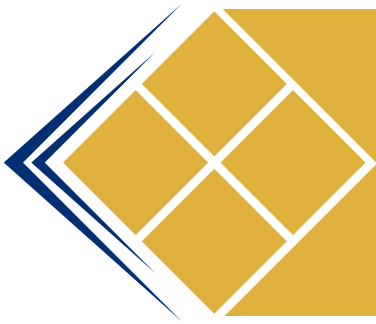




PALESTINE MONETARY AUTHORITY




Inflation Report

Second Quarter 2014

Volume 11

Research & Monetary Policy Department

August 2014



Copyright © PMA, August, 2014
All Rights Reserved.

Suggested Citation:
Palestine Monetary Authority (PMA), 2014.
Inflation Report: Second Quarter 2014.
Ramallah – Palestine

All Correspondence should be directed to:
Palestine Monetary Authority (PMA)
P. O. Box 452, Ramallah, Palestine.

Tel.: (+ 970) 2-2409920
Fax: (+ 970) 2-2409922
E-mail: info@pma.ps
www.pma.ps

Design & Artistic Direction:
Public Relations & Communication Dept.



Executive Summary

Inflation rate in Palestine reached 1.3 percent in the second quarter of 2014 compared with the second quarter of 2013. Inflation rate came lower than the rate registered in the previous quarter (2.2 percent), and even lower than the rate registered in the corresponding quarter of 2013 (1.8 percent). The rate is also much lower than the rate registered in the MENA region (around 10.0 percent), but higher than in Israel (0.8 percent). The analysis revealed that inflation in Palestine is largely imported and shows high sensitivity to world prices, particularly food and fuel.

The approach followed in this report for inflation analysis and forecasting purposes depends on two variables: (i) cost of imports, taking into account the inflation and exchange rates of Palestine's main trading partners, among which Israel accounts for the highest portion (82 percent of exports and 71 percent of imports in 2013) of Palestine's trade, and (ii) world food prices, as food has the highest weight in the consumer price index in Palestine.

Inflation forecasts show that consumer prices in Palestine are expected to increase by around 2.1 percent during 2014 on average. Moreover, prices are also expected to rise by around 2.5 percent during the third quarter of 2014 on a yearly basis. Forecasts depend on assumptions concerning the most likely future paths for (i) prices and exchange rates in Palestine's most important trading partners, and (ii) prices in the international food markets, as predicted by foreign international organizations such as the IMF and foreign central banks.

Given that Palestine's inflation may deviate from the baseline scenario, due to deviations in foreign prices and exchange rates, the forecast is supplemented with a risk analysis. Beside the baseline, the forecast takes into account four alternative scenarios based on positive and negative one standard deviation shocks in Palestine's cost of imports and world food prices. The expected effects on Palestine's alternative inflation outcomes show that a positive one-standard deviation shock in external conditions may increase Palestine's inflation to nearly 2.6 percent, on average, during 2014. On the other hand, a negative one-standard deviation shock may bring Palestine's inflation down to 1.6 percent during the same period.

As for the financial developments in Palestine, 2014Q1 data indicate that lending interest rates on NIS and USD have decreased compared to the previous quarter, while the rate on JD has increased during the same period. Looking at the deposit rate, while it slightly increased on USD and JD, it remained almost unchanged on NIS. In addition, the margin between lending and deposit rates in Palestine is relatively higher than in the countries who issue the respective currencies. The margin on USD and NIS declined to 5.24 percent and 9.95 percent, respectively during 2014Q1, whereas, the margin on JD has increased to 7.25 percent during the same period. Palestinian stock market performance fell back during 2014Q2; Al-Quds index declined by about 8.3 percent in 2014Q2 compared with preceding quarter, reaching 502.8 points.



Contents

Executive Summary	iii
I. Recent Economic Developments	1
Real GDP	1
Inflation and Prices	3
Aggregate demand	9
Labor force and wages	10
Exchange rates	11
II. Recent Financial Developments	11
Interest Rates	12
Stock market	15
III. Model Based Inflation Forecast	17
Inflation model and estimation technique	17
Baseline inflation forecast	19
IV. The Balance of Inflation Risk	21

I. Recent Economic Developments

Real GDP

Global economic growth showed a decline in the first quarter of 2014 due to the weak performance of the United States (US) economy and some emerging countries. The global economy grew by around 2.7 percent during 2014Q1 compared with 3.4 percent in the previous quarter and 2.5 percent in the corresponding quarter of 2013. Based on that, IMF marked down its projections for the global economic growth in 2014 by 0.3 (from 3.8 percent in April 2014 report to 3.4 percent in July update report). IMF expects the global economy to grow by 4.0 percent in 2015.

Advanced countries (AC) grew by 1.8 percent in 2014Q1 compared with around 2.0 percent in the previous quarter and 0.4 percent in the corresponding quarter of 2013. AC are expected to grow by 1.8 percent (0.4 percent lower than what was projected in April report) and 2.4 percent in 2014 and 2015 respectively according to the latest IMF World Economic Outlook (WEO)[1].

As for the US economy, the larger than expected inventory at the end of 2013 and the harsh winter stood behind the decline in demand, and caused exports to decline sharply and output to contract during the first quarter of 2014. In 2014Q1, US real GDP grew by 1.5 percent compared with around 2.6 percent in 2013Q4 and 1.3 percent in 2013Q1. IMF expects US economy to grow by 1.7 percent in 2014 (1.1 percent lower than what was projected in April report) and 3.0 percent in 2015.

The Euro area's (EA) economy continued growing for the second quarter, thanks to the good performance of the services sector. During 2014Q1, the EA economy grew by 0.9 percent, compared with 0.5 percent in 2013Q4 and -1.2 percent in 2013Q1. The EA economy is expected to grow by 1.1 percent and 1.5 percent in 2014 and 2015 respectively, according to the IMF.

The Japanese economy grew by 2.8 percent in 2014Q1 compared with 2.4 percent in the previous quarter and -0.1 percent in the corresponding quarter of 2013. IMF expects the Japanese economy to grow by 1.6 percent and 1.1 percent in 2014 and 2015 respectively, which are higher than what was expected in the previous report[2].

Emerging and developing countries (EDC) continued slowing down during 2014Q1. EDC grew by 3.4 percent in 2014Q1 compared with around 5.4 percent in 2013Q4 and 4.7 percent in 2013Q1. IMF expects EDC to grow by 4.6 percent and 5.2 percent in 2014 and 2015 respectively, which are lower than April expectations.

[1] IMF, World Economic Outlook Update, July 2014.

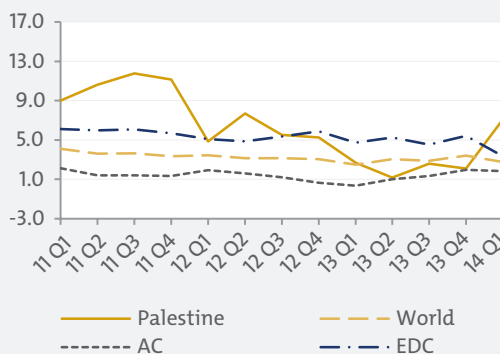
[2] IMF, World Economic Outlook, April 2014.

The Chinese economy grew by 7.4 percent in 2014Q1 compared with 7.7 percent in both 2013Q4 and 2013Q1. IMF states that the Chinese economy is expected to continue slowing down and to grow by 7.4 percent and 7.1 percent in 2014 and 2015 respectively.

Many countries in the Middle East and North Africa (MENA) region still suffer from several political and economic problems, like Iraq, Syria, Egypt, Libya, Yemen and Tunisia. MENA economies are expected to grow by around 3.1 percent in 2014 and 4.5 in 2015 according to the IMF.

Looking at the region, the Israeli economy grew in 2014Q1 by 3.5 percent compared with 3.7 percent in 2013Q4 and 2.8 percent in the corresponding quarter of 2013. The Israeli economy is expected to grow by 3.2 percent and 3.4 percent in 2014 and 2015 respectively according to the IMF. It should be noted that the impact of the Israeli aggression on GS is not included in the economic performance of Israel in this quarter.

Figure 1: Real GDP growth rates in the World and Palestine



Source: IFS, WEO, and PCBS.

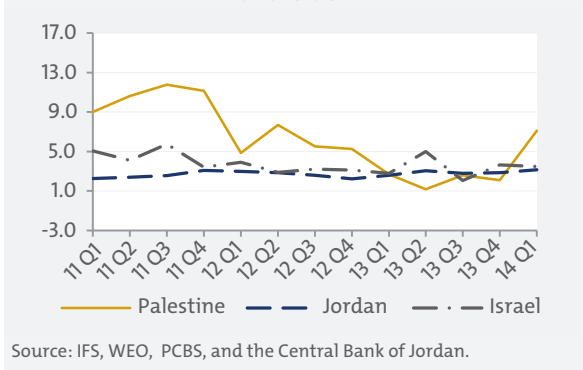
In Jordan, despite the regional conditions of the Syrian and Iraqi crises and its aftermath, the Jordanian economy has continued to recover slowly where real growth rate reached 3.2 percent in 2014Q1 compared with 2.9 percent in 2013Q4 and 2.6 percent in the corresponding quarter of 2013. The Jordanian economy is expected to grow by 3.5 percent and 4.0 percent in 2014 and 2015 respectively according to the IMF.

The Palestinian economy grew remarkably in 2014Q1, where real growth rate reached 7.1 percent compared with a growth rate of 2.1 percent in 2013Q4 and 2.7 percent in 2013Q1. This increase came due to the increase in WB. WB's real GDP grew by 9.9 percent in 2014Q1 compared with a growth of 0.4 percent in 2013Q4 and -0.6 percent in 2013Q1. On the other hand, GS's real GDP declined by 1.0 percent in 2014Q1 compared with a growth of 7.3 percent in 2013Q4 and 12.2 percent in 2013Q1.

The increase in WB's real GDP was the result of the increase in services production, beside the increase in internal trade, construction, and transportation activities. On the demand side, the increase in investment and government consumption stood behind the economic growth in the WB, where investment increased by 15.3 percent on an annual basis, while government consumption increased by 11.4 percent.

The decline in GS's real GDP came as a result of the huge decline in construction, transportation, agriculture, and public administration and defense activities. Regarding demand, although private consumption grew by 33.7 percent on an annual basis, the decline in investment by 78.6 percent and the increase in the trade balance deficit by 46.5 percent led Gaza's economy to shrink during 2014Q1.

Figure 2: Real GDP growth rates in Palestine, Jordan, and Israel

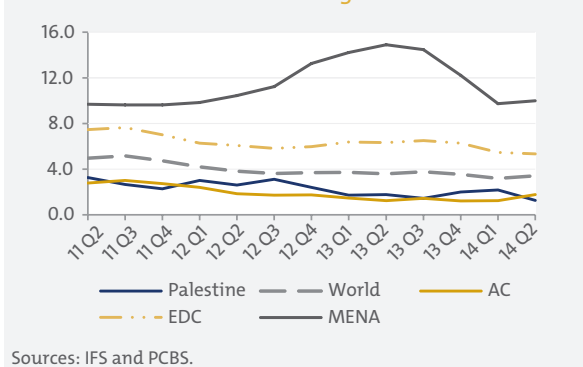


Inflation and Prices

Global inflation rate increased in the second quarter of 2014, mainly because of the increase in prices in the US. Figure (3) shows that the global inflation rate in 2014Q2 reached 3.4 percent, increasing compared with the previous quarter but declining compared the corresponding quarter of 2013.

Inflation rate in AC increased to 1.8 percent compared with 1.2 percent in both 2014Q1 and 2013Q2. Although inflation rate increased in the US, it declined in the EA compared with the previous quarter. Inflation in the US increased to 2.1 percent in 2014Q2 compared with 1.4 in 2014Q1. The bad weather, which hit US at the beginning of 2014, led to a decline in the supply of products and thus increased prices. In the EA, inflation rate continued to fall below the target (2 percent) since the end of 2010, reaching below 0.6 percent.

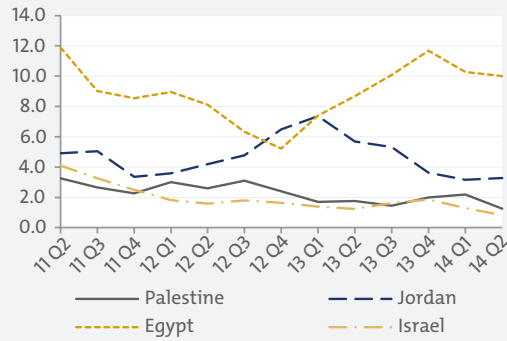
Figure 3: Average inflation rates in Palestine and other World regions



In EDC, the inflation rate declined slightly from around 5.5 percent in 2014Q1 to 5.3 percent in 2014Q2. MENA region suffers from high inflation rates, which are considered among the highest in the world. Inflation is expected to reach around 10.0 percent during 2014Q2 compared with 9.7 percent in 2014Q1 and 14.9 percent in 2013Q2.

Figure (4) compares the average annual inflation rate in Palestine with the neighboring countries (Jordan, Egypt, and Israel). As shown in the figure, the movement of inflation rates in Palestine is highly consistent with those in Israel and to a lower degree with Jordan and Egypt. In 2014Q2, Palestine's inflation rate declined to 1.3 percent compared with 2.2 percent in the previous quarter and 1.8 percent in the corresponding quarter of 2013.

Figure 4: Average y-o-y inflation rates in Palestine, Jordan, Egypt, and Israel



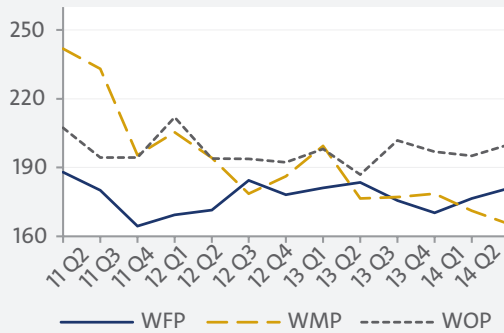
Sources: IFS and PCBS.

Inflation in Jordan increased slightly to 3.3 percent during 2014Q2 compared with 3.2 percent in 2014Q1, but declined compared with the corresponding quarter of 2013 (5.7 percent).

Inflation in Israel declined to 0.8 percent in 2014Q2 compared with 1.3 percent in 2014Q1 and 1.2 percent in 2013Q2. This rate is lower than the target level (13- percent) set by the bank of Israel.

The change in global, regional, and local inflation rates is mainly due to the change in commodity prices worldwide. Figure (5) shows that WFP increased in 2014Q2 by 2.5 percent compared with the previous quarter but declined by 1.3 percent compared to the respective quarter of 2013. This increase came as a result of the bad weather in the main food exporting countries mainly the US, which negatively affected the world supply of food.

Figure 5: Indices of primary commodity prices, 2005=100



Source: IFS.

WOP increased in 2014Q2 by 2.5 percent compared with the previous quarter and by 7.0 percent compared with the respective quarter of 2013. The reason for this increase is the on-going political problems in the MENA region beside the problem between Russia and Ukraine.

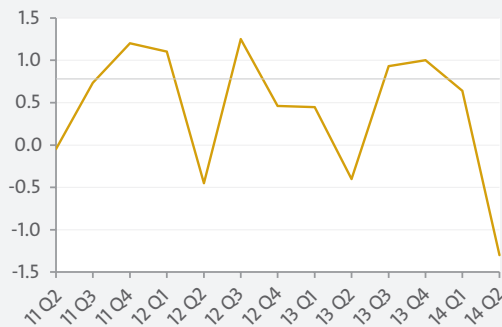
WMP has continued to decline since the beginning of 2014. In the second quarter of 2014, WMP declined by 3.4 percent compared with the previous quarter, and by 6.4 percent compared with 2013Q2.

As for quarter on quarter inflation rate, Palestine experienced a deflation of 1.3 percent in 2014Q2 compared with an inflation of 0.6 percent in 2014Q1. This deflation came as a result of the decline in prices in all regions in Palestine. In the GS prices declined by 2.2 percent and they declined in the WB and Jerusalem by 1.0 percent and 0.6 percent respectively. Data show that the main driver of the decline in prices is the decline in food and soft drinks prices, which declined on average in Palestine by 3.6 percent in 2014Q2 compared with the previous quarter.

As obvious from figure (6), the inflation in 2014Q2 is much lower than its mean, which is slightly less than 0.8 percent since 2008Q1.

Comparing the CPI in Palestine with the CPI in Israel and Jordan, table (1) shows that month on month average and standard deviation of the inflation rate in Palestine is less than that in Jordan and higher than in Israel.

Figure 6: Quarter on quarter inflation rate in Palestine



Among CPI categories, since 2012Q3 it is the first time that alcoholic beverages and tobacco price index did not have the highest inflation. During 2014Q2, medical care price index had the highest inflation rate with an increase of 8.5 percent compared with 2013Q2. Miscellaneous or other goods and services came in the second place with 8.1 percent. Alcoholic beverages and tobacco price index increased by 7.4 percent, then restaurants and cafes price index with 4.6 percent. Housing and education price indices increased by 4.2 percent and 0.7 percent respectively between 2013Q2 and 2014Q2.

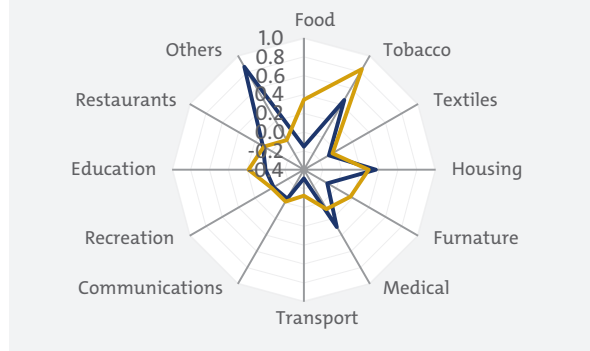
On the other hand, price indices of transportation, furniture, cultural goods, communications, textiles, and food and soft drinks declined by 2.6 percent, 2.2 percent, 2.0 percent, 1.8 percent, 1.6 percent, and 0.7 percent in 2014Q2 compared with the respective quarter of 2013.

Table 1: m-o-m average inflation rate and standard deviation in Palestine, Israel, and Jordan (January 2005 – June 2014)

	(%) Average	Standard Deviation
Palestine	0.27	0.61
Israel	0.19	0.44
Jordan	0.42	0.98

Figure (7) shows the contribution of the different broad CPI components to the inflation rate in the second quarter of 2014 compared with 2013Q2. The web chart indicates that miscellaneous goods and services price indices achieved the highest contribution to inflation rate, while transportation price index recorded the lowest contribution.

Figure 7: Web chart of the CPI components contribution to the y-o-y inflation rate in Palestine

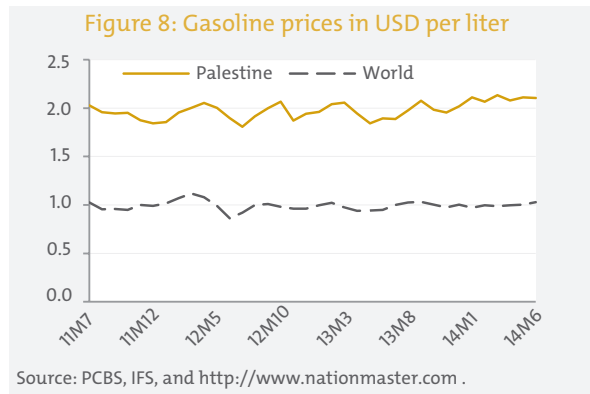


However, miscellaneous goods and services price indices contribution to inflation reached around 0.86 percentage point during 2014Q2 compared with -0.04 percentage point during 2013Q2. The contribution of transportation price index reached -0.31 percentage point during 2014Q2 compared with -0.13 percentage point during 2013Q2. Beside miscellaneous goods and services price indices, housing, medical care, and restaurants' contribution to inflation increased between 2013Q2 and 2014Q2. The contribution of all other categories declined between the same two periods.

Commodity prices in Palestine hit much higher levels than in the World. Looking closer at prices, the retail price of gasoline in Palestine is among the highest in the world. One liter of gasoline costs 7.3 NIS (»USD 2.1), which is more than double the world average price, USD 1.0 during 2014Q2.

Figure (8) shows that fuel prices in Palestine and the world are highly correlated. Gasoline prices in Palestine increased by 10.8 percent in 2014Q2 compared with 2013Q2, which coincided with an increase of world average price of gasoline of 7.1 percent. However, comparing with the previous quarter, gasoline prices increased by 2.6 percent in Palestine, while they declined by 0.3 percent in the world. This countercyclical behavior is mainly due to the exchange rate effect (gasoline prices in NIS declined in Palestine in 2014Q2 compared with 2014Q1).

Figure 8: Gasoline prices in USD per liter



Source: PCBS, IFS, and <http://www.nationmaster.com>.

The case is the same with other commodity prices like wheat, rice, and sugar. The prices of these commodities in Palestine are higher than the world prices. During 2014Q2,

wheat prices in Palestine were around 2.3 times the world prices, rice prices were around 3.6 times the world prices, while sugar prices were around 1.4 times the world prices.

Also important are some non-imported commodities like fresh chicken and beef meat. Palestine prices of these commodities are not sensitive to the world prices but are still much higher than world prices due to the high costs of production. Fresh chicken meat prices in Palestine were around 1.8 times the world price and beef meat prices were more than 3.2 times the world prices during 2014Q2.

The following table shows average prices of selected commodities in Palestine.

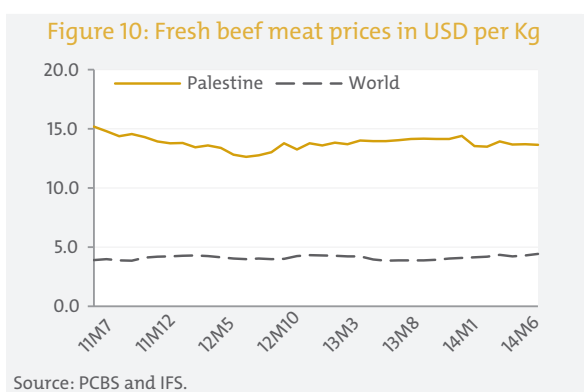
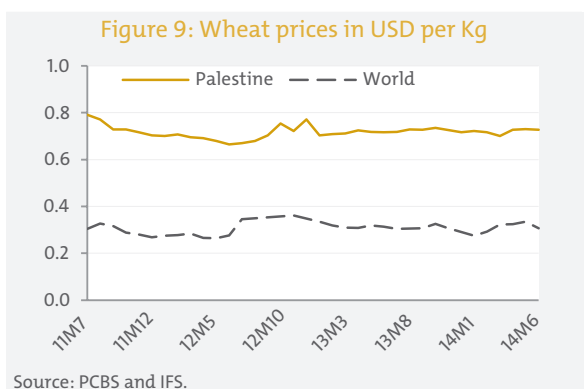


Table 2: Prices of selected commodities in Palestine NIS per unit[3]

	2013			2014	
	Q2	Q3	Q4	Q1	Q2
Wheat	156.7	155.5	153.6	149.6	151.5
Bread	3.8	3.8	3.8	3.8	3.9
Rice	104.5	103.8	103.5	109.6	127.4
Beef meat	50.7	50.5	50.1	47.7	47.4
Chicken meat	17.9	18.3	16.0	16.7	15.4
Powder Milk (Nido)	94.7	94.8	95.5	95.3	94.8
Yogurt (local)	4.8	4.8	4.8	4.8	4.7
Chicken Eggs	16.6	16.6	17.4	17.8	15.1
Tomatoes	2.3	2.2	3.8	3.1	2.4
Sugar	176.1	174.2	172.8	141.2	146.4
Gas	66.5	64.1	68.7	73.0	69.6
Diesel	6.1	6.3	6.4	6.7	6.6
Gasoline 95	6.9	7.1	7.0	7.4	7.3

Source: PCBS

[3] Unit for Wheat: 60 Kg sack; Bread: 1 Kg; Rice: 25 Kg sack; Chicken and Beef meet: 1 Kg, Powder Milk: 2.5 Kg can; Yogurt: 500 g can; 2 Kg box; Tomatoes: 1 Kg; Sugar: 50 Kg sack; Gas: 12 Kg cylinder, Diesel and Gasoline: 1 Liter.

Aggregate demand

Table (3) shows that the real GDP in Palestine reached USD 3,015.1 million in 2014Q1, increasing by 7.1 percent compared with 2013Q1 but declining by 0.6 percent, compared with 2014Q1. The year on year increase in real GDP is mainly attributed to the increase in private and government consumption and exports of goods.

Private consumption increased by 8.9 percent in 2014Q1 compared with the respective quarter of 2013, and increased by around 0.7 percent compared with the previous quarter. On the other hand, government expenditure increased by 3.4 percent in 2014Q1 compared with 2013Q1 and by 7.1 percent compared with 2013Q4.

Table 3: Aggregate demand at constant prices (2010=100)

	2013				2014
	Q1	Q2	Q3	Q4	Q1
Private consumption	2,379.8	2,630.6	2,590.8	2,573.9	2,591.7
Government expenditure	737.6	742.7	795.1	712.1	762.9
Investment	586.6	702.5	655.4	710.3	590.1
Exports	448.4	484.1	434.2	493	461.3
Imports	1338.0	1525.3	1451.8	1455.1	1497.6
GDP	2,814.4	3,034.6	3,023.7	3,034.2	3,015.1

Source: PCBS.

Investment, increased slightly by 0.6 percent compared with 2013Q1, but declined by 1.9 percent compared with the previous quarter. Exports increased by 2.9 percent in 2014Q1 compared with 2013Q1, whereas it declined by 6.4 percent compared with 2013Q4. Imports also increased remarkably by 11.9 percent in 2014Q1 compared with 2013Q1 and by 2.9 percent compared with 2013Q4.

Labor force and wages

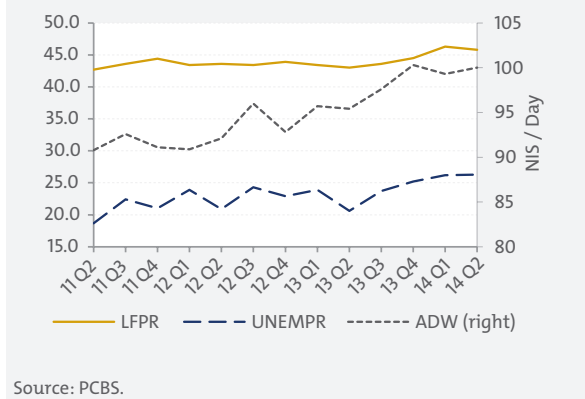
Labor force participation rate declined in Palestine during the second quarter of 2014 and reached 45.8 percent of the total number of persons aged 15 years and over[4] compared with 46.3 percent in the previous quarter, but was still higher than the respective quarter of 2013 (43.0 percent).

[4] The total number of persons aged 15 years and over in Palestine reached 2,726,600 in 2014Q2.

Unemployment rate increased to 26.3 percent in 2014Q2 compared with 26.2 percent in the previous quarter and 23.9 percent in 2013Q2. Looking at the geographical pattern of unemployment, the WB shows lower unemployment rates than GS, i.e., 16.0 percent in the WB, compared to 45.1 percent in GS in 2014Q2. It is worth mentioning that unemployment rate in WB declined compared with the previous quarter (18.2 percent), while in GS it increased (40.8 percent).

Average daily wages in Palestine increased slightly in 2014Q2 compared with previous quarter. ADW reached NIS 100.0[5] in 2014Q2 compared with NIS 99.3 in 2014Q1. When comparing the ADW based on work location, a big gap emerges between those who work in Palestine and those who work in Israel and settlements. ADW for those who work in Palestine reached NIS 81.9, versus NIS 184.3 for those who work in Israel and settlements[6]. On the other hand ADW in WB reached NIS 90.7 while in GS it reached NIS 61.4 in 2014Q2.

Figure 11: Labor force main indicators in Palestine



Source: PCBS.

Exchange rates

Figure (12) shows the nominal and real effective exchange rates (NEER and REER) in Palestine[7]. The discrepancy between the NEER and REER indicates that changes in inflation in Palestine relative to its trading partners contributed to the appreciation of the real exchange rate during this period. The appreciation of the NEER indicates that the NIS appreciated against Palestine trading partners' currencies, and the appreciation of the REER indicates that Palestine lost competitiveness against its trading partners[8].

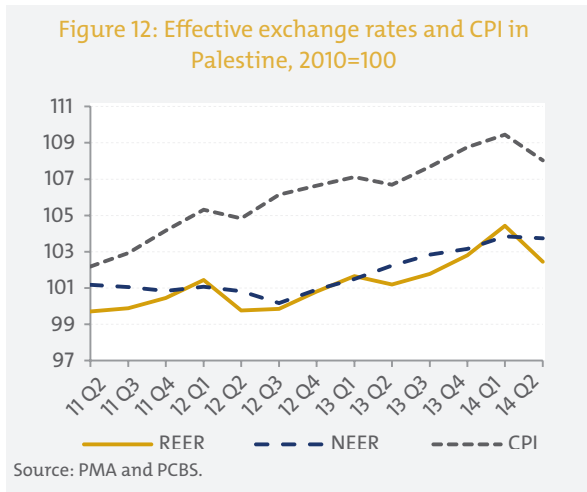
[5] This value includes the ADW of the Palestinian workers in Israel and settlements.

[6] An analytical study was conducted to explore the relation between aggregate demand, unemployment rate, and wages on the one hand and inflation on the other hand, but the results showed no statistically significant relationship between these variables and inflation in Palestine. These results prove that the inflation in Palestine is imported and influenced by external factors more than by internal conditions.

[7] The NEER provides a weighted average of a country's nominal bilateral exchange rates, indexed on a chosen base year; The REER corrects the NEER for relative price developments.

[8] NIS is the currency used in the calculation of the CPI and thus NEER and REER.

Data show that the NEER increased by 1.5 percent in 2014Q2, compared with 2013Q2 which indicates that the NIS depreciated against Palestine trading partners' currencies. The REER increased by 1.3 percent in 2014Q2, compared with the 2013Q2, which indicates that Palestine lost some competitiveness against its trading partners. On the other hand, cost of imports (CIM) did not change during the same comparative period.



It is worth mentioning that Palestinian foreign trade is substantially affected by restrictions and other obstacles imposed by the Israeli occupation, and its effects on trade is much stronger than the effect of changes in NEER and REER.

II. Recent Financial Developments

This section focuses on interest rates developments in Palestine, as well as the main developments in the Palestinian stock market, and compares them with those in the global and regional markets.

During 2014Q1, lending interest rates on NIS and USD have decreased, while the rate on JD has increased during the same period. Looking at the deposit rate, while it remained unchanged on NIS, it increased slightly on JD and USD, compared to 2013Q4. The Palestinian stock market fell back during 2014Q2 compared with the previous quarter.

Interest Rates

The historical trend of relatively high lending rates compared with low deposit rates continued for this quarter as well. Data indicates that lending rates in Palestine are relatively higher, while deposit rates, except for the USD, are relatively lower, than the rates in countries of origin of respective currencies. Lending rates on the NIS and USD currencies circulating in Palestine are more than double their counterparts in the countries of origin. Whereas lending rate of the JD was almost equal in both Palestine and Jordan.

Lending rate on USD has declined, for the third consecutive quarter, by around 100 basis point, reaching 6.01 percent during 2014Q1. IMF data indicate that lending rate on USD in USA was relatively stable at about 3.25 percent during the same period.

Lending rate on NIS in Palestine has decreased by about 60 basis points, to 11.35 percent in 2014Q1. Notwithstanding, NIS interest rate in Palestine remained relatively high compared with its counterpart in Israel, which reached about 4.18 percent.

The high NIS lending rate is mainly due to the intensive use of NIS in daily transactions, which increases the demand for it. In addition to that is the high cost of transferring NIS between the Israeli corresponding banks and the banks operating in Palestine.

In contrast, lending rate on JD loans in Palestine has went back to increase again after a gradual decline during the last quarter, reaching 9.38 percent during 2014Q1.

As for deposit rates, deposit rate on USD in Palestine (0.77 percent) remained higher than the rate in USA (0.76 percent)[9], for the second consecutive quarter. As for

Figure 13: Nominal lending and deposit rate of USD

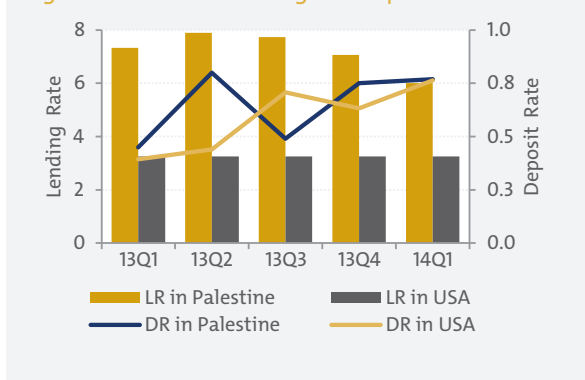


Figure 14: Nominal lending and deposit rate of NIS

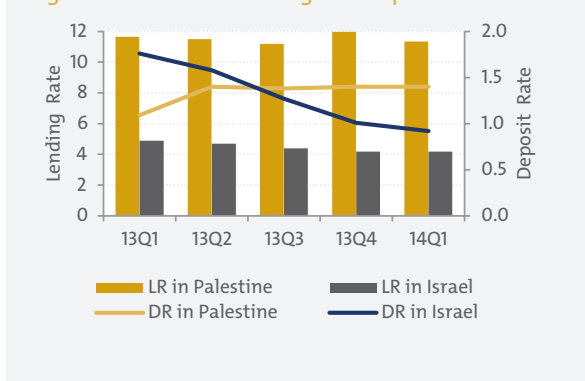
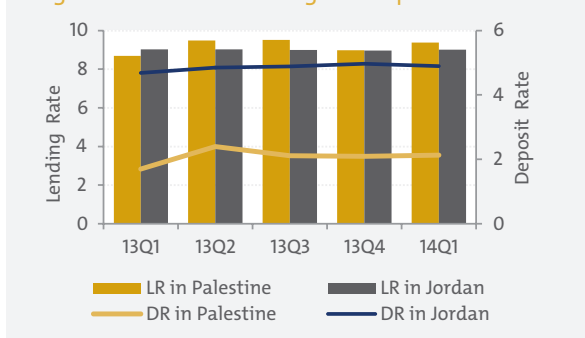


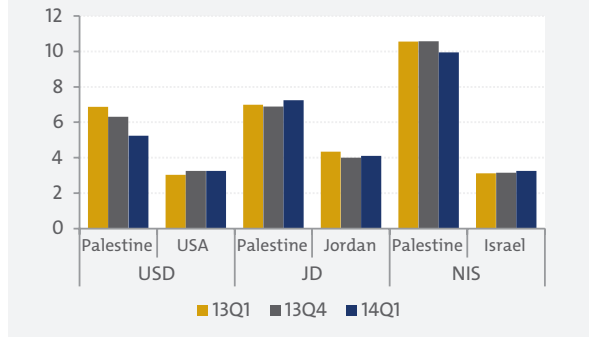
Figure 15: Nominal lending and deposit rate of JD



[9] Interest rates on government securities, and government bonds in the short-term, were used as a proxy for the deposit rate in USA.

deposit rate on NIS in Palestine, it remained unchanged (1.40 percent) during 2014Q1 and was higher than the rate in Israel (0.92 percent). This might be attributed to official efforts to lower the deposit rate in both USA and Israel, in order to preserve the economic competitiveness of their goods and services in the global markets.

Figure 16: Margins between lending and deposit rates in Palestine compared with issuing countries



On the contrary, deposit rate of JD in Palestine remained less than its level in Jordan; while banks in Palestine paid around 2.13 percent on JD deposits in 2014Q1, banks in Jordan paid around 4.90 percent during the same period. This might be attributed to the high deposit rate paid by CBJ, in order to preserve the JD value.

The overall result reveals that the margins between the lending and deposit rates are remarkably higher and more volatile in Palestine than the margins in the issuing countries.

As for real interest rates[10], it's shown that real lending rates are always positive and high. While, on the contrary, real deposit rates are negative, except for JD during the past quarters.

Figure 17: Real lending and deposit rates in Palestine by currency.

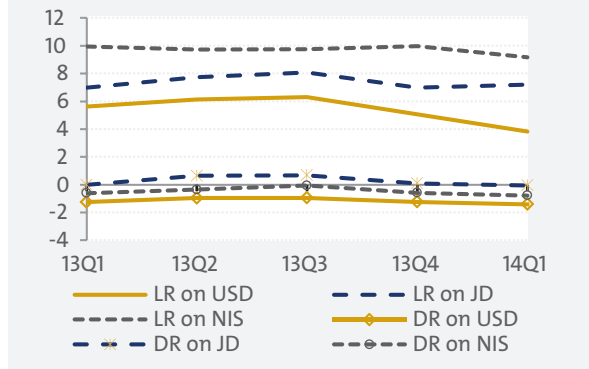


Figure (17) shows the following characteristics: Real deposit rate on JD is slightly less than zero (-0.05 percent), after being positive for three consecutive quarters. The negative real deposit rate implies that the real value of JD deposits deteriorated during 2014Q1. On the other hand, the purchasing power of USD and NIS deposits continued to decrease, as real deposit rates declined to -1.41 percent and -0.78 percent, respectively. Real lending rates are always positive, implying that the real value of banks' lending is increasing overtime, when purchasing power is taken into consideration. Real deposit rates are convergent; while real lending rates are divergent.

[10] Fisher's equation; $(1 + \text{nominal interest rate}) = (1 + \text{real interest rate}) * (1 + \text{expected inflation rate})$.

Stock market

Palestinian stock market performance declined during 2014Q2 after consecutive increments during the last few quarters. Al-Quds index declined by 8.3 percent during 2014Q2 compared with 2014Q1, but increased by 10.4 percent compared with 2013Q2, and reached 502.8 points.

The performance of all sectors fell back during 2014Q2 compared to 2014Q1. Investment sector dropped by around 12.2 percent during 2014Q2, reaching 26.7 points. Banking sector dropped by about 4.2 percent to reach 117.5 point during the same period (Table 4).

Table 4: Al-Quds index and the share price indices

	2013			2014	
	Q2	Q3	Q4	Q1	Q2
Banking	108.4	109.4	119.4	122.8	117.5
Industry	63.1	65.4	66.8	69.3	66.9
Insurance	44.9	44.6	44.5	46.2	44.9
Investment	18.5	20.7	23.9	30.5	26.7
Service	45.6	46.9	50.4	50.6	47.3
Al-Quds	455.4	470.7	541.5	548.4	502.8

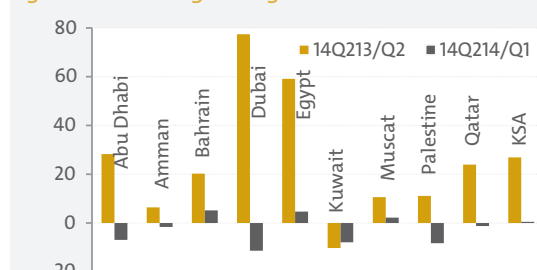
Source: www.pex.ps

The performance of stock markets of some selected Arab countries varied during 2014Q2 compared with 2014Q1. Bahrain stock exchange led the gaining countries by almost 5.2 percent increment, followed by a notable improvement in Egypt stock market with a growth by 4.6 percent, during the same period. On the contrary, Dubai stock market was the biggest loser by a decline of 11.4 percent, followed by Kuwait stock market, which declined by 7.9 percent. However, except Kuwait stock market, all of the stock markets of the selected countries have made profits on the basis of annual comparison.

The general index in 2014Q2 compared with 2013Q2 has increased by 77.4, 59.1, and 28.2 percent, in Dubai, Egypt, and Abu Dhabi, respectively.

Figure (18) summarizes the percentage change of stock market indices in some selected Arab countries during 2014Q2.

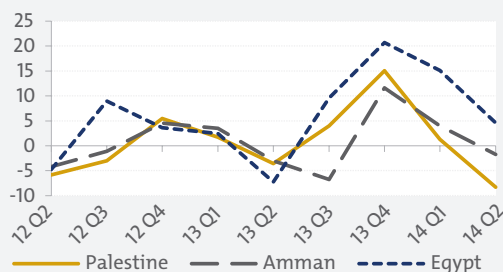
Figure 18: Percentage change in selected Arab stock markets



Source: <http://www.gulfbase.com>; <http://www.ase.com.jo>
<http://www.egx.com.eg>

Data revealed that Palestinian stock market is significantly affected by both Amman and Egypt stock markets. The effects of other Arab stock markets were tested and showed insignificant influence on the Palestinian market. Figure (19) shows the quarter over quarter growth rate of the general index.

Figure 19: Stock markets performance in Palestine, Amman, and Egypt during 2012Q2 – 2014Q2



Source: <http://www.ase.com.jo>; <http://www.egx.com.eg>

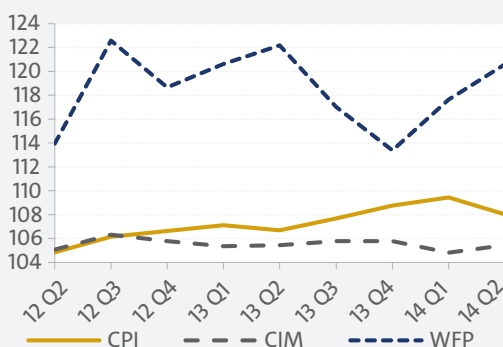
III. Model Based Inflation Forecast

Inflation model and estimation technique

The consumer price index (CPI) calculated by the PCBS is expressed in NIS, which is the main instrument used for retail transaction purposes. This implies, in fact, that the past and current monetary arrangement in Palestine resembles the case of a perfectly fixed exchange rate. It also implies that, in the long run, and in a reduced form sense, the main determinant of inflation is related to the cost of imported goods and services.

Analysis shows that the CPI in Palestine is co-integrated with (i) the CIM, which is a weighted average cost of imports, expressed in NIS, and calculated regularly by the PMA, and (ii) the world food price index. The importance of WFP is related to the high weight food occupies in the CPI basket in Palestine[11].

Figure 20: CPI, CIM, and WFP



Given the existence of a co-integrating vector between these variables and the CPI, the question arises as to how this long-run relationship is best estimated, and how to model the short-term dynamics that explain how fast shocks to this long-run relationship are corrected over time to bring the CPI back to its long-run equilibrium value.

[11] For more details about inflation determinants in Palestine, see Palestine Monetary Authority (PMA), 2011. Inflation Report 2010: April.

In this respect, long-run and short-run relationships are estimated using three different approaches, which are: the Johansen's (1991, 1995) system-based reduced rank approach, which is frequently used as the preferred co-integration and modeling technique. The estimated VECM in which the world food price index is treated as an exogenous variable gave the following results on the inflation equation:

$$\Delta \text{LCPI}t = -0.174 \text{VVECM}, t + 0.176 \Delta \text{LCPI}t-1 - 0.366 \Delta \text{LCPI}t-2 + 0.172 \Delta \text{LCPI}t-3 + 0.194 \Delta \text{LCIM}t-1 + 0.013 \Delta \text{LCIM}t-2 - 0.114 \Delta \text{LCIM}t-3 - 0.136 + 0.033 \text{LWFPT}$$

Where VVECM, t is the long run co-integration vector and is estimated as:

$$\text{VVECM}, t = \text{LCPI}t - 1.020 \text{LCIM}t + 0.169$$

The second approach is the ARDL test which is based on Pesaran, Shin (1999) and Pesaran, Shin, Smith (2001). This technique is especially suited for our reduced form equation approach and has several other advantages. The test is based on a single ARDL equation, rather than on a VAR as in Johansen, thus reducing the number of parameters to be estimated. Also unlike the Johansen approach, the restrictions on the number of lags can be applied to each variable separately. Furthermore, the ARDL approach also does not require pre-testing for the order of integration (0 or 1) of the variables used in the model. The following is the estimated ARDL model.

$$\Delta \text{LCPI}t = 0.001 - 0.140 \text{VARDL}, t + 0.301 \Delta \text{LCPI}t-1 - 0.236 \Delta \text{LCPI}t-2 + 0.403 \Delta \text{LCIM}t + 0.055 \Delta \text{LWFPT} - 0.005 \text{SD1} - 0.010 \text{SD2} - 0.006 \text{SD3}$$

Where VARDL, t is the long-run levels relation and is estimated as:

$$\text{VARDL}, t = \text{LCPI}t-1 - 0.704 \text{LCIM}t-1 - 0.306 \text{LWFPT}-1$$

As can be seen, the sum of both cost components in the above equation is close to unity, which is in accordance with theoretical expectation.

As mentioned by Pesaran, Shin, and Smith, the ARDL estimation procedure is directly comparable with the semi-parametric Fully Modified OLS approach (FMOLS) of Phillips and Hansen (1990). The following estimated levels CPI inflation equation with FMOLS is obtained:

$$\Delta \text{LCPI}t = 0.010 - 0.137 \text{VFMOLS}, t + 0.303 \Delta \text{LCPI}t-1 - 0.237 \Delta \text{LCPI}t-2 + 0.401 \Delta \text{LCIM}t + 0.055 \Delta \text{LWFPT} - 0.005 \text{SD1} - 0.010 \text{SD2} - 0.006 \text{SD3}$$

Where VFMOLS, t is the long run equation reads as:

$$\text{VFMOLS}, t = \text{LCPI}t-1 - 0.684 \text{LCIM}t-1 - 0.311 \text{LWFPT}-1$$

As can be seen, the FMOLS results are much closer to those obtained with the ARDL approach.

Baseline inflation forecast

The objective is to use the basic inflation model to generate a quantitative CPI outlook for the current and next years on a quarterly basis, that is over the period 2014Q3 till 2015Q4. To that end, a baseline scenario for the exogenous variables CIM and WFP is needed. The CIM is basically the denominator of the REER index calculated by the PMA. The baseline scenario for the CIM was derived from the VECM. Thus CIM is assumed to increase by 0.3 percent in 2014 and by around 1.8 percent in 2015.

The most recent forecasts coming from the IMF state that food prices will decline in 2014 compared with 2013 and will continue declining in 2015. According to this, world food prices will decline by around 0.1 percent in 2014 and decline by around 4.0 percent in 2015.

The estimation of the basic inflation model, according to the three mentioned estimation techniques[12], combined with the common baseline growth rates for the CIM, and the WFP as explained in table 5, result in an inflation forecast of 2.5 percent on average, for 2014Q3 as compared to 2013Q3.

As is well known, the use of econometrically estimated models to forecast future inflation is subject to model and coefficient uncertainty. To reduce this specific uncertainty, the baseline CPI outlook for 2014 and 2015 is forecast as the simple average of the three models, which results in a forecast of 2.1 percent and 1.6 percent increase of CPI on average during 2014 and 2015 respectively.

Table 5: y-o-y inflation outlook of the three models

	Assumptions		Inflation Forecasts			
	CIM	WFP	VECM	ARDL	FMOLS	Aveg
2013*	0.33	1.10	1.73	1.73	1.72	1.73
14Q1*	-0.53	-2.48	2.18	2.18	2.18	2.18
14Q2*	0.00	-1.30	1.26	1.26	1.26	1.26
14Q3	0.21	0.75	2.84	2.32	2.30	2.49
14Q4	1.57	2.70	2.48	2.61	2.59	2.56
2014	0.32	-0.13	2.19	2.10	2.08	2.13
15Q1	2.26	-1.91	2.01	2.43	2.40	2.28
15Q2	1.73	-5.21	1.63	1.03	1.00	1.22
15Q3	1.81	-4.64	1.18	1.03	0.91	1.04
15Q4	1.26	-4.16	1.88	1.76	1.63	1.76
2015	1.76	-3.99	1.68	1.57	1.49	1.58

* Actual data.

[12] VECM, ARDL, and the FMOLS.

It is worth mentioning that these forecasts are slightly lower than our previous forecasts (2.2 for 2014 and 1.8 for 2015), which was published in issue 10.

The above-mentioned baseline forecasts took into account the Israeli attack on Gaza Strip, which will lead to an increase in prices in the Strip, and thus higher inflation. Otherwise, inflation in Palestine would be around 1.3 percent in 2014.

IV. The Balance of Inflation Risk

Apart from the abovementioned risks of model uncertainty, the CPI outlook also crucially depends on the assumptions concerning the course of the exogenous variables used in the model forecast, which exclusively refer to external conditions as implied by foreign inflation trends, bilateral exchange rates of the NIS and the world food market prices.

We evaluate the risks for the CPI outlook stemming from potential shocks in these external conditions, by setting up 4 alternative scenarios, resulting from all possible combinations of positive and negative 1 standard deviation shocks in the baseline growth rates of CIM and WFP.

These results demonstrate that taking a one Standard Deviation (1SD) shock may not fully reflect the implied risk. Because of the existence of excess kurtosis^[13], the probability distributions are leptokurtic, implying that the occurrence of extreme shocks has a probability that is higher than one would expect on basis of a normal distribution.

Table 7: Baseline and risk analysis of the CPI in Palestine for 2014 and 2015

(Percentage point)

	Δ LCIM	Δ LWFP
Mean	0.006	0.008
Median	0.005	0.010
Maximum	0.067	0.159
Minimum	-0.028	-0.294
Std. Dev.	0.014	0.063
Skewness	1.440	-1.317
Kurtosis	7.913	9.121
Sum	0.438	0.531
Sum Sq. Dev.	0.013	0.272
Observations	68	72

[13] Kurtosis measures the peakedness or flatness of the distribution of the series.



Table 6: Descriptive statistics for Δ CIM and Δ WFP

Scenario	Shock	Implied annual growth rate CIM		Implied annual growth rate WFP		Implied inflation forecast	
		2014	2015	2014	2015	2014	2015
1	Baseline	0.3	1.8	-0.1	-4.0	2.1	1.6
2	+1SD CIM +1SD WFP	1.1	5.5	3.3	13.2	2.6	5.4
3	+1SD CIM -1SD WFP	1.1	5.5	-3.4	-19.1	2.2	1.3
4	-1SD CIM +1SD WFP	-0.4	-1.9	3.3	13.2	2.1	1.7
5	-1SD CIM -1SD WFP	-0.4	-1.9	-3.4	-19.1	1.6	-2.2

Together with the baseline, the scenarios can be identified as follows:

The results of this scenario analysis are mentioned in table (7). They indicate that, given the assumptions, the average inflation forecasts during 2014 range between 1.6 percent and 2.6 percent with 2.1 percent as the central baseline outlook. In 2015, the average inflation forecasts are expected to range between -2.2 percent and 5.4 percent with 1.6 percent as the central baseline outlook.

Figure 21: Scenario assumptions for CIM and WFP

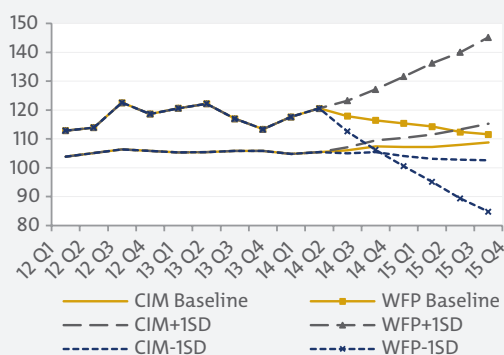
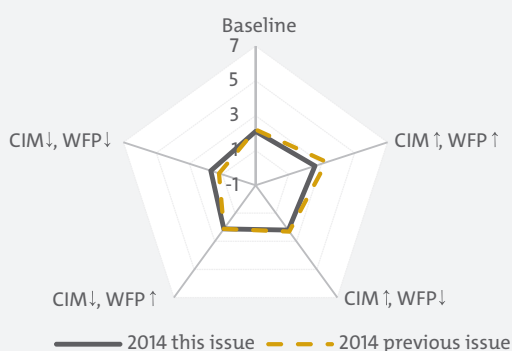


Figure (22) shows the risk analysis of inflation in Palestine during 2014 compared with the risk analysis predicted in the previous issue for 2014. As can be seen from the figure, scenarios 3 and 4 give close results to the baseline forecast. Scenarios 2 and 5 entail upside and downside outliers respectively. The figure shows that the risk declined compared with our risk analysis presented in the previous issue.

Figure 22: Web chart of the balance of Palestine's y-o-y inflation risk

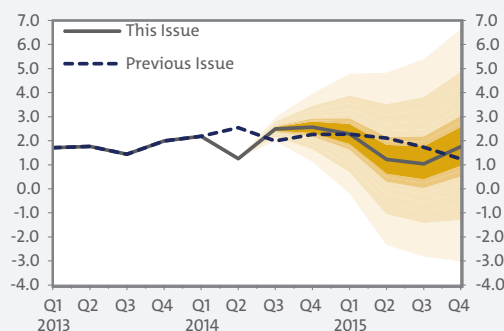


The upside risk to the inflation forecast is clearly related to a higher expected risk in world food prices, combined with a higher inflation in Palestine’s main trading partners compared to what is assumed in the baseline. Conversely, inflation in Palestine may turn out to be considerably lower than predicted in the baseline in case world food prices, together with inflation in the main trading partners, turn out to be lower than expected.

Apart from model uncertainty and uncertainty related to external conditions, the inflation outlook for Palestine also hinges on potential specific shocks that may perturb the economic and political conditions in Palestine itself, which are independent of shocks occurring in the rest of the world. An example of such shocks was the current Israeli attack on Gaza Strip, which will lead to further rises in prices in the future.

Figure (23) shows the fan chart of the balance of Palestine’s inflation risk during 2014Q3 – 2015Q4. This fan chart contains the quarterly profile of the baseline inflation forecast mentioned above. The risk parameters start from a standard deviation equal to 0.2 for the second quarter of 2014, which is based on the inflation volatility observed during the most recent years. It then rises up to 2.6 for the fourth quarter of 2015, reflecting the fact that uncertainty rises with the forecasting horizon.

Figure 23: Fan chart of the balance of Palestine inflation risk during 2014Q3 – 2015Q4



It should be mentioned that the range of the potential outcomes is fairly broad, reflecting the uncertainty of the forecast which is the consequence of all risk factors mentioned above, including the country specific ones (the Israeli attack on Gaza Strip). It should also be mentioned that the most likely outcomes for the predicted inflation are situated in the darkest shaded regions of the chart. The weaker the shading in the chart, the smaller the perceived probabilities of these potential outcomes.

