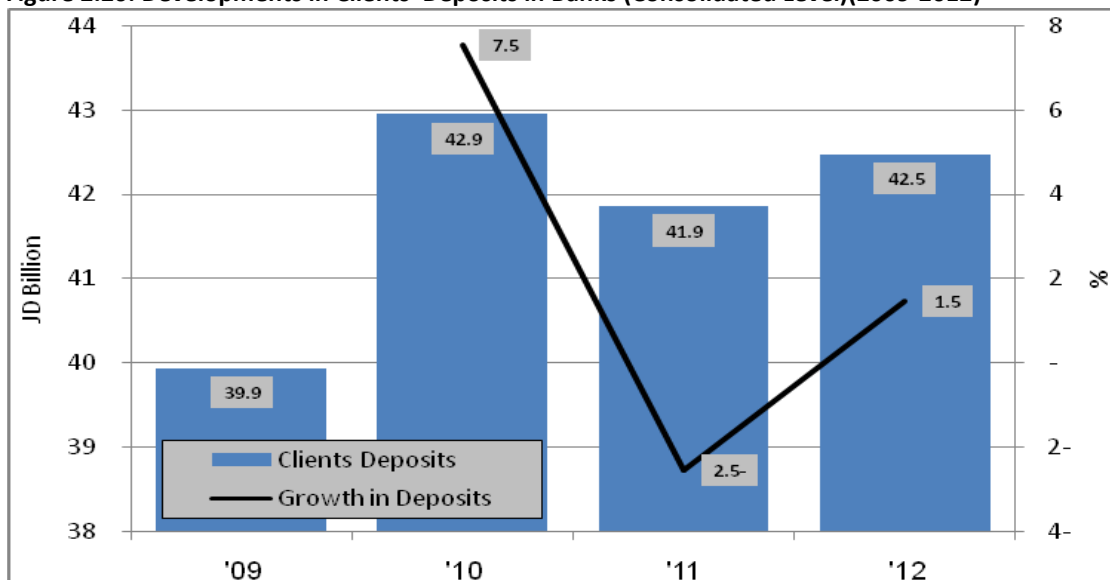
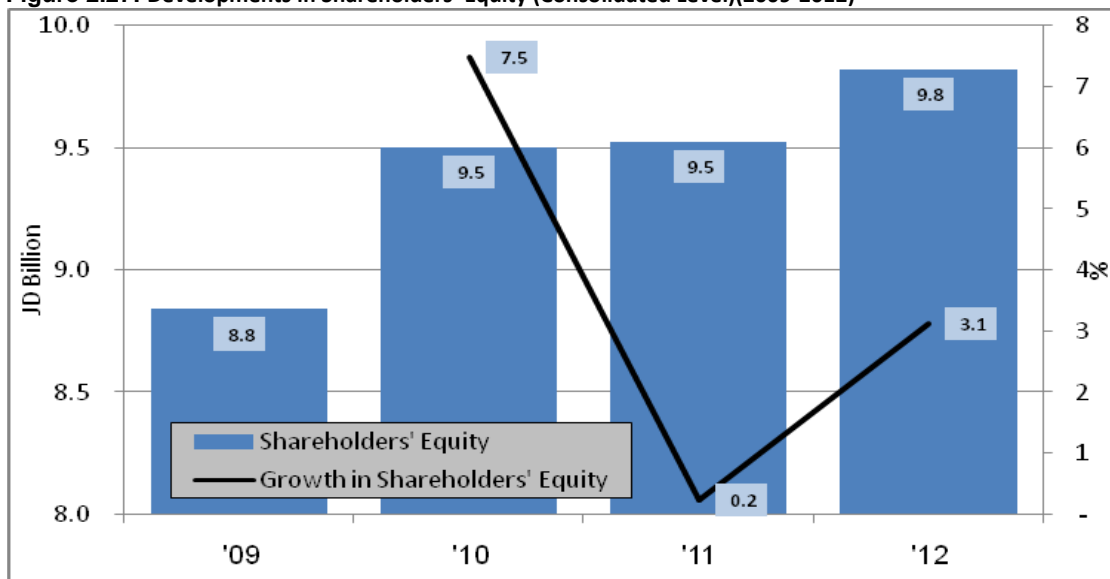


Figure 2.27: Developments in Shareholders' Equity (Consolidated Level)(2009-2012)



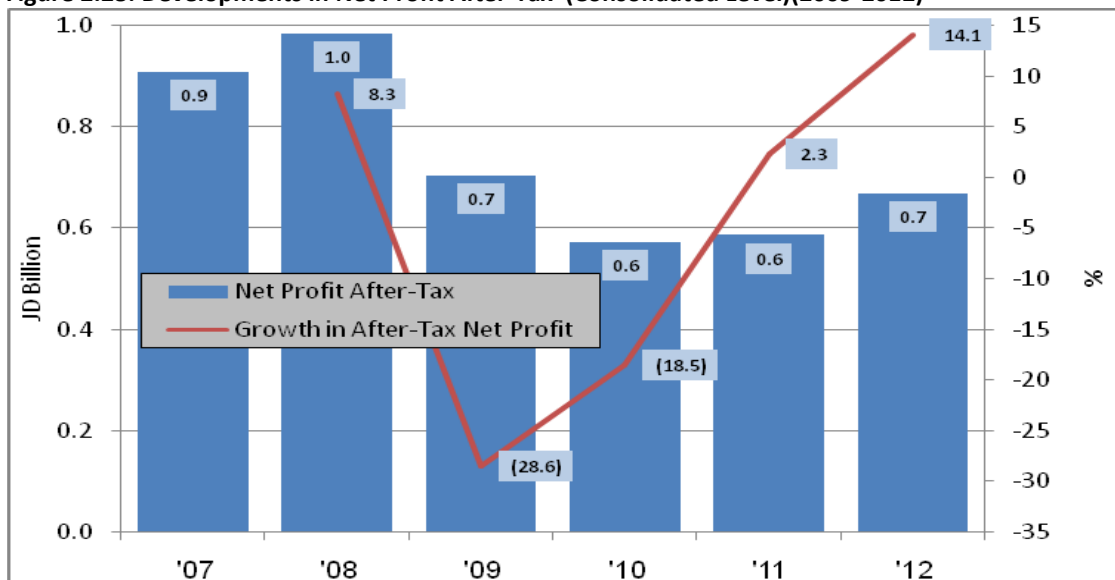
Net Profit After-Tax, Return on Assets and Return on Equity

Net Profit After-Tax

The net profit after-tax of the banking system at the consolidated level reached JD669.3 million at the end of 2012, compared to JD586.4 million at the end of 2011, with a growth rate of 14.1%. It is worth mentioning that this index followed a downward trend in 2009 and 2010 as a result

of the repercussion of the global financial crisis, the euro sovereign debt crisis and the Arab Spring and the resulting impact on the presence of Jordanian banks outside Jordan. (Figure 2.28)

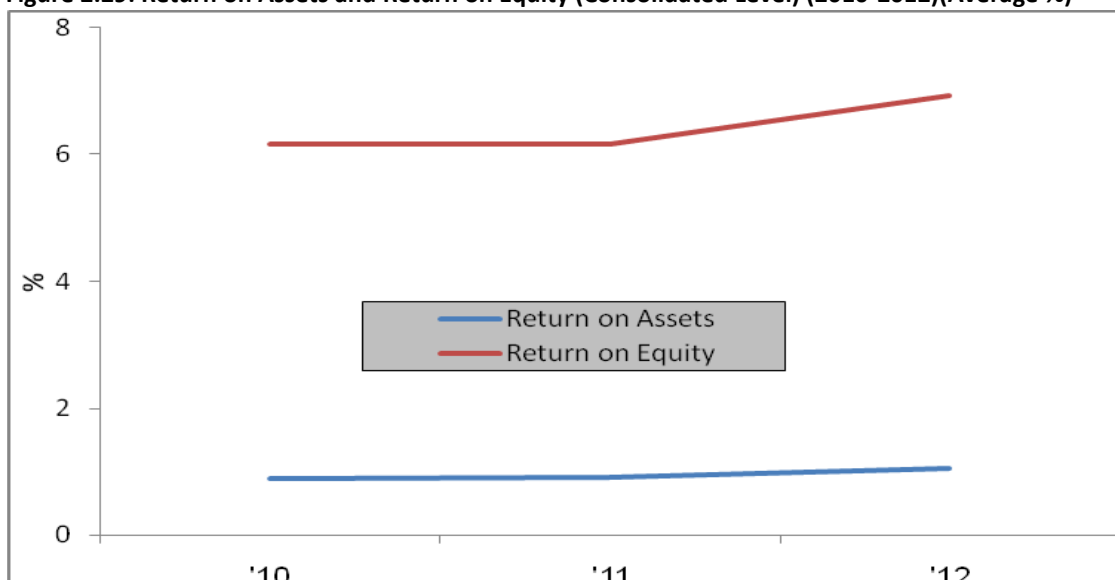
Figure 2.28: Developments in Net Profit After-Tax (Consolidated Level)(2009-2012)



Return on Assets

The return on assets reached 1% at the end of 2012, compared to 0.9% at the end of 2010 and 2011 (Figure 2.29).

Figure 2.29: Return on Assets and Return on Equity (Consolidated Level) (2010-2012)(Average %)



Return on Equity

The return on equity reached 6.9% at the end of 2012, compared to 6.2% at the end of 2010 and 2011 (Figure 2.29).

Banking System Risks in Jordan

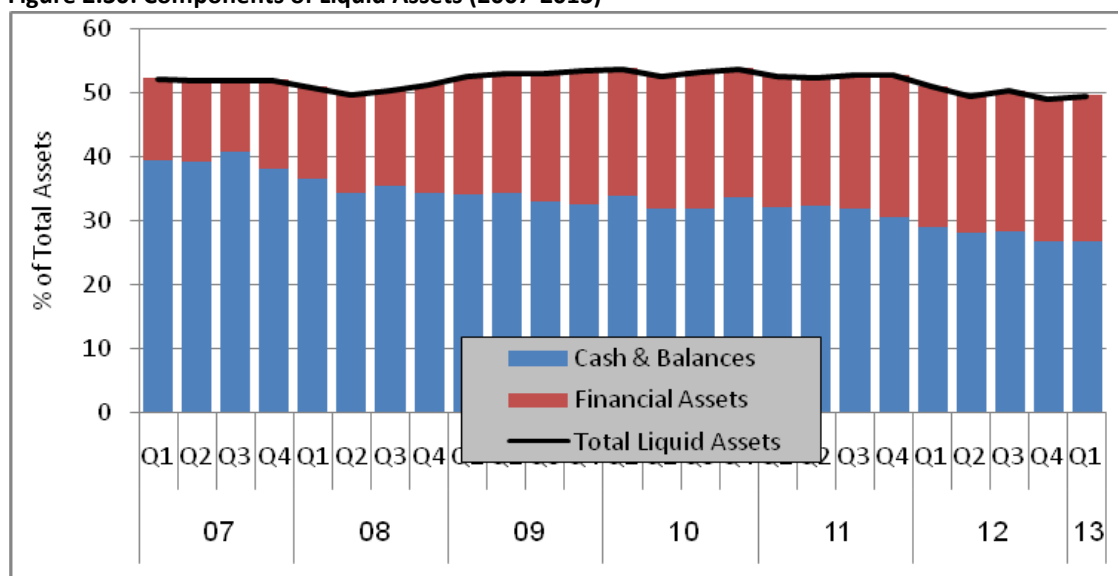
Financial Soundness Indicators

Despite the repercussion of the global financial and economic crisis, Arab spring and the political instability in the region and the resulting severe risks and challenges, the banking system in Jordan was able to maintain the safety and soundness of its administrative and financial conditions. Following are discussions on the major developments in the financial indicators and ratios of banks.

Liquidity

The banking system has comfortable levels of liquidity, the liquidity ratios indicate that the liquidity position of the banking system is safe and comfortable as at the end of 2012. The ratio of cash and cash balances to total assets composed 27% of total assets. The highly liquid portfolio formed 22% of total assets. Hence, the total highly liquid assets represented 49% of total assets at the end of 2012. It has declined relative to its counterpart in 2010 that was 54%. This decline resulted from the increase in credit at the onset of 2011 after the severity of the global financial crisis had eased. As mentioned before, the growth in credit in 2012 was caused mainly by the increase in public credit, especially NEPCO (Figure 2.30).

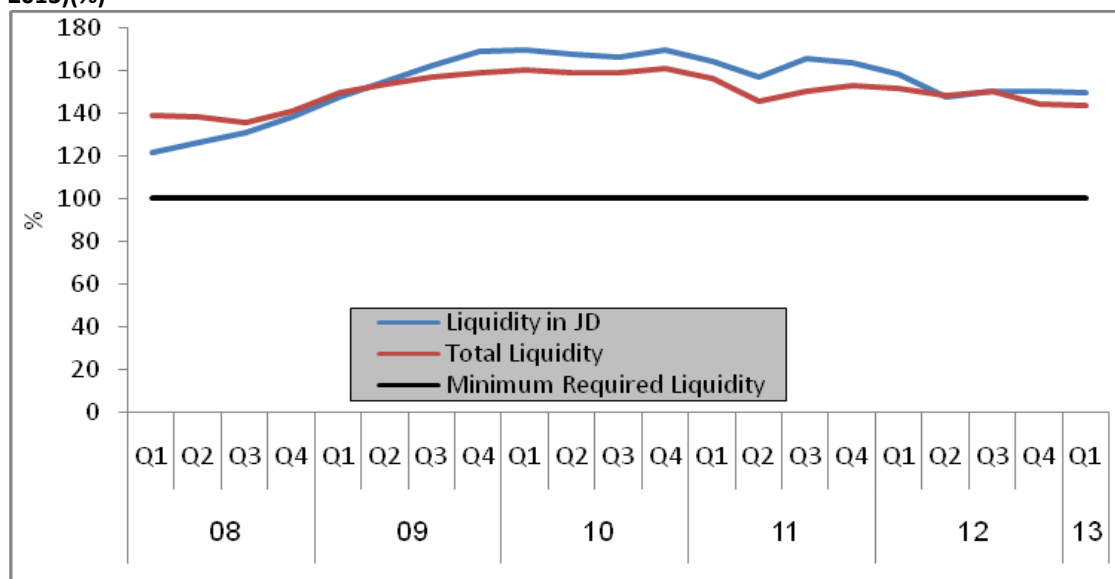
Figure 2.30: Components of Liquid Assets (2007-2013)



Regarding the legal liquidity ratio limits for Jordanian Dinar and for all currencies that is imposed by the CBJ on banks (70% for the Jordanian Dinar and 100% for the total), it has witnessed a notable increase from the mid 2008 until the end of 2009. The key reason for this increase is the policy adopted by the banks to redirect its investments to liquid assets at the expense of credit facilities as a normal reaction from the Jordanian banks to the repercussion of the global financial crisis. Following this period (the end of 2009 until the third quarter of 2010) there was relative stability in the liquidity ratios (160% for all currencies). After that, this ratio started to decline until it reached 145%.

In general, the liquidity position in the banking system is relatively comfortable and exceeds the limits determined by the CBJ (Figure 2.31).

Figure 2.31: Liquidity in Jordanian Dinars, Minimum Required Liquidity and Total Liquidity (2008-2013)(%)



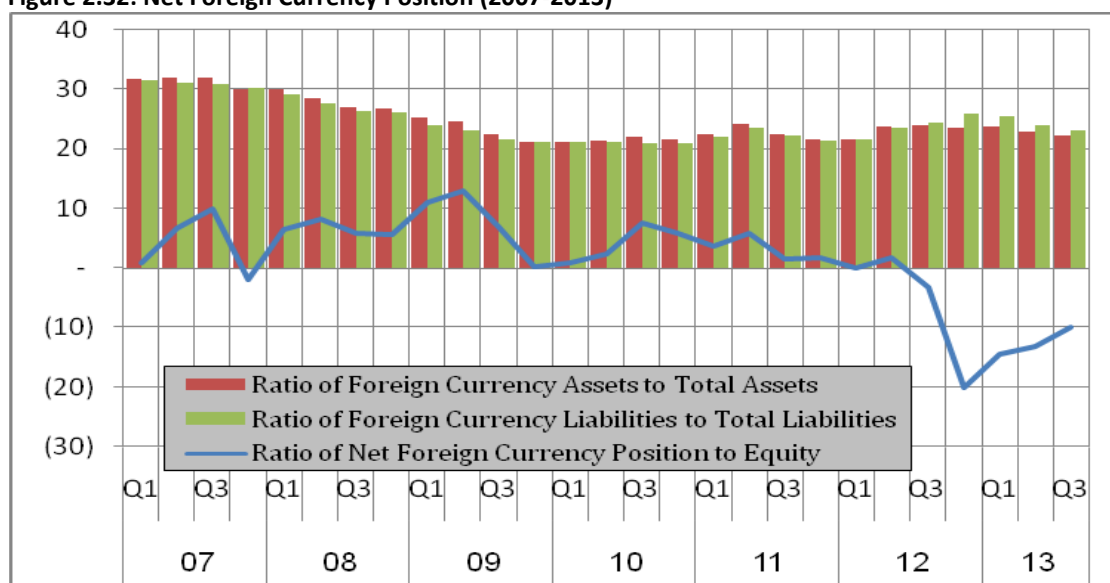
However, the liquidity surplus is concentrated in the large banks. The small and medium size banks do not have high surplus despite its fulfillment of the minimum legal liquidity requirements. Aware of these risks, the CBJ has modified the operational framework of monetary policy in order to help small and medium size banks to improve their liquidity management and improve the distribution of liquidity surplus among banks.

Foreign Currency Position

Regarding the foreign currency position that represents the net balances of the banks (foreign assets less foreign liabilities), there are limits imposed by the CBJ on their amount in banks. In this regard, they are allowed the maximum of foreign currencies not exceeding 15% of total foreign liabilities that are used to finance imports or JD1 million whichever is bigger. The bank must sell any surpluses to the other banks or to the CBJ. There are other limits to the foreign currency position; they must not exceed 15% of equity for the total of all currencies and 5% of equity for single currency (except for the US dollar as it is the base currency). These limits aim at reducing exchange rate risk and its impact on banks' capital.

The foreign currency position at banks was mostly long from 2007 until the third quarter of 2012. This situation changed after that and the position became short. The reason for the excess foreign currency liabilities over foreign currency assets is due to the *Currency Swap* with the CBJ through the exchange of dollar for dinar to mitigate the exchange rate risk. The value of swap contracts totaled JD1,536.5 million at the end of 2012 (Figure 2.32). These contacts started to decline in 2013 with the improvement of the banks' liquidity in Jordanian Dinar.

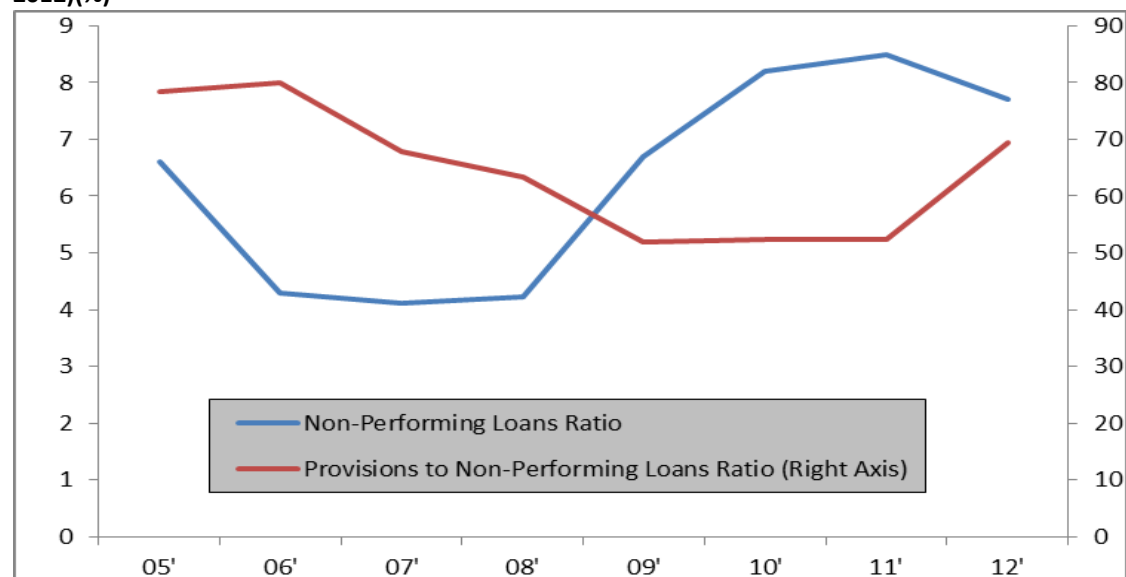
Figure 2.32: Net Foreign Currency Position (2007-2013)



Assets Quality

With regards to the ratio of non-performing loans to total loans, it was relatively stable during the years 2006-2008 and reached 4.2%. However, after 2008 it started to increase until it reached 8.5% at the end of 2011 fuelled by the repercussions of the global financial crisis. It declined again in the beginning of 2012 until it reached 7.7% at the end of 2012. The reason for this decline is the increase in total credit (denominator) and the relative stability of the levels of non-performing loans (numerator). The reason for this stability is that most clients who were adversely impacted by the repercussions of the global financial crisis defaulted during the period 2009-2011. This reflects an improvement in the quality of assets which in turn enhances financial stability in Jordan. (Figure 2.33)

Figure 2.33: Non-Performing Loans Ratio and Provisions to Non-Performing Loans Ratio (2006-2012)(%)



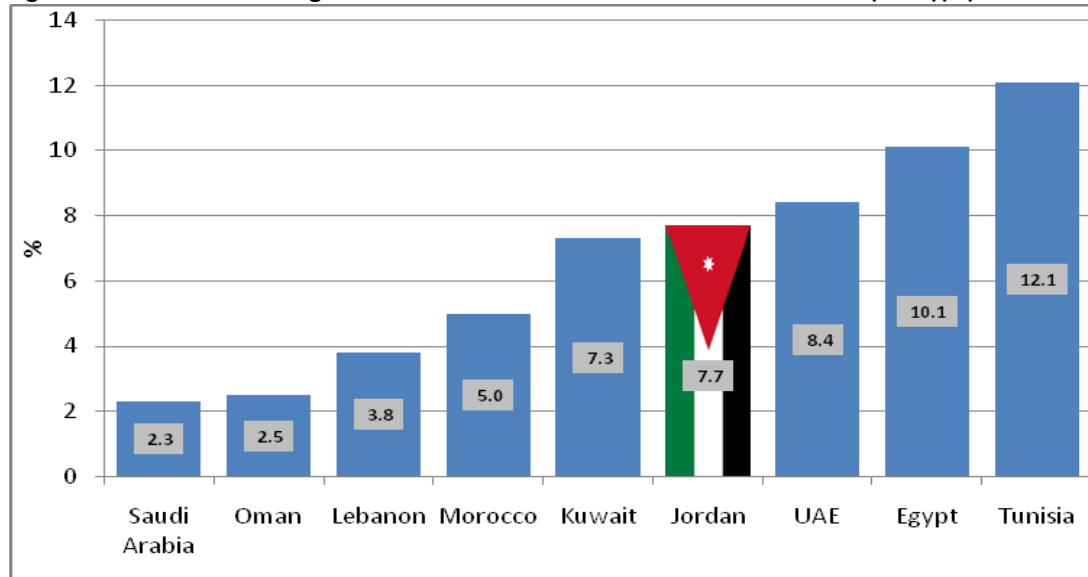
Regarding the ratio of provisions to the non-performing loans (coverage ratio), it was approximately 63.4% at the end of 2008. However, this ratio declined during the period 2008-2011 as a result of the increase in the non-performing loans and reached its minimum level of 52% in 2009.

This ratio increased again from the beginning of 2010, due to the relative stability of non-performing loans and the prudence of the CBJ and banks to have sufficient provisions to the non-performing loans, and kept increasing until it reached 69.4% at the end of 2012. This enhances the capacity of banks to protect against credit risk using their returns. This in turn protects banks' capital and enhances financial stability.

By analyzing the balance of non-performing loans in the banking system, which is JD1,695.1 million at the end of 2012, it was found that the amount was allocated to corporate credit, household credit and SMEs credit by 58.5%, 15.4% and 16.4% respectively.

Compared to some Arab countries, Jordan ranks fourth in terms of the ratio of non-performing loans to total loans after Egypt, Tunisia and UAE. It is in a better rank than Kuwait, Morocco, Lebanon, Oman and Saudi Arabia (Figure 2.34).

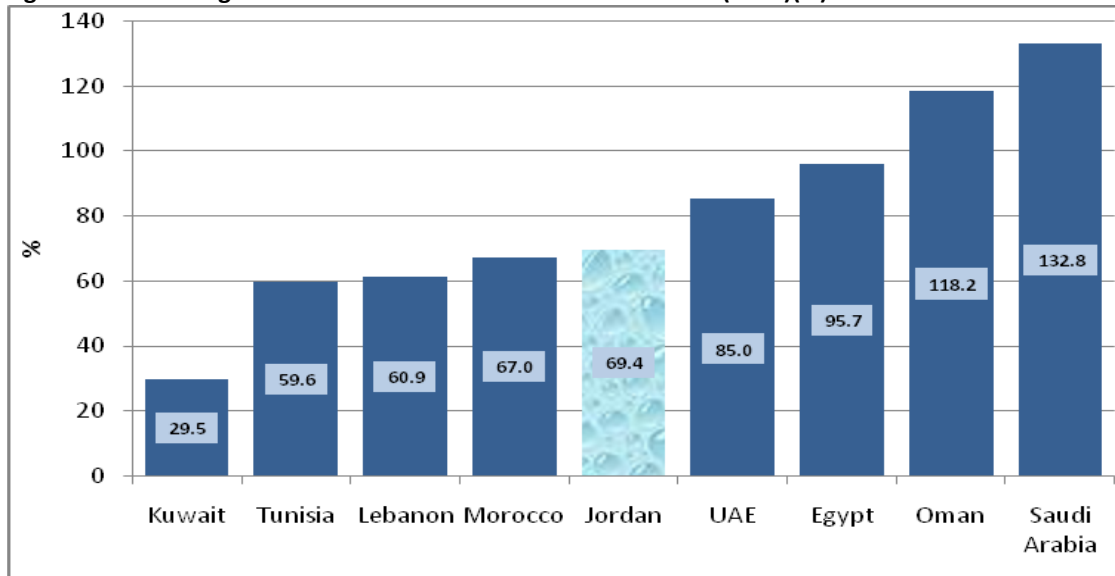
Figure 2.34: Non-Performing Loans Ratio for Jordan and Some Arab Countries (2012)(%)



Sources: for Jordan it is Central Bank of Jordan database and for the rest of the countries it is IMF. Data goes back to 2012, except for Kuwait and Saudi Arabia to 2011, and Tunisia to 2010.

Regarding the coverage ratio, Jordan ranks higher than Tunisia, Lebanon, Morocco and Kuwait. This implies that this ratio puts the banks in Jordan in a better rank than some Arab countries that are similar in economic characteristics except Kuwait (Figure 2.35).

Figure 2.35: Coverage Ratio for Jordan and Some Arab Countries (2012)(%)

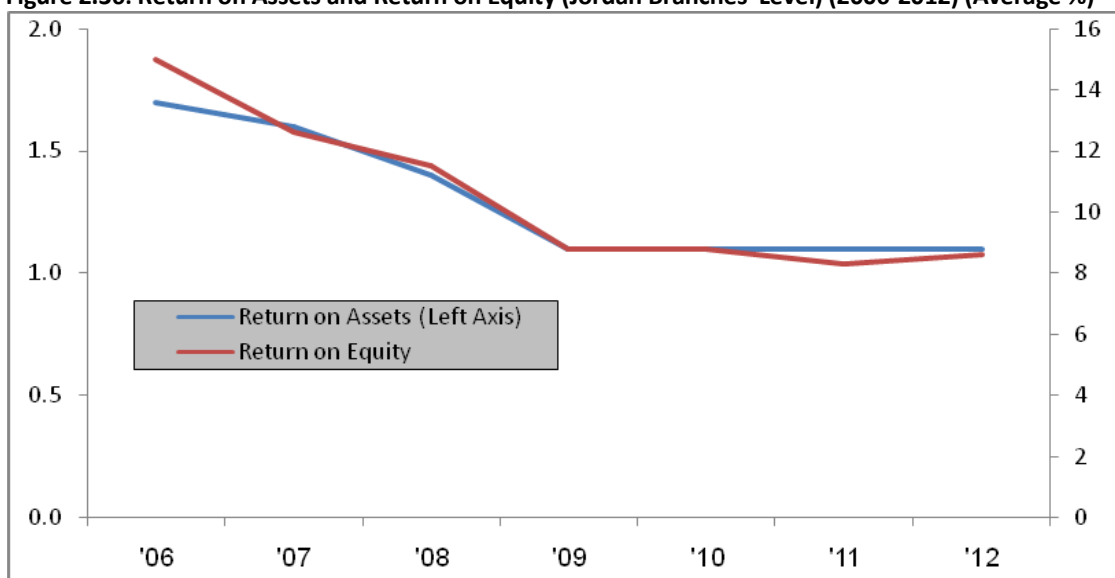


Sources: for Jordan it is Central Bank of Jordan database and for the rest of the countries it is IMF. Data goes back to 2012, except for Kuwait and Saudi Arabia to 2011, and Tunisia to 2010.

Profitability

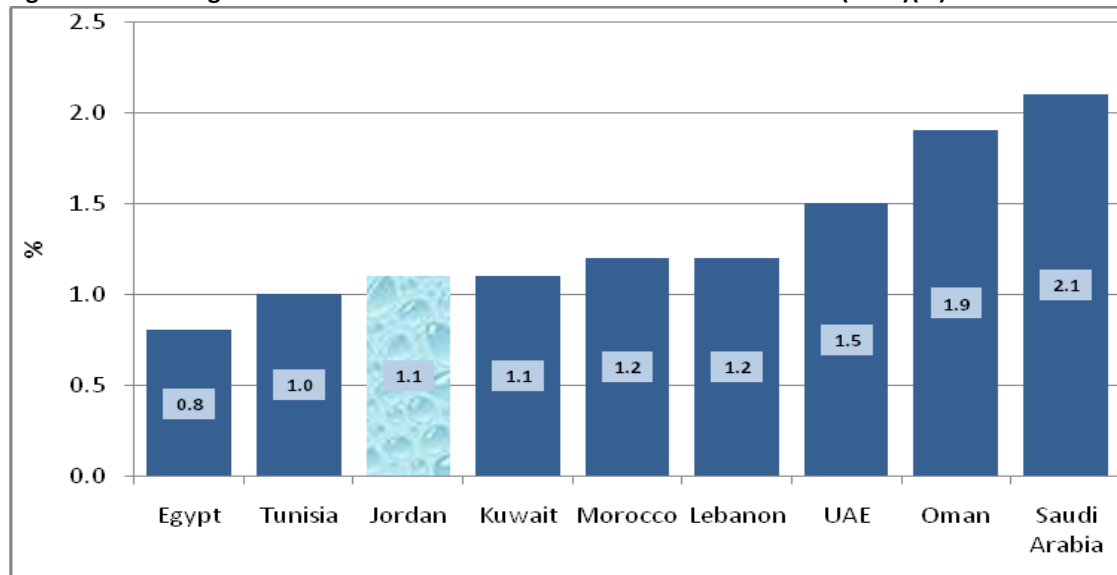
The return on assets in the banking system in Jordan witnessed a declining trend during the period 2006-2010. It was 1.7% at the end of 2006 and declined to 1.1% at the end of 2010 affected by the repercussion of the global financial crisis on the profitability of banks. This rate prevailed in the next two years 2011 and 2012- the banks' profits increased and so did the assets (Figure 2.36).

Figure 2.36: Return on Assets and Return on Equity (Jordan Branches' Level) (2006-2012) (Average %)



Comparing Jordan with some Arab countries, it was the third lowest country in terms of return on assets, where it is 1.1%. Saudi Arabia ranks first in this regard, with a ROA of 2.1% (Figure 37.2).

Figure 2.37: Average Return on Assets for Jordan and Some Arab Countries (2012)(%)



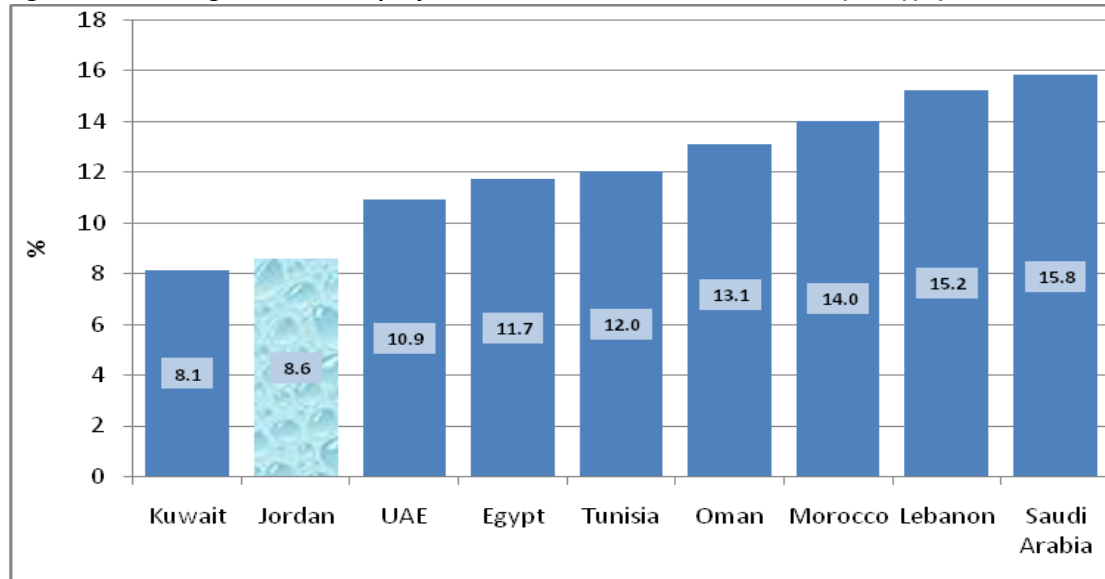
Sources: for Jordan it is Central Bank of Jordan data base and for the rest of the countries it is IMF.

Data goes back to 2012, except for Kuwait to 2011, and Tunisia to 2010.

Similar to ROA, the return on equity declined during the period 2006-2010. It was 15% at the end of 2006, and declined to 8.6% at the end of 2010, and then declined again to 8.3% at the end of 2011 before increasing at the end of 2012 to 8.6%. (Figure 2.36).

Compared to some Arab countries, Jordan is the second lowest country in terms of return on equity. The lowest return on equity was in Kuwait (8.1%), whereas the highest return was in Saudi Arabia (15.8%). (Figure 2.38). The relatively low rate of return on equity in Jordan in comparison with some Arab countries is attributed to conservative policies of the Jordanian banks and the high risk aversion. Added to this are high levels of capital in Jordanian banks and high income tax rate. Even though this signifies the low efficiency of banks in using its capital, it also implies the capacity of banks to protect against risk using its capital. This in turn reflects positively on the financial stability in Jordan.

Figure 2.38: Average Return on Equity for Jordan and Some Arab Countries (2012)(%)



Sources: for Jordan it is Central Bank of Jordan data base and for the rest of the countries it is IMF. Data goes back to 2012, except for Kuwait to 2011, and Tunisia to 2010.

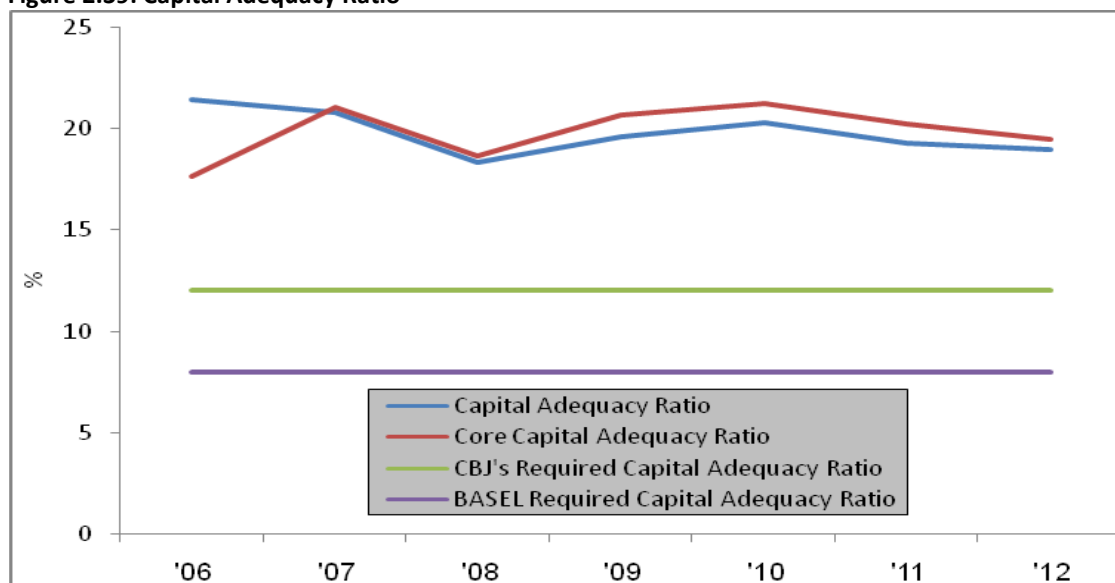
Capital Adequacy

The CBJ implements Basel II standardized approach to calculate capital adequacy ratio since the year 2008. This ratio for the banking sector in Jordan ranged between 18% and 20% during the years 2007-2012- generally higher- with a comfortable margin- than the limit set by the CBJ of 12%. It is also higher than the limit set by Basel Committee for Banking Supervision of 8%. It is worth mentioning in this regard that the value of capital adequacy ratio and the Tier 1 capital ratio are very close to each other, which implies that the bulk of banks' capital in Jordan is the core capital. The core capital is the best component of capital in terms of quality and ability to absorb losses. This in turn reflects positively on enhancing financial stability in Jordan. It is worth mentioning that despite this high value of CAR in the banking system in Jordan as whole, it varies realizably among banks. Out of 26 banks, there are 13 banks whose ratio exceeds 20%, while it ranges between 14% and 20% for 11 banks. The two remaining banks have a ratio that is very

close to the limit (of 12%). The CBJ monitors this ratio continuously and requires the banks to enhance its capital and take corrective actions in case it declined or closely approached the minimum limit.

The increase in the capital adequacy ratio in the banking sector in Jordan is attributed mainly to the fact that most Jordanian banks are highly conservative and risk averse. The value of investments in government bonds approximately totaled JD7,395 million. Besides the fact that banks are well-capitalized and are conservative in allocating dividends to equity holders, the ratio that does not exceed 20% in most cases. This in turn further strengthens the banks' capital base and enhances their capital adequacy ratios (Figure 2.39).

Figure 2.39: Capital Adequacy Ratio

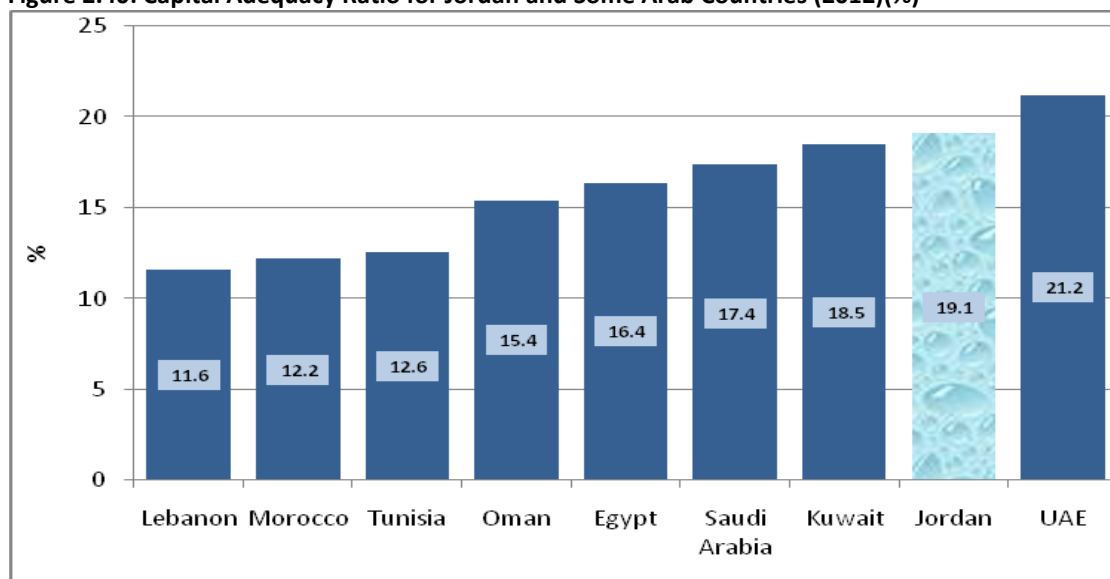


The capital adequacy ratio in the Jordanian banking system is relatively high compared to most Arab countries. It ranks second after United Arab Emirates, whose ratio was approximately 21.2% (Figure 2.40).

Regarding the leverage ratio (equity-to-assets ratio), it has been following an upward trend since 2009 because of the decision of several banks to increase its capital and retain a large portion of their profits.

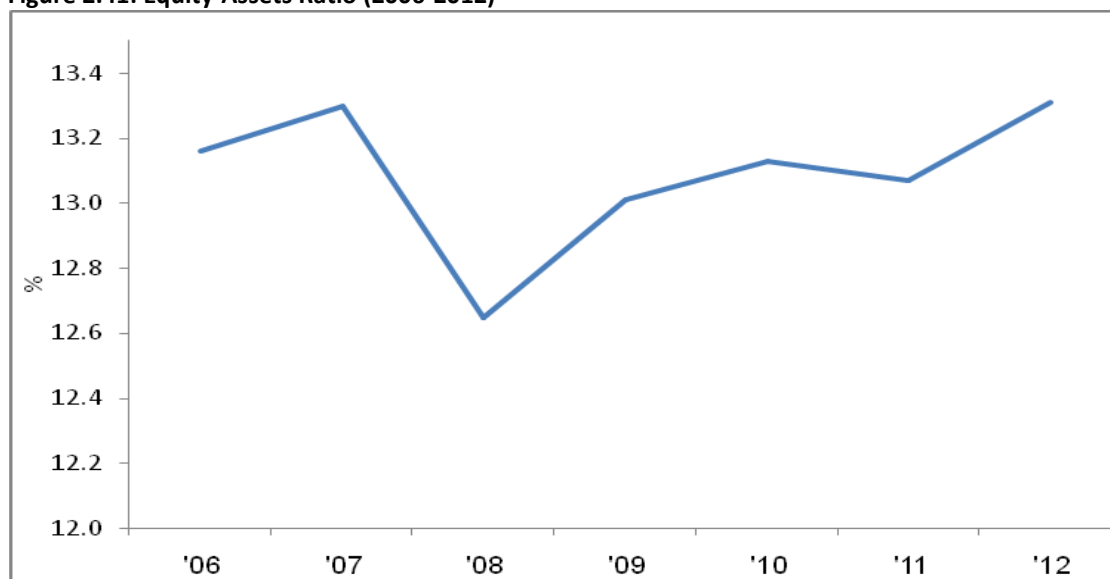
This is a positive indicator on the solid capital base in the banking system (Figure 2.41)

Figure 2.40: Capital Adequacy Ratio for Jordan and Some Arab Countries (2012)(%)



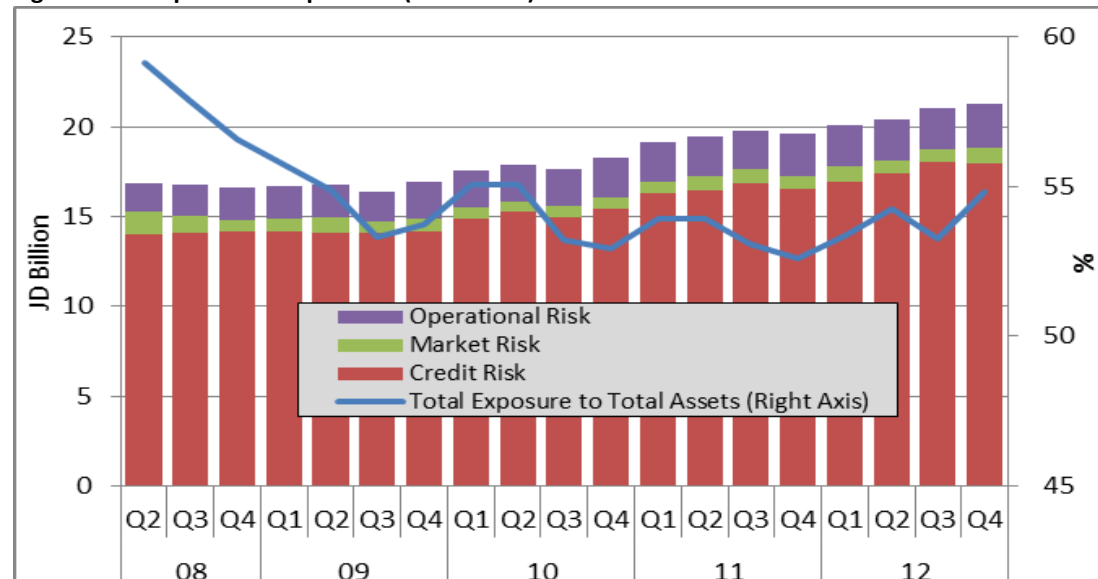
Sources: for Jordan it is Central Bank of Jordan data base and for the rest of the countries it is IMF. Data goes back to 2012, except for Kuwait and Saudi Arabia to 2011, and Tunisia to 2010.

Figure 2.41: Equity-Assets Ratio (2006-2012)



The credit risks are one of the most key risks that the banks in Jordan face. It composes 84% of total risks, followed by operational risks (12%), then market risks (4%). (Figure 2.42)

Figure 2.42: Exposure Components (2008-2012)



The new supervisory requirements (Basel III)

Regarding compliance with the new supervisory requirements in the world (Basel III requirements), they came in as a goal to enhance banks' solvency and ability to face risks. Therefore, the application of the new principles is expected to reflect positively on banks safety and soundness. The principles had several advantages, most important are:

- Enhancing the quality of banks capital through holding high quality capital with high capacity to protect against risks and absorb losses.
- Applying additional buffers to the minimum limits of capital adequacy to enhance the ability of banks to face all risks that they might be susceptible to - including financial cycle risk and financial system risks.
- Using standard ratios to monitor banks' liquidity to ensure that they maintain sufficient liquidity to cover their obligations and continue in business.

The CBJ looks at these requirements as an additional tool to enhance risk management in banks, particularly in terms of liquidity.

Regarding the impact of these requirements on banks in Jordan, based on preliminary studies conducted in this regard, most banks in Jordan are not expected to face challenges or difficulties in complying with them. The banks in Jordan are well-equipped with high quality capital that is composed of common shares and does not include unconventional instruments. In addition to the fact that the required capital adequacy ratio in Jordan is 12% compared to the minimum limit determined by Basel committee of 8%. The actual average ratio in 2012 exceeded the required limits and reached around 19%. As for Basel III liquidity requirements, Jordan has been applying standard ratios to monitor liquidity, in addition to the high comfortable liquidity levels in the majority of banks in Jordan.

The CBJ issued regulations in 2011 requested banks to conduct an impact study on implementing Basel III. The goal is to get a precise assessment of the ability of each bank to comply with Basel III as a step towards their implementation with the timeframes set by Basel Committee. The results of the impact study showed that the banking system in Jordan is generally able of complying with these requirements. An updated evaluation of the ability of licensed banks to comply with Basel's liquidity requirements is in progress, and the CBJ will issue Basel III regulations in the near future.

Foreign Exchange Sector

The foreign exchange sector supports the CBJ's policy in aiming to achieve stability in the exchange rate of the Jordanian dinar against foreign currencies and through the provision of currencies within bid and ask prices announced by the CBJ, which means that the exchange companies have contributed in part to the goals of monetary policy aimed towards the stability of the dinar exchange rate and its convertibility, as well as the

alignment between the elements of the supply and demand for foreign currencies versus the Jordanian dinar (market mechanism activation). In turn, this leads to increased confidence in Jordanian Dinar. In this regard, Money Exchange Supervision Department monitors on a daily basis the bid and ask prices of foreign currencies and analyzes the relevant indicators and trends to intervene in the appropriate time in the case of any undesirable deviations.

The money exchange sector witnessed a remarkable development in terms of proliferation and size of business, where the number of exchange companies licensed in Jordan is 141 companies operating through headquarters in addition to the 96 branches distributed in all governorates in Jordan - a total of 237 exchange entity.

| Governorate | Number of Companies | Number of Branches | Total |
|--------------------|---------------------|--------------------|------------|
| Capital | 91 | 66 | 158 |
| Zarqa | 14 | 9 | 23 |
| Irbid | 9 | 4 | 14 |
| Aqaba | 8 | 5 | 13 |
| Other Governorates | 19 | 12 | 31 |
| Total | 141 | 96 | 237 |

The Currency Exchange Law number 26 of the year 1992 forms the legislative framework that regulates the exchange activity in Jordan through determining the legal forms of exchange companies and their capital and supervisory tools (both onsite and offsite) as well as the identification of types of transactions that exchange companies are allowed to practice, in addition to sanctions in the event of any violation of the law. A set of instructions and decisions were released under the Law to determine the requirements and detailed procedures for organizing the work of exchange companies in Jordan.

In light of the passage of more than twenty years since the issuance of the said law and the economic changes and the remarkable development in the activities of exchange companies and the diversity of offered services,

and in order to provide an appropriate capital base to increase the solvency of exchange companies and protect the dealers, the minimum capital of licensed exchange companies determined under the law has been amended and raised by 200% above the minimum level that was set before. According to gradual procedures, geographical locations of these companies were taken into account for the purpose of enhancing the safety and soundness of the currency exchange sector. Also, to increase the ability of exchange companies to compete locally, regionally, and internationally to offer exchange services of high quality to keep pace with the latest international developments in this field. In addition to increasing the amount of available liquidity to these companies- to enhance their ability to improve their performance, which will eventually reflect positively on the profitability indices of the exchange sector as a whole.

The CBJ practices its supervision on the currency exchange sector onsite and offsite. The offsite supervision mainly entails studying and analyzing the periodic statistical data and the audited financial statements of the exchange companies and suggesting recommendations to policy makers. Whereas the onsite supervision mainly entails on ground inspection teams verification of the compliance of companies operating in the exchange sector with all laws and regulations in force ,in addition to the role of external auditors of the exchange companies and related parties as per provisions of the law.

Selected Indicators for the Currency Exchange Sector in 2012 (JD Million)*

| Indicator | |
|------------------------------|-------|
| Business Size | 218 |
| Capital | 58 |
| Financial Guarantees offered | 19 |
| Purchase of Foreign Currency | 5,500 |
| Sales of Foreign Currency | 5,510 |
| Return on Capital** | %7 |
| Return of Assets | %2 |

* Unless otherwise indicated

** Return on Capital and Return on Assets reached 6.0% and 2.0% in 2011 respectively. Compared to the numbers in 2012 in the table, the profitability indicators improved relatively in 2012.

Chapter Three: Stress Testing

Introduction

Stress testing is one of the risk management tools that aim at measuring the ability of the banking system to withstand shocks and high risks. The importance of stress testing increased after the global financial crisis. The results are used to determine the capital and liquidity levels that banks are required to maintain to be able to withstand shocks and high risks.

Aware of the importance of this subject, the CBJ issued the stress testing instructions No. 46/2009 in 30/9/2009. In these instructions, the banks were asked to conduct a set of tests on the various risks faced by them, such as credit risk concentration risk and market risk, among other risks. It is worth mentioning that during 2013, the CBJ improved the stress testing methodology based on implementing one developed by the IMF in 2011, called Next Generation Balance Sheet (NGBS) Stress Testing. This methodology is considered as one of the best methodologies used in this context. The NGBS stress testing allows the possibility of conducting a wide set of tests, including macro stress testing; that measures the impact of macroeconomic variables on banks' asset quality.

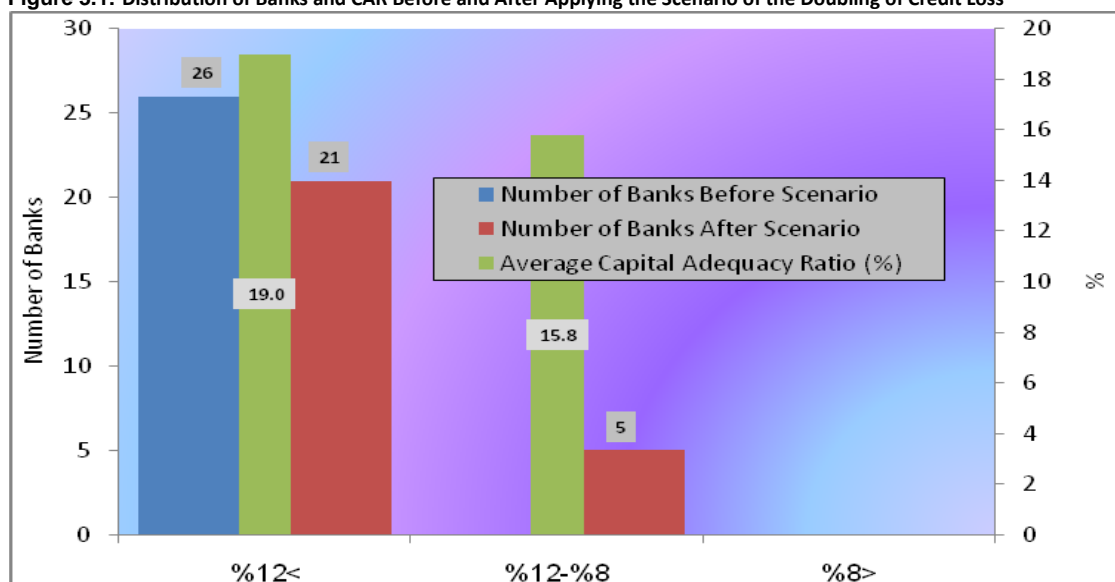
The CBJ used this methodology partially to conduct the following stress tests.

Scenario One

This scenario assumed that credit losses doubled in banks (doubling default rates) due to the worsening of political conditions in the region and its consequent impact on economic conditions and banks in Jordan.

In this case, the capital adequacy ratio in the banking system will drop from approximately 19% to 15.8%. Which means that the banking system is in general able to withstand this shock as the capital adequacy ratio after the shock remains above the minimum required rate in Jordan of 12%. At the individual bank level, CAR was above 12% in 21 out of 26 banks. The resultant ratio is well above the minimum international number of 8% in the remaining five banks. This implies that banks, individually and collectively are able to withstand this shock (Figure 3.1).

Figure 3.1: Distribution of Banks and CAR Before and After Applying the Scenario of the Doubling of Credit Loss



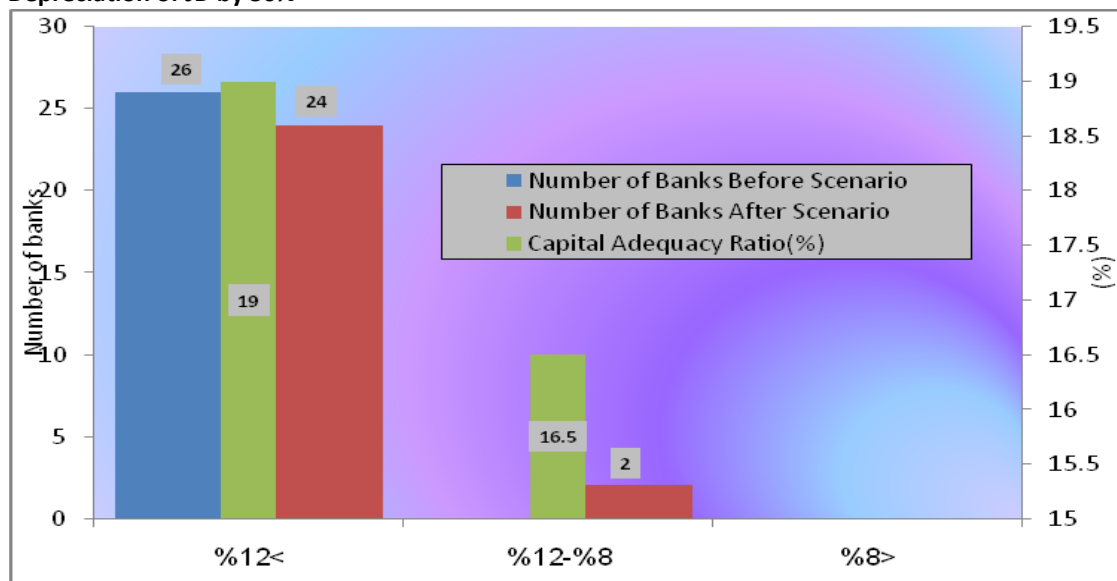
Scenario Two

This scenario assumed the depreciation of exchange rate of the Jordanian Dinar against foreign currencies by 50%. Assuming the worsening of political conditions in the region and its consequent impact on economic conditions in Jordan and, hence, at the level of foreign reserves.³ In this case, the capital adequacy ratio in the banking system will drop from 19% to 16.5% approximately. Which means that the banking system is in general able of withstanding this shock as the

³ This is a hypothetical scenario, of course. It aims at investigating the exposure of banks to exchange risks. In practice, the foreign reserves at the CBJ are sufficient to cover the imports for six months as of 20-10-2013, which is a highly comfortable level.

capital adequacy ratio after the shock is still above the minimum required rate in Jordan of 12%. At the individual bank level, CAR was above 12% in 24 out of 26 banks. The resultant ratio is well above the minimum international number of 8% in the remaining two banks. This implies that banks, individually and collectively are able to withstand this shock (Figure 3.2).

Figure 3.2: Distribution of Banks and CAR Before and After Applying the Scenario of the Depreciation of JD by 50%



Scenario Three

Regarding the credit concentration risks; and on the assumption of the default of the largest three borrowers at individual bank level. In this case, the capital adequacy ratio in the banking system will drop below 12% in four banks, where the ratio ranged from 11.3% to 11.6%. Therefore, it will not drop significantly below the minimum limit applied in Jordan. In addition, the resultant ratio is well above the minimum international number of 8% (Figure 3.3). On the assumption of the default of the largest six borrowers at individual bank level. In this case, the capital adequacy ratio in the banking system will drop below 12% in four banks also, where the ratio ranged from 9.0% to 10.9%. The

resultant ratio is well above the minimum international number of 8% (Figure 3.4). It is worth mentioning in this regard that the CBJ is undergoing an amendment to the credit concentration instructions in order to help mitigate the banks' exposure to credit concentration risks in Jordan.

Figure 3.3: Distribution of Banks by CAR Before and After Applying the Scenario of the Default of the Three Largest Borrowers

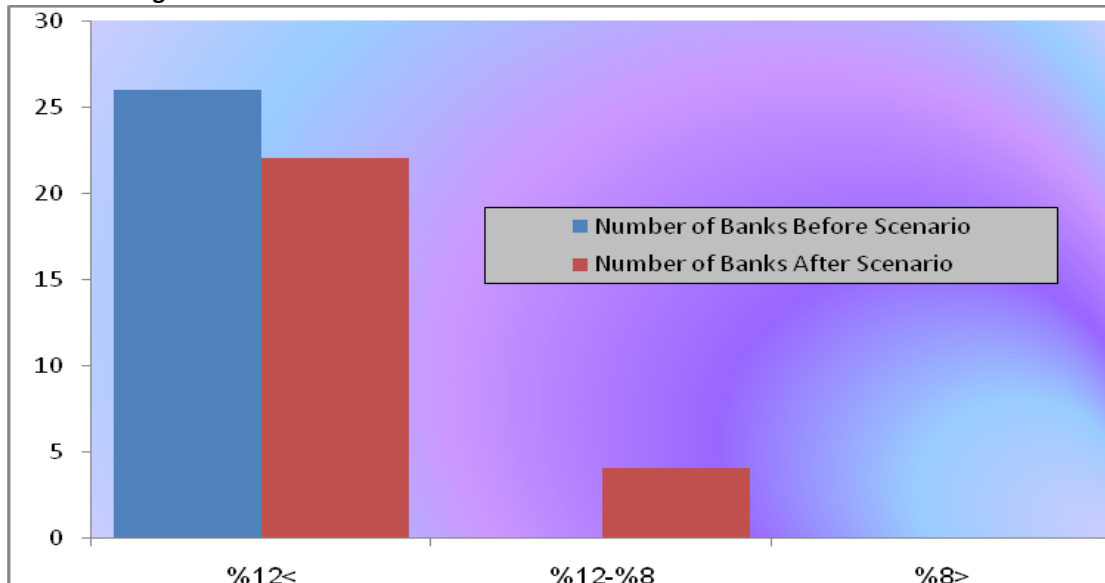
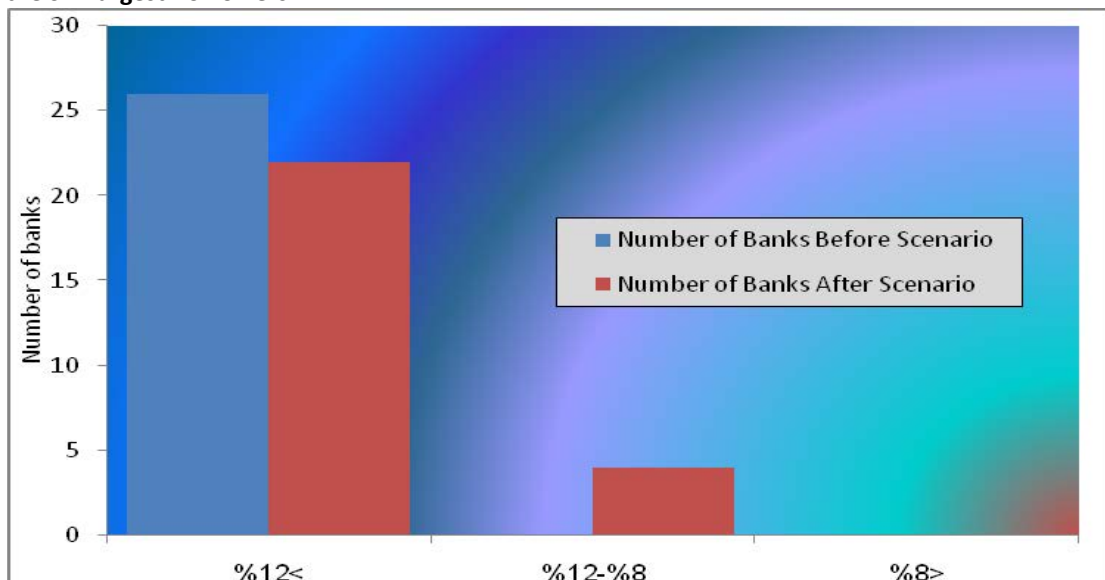


Figure 3.4: Distribution of Banks by CAR Before and After Applying the Scenario of the Default of the Six Largest Borrowers



Conclusion

Stress testing results show that the Jordanian banking system in Jordan is generally capable of withstanding shocks and high risks. The main reason for this resilience is the high level of capital that most banks hold – the highest in the Middle East region. The results also show that foreign exchange risks are limited. Moreover, most banks are able to withstand the credit concentration risks. The CBJ will continue enhancing these tests qualitatively and quantitatively in light of the evolution of risks on a local, regional, and international level to ensure the safety and soundness of the banking system.

Chapter Four: Household Debt

Introduction

The banks play a key role in the comprehensive social and economic development through meeting the financing need on household and corporate levels. The household loans play a key role in improving their quality of life through enabling them to obtain their housing and consumption needs, which reflect positively on increasing their spending ability and consumption and, hence, stimulate economic growth. Because this sector is very wide and diversified, the banks' decision to finance its needs helps diversify the banks' use of assets and, hence, reduces the risk exposures and enhances profitability. However, the rise in the household debt relative to their income and wealth has adverse effect on the economic and financial stability in any country. As it leads to reducing the ability of household to pay their debt, and hence, increase the default rates in the banks and the other financing institutions. The rise in this ratio limits the spending and consumption ability of household that in turn impact the economic growth negatively. The excessive real estate financing was one of the key reasons for the global financial crisis in 2007. It led to significant increases in house prices and gave the banks an untrue sense of safety when they lend money to their customers. This in turn led to a housing bubble and increased (the indirect) exposure of banks to this market. Banks also expanded the credit to household sector who were restrained by financial obligation that exceed their disposable income, therefore, they were unable to repay their debt, even after selling their mortgaged properties.

The five years preceding the year 2007 witnessed an increase in household debt relative to their income in the advanced economies by an annual rate of 39% to reach 138% in 2007. For example, the ratio of household debt to income increased to more than 200% in Denmark, Iceland, Netherlands and Norway. It also increased by significant rates in some emerging market economies like Estonia; it increased from 19% in 2000 to 88% in 2007. In Hungary, it increased from 18% in 2001 to 76% in 2010. Similarly, in Latvia, it increased from 9% in 2001 to 81% in 2010. The dual increase in housing prices and financial markets incorrectly revealed that the ratio of household indebtedness to their assets was generally stable. This in fact hid the accelerated exposure of households to the likely sharp drop in the value of their assets. Consequently, when the real estate prices dropped at the same time as the financial crisis, household's wealth declined relative to their debt- added to this the income losses because of the increased unemployment, it became challenging for the households to repay their debt installments. The real estate prices declined from a peak attained in 2007 to record a minimum at the end of 2011. For example, the cumulative decline reached to 41% in Ireland, 29% in USA and Spain and 21% in Denmark.

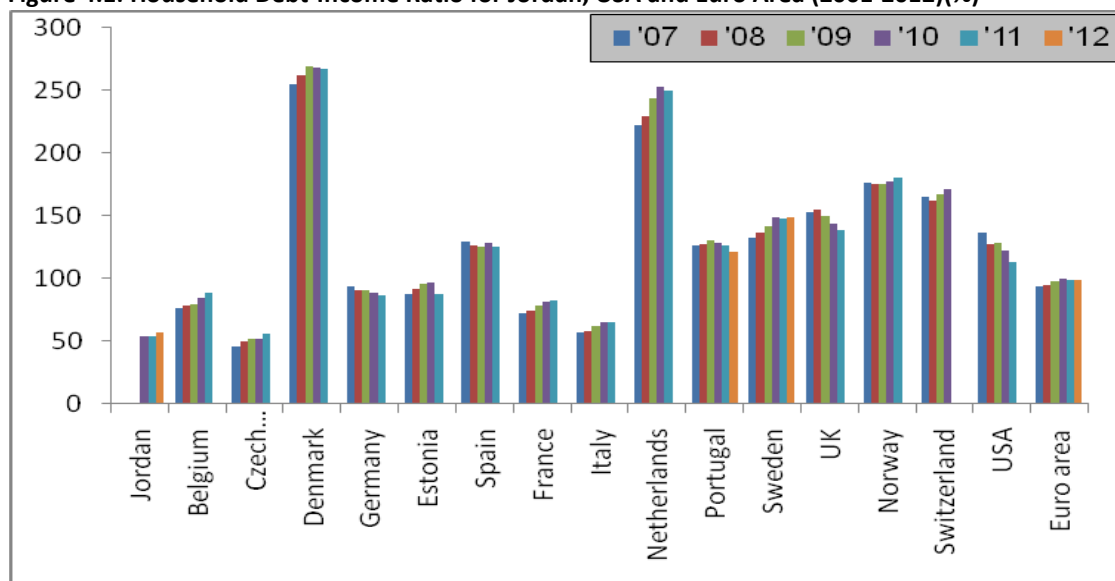
Housing busts preceded by larger run-ups in gross household debt are associated with significantly larger contractions in economic activity. The declines in household consumption and real GDP are substantially larger, unemployment increases more, and the reduction in economic activity persists for at least five years.

In the event a problem of over indebtedness of households occurs in the economy, the macro policies have a major role in reducing the impact and the worsening of the crisis. Examples of policies include the

solutions followed by Iceland in the present time, which increased the debt repayment period and thus alleviated the debt payments on individual borrowers to avoid bankruptcy. As an alternative solution, giving the households a portion of their contributions in the social security (such as the experience of the Scandinavian countries), which in turn raises per capita disposable income and enhances the household's ability to service debt, and thus reduces the likelihood of bankruptcy of individuals, and limits of the decline in real estate prices and the fall in aggregate demand.

The over indebtedness ratio of household was one of the key reasons of the financial crisis that took place during the period 2007-2011 in USA and Europe. Figure 1.4 shows the ratio of total household debt to their income in the European Union, USA and Jordan.

Figure 4.1: Household Debt-Income Ratio for Jordan, USA and Euro Area (2001-2012)(%)



Source: National Accounts of OECD Countries Organization for Economic Cooperation and Development (OECD).
Eurostat: http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:Household_debt-to-income_ratio

Figure 4.1 indicates that the ratio of household debt to income approximates to around 100% in the European Union. The ratio was 86% and 82% in the two major economies in the European Union: Germany and France, respectively. The ratio approximates to around 79%, on

average, in the European Union countries before the crisis during the period (2001-2005). Denmark witnessed the highest increase in the ratio from 180% in 2001 to 268% in 2011, followed by Netherlands, where the ratio increased from 152% in 2001 to 250% in 2011. However, the ratio started to decline after the crisis in the UK; it declined from 155.3% in 2008 to 138.5% in 2011.

Regarding the USA, the ratio of household debt to income rose from 100% in 2001 to 130% in 2007 before starting to decline to reach 110% in 2011.

Concerning calculating the household debt-to-income ratio, based on evidence in the world, it is calculated by dividing the balance (stock) of household debt that resulted from borrowing by their disposable income. The ratio measures the capacity of households to repay their debt from their disposable income.

Household debt in Jordan

Before establishing the Financial Stability Department at the CBJ in 2013, there was no entity in charge of monitoring the household debt in the financial system as a whole and ensuring the integrity of their financial position, besides their capacity to repay debt. After the establishment of the FSD, the interest increased in this issue since it is one of the risks that impact the financial system as a whole (systemic risk).

To calculate the household indebtedness in Jordan, we relied mainly on the household debt granted by the banking system, as it is the bulk of the financial system in Jordan. In addition to this, data were obtained for the household debt in the microfinance sector, lending public shareholding companies and leasing companies.

Household Debt in the Banking System

Table 4.1 shows the development of household debt in the banking system.

Table 4.1: Household Debt to the Banking System Including Housing Loans (2010-2012)

| JD Million | | | Growth Rate (%) | |
|------------|-------|-------|-----------------|------|
| 2010 | 2011 | 2012 | 2011 | 2012 |
| 4,863 | 5,446 | 6,374 | %12 | %17 |

Source: Central Bank of Jordan.

Household Debt in the other financial institutions

The household debt-to-income ratio was calculated for loans obtained from microfinance companies, leasing companies and the largest three lenders from the public shareholding companies.

Table 4.2: Household Debt to Other Financial Institutions (2010-2012)

| | 2010 | 2011 | 2012 |
|--|-------|-------|-------|
| Micro-Finance Institutions * | 65.0 | 79.5 | 101.8 |
| Financial Companies Enlisted in Amman Stock Exchange ** | 71.5 | 78.3 | 89.6 |
| Leasing Companies *** | 364.5 | 382.7 | 401.8 |
| Total | 501.0 | 540.5 | 593.2 |

Sources: * Annual Report of the Micro-Finance Institutions Network (Tanmiya). ** Amman Stock Exchange. *** A study by International Financial Corporation.

The household debt-to-income: Table 4.3 shows household debt and income during the period (2010-2012). Figure 4.2 shows also household debt-to-income ratio.

Table 4.3: Household Debt

| Year | Current Income (JD Billion) | Household Debt (JD Billion) | Household Debt to Income (%) | Household Debt to GDP (%) | GDP (JD Billion) |
|---------------------|-----------------------------|-----------------------------|------------------------------|---------------------------|------------------|
| 2007 | 6.8 | 2.7 | 40.20% | 22.40% | 12.1 |
| 2008 | 7.9 | 3.2 | 40.50% | 20.50% | 15.6 |
| 2010 ⁽¹⁾ | 10 | 5.4 | 53.60% | 28.60% | 18.8 |
| 2011 ⁽²⁾ | 11 | 5.9 | 54.40% | 29.20% | 20.5 |
| 2012 ⁽²⁾ | 12.1 | 6.9 | 57.50% | 31.70% | 21.9 |

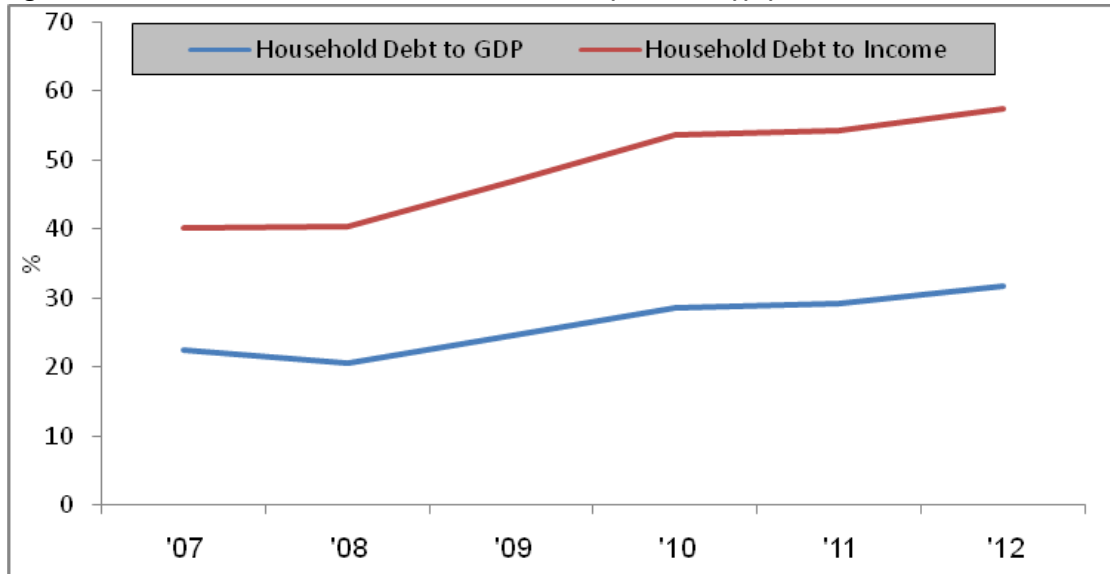
Sources:

(1) Department of Statistics, Household Income and Expenditures Survey for the year 2010.

(2) Based on the Assumption of a growth rate of household debt of 10.0% using the Household Income and Expenditures Survey Reports for the years 2002, 2006, 2008, 2010.

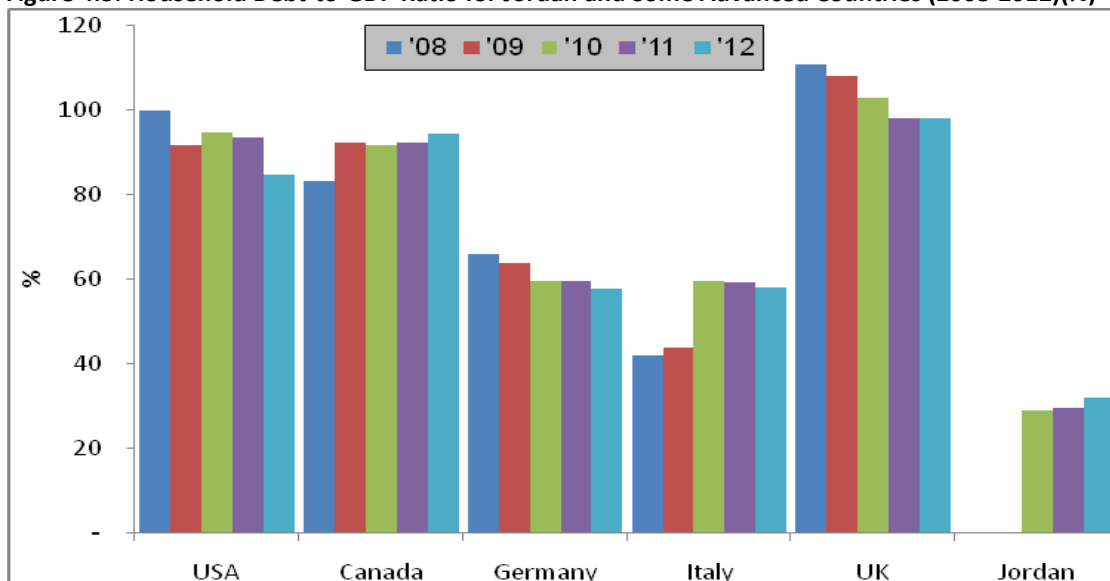
However, the actual debt-to-income ratio in Jordan might be higher than those calculated in Table 4.3 since the ratio of borrowing individuals to total population in Jordan is significantly lower than its counterpart in the advanced economies, where the access to finance reaches as high of 80%-90%, whereas this value in Jordan does not exceed 25%.

Figure 4.2: Household Debt to GDP and Income Ratios (2007-2012)(%)



The ratio of household debt-to-GDP in Jordan is relatively low in comparison with some European countries and USA (Figure 4.3).

Figure 4.3: Household Debt-to-GDP Ratio for Jordan and Some Advanced Countries (2008-2012)(%)

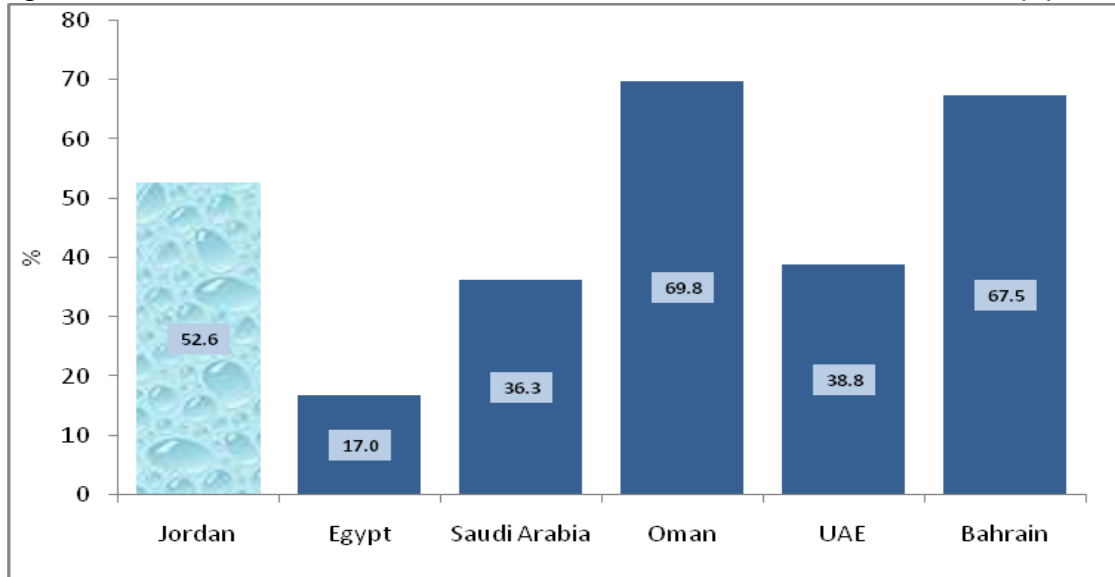


Source: Data for USA, Canada, Germany and Italy is from FRED.
Data for UK is from several working papers and European Commission publications.

Household debt in some Arab Countries

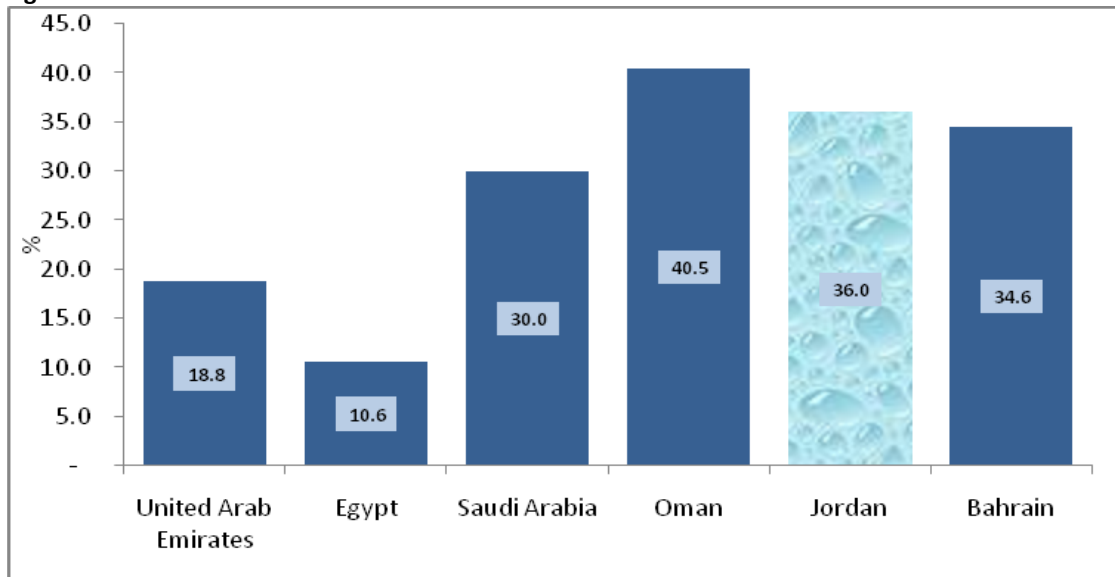
There is limited information about the household debt in Arab Countries. However, based on the available data, the household debt-to-income was calculated for some Arab Countries. As Figure 4.4 shows, this ratio is higher in Oman and Bahrain than Jordan, whereas it is lower in Egypt, Saudi Arabia and United Arab Emirates.

Figure 4.4: Household Debt-to-Income ratio for Jordan and Some Arab Countries as of 2012 (%)



Concerning the share of credit facilities extended to individuals from total credit, it reached 36% in Jordan. Compared to its counterpart in some Arab Countries, this share surpassed Bahrain, Saudi Arabia, United Arab Emirates and Egypt and fell behind Oman (Figure 4.5).

Figure 4.5: Household Debt-to-Income ratio for Jordan and Some Arab Countries in 2012



Household Balance Sheet in Jordan

Household Balance Sheet in the asset side is composed of deposits in local and foreign currencies, real estate and financial assets. In the liabilities side, the household debt is the key component of liabilities. To build the household balance sheet in Jordan, the data provided by the

CBJ has been used, namely household deposits in JD and foreign currency, besides the data available at the Securities Depository Center on the securities held by individuals. Regarding the real estate assets of households, there is no data available to date. Therefore, the financial assets of individuals (deposits, stocks and bonds) were used. Table 4.4 and Figure 4.6 show the household balance sheet and the ratio of household debt to wealth. As can be seen from Table 4.4 and Figure 6.4, the ratio household debt to wealth followed an upward trend since 2010 as is the case with the debt-to-income ratio

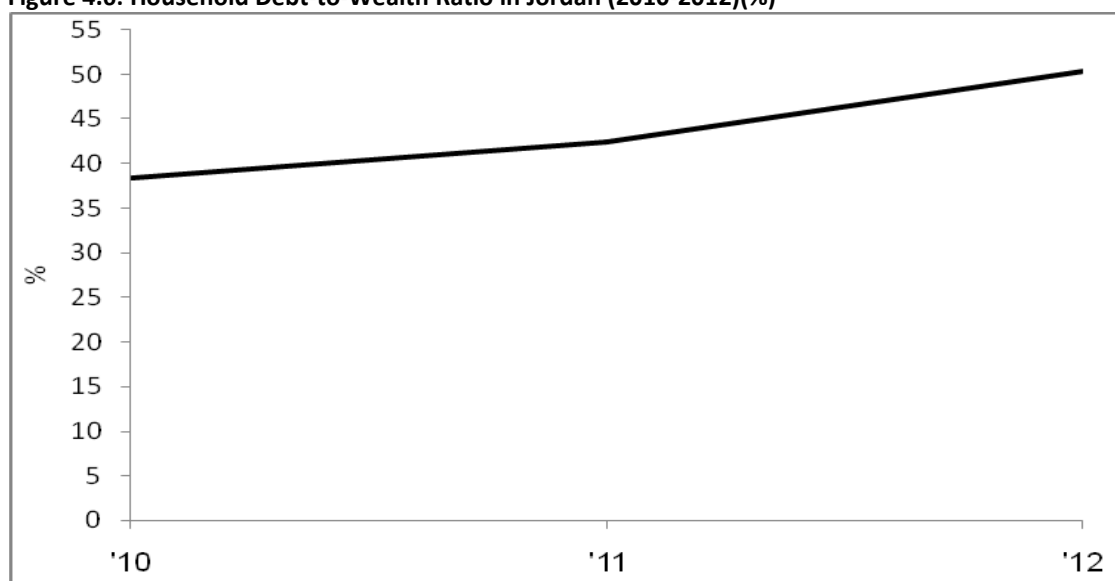
Table 4.4: Household Budget (2010-2012) (JD Million)*

| Year | Assets** | Debt | Net Wealth | Debt/Wealth (%) |
|------|----------|------|------------|-----------------|
| 2010 | 19349 | 5364 | 13984 | 38.40% |
| 2011 | 20092 | 5987 | 14104 | 42.40% |
| 2012 | 20810 | 6967 | 13842 | 50.30% |

* Unless otherwise indicated.

**Households' assets consist of deposits, stocks and bonds.

Figure 4.6: Household Debt-to-Wealth Ratio in Jordan (2010-2012)(%)



There are no benchmarks on the ratio of household debt-to-income in the world. However, based on the historical data for countries, it approximates to around 60%, which does not indicate the existence of a problem at the present time, specifically because of the conservative credit policy of banks. Despite this, the ratio has witnessed a continuous

increase since 2010. In this regard, the CBJ requested banks in its instructions of Treating Customers Fairly No. 56/2012 dated 31/10/2012 to adopt a credit policy such that excessive borrowing by small borrowers is restricted. The instructions requested the banks also to cap their retail portfolio credit policy (credit to individuals) by the maximum limits applied by them with regards to the total deductions from the regular income of any customer or guarantor for all credit extended or intended to be extended, including credit cards (Debt Burden Ratio (DBR)) for each type of retail credit portfolio. They must also release the calculation methodology clearly. The instructions also conditioned that any amendment in the variable interest rate does not violate the DBR limits that are determined in the credit policy. In addition, in case the clients became unable to repay installment and arrive to default stage, the CBJ requested the banks to comply with the condition that the total amount deducted does not exceed the preset DBR in the credit policy. Given that all banks – in accordance with these instructions – have provided the CBJ with their amended credit policies in compliance with the CBJ's instructions in order for the CBJ to review and check their compliance.

These instructions are expected to limit the imposition of unfair credit conditions (like the right to raise the variable interest rate), as they restricted the ability of banks from raising interest rates and, if raised, the change in the variable interest rate must link to the change in one of the interest rate indicators (monetary policy instruments announced by the CBJ or treasury bills interest rate or JODIBOR).

The CBJ hopes that the implementation of the aforementioned instructions to build a balanced relation between the banks and their

clients so that the rights of all parties are reserved, in order to protect banks' clients and enhancing the banking sector competitiveness, and also protect banks from reputational risks, and, hence, contribute to maintaining the safety and soundness of the banking system, and, consequently, the financial system.

It is worth mentioning that the establishment of the credit information company that is expected to function in 2014 will provide comprehensive credit information about banks' customers that will help the banks take the right credit decision that is built on a precise evaluation of the ability of customers to pay the debt and price banking services based on customers' risks, which reflects positively on risk management efficiency and improves access to finance, especially for SMEs, to access finance. The establishment of this company is expected to have positive impact on the financial stability in Jordan.

Conclusion

As mentioned at the beginning of this chapter, despite the banks tendency to provide credit to households has several advantages, the over indebtedness of households relative to the size of their wealth and disposable income has negative repercussions on the stability of the financial system. In Jordan, this ratio has witnessed an upward trend in the last few years. However, the ratio is well below its counterpart in advanced economies. Therefore, it does not notify of the presence of any difficulty in the current time- due to the conservative credit strategies adopted by banks. The CBJ will keep monitoring the evolution of this ratio and act according. The measures set by the CBJ recently through the treating customers fairly instructions are expected to have a positive impact on protecting customers and mitigating the risks of their indebtedness toward banks.

Chapter Five: Macroprudential Policy and Systemic Risk

Introduction

This chapter aims at defining the concepts of macro prudential policy and systemic risk. It also discusses briefly the key macro prudential policy instruments. In addition, the chapter analyzes the interaction of macroprudential policy and monetary policy as well as the other economic policies.

One of the most important lessons that are learnt from the global financial crisis that financial stability at the micro level of the banking system is insufficient to achieve financial stability at the macro level because of the so-called systemic risks that hit the whole financial system. This is the reason behind the importance of the macro - prudential policy that aims at mitigating the systemic risk and enhancing the resilience of the financial system to withstand shocks and address imbalances in order not to negatively impact the financial intermediation process to help allocating savings to finance feasible investment opportunities.

The financial crisis also showed that it is important for traditional economic policy-making to exceed fiscal and monetary policy as well as other economic policies to target achieving sustainable financial stability. The direct and indirect conventional and unconventional monetary policy tools could contribute in reducing systemic risks that threaten the stability of the financial system. In this regard the

importance of cooperation and coordination between different policies to achieve the desired objectives is crucial.

Despite the interaction of macroprudential policy with all other economic policies, its interaction with monetary policy has a special importance. Since the monetary policy objective is achieving monetary stability by targeting the banking system in particular and the financial system in general. Moreover, because the banking system is the bulk of the financial system, it is the targeted sector by the macroprudential policy. This chapter is basically a theoretical chapter aiming at defining the basic concepts related to the tasks of the FSD at the CBJ.

Macroprudential Policy

The macroprudential policy is defined as the policy under which systemic risk is identified, monitored and controlled to mitigate the accumulation of these risks and enhance the ability of the financial system to withstand shocks using a set of tools based on key indicators. For systemic risk, Bernanke (2009) defined it as "developments that threaten the stability of the financial system as a whole and consequently the broader economy, not just that of one or two institutions." The macroprudential policy gained a special focus after the 2008 global financial crisis.

Based on the classification set by the Committee on the Global Financial System with the BIS, the macroprudential policy instruments are classified in three main categories, capital-based instruments, liquidity-based instruments and asset-side instruments.

Capital-based instruments include countercyclical capital buffers, sectoral capital requirements and dynamic provisions; whereas liquidity-based instruments encompass net stable funding ratio and liquidity

coverage ratio. Asset-side instruments are loan-to-value ratio (LTV) and debt-to-income (DTI) ratio.

There is another classification of the macroprudential policy instruments set by the IMF. It divided the instruments into two main groups. One group is designed to mitigate systemic risk like the asset-side based tools. The other group of tools is designed to enhance the resilience of the financial system to withstand shocks like capital-based and liquidity-based tools.

It is vital to determine the appropriate timing to activate or deactivate the macroprudential policy instruments. The financial cycle is considered a very important indicator in determining the appropriate timing for operationalizing the macroprudential policy instruments. At the boom stage of the financial cycle, the macroprudential policy instruments must be activated, whereas at the bust stage, they must be released, besides selecting the appropriate tools to deal with systemic risk.

Systemic Risk

Systemic Risks are risks that affect the financial system as a whole.

Examples of systemic risks are:

1. Excessive credit growth that does not match the size of economic activity
2. High exposure to assets (stocks and real estate) that witness a large increase in its price (bubbles)
3. High exposure of over indebted household sector
4. High exposure to government debt
5. Reliance on non-stable funding sources

Table 5.1: Examples of systemic risks and monitoring

| Systemic Risk | Identification and Monitoring | Tools used to mitigate |
|--|--|--|
| Excessive credit growth (credit boost) | Credit Gap (comparing credit growth with GDP growth), comparing the credit-to-GDP ratio with its long-term average, analysis of credit growth at sectoral level | Countercyclical capital buffer, dynamic provisions, sectoral capital requirements and loan to deposit ratio. |
| Financial market exposure to bubbles asset markets | Assessing the existence of a bubble in the real estate market (increase in real estate price index, house prices to rent ratio, loan to value ratio and unemployment rate), assessing the presence of stock market bubble (increase in price index, price-earnings ratio, volatility , ...). Stress testing. | Imposing a cap on the loan to value ratio, reducing the levels of exposure to certain sectors (concentration limits). Increasing the risk-weights, raising provisions, raising the levels of capital in light of stress testing results. |
| High exposure of over indebted household sector | The ratio of household debt to income, household debt to wealth ratio and assets and liabilities of household sector. | Putting a cap on the ratio of household debt to income, restricting the loan to value ratio, restricting exposure to household sector, increasing the proportion of risk-weights (depending on the debt-to-burden ratio) and raising the levels of capital in light of stress testing results. |
| High exposure to government debt | Debt sustainability analysis, determining the impact on solvency or liquidity using stress testing. | Increasing risk-weights, raising provisions, raising the levels of capital in light of stress testing results. |
| Reliance on non-stable funding sources | Non-stable funding ratio and other liquidity ratios and liquidity stress testing. | Reducing the non-core liabilities when calculating loan-to-deposit ratio and raising the required reserve and liquidity. |

Monetary Policy and Macroprudential Policy Interaction

The macroprudential policy can influence the price and quantity of credit in the economy, which in turn is likely to affect overall economic activity. Credit is a key driver in managing monetary policy regardless of the goal of the policy. Similarly, real economic activity and interest rates influence systemic risk via their impact on the size of credit that is considered one of the most important factors that lead to the accumulation of systemic risk through its impact on variables such as asset prices and financial institution leverage.

Monetary and macroprudential policymakers base their decisions in practice on similar data, pointing to potential interactions. For example, financial conditions such as lending conditions and credit size are

important information sources for monetary policy, and would of course constitute core inputs to macroprudential policymaking. On the other hand, the macroprudential policymaker would also take the state of the business cycle and the stance of monetary policy into account in setting macroprudential instruments.

Regarding the question of whether macroprudential policy and monetary policy complement each other or conflict, **the macroprudential policy and monetary policy often complement each other rather than conflict**. More generally, from a historical perspective, financial crises tend to occur at a lower frequency than the business cycles. Consequently, most business cycles do not coincide with crises, which, since the beginning of financial liberalization, have occurred on average about once every 20–25 years in any given country. This suggests that, most of the time, monetary and macroprudential policy decisions are likely to be adjusted at different rates, and conflicts are not necessarily very likely.

The Interaction of Macroprudential Policy with Other policies

Macroprudential policies can also interact with other policies than the monetary policy. First, macroprudential and fiscal policies interact, as banks hold a large quantity of their own government's debt in many countries. Therefore, government sector balance sheets impact directly on the resilience of the financial system. In addition, weak government balance sheets can also adversely affect systemic risk by constraining the government's ability to provide support to the financial sector in times of stress.

Second, macroprudential policies also interact with competition policies. Earlier work found that greater competition increases risk-taking in the

banking sector, as this reduces the profitability and thereby franchise value of a bank, which in turn reduces a bank's incentive to act prudently. Yet competition also affects lending conditions, which may lower systemic risk. That said, more research on this issue is ultimately needed, to consider the interaction of macroprudential and competition policies. The role of shadow banking intermediation might open a door for greater competition to increase systemic risk due to a transfer of risks from the regulated and highly supervised banking system into the unregulated and unsupervised sector.