PALESTINE MONETARY AUTHORITY

# Inflation Report

## First Quarter: 2018

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Executive Summary

# Foreword

On behalf of the PMA, I am honored to present the new version of the Quarterly Inflation Report, which comes in line with the PMA's duties and responsibilities to monitor and analyze changes in key macroeconomic indicators, such as growth, inflation, budget deficit, external current account, etc.

The importance of the publication of the inflation report reflects the fact that inflation, to a significant extent, represents a monetary phenomenon, as the increase in money supply, oftentimes, leads to a corresponding increase in the general price level. Actually, the causes of inflation, measures to counter it and variable and divergent consequences on various economic sectors and social strata remain a noteworthy subject of economic research. Generally, inflation is disadvantageous to economic agents relying on fixed incomes like workers, employees, and other wage earners, while it favors those with unsteady income, like producers and merchants. Consequently, inflation can have damaging effects in both cases: (1) a rapidly rising inflation, which serves the interests of producers rather than consumers (as is the case historically, and for most developing economies), and (2) a decreasing inflation that disfavors output prices and subsequently dampens profits and growth rates (as is currently the case in most Euro Area countries and Japan). Suffice it to say that (a) monetary stability (controlling the inflation rate); (b) financial stability (maintaining the soundness of the banking and non-banking financial sectors); and (c) contribution to increased growth, reduced unemployment and sustained economic development, respectively, represent the most important goals of the PMA and central banks in general.

The Inflation Report the PMA publishes includes four main sections which address: (1) the most salient global, regional and domestic economic developments including real growth, aggregate demand, employment and price movements; (2) financial developments such as changes in interest rates on currencies circulating in Palestine; (3) the performance of the local financial market in comparison with its Arab counterparts; and (4) inflation forecasts over future periods and analysis of local and external risks that may affect or be affected by the forecast inflation rate. Generally, the inflation rate in Palestine remain relatively low, as it continues to be chiefly imported and mainly affected by global prices, particularly for food and fuel whose sagging prices led the decline in local inflation rates.

The Quarterly Inflation Report, the Annual Economic Report, the Economic Forecasts Report, the Quarterly Economic Developments Report, and the annual Financial Stability Report constitute PMA's most important economic publications. These reports have been generally well-received by other central banks, local and international financial institutions, researchers, academics and decision-makers. Furthermore, they are highly relevant to Palestinian producers and consumers alike, as they provide credible and vital data and information, specially for setting the annual wage and salary increases, and overall budget revenues and expenditures.

Finally, I am grateful to the PMA's executive board members, and staff for their diligent efforts to realize the PMA’s goals and its aspirations to become the central bank of a sovereign and independent Palestinian state. I am also thankful to Arab, regional and international institutions for their continuous cooperation with, and support to PMA and the financial sector with a view to bolster the steadfastness of Palestinians in their land and foster sustainable economic development in Palestine.

Governor

Azzam A Shawwa

# Executive Summary

During 2018Q1, consumer prices in Palestine declined on annual basis, registering a deflation by 1.1 percent against the backdrop of a deflation in both the West Bank and Gaza Strip. In general, inflation in Palestine is largely imported and highly sensitive to world prices (particularly for food and fuel) but has been largely well-below the average for the MENA region.

The approach followed in this report for inflation analysis and forecasting purposes depends on two key variables: (i) cost of imports, which reflects the inflation and exchange rates of Palestine's main trading partners, among which Israel accounts for the highest weight (80 percent of exports and 70 percent of imports); and (ii) world food prices, as food has the highest weight (35 percent) in Palestine›s consumer price index basket.

Inflation forecasts show that consumer prices in Palestine are expected to grow insignificantly during 2018Q2, registering an inflation rate by around 0.6 percent. However, inflation is expected to speed up in the coming quarters, scoring 1.2 percent for 2018 as a whole. Forecasts depend on assumptions regarding the most likely future paths for (i) Palestine's most important trading partners› prices and exchange rates; (ii) prices in the international commodity markets, as predicted by the International Monetary Fund (IMF) and by foreign central banks; and (iii) domestic and seasonal factors.

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 considers four alternative scenarios based on a positive and negative one-standard deviation shock in Palestine's cost of imports and in world food prices. The expected effects on Palestine's alternative inflation outcomes indicate that a positive one-standard deviation shock in external conditions would increase Palestine's prices from 0.6 percent under the baseline scenario to an average of 0.9 percent during 2018Q2. On the other hand, a negative one-standard deviation shock would register a deflation by 0.3 percent.

Financial developments indicate that the lending rates on the JD and the NIS have declined during 2017Q4, while that on the USD has increased. At the same time, the deposit rate on the three currencies have risen. On a different note, the margin between lending and deposit rates in Palestine is noticeably higher than for its counterparts in the respective currency-issuing countries. During the quarter, the margin was about 3.9 percentage points on the USD, 4.1 percentage points on the JD, and 5.3 percentage points on the NIS.

The Palestine Stock Exchange «PEX» experienced a sluggish performance during 2018Q1 against a backdrop of weak liquidity. Hence, al-Quds index declined notably by 1.6 percent compared to 2017Q4, scoring only 656.6 points. This comes as a result of the drop in services and investment sectors.

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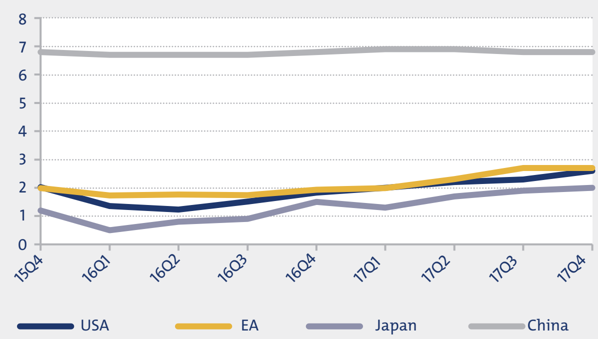
# I. Recent Economic Developments

## Real GDP

Signals on robust economic recovery around the world have materialized during the second half of 2017, particularly in the fourth quarter. After a decade of the global financial crisis, the main advanced economies seem to be in the best manner in light of a recovered global trade and increasing confidence among investors and consumers. The U.S continued in its strong growth path despite the tight monetary policy, Euro area achieved accelerated growth owing to the quantity easing policy and Japan is responding gradually to the economic reform and the quantity easing, and showing unprecedented growth rates in years. Looking at emerging and developing countries, China showed a high resilience, growing by more than the earlier expectations despite the looming threat of a future debt crisis. Moreover, Brazil managed to exit the long-lasting economic recession, while India resumed its last year's rapid growth pace. In this light, the International Monetary Fund (IMF) expects[1] a higher global growth in 2018 and 2019 (3.9 percent for each year), compared to 3.7 percent in 2017. The IMF expects a recovery in commodity exporters over the next two years, and this, along with the robust growth in India and emerging Europe, are expected to support the global growth against the slowdown in China and the possible deceleration in advanced economies.

Figure 1: Real growth rates in some main economies (%)




Source: IFS database and: http://www.tradingeconomics.com

A closer look at the data shows the best U.S economic performance in two years owing to increasing exports, private consumption and public expenditure. Thus, the U.S. economy grew by 2.6 percent in 2017Q4, up from 2.3 percent in the previous quarter. As such, the IMF upgraded

[1] International Monetary Fund, World Economic Outlook update. January, 2018.

its expectations for the U.S. growth in 2018 by 20 basis points, to grow by 2.9 percent, but then to decline to 2.7 percent in 2019.

Meanwhile, recovery continued in the EA supported by robust domestic demand and stronger exports. As a result, the region as a whole grew on annual basis by 2.7 percent for the second consecutive quarter. As a result, the IMF upgraded its growth expectations for the EA in 2018 by 20 basis points to 2.4 percent, but expects a slowdown by 2.0 percent in 2019.

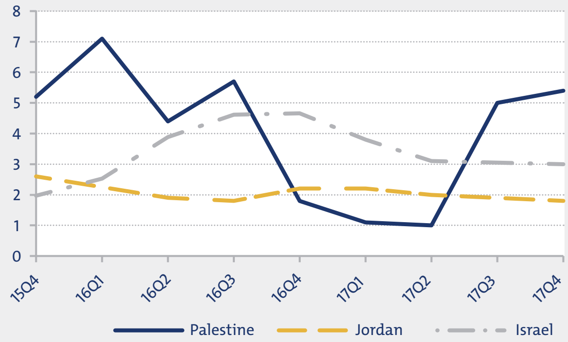
The same was true for Japan, which experienced an acceleration as real GDP grew by 2.0 percent in 2017Q4, compared with 1.9 percent in 2017Q3. This growth is attained in light of a strong private consumption and public expenditure, but accompanied with weak exports and private investment. In light of these developments, IMF maintained its previous forecasts at 1.2 percent growth rate in 2018, and 0.9 percent in 2019.

Among emerging market and developing economies, the Chinese economy stabilized at 6.8 percent for the second quarter in a row due to conflicting trends of aggregate demand components, particularly the accelerated foreign demand along with slowdown in private consumption. Hence, the IMF maintained its expectations for growth in 2018 at 6.6 percent, with expectations of accelerated growth by 6.4 percent in 2019.

In the meantime, political and economic turmoil lingered in the MENA region, which continues to limit its capacity to achieve adequate growth levels. Under the OPEC extended agreement to reduce oil production through the first quarter of 2018, oil exporters in the MENA continued to cut production levels in hopes of higher-priced equilibrium, and possibly incurring narrower growth horizons for producing states. However, expect for Libya and Qatar, the oil producing countries experienced a slowdown or negative growth rates during 2017. Accordingly, the IMF downgraded its growth forecast for the region by 20 basis points to 3.4 percent in 2018. It is worth noting that growth remains susceptible to high fluctuations in light of political uncertainty and economic instability within the historically-volatile regional conditions.

On the regional front, the Israeli economy continued to slow down against the backdrop of weak private investment in addition to higher imports given the NIS appreciation. The Israeli economy grew by 3.0 percent in 2017Q4, compared to 3.1 percent in the previous quarter. However, the IMF tended to upgrade its growth expectations in 2018 by 60 basis points to 3.6 percent, which is consistent with its forecasts of a growth in the global economy and trade levels. It also expects a slowdown by 3.0 percent during 2019 as the other advanced economies is expected to decelerate during the same period.

Figure 2: Real growth rates in Palestine, Jordan, and Israel (%)




Source: PCBS, CBS, and the Central Bank of Jordan

The Jordanian economy slowed down again during 2017Q4, growing by 1.8 percent compared to 1.9 percent in 2017Q3 against the backdrop of declined construction and decelerated transportation activities. However, the IMF showed some optimism for the future, expecting the Jordanian economy to accelerate and grow by 2.5 percent in 2018 and by 2.7 percent in 2019.

Locally, growth accelerated further during 2017Q4, growing by 5.4 percent on y-o-y compared with a growth of 5.0 percent in the previous quarter, owing to higher activity in the WB (8.4 percent versus 6.9 percent), and despite the deterioration in GS economy which shrunk by 2.9 percent compared to the previous decline by 0.6 percent.

Generally, growth in the fourth quarter reflected the varying performance among various economic sectors. On one side, the trade sector jumped by 21.6 percent, followed by a growth in the agriculture by 5.0 percent, in addition to growth in services, and insurance and financial activities by 4.8 and 2.9 percent, respectively. Meanwhile, growth in the construction and the industry sectors approximately amounted to 2.5 and 2.1 percent, respectively. Conversely, the transportation declined by 15.0 percent, and the information and communication sector is still on downward trend, declined by 7.1 percent, and the general administration and defense fell again by 6.4 percent.

## Aggregate demand

Palestine›s Gross Domestic Product during 2017Q4 amounted to USD 3,476.5 million in 2015 prices, of which the West Bank accounted for around 76 percent. This y-o-y growth resulted from flourishing investment, higher public consumption and lower trade deficit. However, these trends in the West Bank proved to be similar to the trends on national level, but very different from them in Gaza Strip.

The WB experienced a notable economic acceleration on annual basis as investment grew by 9.0 percent due to higher investment in buildings, and the public consumption grew by 5.9 percent. Moreover, exports increased by 2.9 percent, along with drop in imports by 8.9 percent, which led to lower trade deficit by 15.8 percent. Nonetheless, private consumption fell by 2.9 percent to its lowest in two years. As a result, WB›s economy speeded up in 2017Q4, growing by 8.4 percent from the corresponding period, but declined slightly by 0.6 percent from the previous period.

Table 1: Aggregate demand at constant prices (2015=100)

| | West Bank | | | Gaza Strip | | |
|---|---|---|---|---|---|---|
| | 2016Q4 | 2017Q3 | 2017Q4 | 2016Q4 | 2017Q3 | 2017Q4 |
| Private consumption | 2,323.3 | 2,442.1 | 2,255.9 | 640.4 | 680.0 | 626.7 |
| Public consumption | 584.8 | 524.0 | 619.3 | 365.0 | 300.4 | 351.7 |
| Investment | 654.9 | 689.3 | 713.8 | 101.8 | 123.8 | 101.3 |
| Exports | 647.3 | 624.5 | 666.2 | 26.7 | 34.5 | 33.6 |
| Imports | 1,759.0 | 1,629.1 | 1,602.3 | 257.3 | 276.5 | 269.8 |
| **GDP*** | **2,439.1** | **2,658.5** | **2,643.4** | **858.1** | **843.8** | **833.1** |

Source: PCBS.

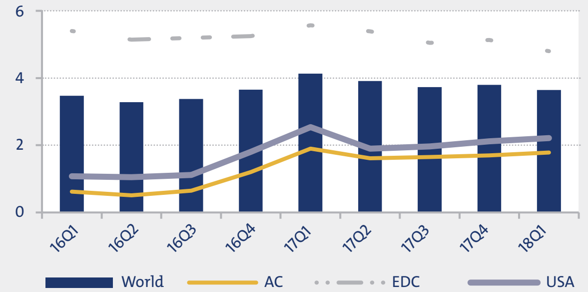
Meanwhile, the aggregate demand components› trends painted less optimistic picture of Gazan economy. Despite the jump of exports by one quarter, all other components experienced negative developments. Imports picked up by 4.9 percent, increasing the trade deficit by 2.4 percent. It is worth to mention that the recent remarkable jump in exports was not enough to improve the trade balance in light of long lasting exports' low levels under the Israeli blockade, in comparison with high imports (8 times higher than exports). Both private and public consumption declined by 2.1 and 3.6 percent, respectively, along with investment drop by 0.5 percent. In light of these developments, Gazan's GDP shrunk by 2.9 and 1.3 percent from the corresponding and previous quarters, respectively.

* The difference between the sum of former items and the GDP is the net errors and omissions.

## Inflation

Global consumer prices showed mixed signals during 2018Q1, and the inflation rates varied between increases and declines. The recovery of commodity prices in the world market was not enough to pull inflation up in some main economies in light of serval factors, particularly the weak demand. In general, inflation increased in the advanced economies, but declined in the emerging and developing economies, leading to slightly lower world inflation rate (3.6 percent), compared to 3.8 percent in the previous quarter (see figure 3).

Figure 3: Inflation rates in World regions




Sources: IFS and PCBS.

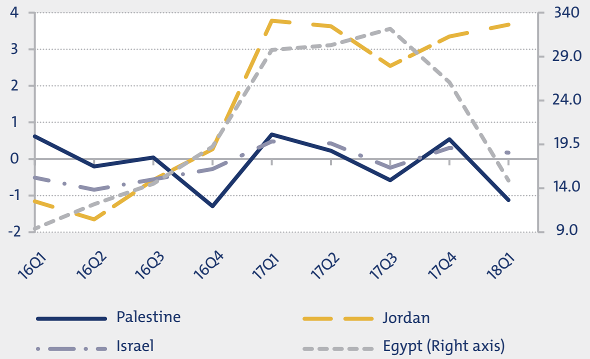
The advanced economies' inflation rates relatively recovered in light of better demand, but remained lower than the target level. It increased in Japan from 0.6 percent to 1.3 percent, the highest in a round three years, meanwhile picked up marginally in the U.S. from 2.1 percent to 2.2 percent. Accordingly, advanced economies› inflation has slightly grown from 1.7 percent in 2017Q4 to 1.8 percent in 2018Q1.

Meanwhile, inflation in the emerging Asian economies increased, particularly in China and India, but declined in most emerging European countries. In general, the emerging and developing economies maintained its low inflation rates, and declined further this quarter to 4.1 percent compared to 5.1 percent in 2017Q4.

In the MENA region in particular, inflation is highly affected by various political and economic conditions in each country. In general, the inflationary pressures persisted owing to the exchange rates depreciations, in addition to the lift of subsidies and increases in excise and value-added taxes.

At the same time, inflation in Palestine›s neighboring countries (Jordan and Israel) remained relatively stable. It amounted to 0.2 percent in Israel compared to 0.3 percent in the previous quarter, and increased from 3.4 percent to 3.7 percent in Jordan during the same period.

Figure 4: Inflation rates in Palestine, Jordan, Egypt, and Israel




Sources: IFS and PCBS.

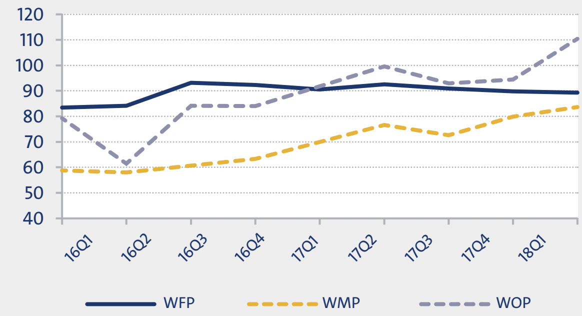
However, inflation in Egypt continued to be the highest within the MENA region in light of several factors, mainly; the depreciation in the Egyptian pound as it was unpegged at the end of 2016 (which dramatically increased the cost of imports); and the rise in local commodity prices as the government lifted the subsidies as part of the reform program under IMF's supervision. After around one year of the aforementioned developments, the inflation rate started to slowly decline, and continued to decline this quarter from 26.1 to 14.9 percent.

Conversely, the consumer prices in both the WB and GS resumed falling, resulting in a deflation by 1.1 percent in 2018Q1, compared with slight inflation by 0.5 percent in the previous quarter.

## Global and local prices

This section deals mainly with developments in local and global markets› commodity prices, the most important determinant of inflation trends.

Figure 5: Indices of primary commodity prices, 2010=100




Source: World Bank and IMF.

World oil prices (WOP), for example, maintained their recovery during 2018Q1 thanks to the extension of the OPEC agreement to cut oil production by 1.8 million barrel per a day through 2018Q1. This cut; in addition to the improved global growth and the fluctuated supply from some countries like Libya and Venezuela, have all supported crude oil prices. As a result, the WOP index grew by 22.0 and 10.1 percent from the corresponding and previous levels, respectively (see figure 5).

Likewise, the world metal price (WMP) index grew owing to the improved global growth and hence the strong global demand, and accompanied with weak supply from China. Accordingly, the World Bank index of metal price grew during 2018Q1 by 4.3 and 13.8 percent from the previous and the corresponding levels, respectively.

When looking at the world food prices index, it is important to note that many international organisations (IMF, World Bank and FAO) produce such indices. All of these use the same commodity prices; however, the included items and their weights are considerably different. Moreover, the variation across food commodities› prices during 2018Q1 led to significantly dissimilar food indices. In this report, we usually use the IMF food index, yet data are not available since mid-2017. Instead, this report will use the World Bank index, as its methodology is the most similar to the IMF, especially as both consist of large number of commodities, in contrast to the FAO index that contains only five main commodities. In general, the food price index tend to increase during 2018Q1, and the World Bank index rose by 4.2 and 0.6 percent from the previous and corresponding periods, respectively.

Locally, movement of the various commodity categories prices during 2018Q1 varied notably on the annual basis, and to lesser extent compared to the previous quarter. However, general prices tend to decline, registering a deflation by 0.6 and 1.1 percent compared to the previous and corresponding levels, respectively. As inflation in Palestine is mainly imported, the depreciation of the USD against the Israeli shekel have led to lower imports' cost and hence slower local prices.

In the WB, the food index declined  by 4.5 percent on annual basis as a result of some commodities lower prices, e.g. rice, wheat, sugar, meat, dairy products and some vegetables. This followed by drops in the education service index (by 2.9 percent), the textile index (by 1.7 percent), the transportation index (by 1.0 percent) and the furniture index (by 0.7 percent).

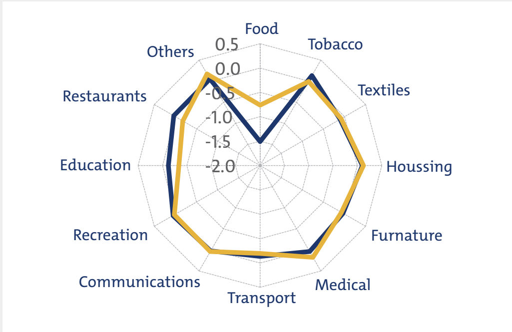
However, the cultural goods and services index continued to increase (by 3.4 percent) along with the rise in the restaurant and cafés service index (by 2.1 percent). The housing index picked up (by 1.2 percent) in light of increase in some relevant prices such as those for diesel, benzene and cooking gas. The remaining commodities› indices experienced slight increases (less than 1.0 percent each). The conflicting prices trends resulted in a deflation by 1.5 percent from the corresponding period, and by 0.2 percent compared to the previous period.

Meanwhile in GS, the food price index slipped by 1.9 percent following the drop in prices of vegetables, sugar, dairy products and meat. The services' prices have also fallen, particularly the restaurant and cafés index (by 9.2 percent) and the education index (by 9.4 percent) which can be partially attributed to the decline in the Jordanian Dinar, the usual currency in paying universities› tuition fees. Meanwhile, the transportation index fell by 2.3 percent following subsidies on fuel prices in Gaza starting from March 2018. The textile and furniture indices have also slipped by 1.3 percent for the former and 1.2 for the latter. In addition, the volatile tobacco and alcohol prices have unexpectedly experienced slow movements, declining by only 0.2 percent. This comes shortly after Hamas and Fatah signing a reconciliation agreement, which resulted in regulating the flow of imports, unifying taxes and eliminating double taxation.

Conversely, the medical service index picked up again by 6.3 percent, followed by a rise by 1.5 percent in the housing index. The communication and cultural goods indices have both grown by 1.3 percent each. These conflicting trends resulted in a y-o-y deflation by 1.1 percent, and by 0.6 percent from the previous quarter.

As abovementioned, inflation›s trends and determinants were similar in both the WB and GS during the first quarter. The development of food price index continued to be the most important factor as it acquires the highest share of consumer basket. Overall, the decline in food prices was the main engine for deflation in the WB, as it negatively contributed by (-1.5 percentage point). Meanwhile, it contributed by -0.76 percentage points to the registered inflation in GS, along with education index contribution by -0.34 percentage points (Figure 6).

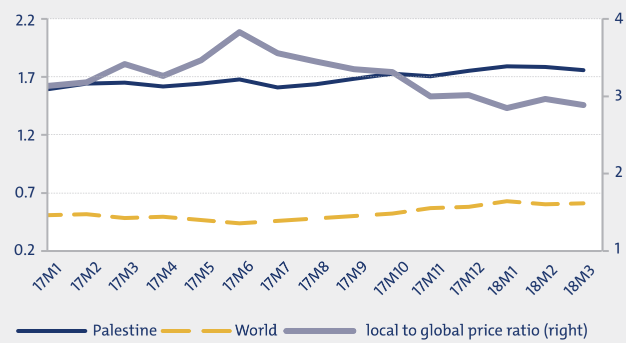
Figure 6: Web chart of the CPI components contribution to the inflation rate in Palestine 2018Q1




Regardless of different price determinants in the WB and GS, commodity prices in Palestine exceeded those in the world market, usually because, the local prices increase almost as much as the global ones, but declined substantially lesser in case of global prices drop. It is worth mentioning that the movements among global prices are not reflected immediately in local prices, and usually take more time to adjust. During 2018Q1, movements of local commodity prices ranged between increases and declines, not always following global prices.

The global prices of gasoline, a vital commodity for Palestinians, jumped during the first quarter, registering a q-o-q growth by 10.1 and y-o-y growth by 22.0 percent. Likewise, local gasoline prices grew, albeit at a slower pace due to the aforementioned exchange

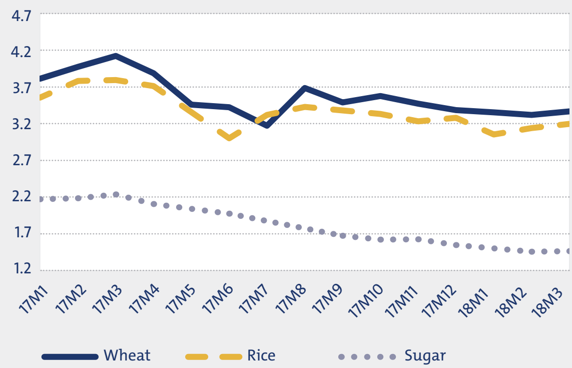
Figure 7: Gasoline prices in USD per liter




Source: PCBS and World Bank.

rate effect, registering a growth by 2.9 and 9.2 on quarterly and annually basis, respectively. Consequently, a liter of gasoline amounted to USD 1.8 (around NIS 6.2) in the local market, compared with USD 0.6 in the global market.

Figure 8: Local prices to global prices




Source: PCBS and the World Bank.

As in the case of fuel, other commodities local prices, like those for wheat, rice, and sugar stayed much higher than in world markets. Several factors stood behind these discrepancies, including: taxes imposed on imported products, the high cost of transportation and storage, and oligopolistic pricing. During 2018Q1, the global food prices widely grew, but accompanied with slower rises in local market owing to the USD depreciation, which pulled the cost of imports down. The ratio of local to global prices has generally declined as it shown in figure 8. Consequently, both wheat and rice prices in the local market amounted to 3.3 and 3.1 times their price in global markets, while local prices of sugar were around 1.5 times global prices.

Also interesting are prices for some non-imported commodities, like fresh chicken and beef meat. Local prices of these commodities are not as sensitive to global trends but are still much higher than world prices due to their unduly high production cost. For instance, fresh chicken meat prices were around two times the world price, while beef meat prices were around three times world prices as for 2018Q1. Table (2) shows price developments for some selected commodities (imported and non-imported) in the local market during the current and the previous quarters.

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

| | 2017 | | | | 2018 |
|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 |
| Rice | 129.0 | 125.5 | 121.5 | 115.4 | 117.0 |
| Wheat | 137.5 | 137.9 | 135.0 | 131.7 | 133.5 |
| Bread | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| Beef meat | 45.1 | 45.6 | 46.6 | 46.9 | 43.6 |
| Chicken meat | 15.1 | 13.8 | 13.9 | 12.8 | 14.0 |
| Powder Milk (Nido) | 91.1 | 92.4 | 91.4 | 88.5 | 87.6 |
| Yogurt (local) | 4.6 | 4.6 | 4.5 | 4.5 | 4.4 |
| Chicken Eggs | 15.4 | 13.2 | 13.7 | 13.8 | 15.1 |
| Tomatoes | 3.2 | 2.9 | 3.3 | 4.0 | 2.4 |
| Sugar | 143.1 | 131.4 | 120.9 | 107.8 | 102.6 |
| Gas | 64.4 | 63.6 | 60.4 | 63.3 | 66.3 |
| Diesel | 5.6 | 5.4 | 5.4 | 5.7 | 5.7 |
| Gasoline 95 | 6.1 | 5.9 | 5.8 | 6.1 | 6.2 |

Source: PCBS.

## Labor force and wages

The Palestinian labor market experienced an increase in labor market's entrants during 2018Q1. Consequently, the participation rate rose by 1.5 percentage point to 45.4 percent. However, this coupled with a decline in job opportunities by 3.2 percent (losing 31 thousands jobs), resulting in increasing unemployment rate dramatically from 24.8 to 30.2 percent. Unemployment rate in GS continued their high levels and amounted to 49.1 percent this quarter, while it picked up in the WB to around 18.3 percent.

The number of workers amounted to 933 thousand, two third of them are workers from the WB. It is worth to mention that 82 percent of the WB's employees work inside the WB, while the other work in Israel and settlements[3], reaching 121 thousand workers during the quarter.

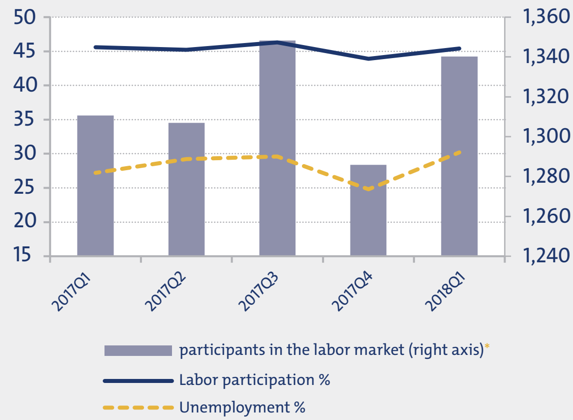
Given the sizeable wage differential between Israeli and the WB labor markets, the significant number of Palestinian workers in Israel substantially influences wages and prices

[2] 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.

[3] Gazan workers were banned from entering the Israeli market directly after the unilateral Israeli withdrawal from Gaza Strip in 2005.

in Palestine. The wage gap adds pressure on local wages to rise, while simultaneously spurring demand for goods and services. However, since the majority of these goods and services are imported, domestic prices eventually face undesirable inflationary pressures.

Figure 9: Labor force main indicators in Palestine




Source: PCBS.
* Thousands.

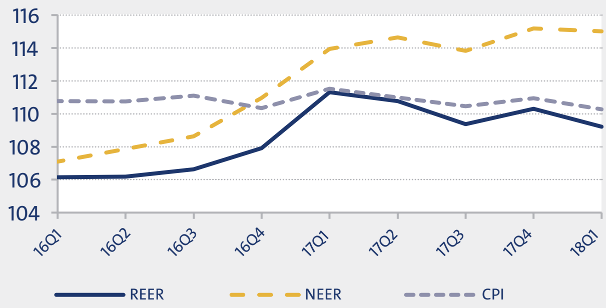
During this quarter, the average daily wage has increased for the workers in the three labor markets. The average daily wage for workers in Israel and settlements rose y-o-y by 106.4 percent, reaching NIS 242.5, or 2.3 times the wage in the WB. Meanwhile the WB average daily wage picked up y-o-y by 4.8 percent, reaching NIS 106.4. At the same time, Gazans' wages experienced its first increase in months, rising by 5.8 percent to NIS 62.1.

The reciprocal relation between prices and wages implies that when inflation exceeds the rise in the average nominal wage, the purchasing power of wages decline, and vice versa. During 2018Q1, the consumer prices deflated in Palestine, resulting in higher real wages. The WB›s prices deflated by 1.5 percent, and hence the NIS real wage grew by 6.3 percent for the WB workers, and by 11.9 percent for the workers in Israel and settlements. The real wages for Gazan workers picked up by 6.9 percent as the consumer prices fell by 1.1 percent. Moreover, workers paid in USD and JD experienced purchasing power›s erosion due to exchange rate depreciation. As a result, their purchasing power declined by 1.4 percent for the WB›s workers and slightly by 0.8 percent for Gazans.

## Effective exchange rates

Figure (10) shows the nominal and real effective exchange rates (NEER and REER) in Palestine[4]. 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›s trading partners currencies, while the appreciation of the REER indicates that Palestine lost competitiveness against its trading partners[5].

Figure 10: Effective exchange rates and CPI in Palestine, 2010=100




Source: PMA and PCBS.

Data show that the NEER has trivially depreciated by 0.2 percent during 2018Q1 compared with the previous quarter, which implies that the NIS has slightly weakened against Palestine trading partners' currencies. It is worth to mention thay the NEER grew repeatedly in the previous quarters, reflecting appreciation of the bilateral exchange rate of the NIS against currencies of; the US, China, Jordan, Turkey and Egypt. Likewise, the REER depreciated by 1.0 percent during the quarter, which means that Palestine gained some competitiveness against its trading partners. It is worth mentioning that the Palestinian foreign trade is substantially affected by the Israeli-imposed restrictions and other obstacles, and these effects were much stronger than the effects of changes in NEER and REER.

[4] 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.

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

# II. Recent Financial Developments

## Interest Rates

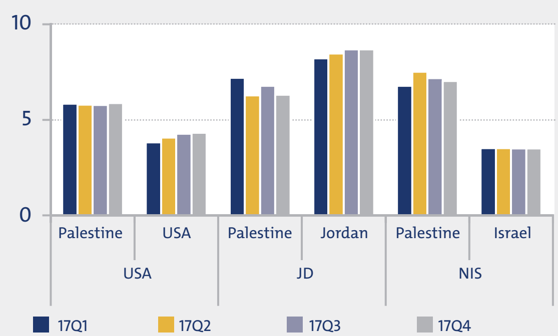
This section deals with the development in the lending and deposits interest rates of the three currencies circulated in Palestine; the USD, the JD and the NIS. Those rates in Palestine frequently move over time according to several factors: the level of cash in the banks operating in Palestine; interbank competition; risks estimated by banks; and changes in the monetary policies in the issuing countries of the currencies locally circulated. It is worthy to mention the importance of tracking the rates› movements in this report as they influence money supply, and hence investment, consumption and prices.

The types of lending and deposit rates differ from one country to another, and for the purpose of comparisons in this report, and as long as it is possible, we will use the rate on loans as a proxy for the lending rate, and the time-deposit rate as the deposit rate.

Interest rates in Palestine tend to increase during 2017Q4 in line with rising global interest rates owing to the gradual tightening of monetary policy in major economies. The American Fed raised its interest rate (from 1.25 to 1.5 percent) at the end of 2017Q4, which cast its shadows on both the issuing country's and local's interest rates. The Jordanian central bank has also increased its rate (from 3.75 to 4.0 percent), but its effects on the JD interest rates did not take place during the quarter. Meanwhile, Bank of Israel maintained the two years-unprecedented low interest rate at 0.1 percent.

In sum, lending rates have increased on the USD in the U.S. (from 4.25 to 4.3 percent) and on the USD in Palestine (5.74 to 5.85 percent). Meanwhile, the lending rate on the JD and the NIS in the issuing countries stabilized at the previous levels (8.64 percent on the JD and 3.49 percent on the NIS). However, the local rate in

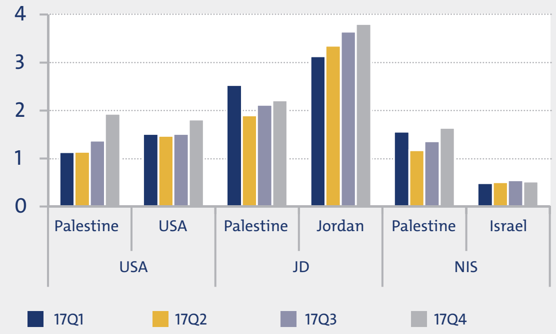
Figure 11: Lending rates in Palestine and issuing countries




Source: PMA and IFS.

Palestine declined from 6.75 to 6.28 percent on the JD, and from 7.14 to 6.99 percent on the NIS.

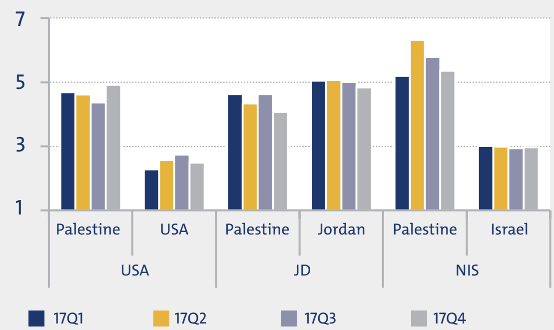
Figure 12: Deposit rates in Palestine and issuing countries




Source: PMA and IFS.

At the same time, deposit rates have increased on the three currencies but at varying degrees. It increased on the USD in the U.S (from 1.51 to 1.81 percent) coupled with further increase at the local market (from 1.37 to 1.93 percent). Likewise for the JD, as it rose in Jordan (from 3.64 to 3.80 percent), it increased in Palestine from 2.12 to 2.21 percent. Meanwhile, the deposit rate on the NIS grew in Palestine (1.36 to 1.64 percent), but declined slightly in Israel (from 0.55 to 0.52 percent).

Figure 13: Margins between lending and deposit rates in Palestine compared with issuing countries



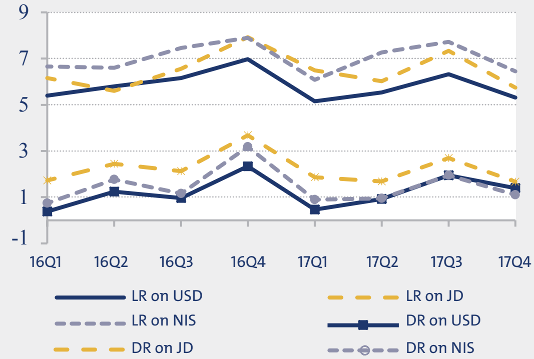

Source: PMA and IFS.

Tracking lending and deposit rates during the previous quarters reveals that lending rates on the USD and the NIS in Palestine are higher than their counterparts in the countries of origin. On the other hand, the deposit rates in Palestine are very low, and sometimes lower than their counterparts in issuing countries. Consequently, the margins between the average lending and deposit rates in Palestine remain remarkably high and range between 4.0 percentage point and 6.0 percentage point. At the same time, it is significantly lower in the issuing countries (see Figure 13). For example, it is around 2.5 percentage points in the U.S. and about 3.0 percentage points in

Israel. The high domestic margin reflects high risks within a politically and economically unstable environment.

It is important to stress that the real interest rate equals the nominal interest rate minus the inflation. As the inflation rate exceeds the nominal deposit rate, an individual›s willingness

Figure 14: Real lending and deposit rates in Palestine by currency.




Source: PMA and PCBS.

to keep money as bank deposits will decline as it entails lower real value and declining purchasing power, and vice versa. During 2017Q4, subdued inflation by 0.5 percent led to a slightly lower real deposit and lending interest rates for the three currencies circulating in Palestine (figure 14).

## Stock market

The Palestine Stock Exchange (PEX) gained some momentum at the end of January and February 2018 owing to many transactions on some leading companies› shares. However, the overall performance was highly affected by the slow liquidity levels during most 2018Q1, particularly in March. In sum, Al-Quds index picked up in January and February, but ended the quarter on a decline by 1.6 percent compared to the 2017Q4's closing, scoring 565.6 points. On the sectoral front, the indices of services and investment fell by 3.1 and 1.1 percent, respectively, while the other indices of insurance, industry and banking have picked up by 8.7, 3.7, 1.0 percent, respectively (table 3).

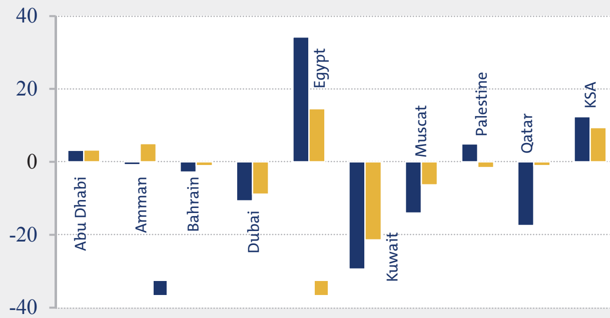
Table 3: Palestine stock exchange index (Al-Quds index)*

| | 2017 | | | | 2018 |
|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 |
| Banking | 153.0 | 150.0 | 156.2 | 164.0 | 164.0 |
| Industry | 78.3 | 79.4 | 93.7 | 98.2 | 98.2 |
| Insurance | 68.2 | 68.7 | 69.1 | 70.9 | 70.9 |
| Investment | 25.0 | 28.8 | 30.2 | 30.5 | 30.5 |
| Service | 45.1 | Q2 | 44.0 | 43.5 | 43.5 |
| **Al-Quds** | **538.9** | **150.0** | **567.8** | **574.6** | **574.6** |

Source: www.pex.ps
* end of period.

Regionally, the Gulf markets continued to groan under the weight of many factors that have caused heavy losses. Those factors include the regional geopolitical tensions, weak growth rates and austerity fiscal policies in light of weak oil prices. The recent relative recovery in oil prices mitigated the weight of aforementioned factors, but failed to improve stock market performance. Most indices of the gulf financial markets declined at the end of 2018Q1 compared to both the previous and corresponding levels. The main indices in Kuwait, Dubai, Oman and Bahrain have all decreased on q-o-q by 21, 9, 6 and 1 percent, respectively. At the same time, Qatari index fell by only 0.5 percent from the previous quarter but lost more than 17 percent of its value compared to 2017Q1 as a repercussion of severing ties between Qatar and some Arab states. However, Saudi Arabia and Abu Dhabi financial markets managed to register some gains, closing on a rise by around 9 percent for the former and 3 percent for the latter (see figure 15).

Figure 15: Stock markets performance, some selected Arab markets during 2018Q1*




Source: http://www.gulfbase.com, http://www.ase.com.jo, and http://www.egx.com.eg.
* end of period

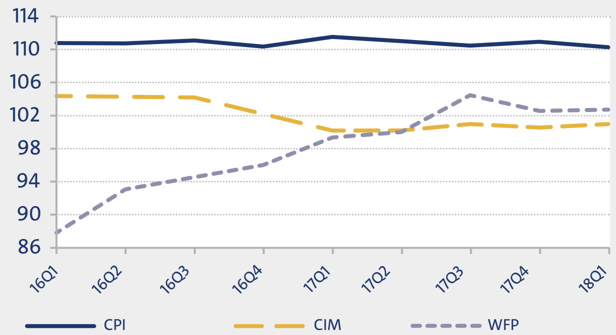
Meanwhile in the neighboring countries, the Jordanian financial market finally gained momentum after a period of weak activity, and its main index picked up by 5 percent from the previous quarter. At the same time, the Egyptian Exchange continued to rebound as investors› confidence improved, owing to the three-year reform program under the IMF supervision, and the upgraded credit rating by some rating agencies. Consequently, Egyptian Exchange index grew by 15 percent from the previous quarter closing.

# III. Model Based Inflation Forecast

## Inflation model and estimation technique

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 reflects the large weight food occupies in the CPI basket in Palestine[6].

Figure 16: CPI, CIM, and WFP




Source: PCBS, PMA, and IFS.

Considering this relationship 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 the relationship are corrected over time in order to bring the CPI back to its long-run equilibrium value.

To this end, long and short-run relationships are estimated using three different approaches. The first is the Johansen's (1991, 1995) system-based reduced rank approach. The second is the ARDL test, which is based on Pesaran, Shin (1999) and Pesaran, Shin, Smith (2001). The third is the semi-parametric Fully Modified OLS (FMOLS) approach of Phillips and Hansen (1990).

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

## Baseline inflation forecast

The objective of this section is to use the basic inflation model to generate a quantitative CPI outlook for the following years on a quarterly basis, i.e. for the period 2018Q22019-Q4. To that end, a baseline scenario for the exogenous variables, CIM and WFP, is needed. The CIM is the denominator of the REER index calculated by the PMA. The baseline scenario for the CIM was derived from the VECM. Thus, under the forecast of consumer price growth in Israel in the coming months, CIM is calculated to increase by 1.1 percent in 2018, and to accelerate to around 1.5 percent in 2019.

The recent forecasts on commodity prices indicate that the world food prices will increase moderately in 2018 and by faster pace in 2019. Accordingly, we calculate that the world food prices will rise by around 1.8 percent in 2018 and by 2.4 percent in 2019.

Inflation will be forecasted according to the above-mentioned three estimation techniques[7], combined with the common baseline growth rates for the CIM, and the WFP, as explained in Table (4).

Table 4: Inflation outlook of the three models

| | Assumptions | | Inflation Forecasts | | | |
|---|---|---|---|---|---|---|
| | CIM | WFP | VECM | ARDL | FMOLS | Aveg. |
| *18Q1 | 0.78 | 3.41 | -1.12 | -1.12 | -1.12 | -1.12 |
| 18Q2 | 1.28 | 3.19 | 1.34 | 0.42 | 0.13 | 0.63 |
| 18Q3 | 0.80 | -0.84 | 2.42 | 2.35 | 2.24 | 2.34 |
| 18Q4 | 1.52 | 1.36 | 2.16 | 3.42 | 3.22 | 2.94 |
| 2018 | 1.10 | 1.75 | 1.19 | 1.26 | 1.11 | 1.19 |
| 19Q1 | 1.51 | 2.14 | 2.73 | 4.13 | 3.89 | 3.58 |
| 19Q2 | 1.38 | 2.38 | 1.13 | 2.33 | 2.63 | 2.03 |
| 19Q3 | 1.38 | 2.37 | 1.52 | 1.03 | 1.15 | 1.24 |
| 19Q4 | 1.76 | 2.66 | 1.87 | 0.17 | 0.28 | 0.77 |
| 2019 | 1.51 | 2.39 | 1.81 | 1.90 | 1.97 | 1.89 |

* actual data

As is well known, the use of econometrically estimated models to forecast future inflation is subject to model and coefficient uncertainty. To reduce this uncertainty, we will take the simple average of the three models. Accordingly, the average annual inflation forecast for 2018Q2 is expected to be 0.6 percent. It is also expected to witness an accelerated inflation in the coming quarters, ending the year 2018 as a whole by 1.2 percent inflation (Table 4).

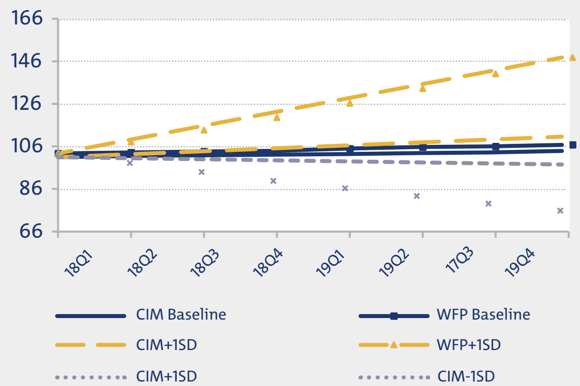
[7] VECM, ARDL, and the FMOLS.

# IV. The Balance of Inflation Risk

Apart from the abovementioned risks of model uncertainty, the CPI outlook also crucially depends on the assumptions regarding the course of the model›s exogenous variable›s forecasts; these exclusively refer to external conditions reflecting foreign inflation trends, NIS bilateral exchange rates, and world market food prices.

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

Figure 17: Scenario assumptions for 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[8], the probability distributions are leptokurtic, implying that the occurrence of extreme shocks has a probability that is higher than one would expect on the basis of a normal distribution (see Figure 17).

The results of these scenarios are displayed in table (5). They indicate that, given the assumptions, the average inflation forecasts during 2018 would narrowly range between 0.5 percent and 1.9 percent with 1.2 percent as the central baseline outlook. In 2019, the forecasts for the average consumer prices growth range between a deflation by 0.8 percent and an inflation by 4.6 percent, with 1.9 percent as the central baseline outlook.

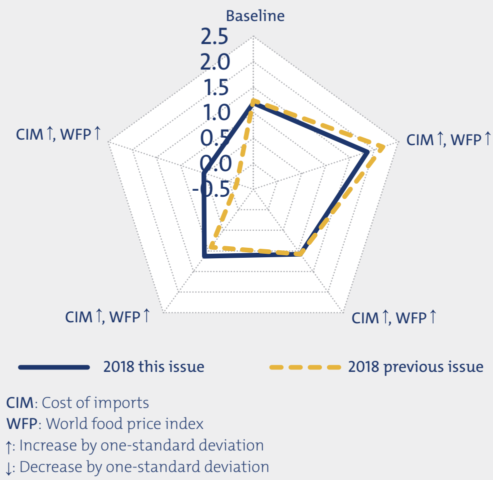
[8] Kurtosis measures the peakedness or flatness of the distribution of the series.

Table 5: Baseline and risk analysis of the CPI in Palestine for 2018 and 2019 (Percentage point)

| Scenario | Shock | Implied annual growth rate CIM | | Implied annual growth rate WFP | | Implied inflation forecast | |
|---|---|---|---|---|---|---|---|
| | | 2018 | 2019 | 2018 | 2019 | 2018 | 2019 |
| 1 | Baseline | 1.10 | 1.51 | 1.75 | 2.39 | 1.19 | 1.89 |
| 2 | +1SD CIM<br>+1SD WFP | 2.47 | 5.21 | 9.27 | 23.30 | 1.86 | 4.57 |
| 3 | +1SD CIM<br>-1SD WFP | 2.47 | 5.21 | -5.32 | -15.75 | 1.08 | 0.94 |
| 4 | -1SD CIM<br>+1SD WFP | -0.26 | -2.10 | 9.27 | 23.30 | 1.13 | 2.30 |
| 5 | -1SD CIM<br>-1SD WFP | -0.26 | -2.10 | -5.32 | -15.75 | 0.52 | -0.77 |

Figure (18) shows the current risk analysis of inflation in Palestine during 2018 compared with the risk analysis for the same year predicted in the previous report. The figure shows that scenarios 3 and 4 give results close to the baseline forecast; but scenarios 2 and 5 involve upside and downside outliers, respectively. The figure reveals that the risk declined compared with the risk predicted in the previous issue.

Figure 18: Web chart of the balance of Palestine's 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 independently of shocks occurring in the rest of the world. An example of such shocks was the Israeli withholding of clearance revenues, resulting in delays and/or disruptions in payment of government employees' salaries, which depresses demand and causes a fall in prices.

Figure 19: Fan chart of the balance of Palestine inflation risk during 2018Q2 – 2019Q4

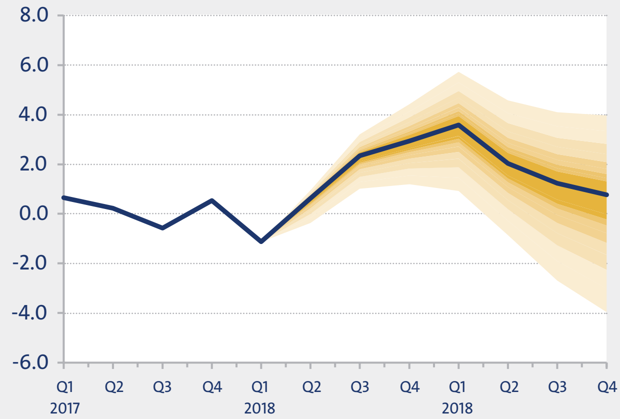



Figure (19) shows the fan chart of the balance of Palestine's inflation risk during 2018Q2–2019Q4. The chart contains the quarterly profile of the baseline inflation forecast mentioned above based on the inflation volatility observed during the most recent years. It should be mentioned that the range of the potential outcomes is broad, reflecting the uncertainty of the forecast, which is the consequence of all risk factors, mentioned above, including the country- specific ones. 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.