JORDAN

SELECTED ISSUES

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JORDAN

SELECTED ISSUES

June 7, 2017

Approved By
Middle East and Central Asia Department

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CONTENTS

THE MACROECONOMIC IMPACT OF THE SYRIAN REFUGEE CRISIS AND REGIONAL CONFLICTS ON JORDAN[1,2]

Six years since the beginning of the Syrian Civil War, the Jordanian economy continues to be negatively affected by the Syrian Refugee Crisis (SRC) and regional conflicts. Several estimates point to a negative but decreasing impact on output over time. The SRC and conflicts in Syria and Iraq have weighed on investor sentiment, tourism, and exports but the influx of Syrians is likely to have increased aggregate demand. Labor market conditions deteriorated after the massive influx of refugees and non-tradable prices accelerated. The balance of payment suffered pressures on the non-oil current account, owing to lower exports of goods and services and higher imports. The SRC has increased the direct fiscal costs persistently by above one percent of GDP, which could double after counting for quality and capital deterioration.

A. Output

1. **The Syrian Refugee Crisis (SRC) and regional conflicts have been weighing down growth.** Since the outbreak of the crisis in mid-2012, staff estimates that losses of real GDP growth were on average approximately one per cent per year because of its negative impact on exports and investment (see figure).[3] The estimated cumulative impact on GDP is about 18 percent of annual GDP. The disruption of trade routes with its main trade partners reduced exports significantly—a World Bank study indicates that most of the impact of the Syrian war on Jordanian welfare is due to trade disruption.[4] The instability in the region reduced the arrival of tourists and overall confidence, which may have impinged on consumption of durable goods and investment. Staff has

Quarterly real GDP losses due to the Syrian Refugee Crisis and regional conflicts 1/

- Actual real GDP (JD billions, lhs)
- Real GDP Loss (lhs)
- Syrian Refugees (thousands, rhs)

Source: Staff calculations using data from the authorities and UNHCR.
1/ The losses are estimated from the time series regression of the quarterly growth of seasonally adjusted real GDP on the lag of the output gap measured as the deviation of the log of seasonally adjusted real GDP from its Hodrick-Prescott trend and on the growth of registered Syrian refugees as reported by the United Nations High Commissioner for Refugees (UNHCR).

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[1] Prepared by Maximiliano Appendino (MCD), Pablo Morra, and Nelson Sobrinho (both SPR).

[2] Since the Syrian Refugee Crisis (SRC) overlaps with other shocks such as the aggravation of the conflicts in Iraq in 2015 and the Syrian Civil War itself, this paper aims at disentangling the different channels through which the SRC and the regional conflicts have impacted on the Jordanian economy.

[3] This is in line with previous estimates from the IMF. See, for example, Abdih (2014). The government of Jordan and the UNDP (2015) estimate that the total indirect costs of SRC were about 8 percent of GDP, including some components discussed in this work as the trade balance, tourism receipts, rental prices, informal sector and public services.

[4] See Ianchovichina and Ivanic (2014).

revised progressively downwards its projections for growth as total factor productivity decreased since 2012 (see figure below).[5]

Projected and Actual Annual Real GDP growth (rhs) and Total Factor Productivity (TFP, lhs)

Source: WEO October projections and Feenstra, Robert C., Robert Inklaar and Marcel P. Timmer (2015), "The Next Generation of the Penn World Table" in American Economic Review, 105(10).
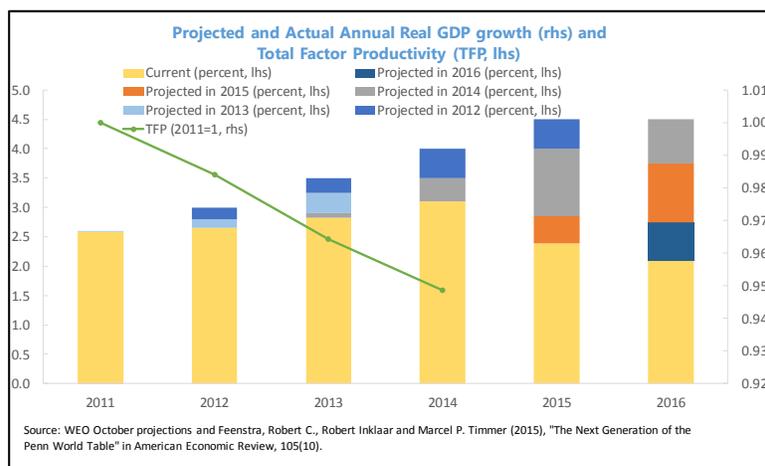
2.   This negative impact is decreasing as the influx of Syrian refugees slowed and the stock pushed up aggregate demand.[6] The influx of more than 10 percent of Jordan's original population may have certainly increased consumption, particularly, over time as the incomers settled and the likelihood of returning to their home country diminishes. Moreover, anecdotal evidence suggests that many businesses left Syria and transferred their capital to Jordan.[7] New capital and workers could contribute to the already substantial informal sector output and compensate the deceleration of measured output progressively as their income and productivity grow.[8]

B.   Labor Markets

3.   The SRC has negatively impacted formal and informal labor market outcomes in Jordan.[9] Since the beginning of the SRC, the unemployment rate grew by approximately 3.1 percent despite the fact that labor force participation decreased by about 2.0 percent, reflecting a decrease of the employment rate of around 2.9 percent over the same period (see figure below). The negative shock on the overall level of economic activity could certainly have contributed to this labor market performance. The increasing labor supply of Syrians in the informal sector may be causing the

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[5] UNDP (2015) highlights that the increasing competition for scarce public goods, such as health and water, and other macroeconomic impacts, such as capital flight after the SRC, could reduce productivity in Jordan.

[6] The main methodology in Figure 1 does not explicitly incorporate the impact of the most recent shocks on output, such as the closure of the Iraqi border or the slowdown in the GCC. Based on alternative estimates, the deceleration of growth during recent years is lower than during the beginning of the crisis but still substantial. This result indicates that the SRC and the regional conflicts continue to reduce growth despite the substantial deceleration of the influx of refugees which points to the impact of more recent shocks.

[7] See, for instance, Gobat and Kostial (2016).

[8] Staff's previous research puts the size of the informal sector in Jordan at about 26 percent of measured GDP (Abdih, 2011). UNDP (2015) estimates the indirect cost of SRC through the informal sector to be 0.2 percent of GDP.

[9] UNDP (2015) depicts a similar impact of the SRC on labor markets.

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persistent reduction of the share of self-employed in the economically active population, a proxy for informal employment (see figure below).[10]

Quarterly Labor Market statistics

Source: Department of Statistics of Jordan and staff calculations. All rates are four-month moving averages.
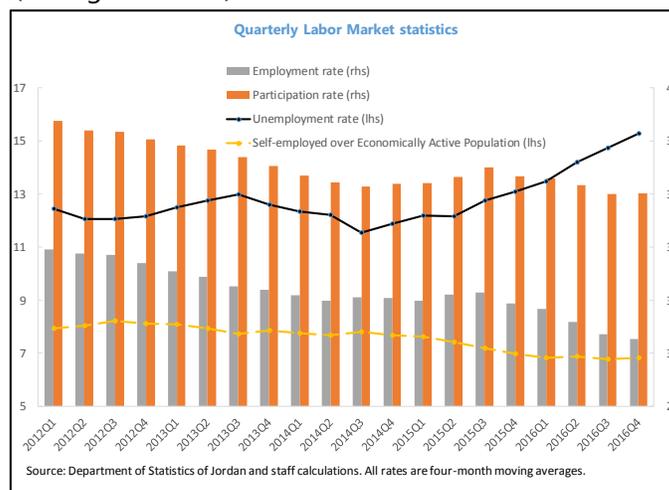
4.   Unemployment grew the most in governorates that host most of the refugees. About 90 percent of the registered Syrian refugees th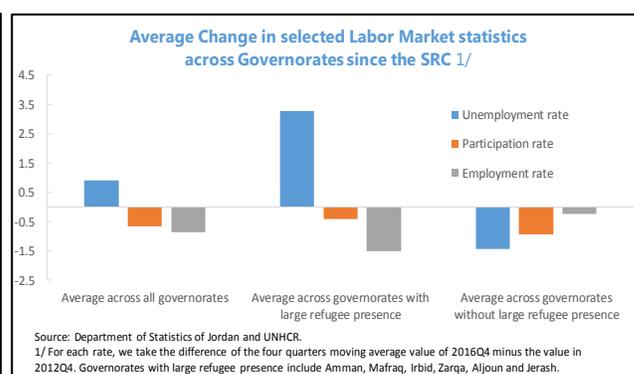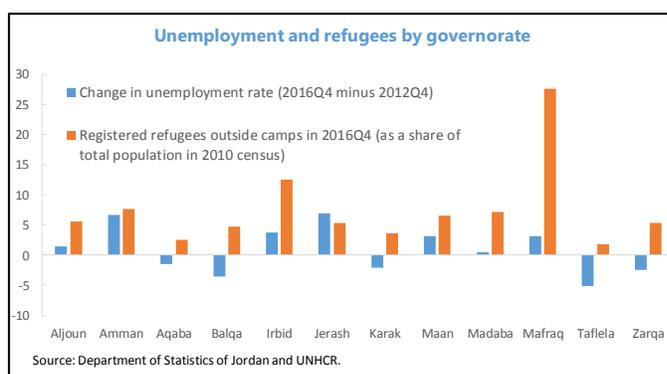at live outside camps are in Amman, Mafraq, Irbid, and Zarqa. These governorates, and the small northern governorate of Jerash, present the highest growth of unemployment since the beginning of the SRC (see figures below). The average unemployment rate of governorates with the largest influx of refugees increased by about 3.3 percent since the beginning of the SRC, while in the rest of the governorates, it decreased by 1.4 percent. Labor force participation decreased slightly in the governorates with large influx of refugees, while it decreased above national levels in the rest of the governorates (see figures below).

Unemployment and refugees by governorate

Source: Department of Statistics of Jordan and UNHCR.

Average Change in selected Labor Market statistics across Governorates since the SRC 1/

Source: Department of Statistics of Jordan and UNHCR.
1/ For each rate, we take the difference of the four quarters moving average value of 2016Q4 minus the value in 2012Q4. Governorates with large refugee presence include Amman, Mafraq, Irbid, Zarqa, Aljoun and Jerash.

These patterns indicate that Syrian refugees have competed with Jordanians in labor markets. Policies such as the relaxation of the rules of origin of the EU for Jordanian exporters that employ Syrian and Jordanian workers are conducive to coordinating efforts to engage refugees in productive and formalized economic activities.[11]

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[10] Given the lack of data on informal labor markets and the fact that self-employment workers are more likely to participate in these markets, the reduction of self-employment as a share of total employment may reflect the fact that some self-employed workers have become unemployed or left the labor force because of the competing pressures in this sector stemming from the influx of Syrian refugees.

[11] See, for example, Errighi and Griesse (2016).

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5.   The SRC may have increased the difference between formal and informal wages. The figure below depicts a simple model of the labor market in Jordan before and after the SRC. Before the SRC, the unemployment (U_0) was due to the excess supply of labor in the formal sector at formal wages ($W_F+\alpha$). The informal labor market is assumed to be in equilibrium but, after the SRC, the labor supply increases (S_{I1}), owing to the influx of Syrian refugees depressing informal wages (W_{I1}). This is consistent with findings of an ILO report, which shows that the labor force participation of Syrian refugees is approximately 30 percent, slightly below the Jordanian, and most of the refugees participate in the informal economy.[12] Moreover, since some Syrian workers are receiving working permits, this would be expected to increase the formal labor supply (S_{F1}).[13] And formal labor demand may have decreased (D_{F1}), owing to the negative impact of the SRC and regional conflicts on economic activity and to the negative incentives. As a result, the wedge between formal and informal wages ($W_F+\alpha- W_{I1}> W_F+\alpha- W_{I0}$) may have increased. Thus, unemployment (U_1) in the formal sector would be expected to increase, as observed in the actual data, or there could be some reduction in formal wages, offsetting some of the impact on unemployment. A reduction of payroll taxes could stimulate the demand for formal jobs, by reducing the equilibrium wage in the formal sector ($W_F+\alpha$), as wage costs would be lower (for employers and employees), and reduce incentives to demand labor in the informal sector ($W_F+\alpha- W_{I1}$).[14]
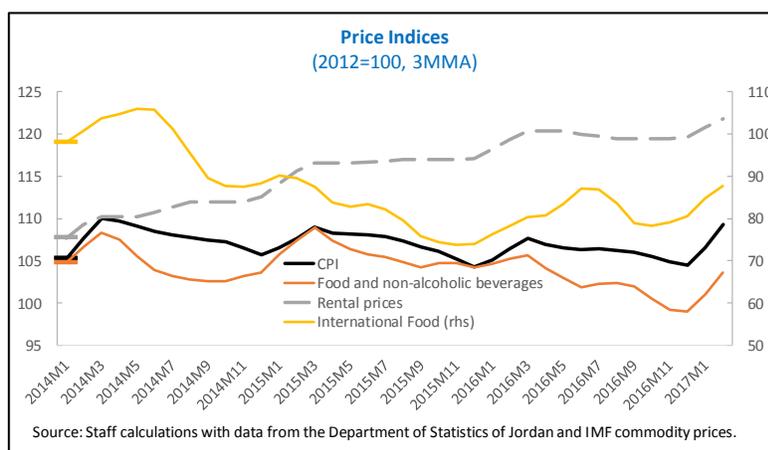

A Model for the Labor Market in Jordan

Formal Labor Market   *Informal Labor Market*

References: D is the labor demand; S is the labor supply; U is the unemployment; W are the wages; α are other costs of formal employment such as payroll taxes; the sub index F denotes formal sector, I denotes informal sector, 0 denotes before the SRC, and 1 denotes after the SRC.

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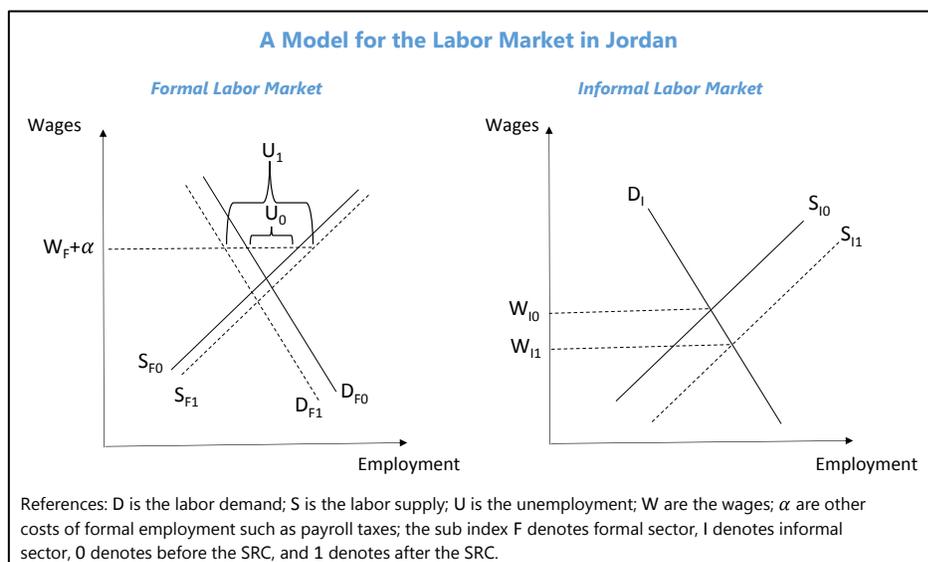
[12] See, for instance, Stave and Hillesund (2015).

[13] Approximately 32,000 working permits for Syrian refugees were issued by November 2016.

[14] Payroll taxes (or social security contributions) amount to 21 percent of private sector wages in 2016, with about two-thirds paid by the employer and one-third by the employee. Kugler and Kugler (2009) estimated that a 10 percent increase in payroll taxes reduce wages by 1.4 to 2.3 percent and employment by 4 to 5 percent, and suggested a negative impact on formal employment, using a panel of fifteen years of plant level data in Colombia. Antón (2014) suggested that the reduction in payroll taxes in Colombia in 2012 may have increased total employment by 0.3 to 0.5 percent, formal employment by 3.4 to 3.7 percent, and formal wages by 4.9 percent. Colombia has a sizable informal sector and a minimum wage that appears to be binding for a significant portion of the workforce as in the case of Jordan. See for more details the Selected Issue Paper on "Payroll Taxes and Employment: Considerations and International Experience."

C. Inflation

6.   The SRC pushed up non-tradable goods prices at a decreasing rate recently but did not impact substantially the price of tradable goods. Rental prices grew 2.3 percent faster after the SRC than over the average of the last decade, reflecting an inelastic supply of housing relative to the rise in demand stemming from the influx of refugees.[15] The initial acceleration over the first year of the crisis seems to be slowing down afterwards (see figure below). However, food prices have maintained their historical positive correlation with international food prices.[16] Given that rental prices are only about 16 percent of the overall CPI, the impact of the SRC on the general price level in Jordan does not appear substantial.[17]

Price Indices
(2012=100, 3MMA)

Source: Staff calculations with data from the Department of Statistics of Jordan and IMF commodity prices.

D. Balance of Payments

7.   The SRC and the conflicts in Syria and Iraq have led to a significant increase in Jordan's trade deficit. The conflicts disrupted exports that depended on Syria as a major export route to other important destinations such as Lebanon, Europe, Turkey and Central Asia. The closing of remaining border crossings with Syria and Iraq in 2015 represented another blow to Jordanian exports (see figure). Exports to Iraq—once Jordan's major export market, accounting for almost a fifth of domestic exports or about $1.2 billion a year—have declined by more than 50 percent since the closing of the Iraqi-Jordanian border. Jordan has tried to mitigate these losses by resorting to alternative but more expensive routes such as Aqaba Port and by air, as well as searching new markets, including in the region and in Africa.[18] In fact, domestic exports to the GCC have remained

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[15] UNDP (2015) reports that rent prices increased by 17 percent as a result of soaring demand for housing by refugees since 2012. The Central Bank of Jordan estimates a slightly higher impact of SRC on rental prices: 2.8 percent faster growth after the SRC than over the average of the last decade.

[16] The increase in volume of food imports at international discussed in the next section support this result.

[17] However, rental prices are about 35.6 percent of the core inflation indicating a higher impact of this shock on the long-term trend of the general price level in Jordan.

[18] Ianchovichina and Ivanic (2014) estimated sizeable transport costs for Jordan as a result of the Syrian conflict. These are probably having adverse implications for competitiveness.

robust in the past five years and helped mitigate the loss of the Iraq and Syrian markets. Meanwhile, the large influx of refugees has led to a significant increase in food imports (see figure), and the growth of total non-energy imports outpaced real GDP growth during 2012–15. As a result, non-oil trade deficit increased significantly in the past years, from about 14 percentage points of GDP in early 2011 to about 19 percent of GDP in the second half of 2016 (see figure). The deterioration in the overall trade deficit has been mitigated by the decline of oil prices since the second half of 2014.

Exports by destination
(4-quarter moving average, in percent of GDP)

Sources: Jordanian authorities; and IMF staff calculations.

Non-energy imports, volumes
(4-quarter moving average, 2010Q1=100)

Sources: Jordanian authorities; and IMF staff calculations.

Trade deficit
(4-quarter moving average, in percent of GDP)

Sources: Jordanian authorities; and IMF staff calculations.

8.   The conflicts also adversely affected tourism. Despite Jordan's stability, the conflicts are having negative spillovers into Jordan's tourism sector, as illustrated by the persistent fall in tourism arrivals and travel receipts (see figure), which have been partially mitigated by the sustained performance of arrivals of Jordanian expatriates.[19] It is important to note, however, that travel receipts were already slowing down before the SRC, including because of the uncertain regional environment already prevailing back then.[20]

Travel receipts
(in percent of GDP)

Sources: Jordanian authorities; and IMF staff calculations.

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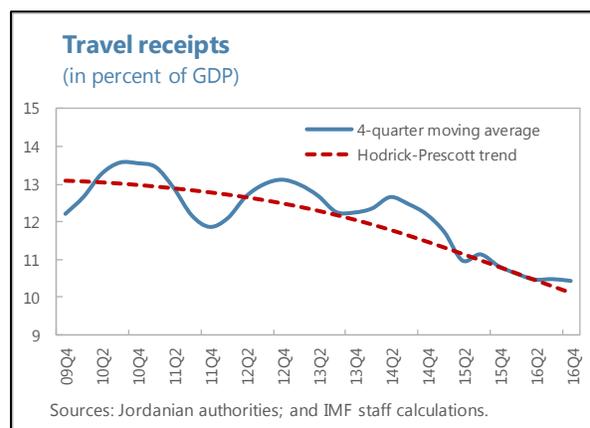
[19] Though Jordanians living abroad tend to spend less in per capita terms than foreigners when visiting Jordan, their longer length of stay help make travel revenues more stable.

[20] For instance, a study by the UNDP (2015) cites that other conflicts in the region also had an impact on travel receipts.

9.   The mobilization of public and private transfers has helped to mitigate current account pressures. Jordan has been receiving considerable support from the international community to better cope with the refugee crisis. Transfers to the budget and private transfers (i.e., transfers from private citizens, donor support received by NGOs in Jordan and transfers through UN agencies) have also contributed to contain the overall current account deficit. However, as international transfers have started to slow down lately, they would contribute less to contain the current account deficit going forward (see figure).[21]

International transfers
(4-quarter moving average, in percent of GDP)

Sources: Jordanian authorities; and IMF staff calculations.
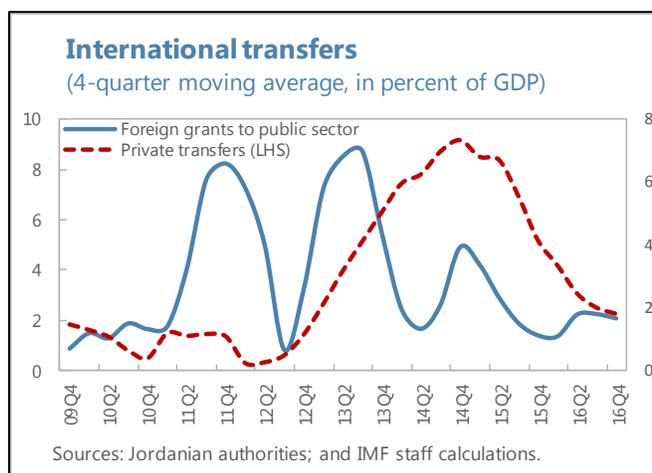
10.   Nevertheless, the non-oil current account deficit has widened since end-2013. The widening in non-oil trade deficit, falling travel receipts, and declining international support have all contributed to a sharp rise in non-oil current account deficit in recent years. The non-oil current account balance shifted from an average surplus of about 6 percent of GDP in 2010–14 to a record-high deficit of 3 percent of GDP in

Current account deficit
(4-quarter moving average, in percent of GDP)

Sources: Jordanian authorities; and IMF staff calculations.

the past two years (see figure). As mentioned before, lower oil prices have provided some respite and helped contain the deterioration of the overall deficit. Yet, the current account balance remains highly vulnerable to sharp increases in oil prices.
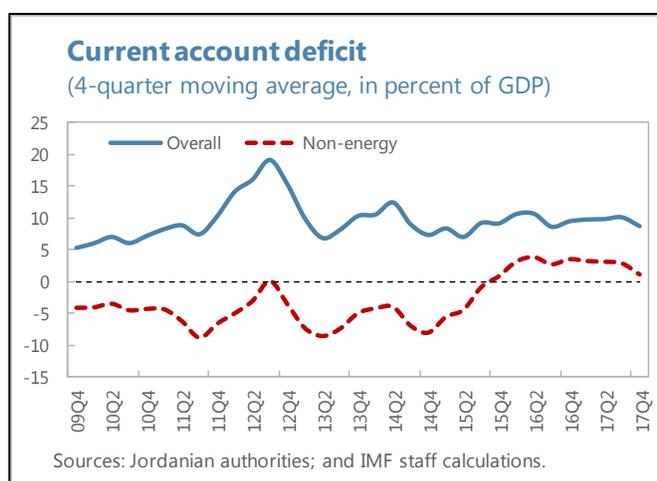
11.   Unidentified capital inflows, including possibly from Syria, may have helped to finance the balance of payments. Anecdotal evidence suggests that businesses have left Syria and transferred their capital and equipment to neighboring countries.[22] Available data do not allow for a quantitative assessment, but the large positive errors and omissions since early 2013 (annual average of about 3 percent of GDP) may be linked to unmeasured FDI, including from Syria, which could have helped finance the large deterioration of the non-oil current account deficit observed in recent years.[23] It could have also helped mitigate the fall of measured FDI, which averaged only about 4.5 percent of GDP since early 2013, or about half the historical average.

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[21] Further mobilization of donor support in the context of the London Conference and the Fund's financing and catalytic role under the EFF would help deal with these pressures while ensuring adequate reserve levels.

[22] See, for instance, Gobat and Kostial (2016).

[23] While large errors and omissions may be related to unmeasured FDI, Syrian-related investments may not be large enough to explain the sizeable errors and omissions.

12.   The SRC and regional conflicts have worsened Jordan's current account, while private inflows may have provided some respite to the balance of payments. This assessment is in line with the findings of a few studies that have tried to quantify the impact of the Syrian crisis on Jordan's balance of payments. For instance, the UNDP (2015) estimated that the influx of refugees increased food imports in cumulative terms by almost $0.9 billion (2.5 percent of GDP) in 2012–15, while the cumulative loss of tourism revenues during the same period amounted to $1.8 billion (5 percent of GDP). In the same vein, Al Wazani (2014) estimates that the average annual increase in trade deficit stemming from the Syrian crisis during 2012–14 could have reached 6 percent of GDP. However, this large increase would have been partially mitigated by additional foreign aid and investments received in the same period.[24]

E. Fiscal Costs

13.   The SRC has increased actual government spending by at least one percent of GDP since 2013. Based on a 2014 study by USAID, staff updated estimates of the fiscal impact of the Syria crisis on the central government and utilities.[25] Based on the USAID's dataset, which includes detailed bottom-up estimates of new public expenditures excluding donor financed expenditures, staff extended their estimates towards 2015. The table below shows that the estimated actual additional spending in budget outturns as a result of subsidies and new activities resulting from the influx of Syrian refugees exceeded 1 percent of GDP a year from 2013 to 2015. The security sector had the largest expenditures related to the SRC.[26] This analysis does not include the impact on government revenue associated with the reduction of GDP stemming from to the SRC and regional conflicts.

Estimated Fiscal Impact of the Syrian Refugee Crisis						
	Direct Fiscal Impact			Overall Fiscal Impact		
	2013	2014	2015	2013	2014	2015
Total (million JD)	273.4	333.1	334.8	431.0	564.1	579.3
of which :						
Health	42.8	65.8	68.0	53.2	80.8	83.8
Education	0.3	2.0	2.0	26.7	42.0	42.9
Public Works (Municipalities)	8.3	13.2	13.9	15.8	20.0	20.7
Food and LP Gas	18.3	20.2	17.3	18.3	20.2	17.3
Security	131.5	133.4	144.4	163.5	196.6	214.1
Electricity	48.0	67.1	53.5	48.0	67.1	53.5
Water	24.2	31.3	35.6	105.4	137.5	147.0
Total (percent of GDP)	**1.1**	**1.3**	**1.3**	**1.8**	**2.2**	**2.2**
Number of refugees (thousands)	483	620	636	483	620	636

Source: Staff calculations building on previous work by USAID and updated data from UNHCR and Government of Jordan.

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[24] See Khalid al Wazani (2014).

[25] See Nasser and Symansky (2014). This paper's methodology was designed in collaboration with Fund and World Bank staff.

[26] Our estimates are broadly in line with USAID's estimates. However, for 2014, they are somewhat smaller than USAID's because food and oil prices ended up being lower than expected in early in 2014, reducing the estimated cost of energy and food subsidies.

14.   However, when factoring in the impact of refugees that are not officially registered already in Jordan, as well as the impact of refugees on the quality of public services, fiscal costs tend to be significantly higher. In the table above, staff also re-estimated the indirect fiscal costs of the SRC to re-establish the quality of public services to pre-crisis levels. These calculations imply additional fiscal costs of approximately one percent of GDP. The largest contributors are health and education services owing to the deterioration of the quality of the services, and water services because the additional demand imposes the need for additional capital expenditures to secure water provision in one of the most water-scarce countries in the world. As done in the USAID study, staff used the average number of registered refugees over the year in accordance with UNHCR; if the Syrians who remained in Jordan before the crisis were included, the extrapolation of the overall average annual (direct and indirect) fiscal costs would be about 3.5 percent of GDP.[27]

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[27] Following USAID's report by Nasser and Symansky (2014), we only included the registered refugees reported by UNHCR in our baseline estimation. The marginal impact on public expenditures may be driven by the net influx and not necessarily by the Syrians already residing in Jordan before the SRC.

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JORDAN: A BALANCE SHEET ANALYSIS[1]

This is a first attempt at conducting a Balance Sheet Analysis of the Jordanian economy.[2] Through a closer look at the balance sheets of the main sectors, it aims at identifying potential financial vulnerabilities. While limited by significant data constraints, the analysis suggests a number of issues that would need to be addressed to reduce potential vulnerabilities over the medium term.

A. Introduction and Motivation

1. **Jordan's external and fiscal vulnerabilities remain substantial**. While significant progress has been made since 2012 in reducing the fiscal and current account deficits, they remain elevated. Gross public debt has increased from 67 percent of GDP at end-2010 to 95 percent of GDP at end-2016 and Jordan's net external position has also gradually worsened over this period, from -70 to -97 percent of GDP, with liabilities to the rest of the world amounting to about 165 percent of GDP at end-2016 (see text table), well in excess of its claims on the rest of the world (68 percent of GDP). Public debt and external liabilities could continue increasing substantially and reach unsustainable levels over the medium term if the authorities do not implement fiscal, financial, and structural reforms.

Jordan: External Liabilities, 2005–16												
(In percent of GDP)												
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total liabilities	273	217	237	176	162	160	153	152	162	162	161	165
FDI	105	84	111	93	87	83	81	80	80	80	80	83
Currency and deposits	40	39	39	36	33	34	32	30	34	32	29	26
Loans	57	50	45	24	24	24	22	23	24	23	24	24
Equity securities	65	39	38	20	14	13	11	11	12	12	12	11
Others	5	4	4	3	3	7	7	8	12	15	17	20

Sources: Central Bank of Jordan; and Fund staff estimates.

2. **This paper takes a closer look at these vulnerabilities through a Balance Sheet Analysis**. While data availability is an important limitation, the analysis helps to identify a number of sectoral vulnerabilities and policies that could help strengthen Jordan's resilience to shocks.
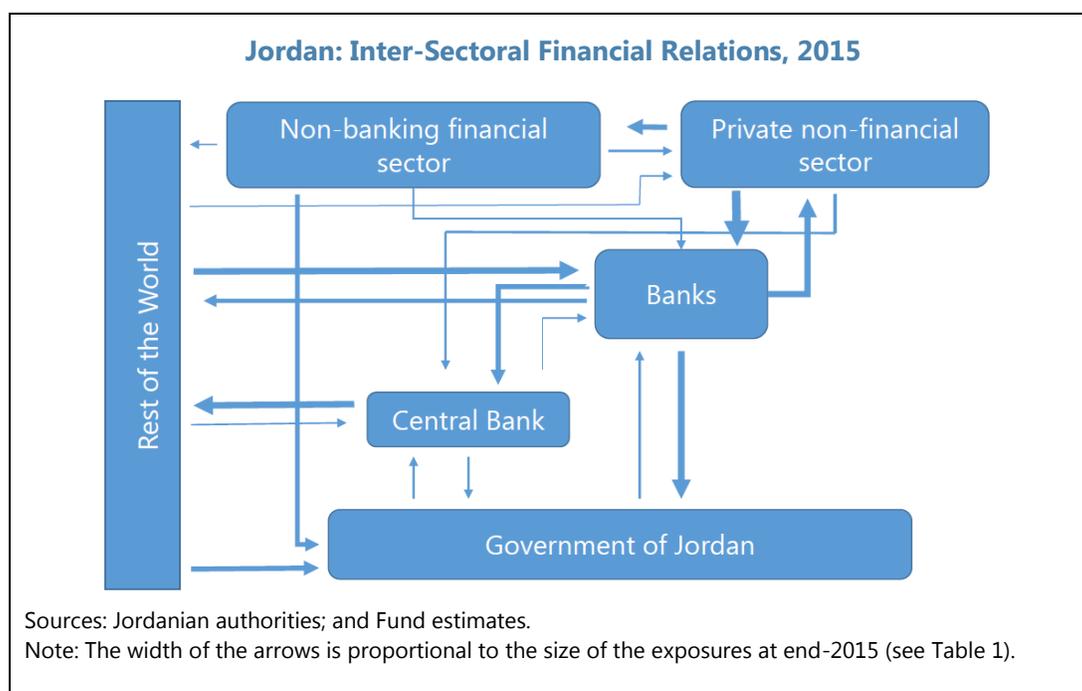
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[1] Prepared by Edouard Martin (MCD).

[2] See "Balance Sheet Analysis in Fund Surveillance," IMF, June 2015.

B.   Overview of Jordan's Inter-Sectoral Financial Relations

3.   Jordan inter-sectoral financial relations gravitate around the sovereign-banking sector nexus (Figure 1 and Table 1).

- By the sheer size of their balance sheet (with total assets amounting to 176 percent of GDP at end-2016), commercial banks play the most significant role in Jordan's complex web of financial relations. They are also the main source of funding for both the public and private sectors. The sector is highly capitalized (with a capital adequacy ratio of 19 percent at end-2016), has comfortable liquidity (with an average liquidity ratio of 138.1 percent at end-2016, well in excess of the regulatory minimum of 100 percent), and limited non-performing loans (4.4 percent of total loans at end-2016, and 3.5 percent net of provisions), and is profitable (with a return on equity of 8.8 percent in 2016).

- The public sector is Jordan's largest debtor, with public debt increasing from 67 percent of GDP at end-2010 to 95 percent of GDP at end-2015. While much progress has been made over the last few years to reduce the budget deficits and public utility losses that fueled this increase, much remains to be done to ensure that this trend reverse in the coming years.

- While small in comparison with the banking sector, the non-banking financial sector, and particularly the Social Security Investment Fund (SSIF), has played an increasing role in financing the economy, and particularly the government, in recent years. The SSIF's domestic assets increased from JD 6.1 billion at end-2013 to JD 7.6 billion (28.6 percent of GDP) at end-2015.

Jordan: Inter-Sectoral Financial Relations, 2015

Sources: Jordanian authorities; and Fund estimates.
Note: The width of the arrows is proportional to the size of the exposures at end-2015 (see Table 1).

- Since end-2012, the Central Bank of Jordan (CBJ) has rebuilt an adequate level of gross usable reserves, from only 66 percent of the reserve adequacy matric (RAM) to 122 percent at end-2016, while gradually reducing its financing of the public sector.[3]

- As data on the non-financial private sector are very limited, any analysis of its balance sheet has to be inferred from the other sectors' balance sheets. The sector, which includes nonfinancial corporations and households, is the main provider of bank deposits and the main debtor to the banking system.

- The external sector is a major source of financing for the government and for the banking sector, while the CBJ's gross international reserves constitute most of its liabilities to Jordan.

C. Sectoral Balance Sheets

The Economy's Overall Position

4.   **Jordan is a net debtor, whose net external position has worsened over the last few years.** At end-2016, Jordan's liabilities to the rest of the world amounted to about 165 percent of GDP, well in excess of its claims on the rest of the world (68 percent of GDP). While Jordan's net external position has gradually worsened over the last few years (from -70 percent of GDP at end-2010 to -97 percent of GDP at end-2016), it remains significantly stronger than a decade ago (when it was close to -160 percent of GDP at end-2005). The worsening over the last six years mainly reflected a decline in foreign assets, notably commercial banks' loans and deposits abroad, while foreign liabilities increased only slightly relative to GDP.

Jordan: External Position, 2000-16 (In percent of GDP)

Jordan: Foreign Assets, 2000-16 (In percent of GDP)

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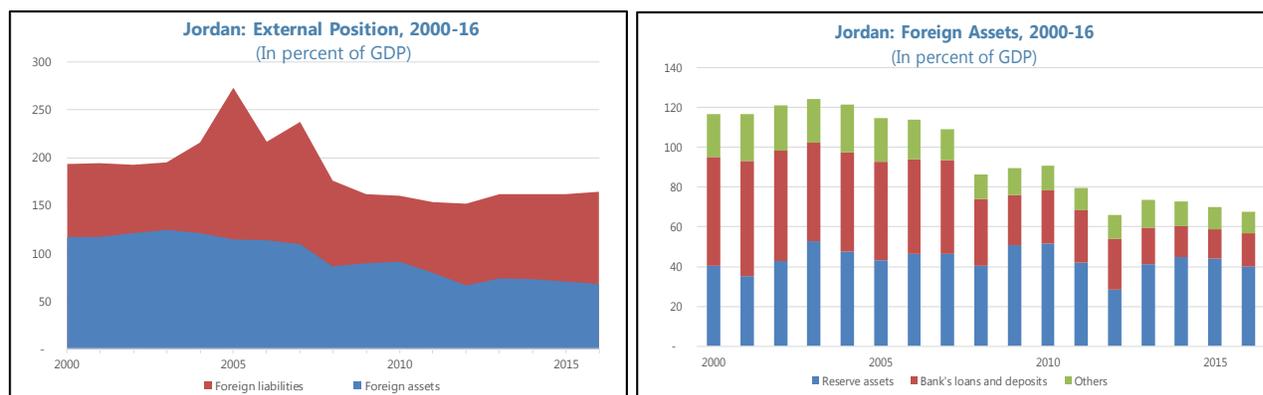
[3]Gross usable reserves are defined as gross international reserves minus commercial banks' foreign exchange deposits at the CBJ and forward contracts.

Jordan: External Liabilities, 2005–16 (In percent of GDP)											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total liabilities	273	217	237	176	162	160	153	152	162	162	161	165
FDI	105	84	111	93	87	83	81	80	80	80	80	83
Currency and deposits	40	39	39	36	33	34	32	30	34	32	29	26
Loans	57	50	45	24	24	24	22	23	24	23	24	24
Equity securities	65	39	38	20	14	13	11	11	12	12	12	11
Others	5	4	4	3	3	7	7	8	12	15	17	20

Sources: Central Bank of Jordan; and Fund staff estimates.

5.   While increasing slightly over the last few years, external debt remains well below the levels observed in the early 2000s. The recent increase, from about 65 percent of GDP at end-2010 to 70 percent at end-2016 reflected increases in the government's and CBJ's external debt, which were only partly offset by a decline in commercial banks' liabilities (essentially currency and deposits). The non-financial private sector's external debt remained broadly unchanged over that period, at a low level of less than 10 percent of GDP. Debt duration progressively increased, with medium- to long-term debt representing 58 percent of external debt at end-2016, compared with 43 percent at end-2010.

Jordan: External Debt, 2000-16 (In percent of GDP)

Jordan: External Debt, 2000-16 (In percent of GDP)
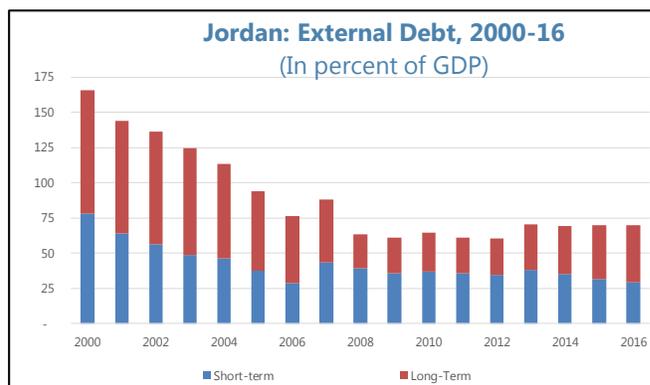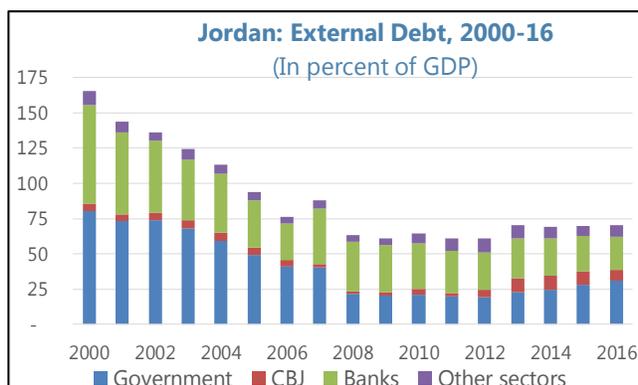
The Public Sector (Government and CBJ)

6.   The public sector's overall financial position is negative, largely reflecting its large public debt. On the asset side, the government essentially holds deposits with the central bank and the commercial banks. These deposits, which amounted to 6.6 percent of GDP at end-2016, were mostly used for budgetary cash management purposes or were earmarked for specific expenditures (such as investment projects financed from budgetary grants by GCC countries), and therefore are not considered as claims/assets. The CBJ's net financial position is more balanced, with its substantial net foreign assets essentially financed from government and bank deposits and currency in circulation.

7.   The non-banking and external sectors have played increasing roles in financing the government. After increasing gradually until 2012, the financing provided by the banking sector to the g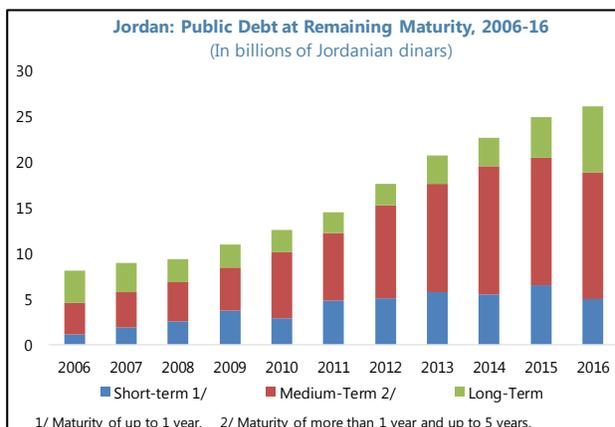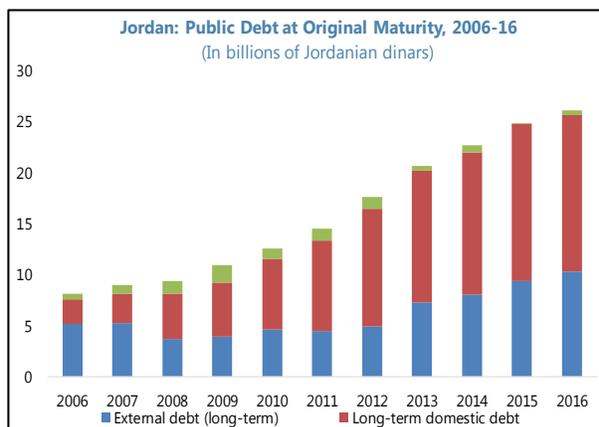overnment has since slightly declined, from 41.3 to 37.6 percent of GDP at end-2016, with a decline in central government bill and bonds holdings only partly compensated by an increase in loans and advances to NEPCO and WAJ. Over the same period, the financing provided by the CBJ to the government declined from 6½ percent of GDP at end-2012 to 1¾ percent of GDP at end 2016, as the CBJ gradually reduced its holdings of treasury bills and bonds and as the government continued to reimburse the CBJ bonds for overdraft settlement issued in 2008. In this context, over the last 4 years, the increase in public debt was essentially financed from external sources (with external

Jordan: Public Debt at Original Maturity, 2006-16
(In billions of Jordanian dinars)

Legend: ■ External debt (long-term)   ■ Long-term domestic debt

Jordan: Public Sector Financing by Banks, 2006-16
(In percent of GDP)

Legend: ■ Treasury bills and bonds   ■ Corporate bonds   ■ Loans and advances

debt increasing from 22½ to 37½ percent of GDP) and from non-bank financial institutions (whose financing increased from 10 to 18¼ percent of GDP). Over that period, the SSIF more than doubled its claims on the government, contributing more than three quarters of the government's net domestic financing, including the essential of its financing at longer maturities (7- and 10- year domestic bonds).
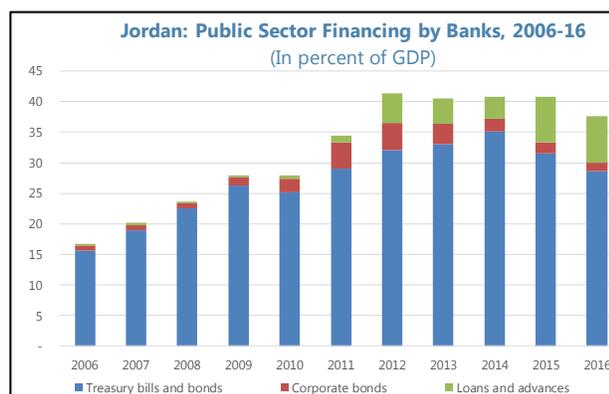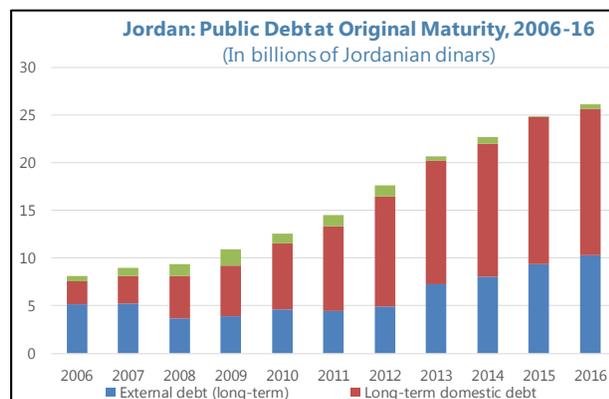
8.   The average maturity of public debt remains relatively low. After declining in 2010–11, the average maturity increased from 3.1 years at end-2011 to 4.2 years at end-2016, reflecting primarily the increase in the maturity of domestic debt from 1.6 to 3.0 years and the increase in the share of external borrowing (with longer maturities than domestic debt) even if the latter's average maturity was essentially unchanged. This increase in domestic debt maturity reflected in turn the authorities' gradual introduction of longer-term bonds (in the 4-, 5- 7-, and 10-year tenure), which contributed to a decline in the share of short-term borrowing (at original maturity) from 13.5 percent of domestic debt at end-2010 to 3 percent at end-2016. The average maturity, especially for domestic debt, remains, however, relatively low, contributing to the government substantial roll-over needs.

Jordan: Public Debt's Average Maturity, 2009–16
(In years)

	2009	2010	2011	2012	2013	2014	2015	2016 1/
Domestic debt	1.9	1.9	1.6	1.8	1.9	2.0	2.1	3.0
External debt	7.5	6.1	6.6	6.4	5.6	5.4	6.0	6.7
Total public debt	**3.9**	**3.7**	**3.1**	**3.4**	**3.1**	**3.2**	**3.6**	**4.2**

Source: Ministry of Finance.
1/ Preliminary.

Jordan: Public Debt at Original Maturity, 2006-16
(In billions of Jordanian dinars)

Jordan: Public Debt at Remaining Maturity, 2006-16
(In billions of Jordanian dinars)

1/ Maturity of up to 1 year.   2/ Maturity of more than 1 year and up to 5 years.

9.   The CBJ has rebuilt an adequate reserve buffer in recent years. Gross usable reserves have increased from three months of imports of goods and non-financial services and 66 percent of the IMF's RAM at end -2012 to 7¾ months of imports and 122 percent of the RAM at end-2016. This accumulation of usable reserves, from $6.1 to $14.5 billion over a three-year period, relied only to a small extent on the accumulation of external liabilities. Over that period, the CBJ's foreign liabilities increased from $1.3 to 2.8 billion, essentially reflecting the increase in its net position with the Fund ($1.3 billion) in the context of the Stand-By Arrangement and the Extended Fund Facility and an increase in deposits by GCC countries ($0.2 billion).

Jordan: CBJ's Reserves and Foreign Liabilities, 2010-16
(In billions of U.S. dollars)
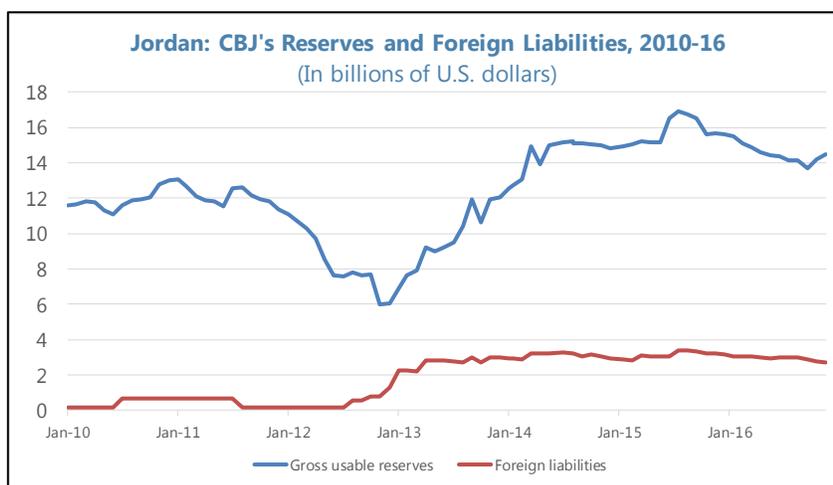
The Banking Sector

**10.   The banking sector remains well capitalized.** The sector's capital adequacy ratio increased from 18.4 percent in 2014 to 19 percent in 2016, and was well above the prudential requirement of 12 percent, both for commercial banks and for Islamic banks. The stress tests conducted by the CBJ last year, indicate that banks would preserve adequate capital levels under most scenarios.[4]

Jordan: Liquidity Ratio, 2010-16
(In percent of weighted liabilities)

Jordan: Capital Adequacy Ratio, 2010-15
(In percent)
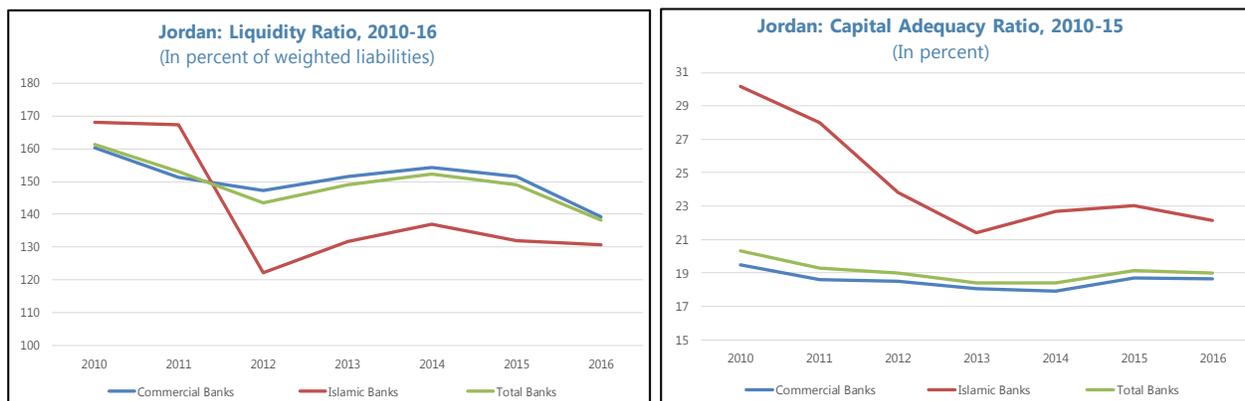
11.   While the banks' net short-term position is negative, they remain highly liquid. While deposits have mostly short-term maturities, they have been increasing at a remarkably steady pace over the last ten years, with little sign of withdrawals during periods of stress.[5] On the asset side, the shares of their claims on the public and private sectors have stabilized over the last few years, at, respectively, about 25 and 40 percent of total assets.

Jordan: Commercial Bank's Assets, 2005-16
(In percent of total assets)

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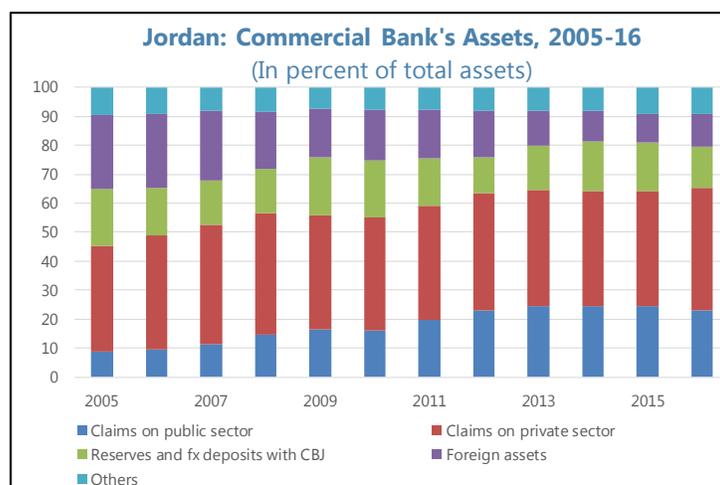
[4] Out of 25 banks, one bank would see its capital decline under 8 percent if their largest six borrowers were to default; it would be the case for two banks under a credit risk scenario (i.e., doubling of default rates) and of one bank under an interest rate shock of 100 bps.

[5] From 1997-2016, the smallest observed y-o-y increase in total deposits was 2.3 percent in January 2013. Even at that time, economic tensions led to deposit dollarization (which increased from 16.6 to 24.8 percent during 2012) rather than deposit withdrawals. The y-o-y decline in deposits in early 2016 mainly reflected one-of operations, including the one-off purchase by Jordanian investors of foreign participations in Arab Bank and Dubai Islamic Bank.

12.   Consistent with the CBJ's prudential regulations, commercial banks have kept their net open foreign currency position close to balance.[6] Over the last ten years, this position has fluctuated between -¾ and +3¼ percent of the banks' foreign currency assets, and amounted to 1.6 percent at end-2016. It is worth noting that in 2012, when deposit dollarization amounted to close to 25 percent, the net position excluding forwards amounted to -9.1 percent of the banks' foreign currency assets and was only closed/balanced through the signing of forward contracts equivalent to about 10.6 percent of these assets. With confidence restored and deposit dollarization lower despite the recent rebound (18.9 percent at end-2015), the commercial banks were able to unwind their forward contract position (from JD 1.1 billion at end-2012 to JD 33 million at end-2016) while keeping a broadly balanced net open foreign currency position.

13.   While the credit-to-GDP ratio remains below its long-term trend, the CBJ should continue to monitor closely the credit to households. Credit to private sector amounted to 74 percent of GDP at end-2016, slightly higher than at end-2010 (72½ percent of GDP), with the credit gap (i.e., the difference between the credit-to-GDP ratio and its long-term trend) amounting to -4.8 percent of GDP at that time. Credit to households (mostly mortgage loans) has increased particularly briskly over the last few years, growing at an average of 12.7 percent a year in 2014–16, compared with 4.1 percent for credit to corporates. The CBJ should monitor this trend closely, and, if it were to persist, consider adopting additional macroprudential measures (Annex).

Jordan: Credit-to-GDP Ratio, 1992-2022
(In percent)
Sources: Central Bank of Jordan; and Fund staff estimates.

Credit to the private sector
(y-o-y change, in percent)
Sources: National authorities; and IMF staff estimates.
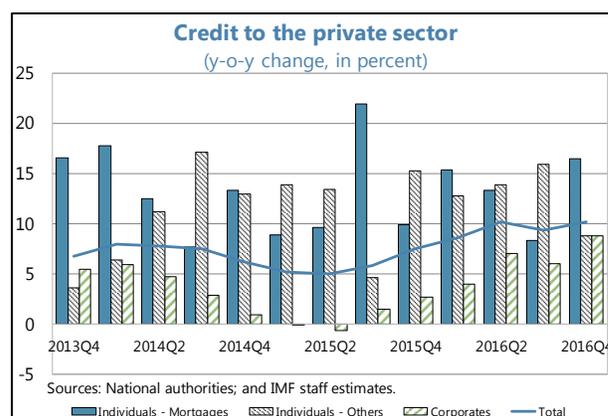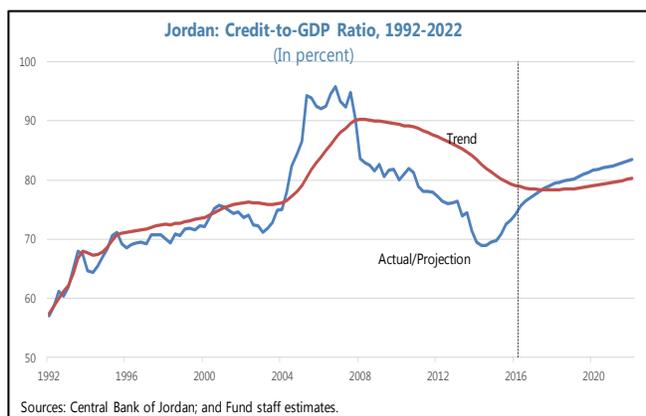
The Non-Banking Financial Sector

14.   The share of government financing in the SSIF asset portfolio has increased steadily over the last 5 years. This financing has increased from JD 1.1 billion at end-2010 to close to JD 4 billion at end-August 2016, equivalent to about 90 percent of the increase in SSIF's assets over that period. It now represents close to 50 percent of its assets, compared with only 21 percent at

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[6] Under CBJ's regulation, banks' net open position should not exceed 15 percent of their capital. Also, their net open position in any given currency other than the U.S. dollar should not exceed 5 percent of their capital.

end-2010, and exceeds the upper end of the SSIF's target range for government financing.[7] This increasing share reflects to a large extent the constraints imposed on its capacity to invest abroad (its foreign assets amounted to JD 28 million at end-2015, or 0.4 percent of its total assets, compared with a targeted range of 5–15 percent), and the limitations of other domestic investment opportunities. In particular, the SSIF's poor investment performance over the last five years (with an average annual rate of return of 2.1 percent over 2011–15) reflects the weak performance of the Amman Stock Exchange (ASE) index, which declined by 9 percent over that period.[8] While the share of the SSIF's investments in real estate has been broadly stable at around 7 percent (within the 5–12 percent targeted range), the share of investment in tourism has declined to 3.7 percent (just under the targeted range of 4–8 percent).

Jordan: Social Security Investment Fund's Assets, 2010-15
(In millions of Jordanian dinars)

Jordan: Social Security Investment Fund's Assets, 2010-15
(In percent of total assets)

15.   Other non-banking financial institutions play a limited role in the financing of the Jordanian economy. The insurance sector's assets grew by 21 percent from 2010 to 2015, to JD 870 million (3.3 percent of GDP), including about JD 534 million (2 percent of GDP) in financial investments. While growing quickly (annual average growth of 20 percent from 2011–14), the microfinance industry remains relatively small, with about 340,000 borrowers and a credit portfolio of JD 158 million (0.6 percent of GDP) at end-2014.
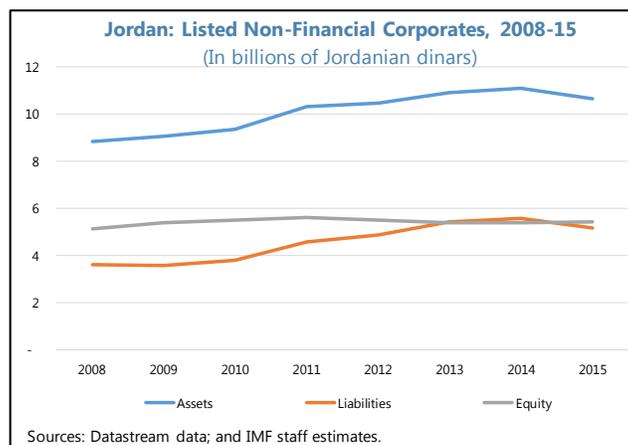
The Non-Financial Private Sector (NFPS)

16.   The NFPS appears to be a net creditor, with the sector's bank deposits, currency holdings, and claims on the SSIF well exceeding its domestic and foreign borrowing. Publicly available data for this sector are very limited, as data for the nonfinancial corporate sector cover mostly the companies listed on the Amman stock exchange. These data indicate that the assets and liabilities of the listed nonfinancial companies have moved in parallel over the last few years, while their capital has not changed significantly, representing about 50 percent of their assets at end-2015. From 2011 to 2015,

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[7] The SSIF's investment policy as of August 2016 set the following asset allocation targeted ranges (in percent of total assets): equity: 46–56 percent; bonds: 22–35 percent; foreign assets: 5–15 percent; real estate: 5–12 percent; tourism: 4–8 percent; money market instruments: 2–8 percent; and loans: 2–5 percent.

[8] Reflecting in part the importance of the banking sector on the ASE, SSIF's equity portfolio was highly concentrated in this sector, which represented 57 percent of the total portfolio at end-2105.

and as a result of the rapid increase in bank borrowing, household debt increased from 29 to 37 percent of GDP.

Jordan: Listed Non-Financial Corporates, 2008-15
(In billions of Jordanian dinars)

Sources: Datastream data; and IMF staff estimates.

D. Conclusions

17.   While limited by data constraints, the balance sheet analysis of the Jordanian economy points to a number of issues that the authorities will have to address to reduce potential vulnerabilities over the medium term:

- **The still low average maturity of public debt.** Consistent with the new medium-term debt management strategy, this would help to reduce the government gross financing needs and roll-over risks;

- **The increasing reliance of the government on financing from the SSIF.** While it has helped the government finance itself at relatively low rates over the last few years, this trend may not continue without affecting the SSIF's investment policy objective, including the goal of diversifying its asset portfolio. In addition to reducing the government net financing needs through fiscal consolidation, the authorities should consider letting the SSIF more leeway in investing abroad.

- **The limited size of the nonbank financial sector (excluding the SSIF).** Continued efforts by the CBJ to strengthen the supervision of the sector should help support its contribution to the financing of the Jordanian economy and promote financial inclusion.

- **The rapid increase in banks' credit to households.** If it were to continue and tensions start to emerge, the authorities should consider adopting additional macroprudential measures, including limits on loan-to-value (LTV) ratios for mortgages and serviceability ratios for mortgages and retail loans.

- **The need to improve balance sheet data.** In particular, the collection of a broader set of data on the non-financial private sector will help better assess the sector's potential vulnerabilities.
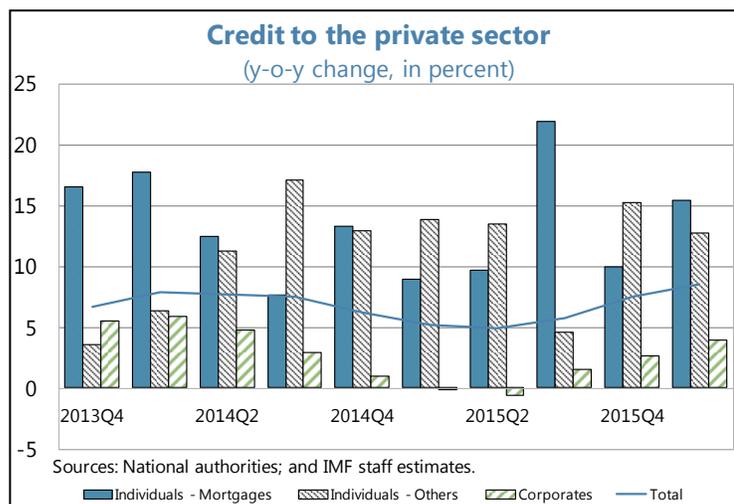
Table 1. Jordan: Sectoral Balance Sheet, End-2015

Holder of liability (Creditor)	Government	Central Bank	Banking Sector	Non-Banking Financial Sector	Private Non-Financial Sector	Rest of the World	Total
Issuer of liability (debtor)							
Government							
Total liabilities		2,002	10,861	4,052	-	7,442	24,357
Short-term		-	125	-	-	355	480
In local currency		-	125	-	-	-	125
In foreign currency		-	-	-	-	355	355
Medium- and long-term		2,002	10,736	4,052	-	7,087	23,878
In local currency		2,002	10,158	4,052	-	-	16,212
In foreign currency		-	578	-	-	7,087	7,665
Central bank							
Total liabilities	1155		8,018	5	3,933	2,511	15,623
Short-term	914		8,018	-	3,933	961	13,827
In local currency	914		7,401	-	3,933	2	12,250
In foreign currency	0		618	-	-	959	1,577
Medium- and long-term	241.2		-	5	-	1,550	1,796
In local currency	241.2		-	5	-	-	246
In foreign currency	0		-	-	-	1,550	1,550
Banking secctor							
Total liabilities	1,700	501		1,460	25,800	9,046	38,506
Deposits and other short-term liabilities	1,407	139		175	8,164	6,595	16,479
In local currency	1,407	139		118	5,710	3,163	10,536
In foreign currency	-	-		57	2,454	3,432	5,943
Medium- and long-term	294	362		1,286	17,636	76	19,653
In local currency	294	362		1,269	15,453	-	17,378
In foreign currency	-	-		16	2,183	76	2,275
Equity						2,375	2,375
Non-banking financial sector							
Total liabilities	-	-	91		7,626	-	7,717
Deposits and other short-term liabilities	-	-	-		-	-	-
In local currency	-	-	-		-	-	-
In foreign currency	-	-	-		-	-	-
Medium- and long-term	-	-	91		7,626	-	7,717
In local currency	-	-	-		7,626	-	7,626
In foreign currency	-	-	-		-	-	-
Equity	-	-	-		-	-	-
Private non-financial sector							
Total liabilities	-	-	18,681	3,010		2,725	24,417
Deposits and other short-term liabilities	-	-	-	-		559	559
In local currency	-	-	-	-		-	-
In foreign currency	-	-	-	-		559	559
Medium- and long-term	-	-	18,681	869		1,452	21,002
In local currency	-	-	16,352			-	16,352
In foreign currency	-	-	2,330			1452 1/	2,330
Equity	-	-	-	2,142		715	2,856
Rest of the world							
Total liabilities	-	11,832	4,038	881	-		16,750
Official reserves	-	10,750	-	-	-		10,750
Debt securities	-	-	345	-	-		345
Equity securities	-	-	77	19	-		96
Deposits	-	-	3,443	862	-		4,304
Other investments (including loans)	-	1,082	174	-	-		1,256
							-
Total	2,855	14,335	41,689	9,408	37,359	21,725	127,371

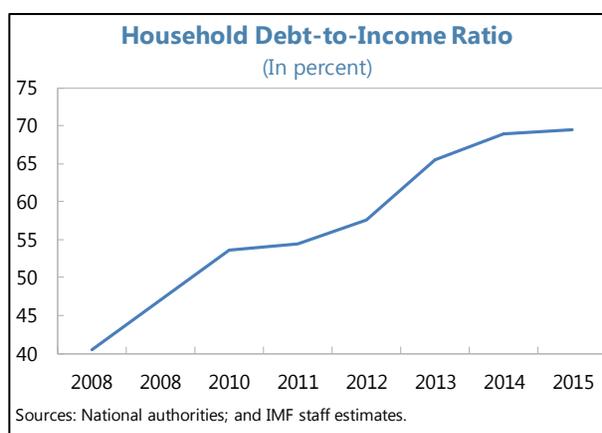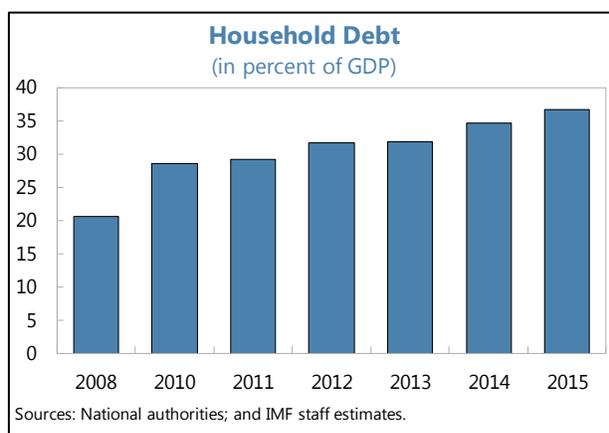Sources: Jordanian authorities; and IMF staff estimates.
1/ Including debt guaranteed by the government.

Annex I. Is the Increase in Credit to Households Sustainable?

1.   Credit to households has increased briskly over the last few years. Credit to households has increased by an average of 13.1 percent a year in 2014–15, including by 11.6 percent for mortgages and 14.1 percent for other loans. This compares with an average nominal growth of 5.7 percent and an average annual increase in credit to corporates of 1.8 percent over that period.

Credit to the private sector
(y-o-y change, in percent)

Sources: National authorities; and IMF staff estimates.

Individuals - Mortgages   Individuals - Others   Corporates   — Total
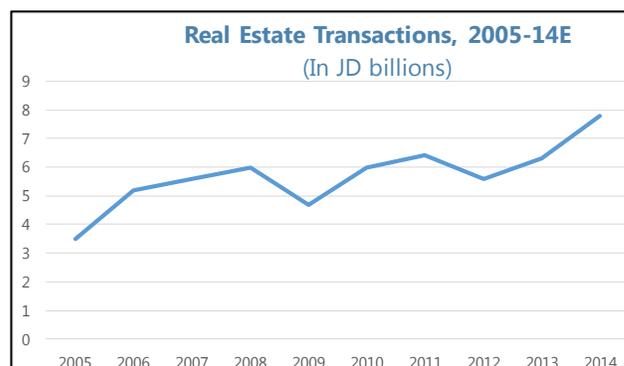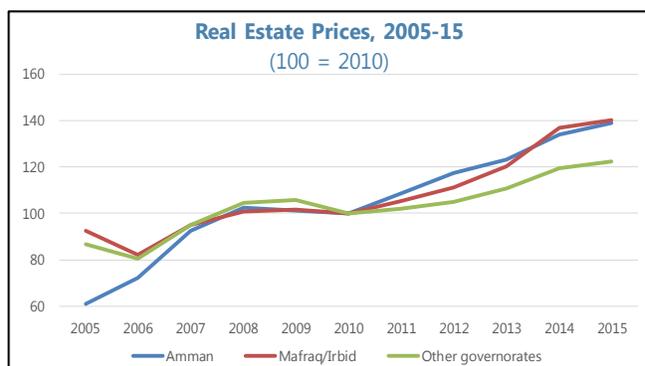
2.   As a result, household debt has increased to 36.6 percent of GDP in 2015 from 20.5 percent of GDP in 2008. It has also increased relative to households' income (from about 40 percent in 2008 to close to 70 percent in 2015) and to their net wealth (to close to 60 percent in 2015). This increase reflected to a large extent the dynamism of the both mortgages and consumer credits, which amounted to 21.8 and 13.3 percent of GDP, respectively at end-2015.

Household Debt
(in percent of GDP)

Sources: National authorities; and IMF staff estimates.

Household Debt-to-Income Ratio
(In percent)

Sources: National authorities; and IMF staff estimates.

3.   Even if real estate trading volumes and residential land prices have increased significantly, the rapid increase in mortgage lending does not appear to have contributed to an undue increase in housing prices. After dropping during the global financial crisis, real estate transactions have increased steadily, amounting to JD 7.8 billion in 2014. With regard to prices, the ratios of residential housing prices to core prices and to rents are slightly higher than their average
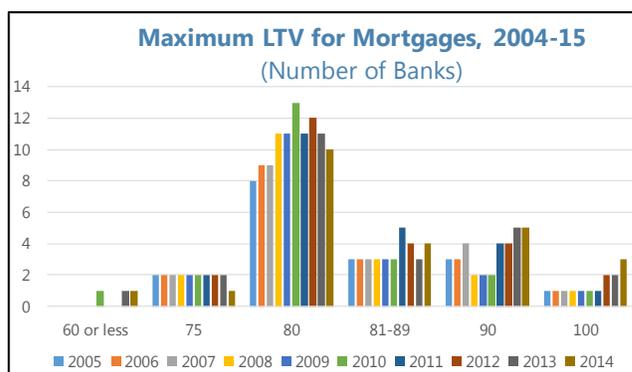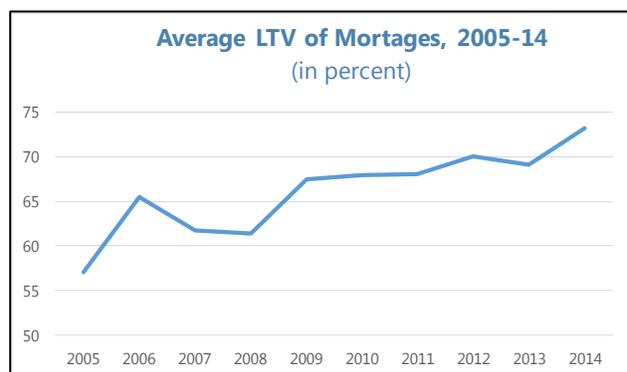
over the last ten years. They have, however, slightly declined over the last three years, as residential housing prices increased by 10.4 percent compared with 11.9 percent for core prices and 16.8 percent of rents. Over the same period, residential land prices increased much faster, gaining 34 percent, bring their ratios to core prices and to rents to 122 and 118 percent, respectively of their 10-year averages. The increase in real estate prices has, however, been significantly higher in the Northern parts of the country, however, which could point to housing demand from Syrian refugees as the main driver behind real estate inflation.

Real Estate Prices, 2005-15
(100 = 2010)

Amman — Mafraq/Irbid — Other governorates

Real Estate Transactions, 2005-14E
(In JD billions)

4.   Since the start of the global financing crisis, the CBJ has taken some prudential measures with regard to credit with households. These measures include:

* a risk weight of 100 percent for mortgage loans with a LTV ratio exceeding 80 percent, compared with 35 percent for mortgage loans with a lower LTV;

* a risk weight is 100 percent for retail consumer loans with a debt service-to-income (DSTI) ratio exceeding 50 percent, compared with 75 percent for consumer loans with a lower DSTI; and

* a ceiling on direct credit to the real estate sector (construction and mortgages) of 20 percent of a bank's customer deposits in local currency.

5.   Notwithstanding these measures, the average LTV ratio has gradually increased over time, from less than 60 percent in 2005 to 73 percent in 2014. This increase appears to partly reflect the loosening of LTV limits by commercial banks, with an increasing number of them allowing for ratios in excess of 80 percent.

Average LTV of Mortages, 2005-14
(in percent)

Maximum LTV for Mortgages, 2004-15
(Number of Banks)

2005 2006 2007 2008 2009 2010 2011 2012 2013 2014

6.   Overall, and with interest rates expected to increase, the CBJ should continue to monitor closely credit to households. As the increase in credit to households has not so far fueled an undue increase in housing prices or in NPLs, there does not appear to be an immediate need to tighten credit at this stage. If household credit were to continue to increase at a fast pace and tensions start to emerge, however, the authorities should consider adopting additional prudential measures, including higher limits on loan-to-value and serviceability ratios.

MEASURING FINANCIAL INCLUSION IN JORDAN[1]

The development of financial inclusion in Jordan has been slow during the past decade and lags its peer group, broadly in outreach, usage (for both individuals and firms), and literacy areas. Given strong linkages between financial inclusion, financial deepening, and economic development, this paper reviews the authorities' strategy to accelerate financial inclusion and suggests potential areas for reforms in Jordan.

A. The Development of Financial Inclusion in Jordan

1.   Measured by various indicators, the development of financial inclusion in Jordan has been slow and, in some cases, lagged those of regional peers.

2.   Physical access to financial services has been relatively stagnant during the past decade. In 2015, there were 18.3 commercial bank branches per 100,000 adults in Jordan, even lower than the share of 19.5 in 2004. While Jordan compares well with MENAP average, it is well below Lebanon and has been exceeded by Morocco in recent years. Given that most branches were located in large cities, physical access to finance is likely to be very low in remote areas.

Branches of Commercial Banks
(Per 100,000 adults)

Source: IMF Financial Access Survey
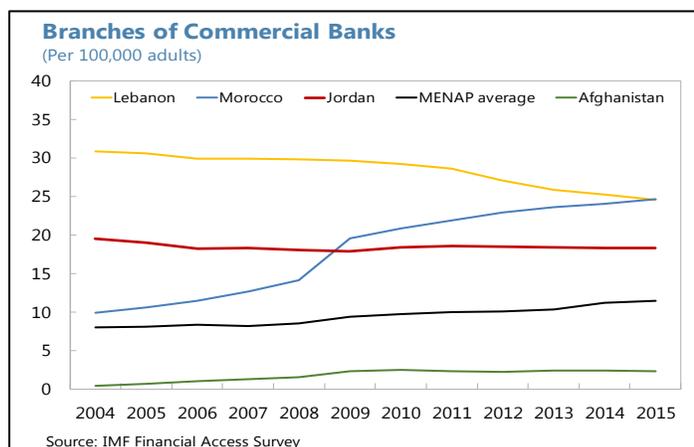
3.   The usage of financial services remains low. Out of 1,000 adults, 620[2] held a deposit account with commercial banks in 2015, and the account penetration has decreased over past years. For lending, 192 per 1,000 adults held a loan account in 2015, and the growth has been slow. In percent of total adults, only 25 percent have access to formal financial institutions (including credit unions, microfinance, etc.) in Jordan, which is lower than some MENAP countries including Morocco, Georgia, and Lebanon, and less than half of the average of
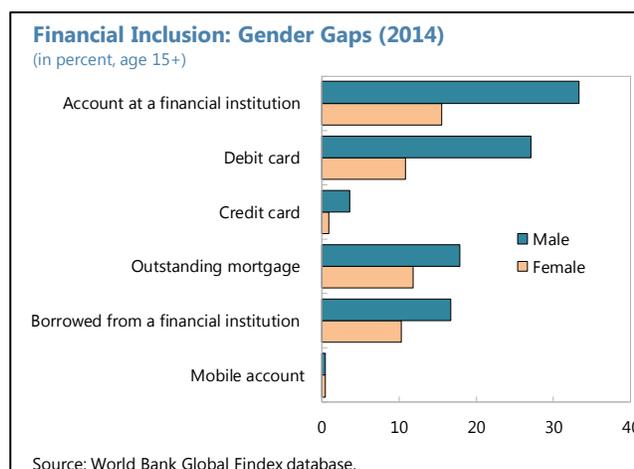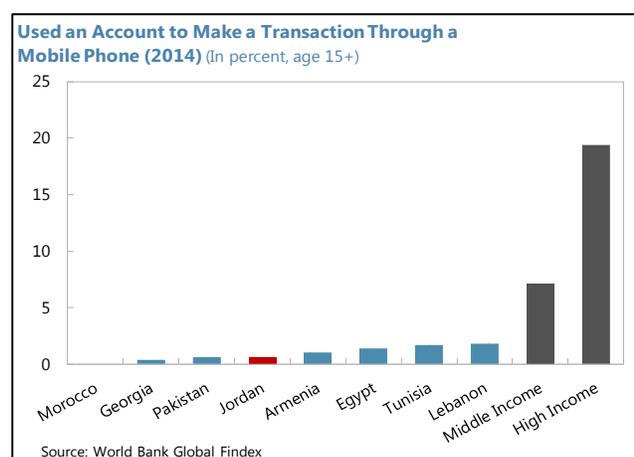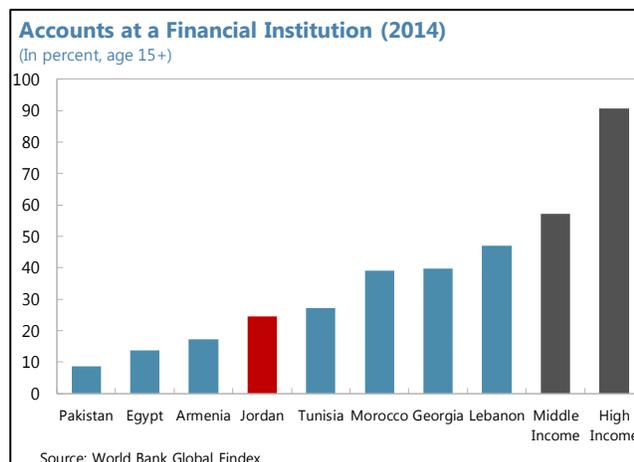
Deposit and Loan Accounts with Commercial Banks
(per 1,000 adults)

Sources: IMF Financial Access Survey

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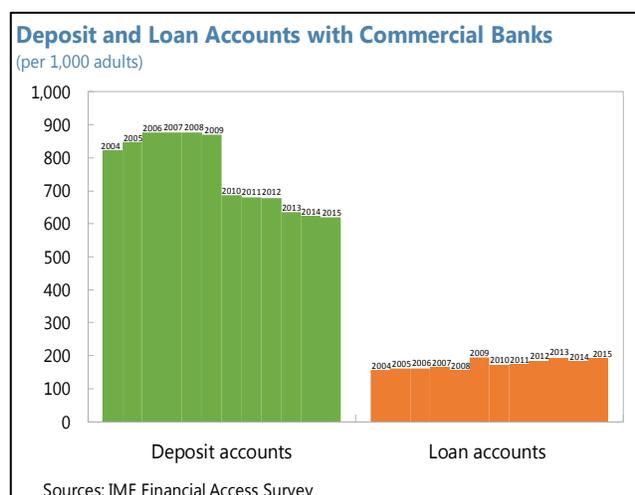
[1] Prepared by Helen W. Wagner (MCM).

[2] Including households and resident nonfinancial corporations (public and private).

middle-income countries. Meanwhile, non-formal channels are still used more frequently than formal finance channels. To meet financing needs, the majority of adults (86 percent) had borrowed money from family and friends, employers, stores, private informal lenders, and other non-formal channels, only 14 percent borrowed from a financial institution. As a result, the economy is still largely cash based.
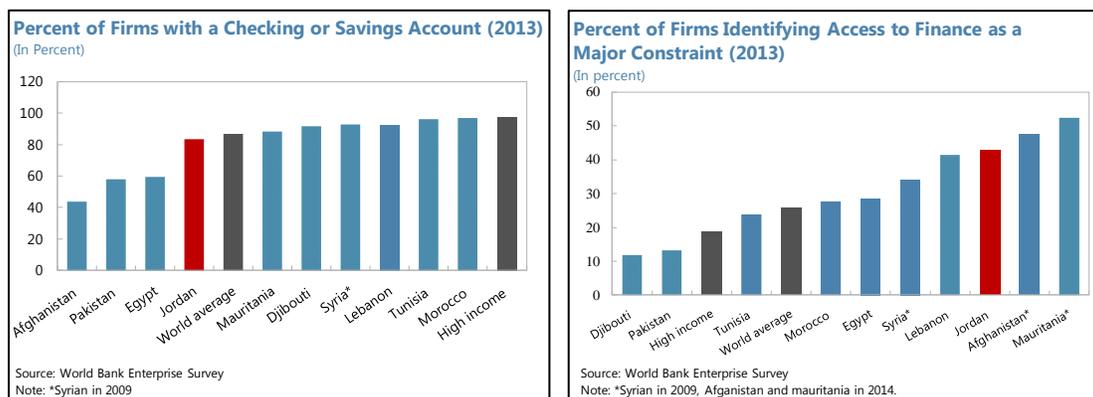
4.   The usage of mobile banking is also relatively inactive. Only 0.5 percent of Jordanian adults held a mobile money account in 2014[3], which suggests a limited use of innovative financial tools. For those with an account, only 2.6 percent of them had made transactions using a mobile phone. The usage of mobile banking is also low across MENAP countries, with Jordan lagging other countries in the region. The usage of mobile banking in the region has also lagged middle-income countries.

5.   There is a significant gender gap in access to finance. About 30 percent of male adults had an account at a financial institution in 2014, more than twice the share for female adults. The share of debt and credit card holders among female adults is around one third of that among male adults. The usage of loans and mortgages by males is also significantly higher than by females. The smallest gap exists in the mobile account usage, which indicates that females have accessed mobile accounts as often as males, although the overall usage is low.

Accounts at a Financial Institution (2014)
(In percent, age 15+)

Source: World Bank Global Findex

Used an Account to Make a Transaction Through a Mobile Phone (2014) (In percent, age 15+)

Source: World Bank Global Findex

Financial Inclusion: Gender Gaps (2014)
(in percent, age 15+)

Source: World Bank Global Findex database.

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[3] Progress has been made since 2014 when the CBJ launched the Jordan Mobile Payment system (JoMoPay) to enable unbanked adults to transact, transfer, and save via electronic means. As of early November 2016, over 60,000 active digital wallets have been registered at banks. JoMoPay is also offered to microfinance Institutions (MFIs) for loan disbursement and micro-insurance, which has been used by the biggest MFI in Jordan.

6.   The usage of financial services by corporates is relatively high, although still seen as a hurdle. While the large majority (83.3 percent) of firms in Jordan holds a checking/savings account at a financial institution, with nearly half of them using banks to finance investments, about 43 percent of firms have identified access to finance as a major constraint in doing business, which is the highest level among peer countries.

Percent of Firms with a Checking or Savings Account (2013)
(In Percent)

Source: World Bank Enterprise Survey
Note: *Syrian in 2009

Percent of Firms Identifying Access to Finance as a Major Constraint (2013)
(In percent)

Source: World Bank Enterprise Survey
Note: *Syrian in 2009, Afganistan and mauritania in 2014.

B. What Does a Financial Inclusion Index Indicate About Jordan?

7.   A comprehensive financial inclusion index is constructed to measure the financial inclusion in Jordan and facilitate cross-country comparison. Financial inclusion is a multidimensional concept, which encompasses two main dimensions, namely access to financial institutions and access to financial markets. The access to financial institutions dimension contains sub-dimensions including: outreach (access), usage by individuals, usage by firms, and quality of financial services (e.g., financial literacy). The access to financial markets dimension usually requires ascertaining market concentration, since a high degree of concentration reflects difficulties for new entries and small firms. [4] A composite index is constructed to capture these multiple characteristics across countries, and use it to identify Jordan's position and analyze its weaknesses in a global context (see Annex I).

8.   Based on the estimated financial index, Jordan's financial inclusion lags those of most peer countries. The estimated financial inclusion index, shown in Figure 1, indicates a relative ranking of countries on the overall level of financial inclusion. It gives a world view of the state of financial inclusion in 2014, with indication of positions of Jordan and some selected MENAP countries. Overall, Jordan's index is relatively higher than for some low-income and middle-income countries such as Sudan, Egypt, Pakistan, and Afghanistan, but lower than high income group countries including Kuwait, Saudi Arabia, and United Arab Emirates (UAE). Within same upper

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[4] This dimension can be measured by percentage of market capitalization outside of top 10 largest companies, percentage of value traded outside of top 10 traded companies, government bond yields (3 months and 10 years), ratio of domestic to total debt securities, and ratio of new corporate bond issues to GDP, etc. (Čihák and others 2012).

middle-income group, Jordan's index is significantly lower than Lebanon's and those of most other peer countries such as Iran, Turkey, and Tunisia.

9.   **On different dimensions, Jordan also lags its peer group broadly in outreach, usage (for both individuals and firms), and literacy areas**. Figure 2 compares sub-indices of financial inclusion for Jordan and selected MENAP countries with the average of upper middle-income group. It indicates that in most measurements, including access to financial outreach, financial usage both for individuals and firms, financial literacy, and financial markets, Jordan does not only lag behind Lebanon (except for access to financial markets), but is also below the average level of the upper middle-income group. These measurements indicate that there is significant scope for Jordan to expand financial inclusion.

10.   **The estimates also indicate that financial depth in Jordan is not matched by access**. Figure 3 indicates that financial inclusion is highly correlated with financial deepening (measured by credit-to-GDP ratio) and economic development (measured by GDP per capita). However, while Jordan has relatively high financial depth—a 70.2 percent credit-to-GDP ratio in 2014—it is not reflected in similarly high level of access to financial services. In contrast, some MENAP countries that have lower level of financial depth, for example UAE and Saudi Arabia (with 65.4 percent and 44.4 percent of credit-to-GDP ratio, respectively), have developed much higher level of financial access.

11.   **Enhancing financial access is essential for an inclusive economic development**. Development does not work in silos. Financial access usually has a synergy effect with financial depth and economic development, as higher financial access leads to greater efficiency of financial intermediation and mobilization of domestic savings for credit activities. In turn, the strengthening of domestic savings leads to greater investment activities, promote economic growth, and reduce poverty. Cross-country studies indicate that income inequality is lower in countries with deeper and more accessible financial markets, and that financial development exerts a disproportionately positive impact on the relatively poor (Beck and others, 2004). To increase the synergy effect, it is essential for the government to develop a comprehensive strategy and set up an agenda to accelerate an inclusive economic development and enable access to a greater number of the population to the structured and organized financial system.

C.   Government Initiatives and Policy Recommendations

12.   **Many MENA countries have introduced reforms and initiatives to promote financial inclusion**. For example, the Moroccan government has prioritized access alongside stability in its financial reform program, and has introduced measures to extend access through microcredit associations, banks, and a new postal bank. The Central Bank of Lebanon has introduced regulations that encouraged banks to finance startups, venture capital firms, and incubators. The Central Bank of Egypt has launched a multi-pronged financial inclusion agenda, including a new Licensing and Regulation Law to stimulate the creation of microfinance, leasing, and factoring companies. Governments in the region are playing an important role in enhancing the financial inclusion.

13.   While still in the early stage, some encouraging developments have been seen in Jordan in an effort to improve access to finance.

- ***A financial inclusion strategy is to be developed by Jordanian government to facilitate the expansion of access.***[5] The national strategy is to cover several key pillars including: improving SMEs' access to finance, further developing necessary infrastructure (credit bureau and payment system), enhancing digital financial services, promoting financial literacy, and strengthening financial consumer protection. These pillars are expected to help tackle the key issues and challenges in expanding financial access.

- ***The authorities have established a credit bureau, which will help expedite credit decisions for SMEs.*** The credit bureau has started operating in January 2016, and has received data from most banks. It has started compiling credit reports to assess borrower creditworthiness, which could expedite credit risk assessment decisions for borrowers, including SMEs.

- ***The CBJ has increased its support to SMEs through financing the operations of the Jordan Loan Guarantee Corporation (JLGC).*** The CBJ has recently increased capital contributions to the JLGC, which is 50 percent owned by the CBJ and provides loan guarantees to SMEs. The size and number of loans guaranteed by the JLGC for SMEs have increased substantially since 2012, and funds have been created to provide additional loan guarantees or equity financing to SMEs and start-ups.[6]

- ***Significant progress has been made in promoting digital financial services***. In addition to the JoMoPay mentioned above, the government has required that all public institutions adopt digital payment systems for person-to-government (P2G), business-to-government (B2G), and has laid out plans for government-to-person (G2P). The CBJ has also launched the Electronic Bill Payment and Presentment System in 2014, which offers digital access to 130 government services, along with other services, including utilities, telecommunications, and universities.

- ***Collaboration with existing postal network to expand physical access is undergoing***. In 2009, the postal network in Jordan had 350 branches, compared to 656 commercial bank branches. Utilizing the existing post office, which is often the only institution serving the low income or rural population, is a promising approach in expanding physical access. The CBJ has been working collaboratively with Jordan Post Company (JPC) to upgrade their systems and

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[5] The government has established a steering committee, chaired by the CBJ Governor, to develop the strategy. A technical committee, chaired by a deputy governor of CBJ, and six working groups have been set up to work on different pillars. With the help of GIZ, the CBJ has started to conduct a comprehensive study assessing the detailed level of financial inclusion in Jordan and identifying key issues and challenges. The strategy is expected to be developed by end-2017.

[6] Recently, the CBJ and commercial banks have co-financed a JD30 million Fund, managed by the JLGC, to provide loan guarantees to SMEs and start-ups. A $100-million fund (jointly financed by the CBJ and the World Bank and managed by the JLGC) will also be created to provide equity financing to SMEs and start-ups.

provide trainings to JPC employees to act as super-agent on JoMoPay and offer the electronic bill presentment and payment system to the clients.

- **_Programs are being developed to enhance financial literacy_**. The Jordanian Financial Education Program has been designed by the CBJ to target different social segments, with students as the main target group. Under this program, financial subjects and education materials were added to the schools' curriculums up to 7th grade, and will be expanded to up to 12th grade and higher education in the future.

14.   In light of experiences from other MENAP countries, further measures need to be included or enhanced toward developing the strategy, for example:

- **_Removing administrative and institutional hurdles_**. It is not easy to switch from the cash-based system currently prevailing for most economic transactions to the use of bank accounts and credit cards. However, there are ways of encouraging the use of bank services. An array of financial sector administrative actions and institutional improvements could be considered. For instance, expanded account ownership could be achieved by: simplifying opening documentation requirements; offering basic low-fee accounts and other attractive products; and locating outlets in more remote areas on a more cost-effective basis.

- **_Supporting women's financial access._** Overall, women's access to financial services has largely lagged behind that of men. A women-supportive strategy is key to accelerate financial inclusion. A survey on women business owners in MENAP region has shown that women are largely optimistic and poised for growth, but in need of some direction and assistance to achieve their goal. Many business women have shown strong eagerness in expanding their businesses, and the financial inclusion strategy should be designed to support their efforts and help them address some key challenges including: learning financial management skills; finding and keeping good employees; access to capital; and managing high cost of public services.

- **_Improving corporate governance_**. Studies show that good corporate governance can help corporates improve financial performance and gain access to capital. As some institutes and regulators in MENAP region have promoted strong corporate governance, many microfinance institutions have experienced an increase in access to finance, higher profitability, a reduction in organizational inefficiencies, and have become more sustainable. A strategy should be established to help companies fully understand the benefits of corporate governance and improve governance practices, particularly in areas of board structures and roles, risk management, and audit.

- **_Enhancing the production of financial services data and measurement._** Improved data on financial inclusion and unbanked markets/customers is needed to underpin a sustainable expansion in access to finance. The CBJ has laid out a data collection methodology with a focus on the digital retail payments. Going forward, the CBJ could partner with other institutions (e.g., the department of statistics, the association for savings and credit unions, the insurance regulatory authority, and/or the association of microfinance institutions) to enhance the data production framework and improve data availability related to access, usage, and quality.

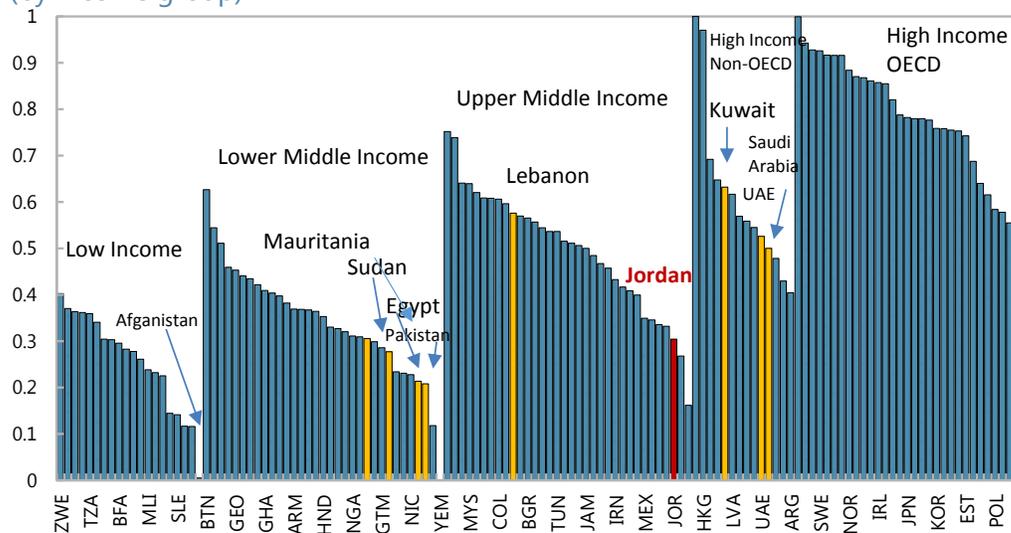## Figure 1. Financial Inclusion Index: Jordan and the World

Financial Inclusion Index (2014)

(By ranking)
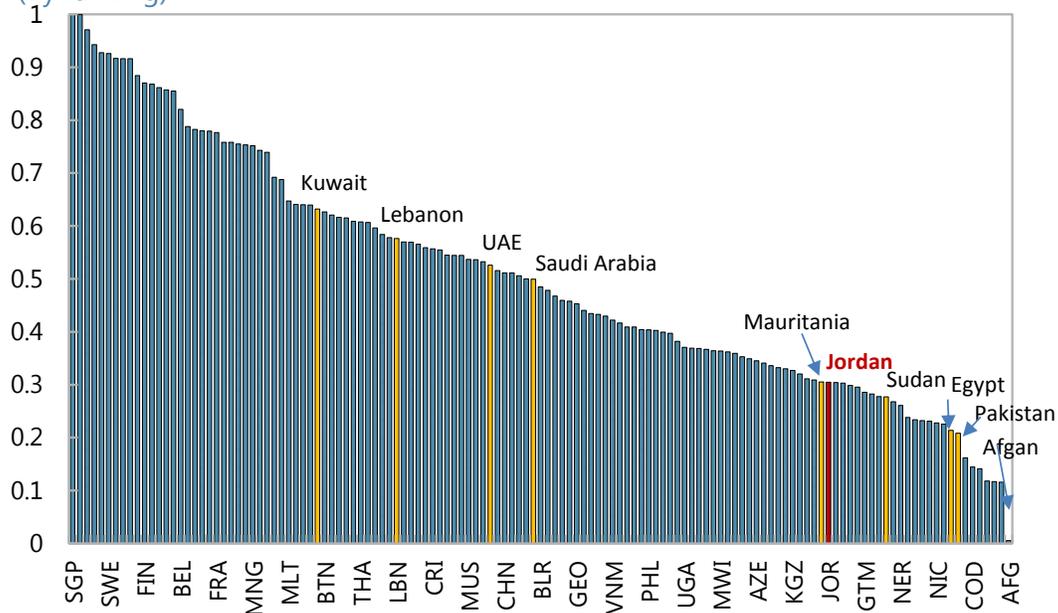
Financial Inclusion Index (2014)

(by income group)

Sources: IMF Financial Access Survey; World Bank Global Findex; World Bank Enterprise Survey; Standard and Poor's; country websites; and IMF staff estimates.

Figure 2. Sub-Indices: Jordan and Selected MENAP Countries

Financial Outreach
(By ranking)

Financial Usage (Individual)
(by ranking)

Financial Literacy (Individual)
(by ranking)

Financial Access for Firms
(by ranking)

Access to Financial Markets
(by ranking)
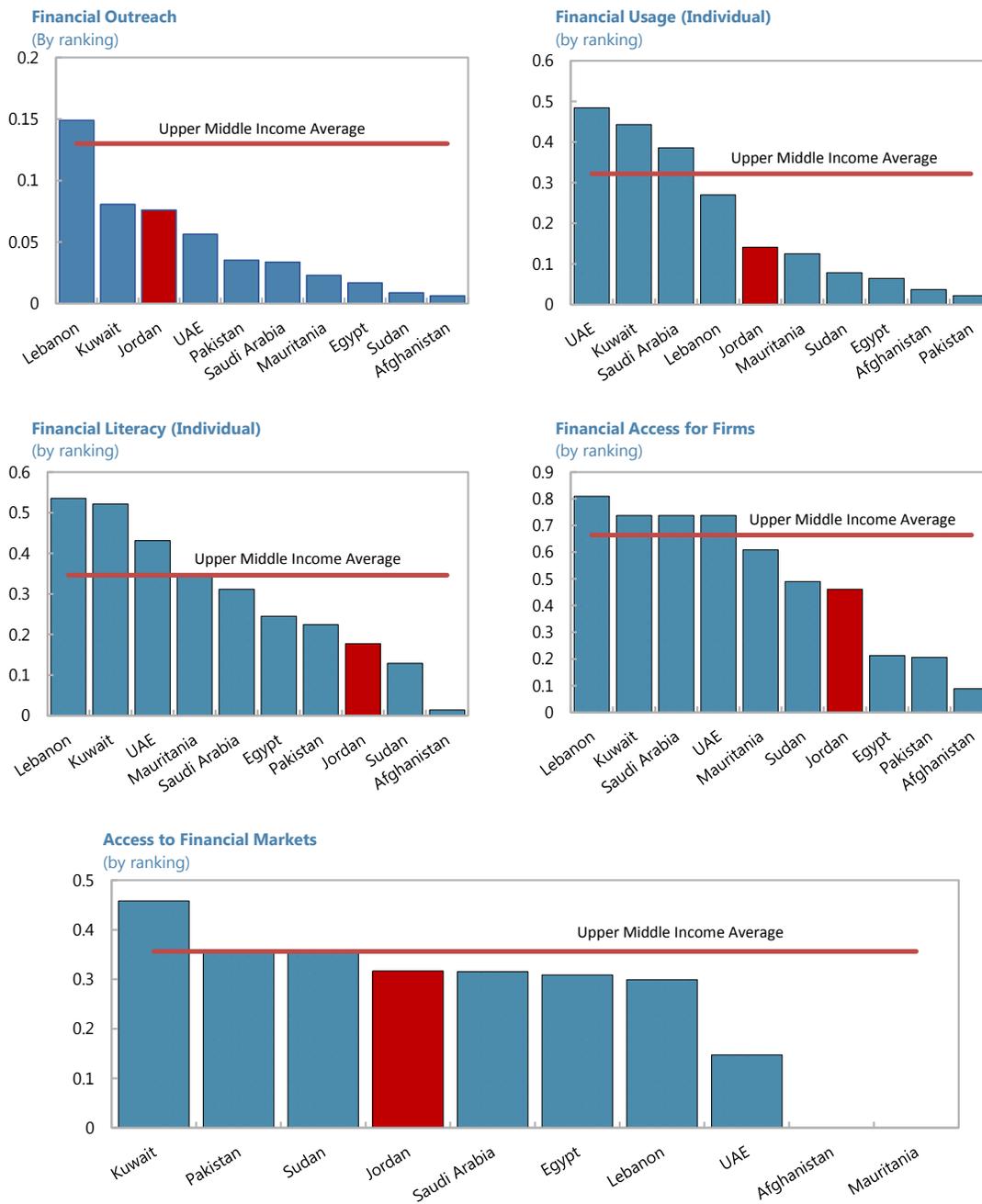
Source: IMF staff estimates.

Figure 3. Linkages Between Financial Inclusion, Financial Deepening, and Economic Development

Financial Inclusion and Financial Deepening (2014)

Financial Inclusion Index and GDP Per Capital (2014)
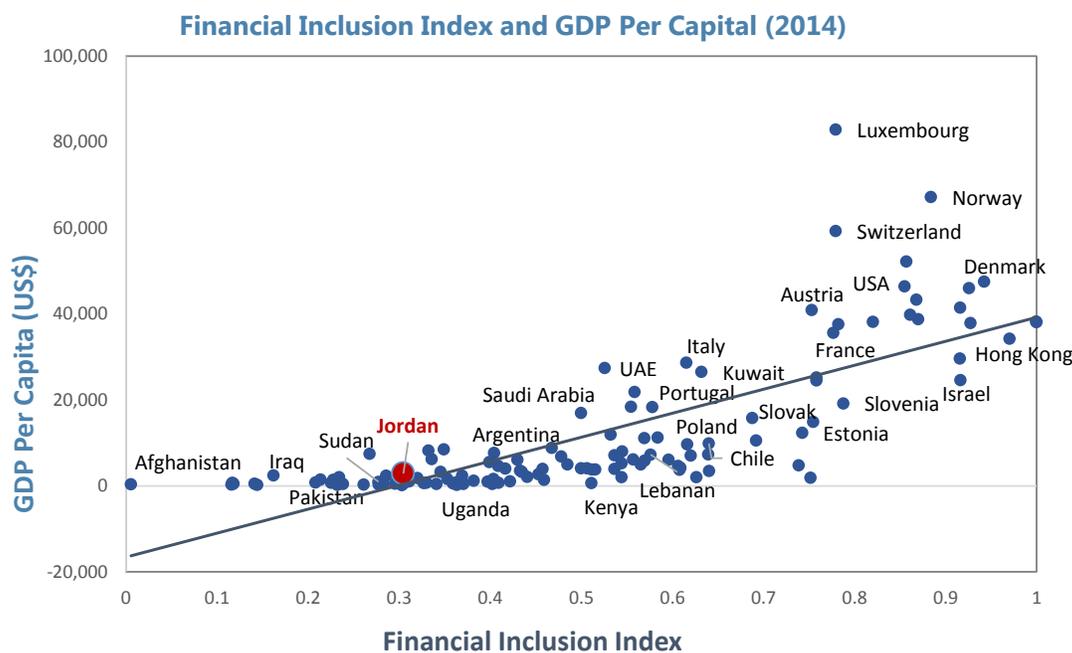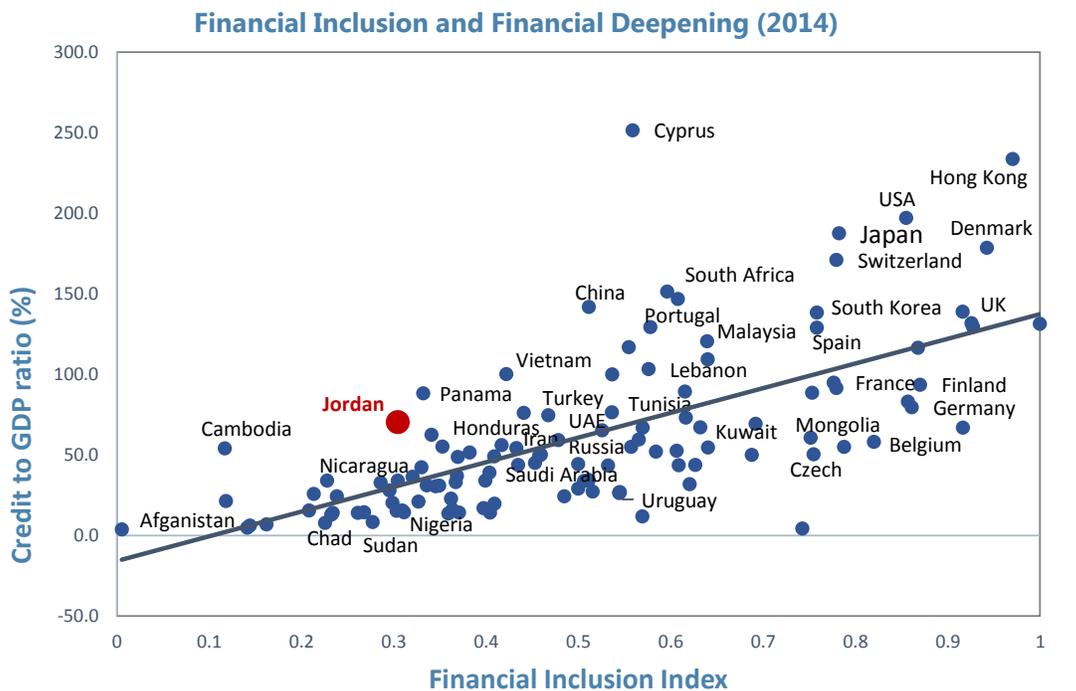
Sources: World Bank Global Findex; and IMF staff estimates.

Annex I. Estimation of the Financial Inclusion Index

Concepts

1.   Financial inclusion is a multidimensional concept that cannot be captured accurately by single indicators on their own. Generally, financial inclusion encompasses two main dimensions, namely, financial institutions and financial markets, while financial institutions have three main sub-dimensions: the outreach (access), usage (by individuals and firms), and quality of financial services. The outreach (access) dimension refers to the (physical) ability to easily reach a point of service. The usage dimension measures the use of financial services, including accounts, savings and borrowings, while the quality dimension measures the extent to which financial services address the needs of the consumers.

Diagram of Financial Inclusion
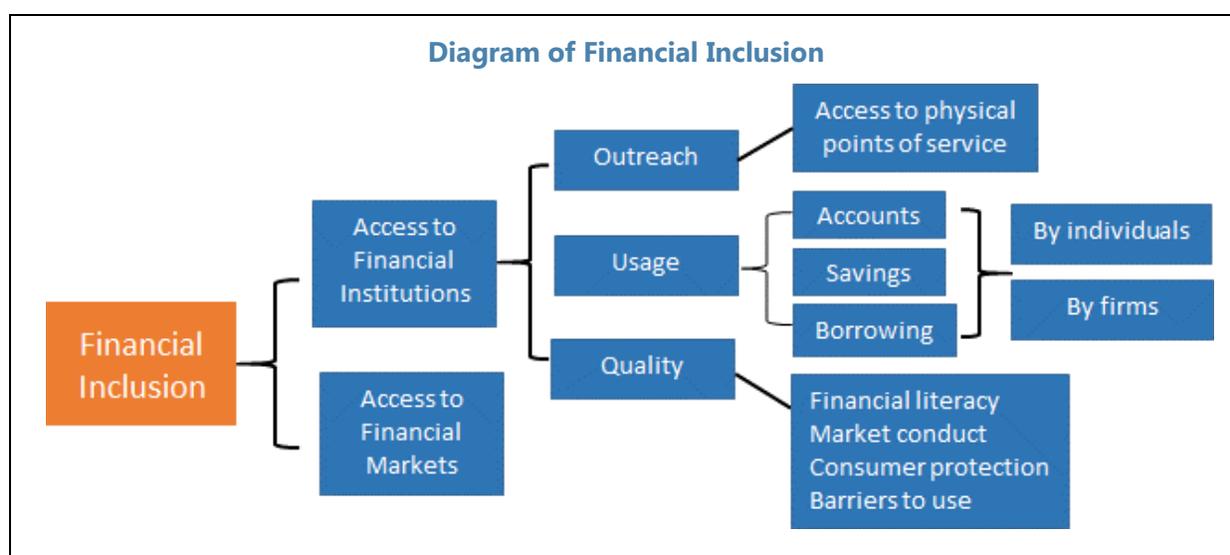
2.   While there are numerous studies on financial inclusion, and some of them have constructed a Financial Inclusion Index (e.g., Cámara and Tuesta 2014, Amidžić and others 2014, Svirydzenka 2016, Čihák and others 2016), most of these indices were based on very limited set of indicators, which did not collect multidimensional information of financial inclusion.

3.   To help summarize the complex nature of financial inclusion and monitor its evolution, a harmonized measure is used to aggregate indicators from each dimension into a single index. The information by dimension can help to better understand the problem of financial inclusion and be a useful tool for policy making and policy evaluation, and the index can be used to study the relationship between financial inclusion and other macroeconomic variables.

Indicators Selection

4. A number of indicators are selected from each of the dimensions of financial inclusion in the diagram. The selection of indicator also takes into consideration the availability of data.

5. For the **outreach dimension**, two indicators are selected: the number of automatic teller machines (ATMs) per 1,000 square kilometers and the number of commercial bank branches per 100,000 adults.

6. For the **usage dimension for individuals**, four indictors are used: account at a formal financial institution, and saved at a financial institution in the past year, loan from a financial institution in the past year, and used electronic payments to make payments, as proxies for the information on account, saving, borrowing, and mobile banking.

7. For the **usage dimension for firms**, two indicators are selected: firms with a checking or savings account and firms with a bank loan or line of credit, to capture the information on account and borrowing activities of enterprises.

8. The **quality dimension** can be theoretically characterized by financial literacy, market conduct, consumer protection, barriers to use, etc. Since most of the data on the quality dimension are rather scarce, only the indicator of financial literacy is used as a proxy for this dimension.

9. In addition to financial institutions, two indicators are used as proxies for **access to financial markets**: the number of listed companies per 1,000,000 people and the ratio of the market capitalization excluding top 10 companies to total market capitalization.

10. The data for these indicators come from the IMF Financial Access Survey, the World Bank Global Findex, the World Bank Enterprise Survey, Standard & Poor's, and country websites. A summary of data sources is listed in Table 1 at the end of this Annex.

11. It is difficult to obtain adequate data for all indicators for all country samples. It is even more difficult to have time series data for all indicators for the majority of the countries. There is a trade-off between reducing the country samples or indicators to get time series data and reducing time series to maintain as many as possible country samples and indicators. We chose the latter solution. Therefore, we use the data of 2014 (or most recent value) to calculate the financial index, which enables us to take a snapshot of the position of most countries in the world, including Jordan.

12. The dataset is used to calculate composite indices for 132 countries by using 11 indicators from different dimensions of financial inclusion. The country coverage includes 20 low-income, 67 middle-income (33 lower-middle-income and 34 upper-middle-income), 45 high-income (14 non-OECD and 31 OECD) countries. A summary statistics of the underlying data is shown in Table 2 at the end of this Annex.

Methodology and Computation of the Index

13.   A standard three-step approach is used to construct the financial inclusion index. This approach is found in the literature on reducing multidimensional data into one summary index: (i) normalization of variables; (ii) determination of dimensional sub-indices; and (iii) aggregation of sub-indices into the final index. This procedure follows the OECD Handbook on Constructing Composite Indicators (OECD, 2008), which is a good reference for methodological suggestions.

14.   By using above selected indicators, we construct a total of five sub-indices, which are used to measure the outreach, usage for individuals, usage for firms, quality, and market access. At the end, these sub-indices are aggregated into the overall measure of financial access—the Financial Inclusion index. The results are shown in Figures 1 and 2.

Table 1. Jordan: List of Indicators			
Variable	Category	Sub-Category	Data Source
Number of ATMs per 1,000 square kilometers	Outreach		IMF FAS
Number of commercial bank branches per 100,000 adults	Outreach		WB FinStats
Account at a formal financial institution (% age 15+)	Usage	Account (individuals)	WB Global Findex
Loan from a financial institution in the past year (% age 15+)	Usage	Borrowing (individuals)	WB Global Findex
Saved at a financial institution in the past year (% age 15+)	Usage	Saving (individuals)	WB Global Findex
Used electronic payments to make payments (% age 15+)	Usage	Mobile Banking (individuals)	WB Global Findex
Percentage of adults that answered at least 3 out of 4 financial questions correctly (% adults)	Quality	Financial literacy	Standards and Poor's
Firms with a checking or savings account (%)	Usage	Account (Enterprises)	WB Enterprise Survey
firms with a bank loan or line of credit (%)	Usage	Borrowing (enterprises)	WB Enterprise Survey
Number of listed companies per 1,000,000 people	Financial markets		WB FinStats and country websites
Market capitalization excluding top 10 companies to total market capitalization (%)	Financial markets		WB FinStats

Table 2. Jordan: Summary Statistics of the Underlying Data					
Name	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Outreach					
Number of ATMs per 1,000 square kilometers	132	109.7	437.2	0.1	3,869.9
Number of commercial bank branches per 100,000 adults	132	21.1	27.8	0.8	256.3
Usage for Individuals					
Account at a formal financial institution	132	54.3	32.1	3.5	100.0
Loan from a financial institution in the past year	132	12.6	7.6	0.4	40.5
Saved at a financial institution in the past year	132	23.3	19.2	0.9	78.4
Used electronic payments to make payments	132	18.9	25.1	0.0	88.2
Usage for Firms					
Firms with a checking or savings account (%)	132	88.4	15.2	29.7	100.0
Firms with a bank loan or line of credit (%)	132	36.8	17.2	3.8	79.6
Financial Literacy					
Percentage of adults that answered at least 3 out of 4 financial questions correctly (% adults)	132	37.5	13.7	13.3	71.3
Financial Markets					
Number of listed companies per 1,000,000 people	132	19.0	36.7	0.0	229.4
Market capitalization excluding top 10 companies to total market capitalization (%)	132	41.7	25.0	0.0	99.0

Source: IMF staff estimates.

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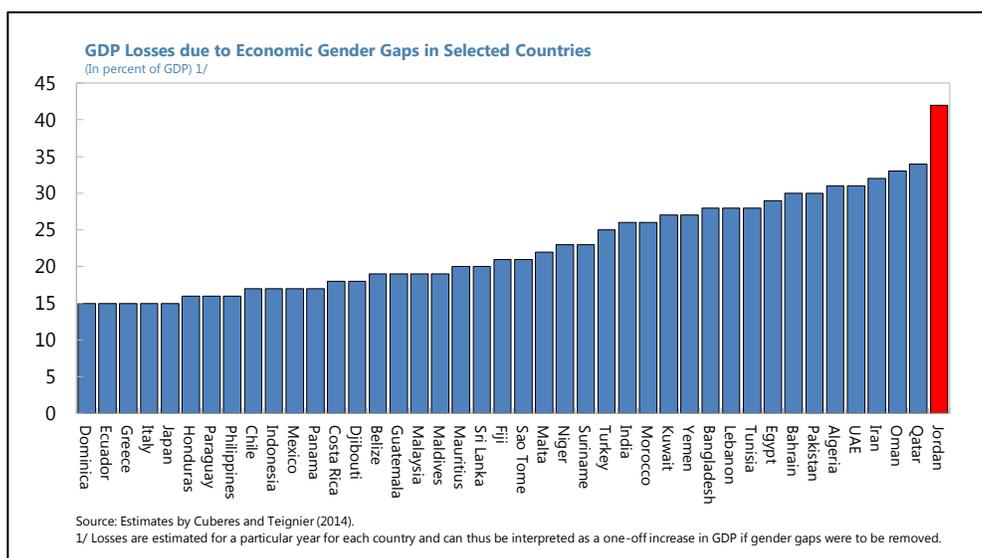
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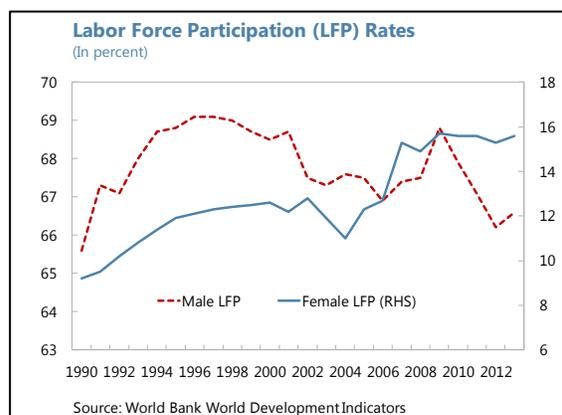
MACROECONOMIC GAINS FROM GENDER EQUITY IN JORDAN[1]

A. Background

1.   Women make up half of Jordan's population; however, their contribution to national income is far below their potential. The potential gains from greater inclusion of women in the economy are large: closing the gender gap in Jordan could boost GDP by about 45 percent (see figure below).[2]

GDP Losses due to Economic Gender Gaps in Selected Countries
(In percent of GDP) 1/

Source: Estimates by Cuberes and Teignier (2014).
1/ Losses are estimated for a particular year for each country and can thus be interpreted as a one-off increase in GDP if gender gaps were to be removed.

2.   Jordan has made significant progress over the last decade in promoting gender equality (see figure). Female labor force participation (FLFP) increased by 72 percent since 1990. That said, there remains ample scope for further progress. Jordan's FLFP in 2014 remains low at 15.8 percent (compared with 21.9 percent in the Middle East, and 71.8 percent in low-income countries).[3]

Labor Force Participation (LFP) Rates
(In percent)

Male LFP   Female LFP (RHS)

Source: World Bank World Development Indicators

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[1] Prepared by Ferhan Salman (MCD).

[2] Calculations are based on an updated version (2015) of Cuberes, D., and M. Teignier (2014). The reason why Jordan stands out relative to its peers in the region could be attributed to the low female labor force participation relative to Jordan's peers. Jordan sends a significantly high level of labor (usually males) overseas, which in addition to high childcare costs, tend to constrain women to seek outside of home employment.
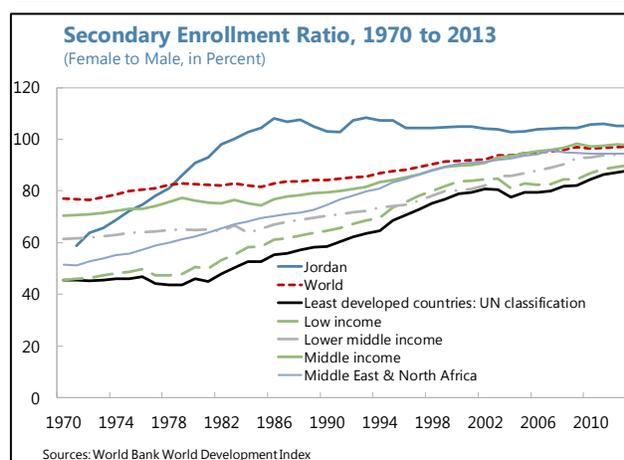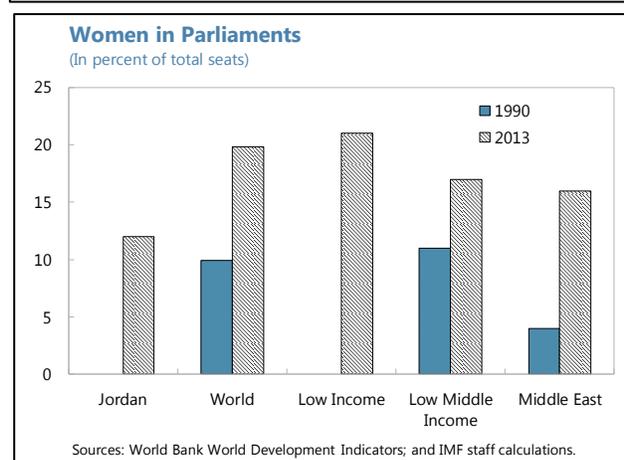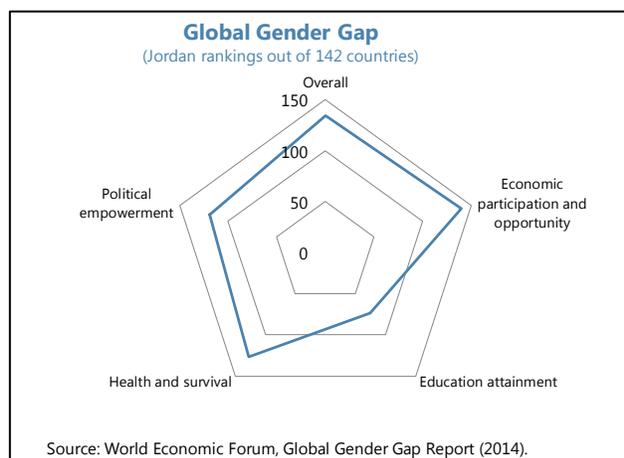
[3] World Bank Development Indicators (2014).

3.   Historically, FLFP has been lower than male participation. Despite an increase in the participation rates, women account for most unpaid work (84 percent of female employment is in unpaid family work, on par to the Middle East average). They also face significant wage differentials—61 percent of their male colleagues (WEF, 2015).

4.   Jordan ranks 134 out of the 145 countries in global gender gap index.[4] The Index looks into the gap between men and women in four categories: economic participation and opportunity (labor force participation, wages, senior managerial and technical positions); educational attainment (literacy and educational enrollment), health and survival (sex ratio at birth and healthy life expectancy) and political empowerment (parliament seats, ministers and length of heads of states). Gender gap in Jordan is particularly stark in economic opportunities and participation, education, and health.[5] Jordan narrowed the overall gender gap this year compared to last year (ranked 140), owing to increased wage equality.

5.   The gender gap is also large in terms of potential representation. Female representation in Jordan's Parliament (thanks to quota) has increased from zero to 12 from 1990 to 2013, in line with the increasing trend in the World—however, underperforming World Average and the Middle Eastern Countries (see figure) over that period.[6]

Global Gender Gap
(Jordan rankings out of 142 countries)

Source: World Economic Forum, Global Gender Gap Report (2014).

Women in Parliaments
(In percent of total seats)

Sources: World Bank World Development Indicators; and IMF staff calculations.

Secondary Enrollment Ratio, 1970 to 2013
(Female to Male, in Percent)

Sources: World Bank World Development Index

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[4] The Global Gender Gap Index was first introduced by the World Economic Forum in 2006 as a framework for capturing the magnitude of gender-based disparities and tracking their progress (WEF, 2015).
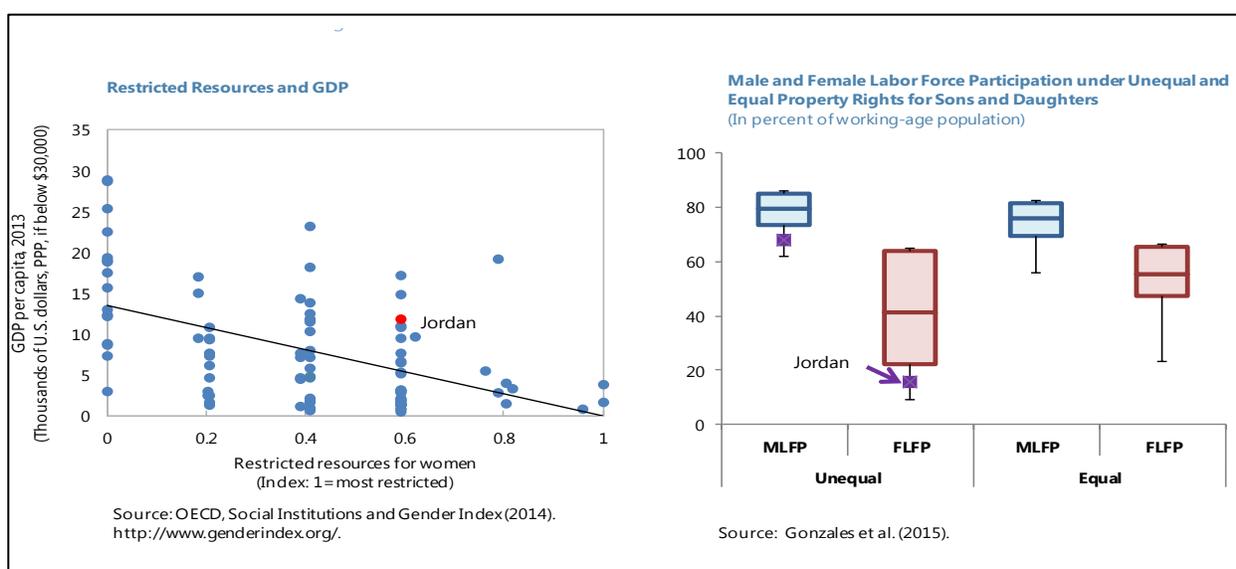
[5] World Economic Forum, Global Gender Gap Report (2015).

[6] The 2016 Parliamentary elections increased the number of seats taken by women from 12 to 20, accounting for about 15 percent of total seats.

6. **Jordan has been ahead of the curve in narrowing gender gaps in education** (see figure). The ratio of girls to boys enrolled in primary and secondary education is about 100 percent, outperforming the world and the regional comparators. This is attributed to the initiatives of establishing schools in rural areas in the early 1970s.

B. International Evidence for FLFP Determinants

7. **Legal and resource restrictions negatively affect FLFP and growth rates across countries.** Based on the World Bank and OECD,[7] restrictions on women's rights to inheritance and property, as well as legal impediments to undertaking economic activities, such as opening a bank account or freely pursuing a profession, are strongly associated with larger gender gaps in labor force participation.


Restricted Resources and GDP

Source: OECD, Social Institutions and Gender Index (2014). http://www.genderindex.org/.

Male and Female Labor Force Participation under Unequal and Equal Property Rights for Sons and Daughters
(In percent of working-age population)

Source: Gonzales et al. (2015).

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[7] The World Bank's Women, Business and the Law Database comprises 143 countries identifying legal and regulatory barriers to women's economic participation and entrepreneurial activity. The focus of the database is on seven indicators of gender-related differences in the legal and institutional framework. OECD's social institutions and gender index has 160 countries that combines both the de jure and de facto discrimination of social institutions, through information on laws, attitudes and practices. Discriminatory social institutions are defined as the formal and informal laws, attitudes and practices that restrict women's and girls' access to rights, justice and empowerment opportunities (OECD, 2014).

Resource and Legal Restrictions

8.   Demographic and legal characteristics are important drivers of FLFP in Jordan. Building on the simple associations given in ¶7, Gonzales and others (2015) estimated panel regressions on 90 emerging and developing countries[8] over the 1995–2010 period. The regression provides a reasonable fit for the gap between male and female participation rates in Jordan (see figure below). Fertility, educational attainment, daughter inheritance rights, being the head of household and guaranteed equality

Jordan: Male Minus Female Participation Rates, 1995-2009
(In percent)

Source: Gonzales et al. (2015).
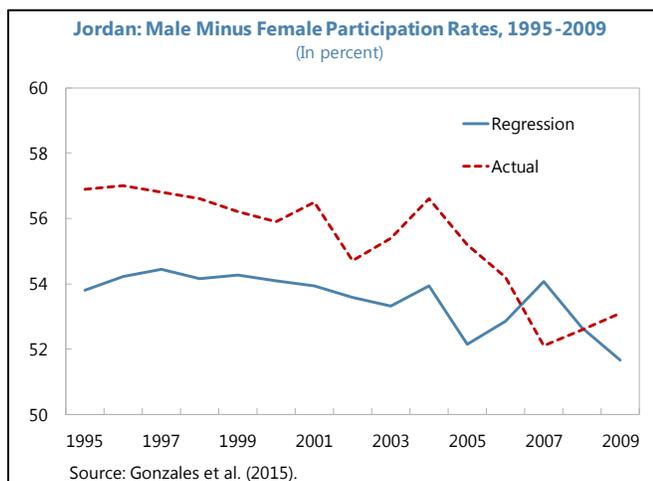
provide a good fit at predicting male-female gender gap. Higher fertility rate is associated with lower female participation in the labor market and a higher labor force participation gap. On the other hand, higher female educational attainment, the presence of daughters' inheritance rights, being the head of the household and guaranteed equality help promote female participation in the labor market and reduce the gap.

9.   Recent work has also highlighted that availability of infrastructure and access to finance help increase FLFP. Availability of transportation, better roads and mobile networks help women access work.[9] Presence of support networks among female entrepreneurs and availability of finance help raise the productivity of female owned/managed enterprises.[10]

C.   Policy Recommendations

10.   A range of revenue, expenditure and legal measures could be used to promote greater FLFP. An integrated set of policies is needed to help bolster FLFP, with significant prospective growth and development implications.[11] Comprehensive policies can be effective in boosting women's economic participation.[12] Most notably, fiscal consolidation should help free up resources for higher infrastructure spending such as setting up a reliable and safe public transport system that

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[8] Including Jordan.

[9] Elborgh-Woytek and others, (2013) and Koolwal and van de Walle (2013).

[10] OECD (2012), World Bank (2011), and Blackden and Hallward-Driemeier (2013).

[11] Sen (2001).

[12] Revenga and Shetty (2012); Aguirre and others (2012); Duflo (2012).

lowers the cost of accessing jobs,[13] and business climate reforms should help promote financial inclusion for women.

11.   Among expenditure measures, increased social spending to support child care would be essential. Budgetary resources could be allocated to provide access to comprehensive, affordable, regulated and high-quality daycare services (like mandated childcare in Chile and Mexico or regulated home child care in Turkey, the U.S., and Belgium)[14] which would free up women's time for caring young and elderly and facilitate an increase in FLFP.[15] Currently, not all public and private sector institutions have childcare facilities and outside child care facilities' costs do not outweigh the benefit of seeking work outside of the home. In addition, publicly-financed parental leave schemes through introducing paternity leave,[16] promoting parity in paternity and maternity leave, and flexible work arrangements[17] can also complement policies to balance family and work responsibilities.[18]

12.   Access to finance for women could be improved to help raise the productivity of enterprises owned and managed by women. Jordanian women are entitled to obtain bank loans and other forms of credit. However, their access is limited by their inability to provide the required collateral.[19] In order to raise the productivity of women-owned and -managed enterprises, access to finance should be improved and training and support networks among female entrepreneurs should be developed.[20]

13.   Efforts to mitigate resource restrictions can increase FLFP in Jordan. Finding opportunities to strengthen female inheritance rights on immoveable property can enhance economic opportunity to women.

14.   Quotas for senior positions could help boost FLFP. In both the private and public sectors, targeted search for female candidates for senior positions can provide opportunity and acceptance for female leadership.[21]

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[13] Kochhar and others (2013).

[14] Jaumotte (2003).

[15] Gong, Breunig, and King (2010), Kalb (2009), and Anatonopoulos and Kim (2011).

[16] Jaumotte (2003).

[17] Aguirre and others (2012).

[18] World Bank (2012).

[19] Partly related to unequal inheritance rights.

[20] OECD (2012); World Bank (2011); Blackden and Hallward-Driemeier (2013).

[21] Barsh and Yee (2012).

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ENERGY AND WATER SECTORS REFORMS IN JORDAN[1]

The energy and water sectors in Jordan need to secure their recent improvements in performance and sustainability over the medium term. The energy sector will shield the cost recovery of the National Electric Power Company (NEPCO) with an automatic electricity tariff adjustment mechanism. The water sector medium-term strategy should continue to be based on a steady reduction of losses and expand its high coverage of water services while dealing with persistent water scarcity and the challenge of hosting a large number of refugees.

A.   Recent Reforms in the Energy and Water Sectors

1.   The National Electric Power Company (NEPCO) reached operational cost recovery in the second half of 2015. This owes much to the implementation of the action plan adopted in 2013 and to the sharp decline in oil prices. After the close to full halt of gas flows from Egypt in 2012, the government of Jordan took a successful set of measures. On the revenue side, the Energy and Minerals Regulatory Commission (EMRC) increased electricity tariffs three times annually since 2013. On the cost side, Jordan started importing liquefied natural gas (LNG) as a result of the construction of a terminal in the port of Aqaba. This allowed NEPCO to increase its generation efficiency

NEPCO's operating losses and Brent oil prices

LNG terminal in operation

Legend: NEPCO's operating losses (percent of GDP, lhs); Brent Prices (USD/barrel, rhs)

Source: Staff calculations from official data; IMF Primary Commodity Prices.

by shifting back most of its generation from fuel oil and diesel to LNG in mid-2015. Since LNG prices are linked to Brent oil prices, the reduction of international oil prices has also helped NEPCO, which is expected to maintain its positive balance in 2016 (see figure).
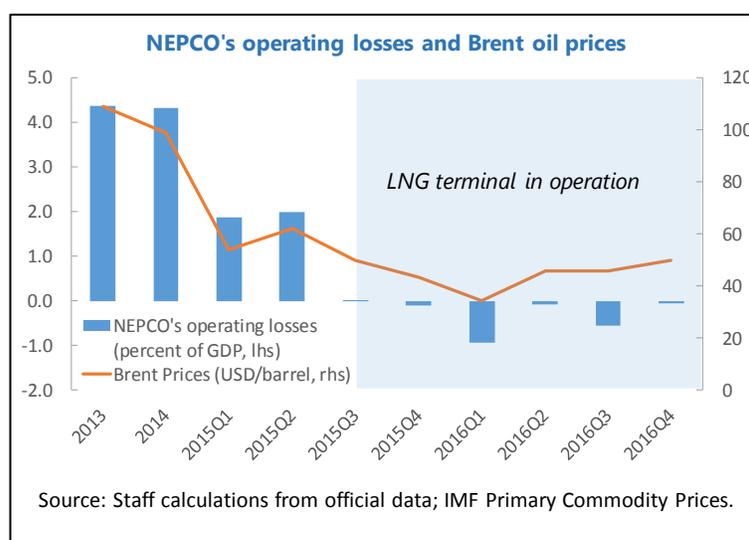
2.   The implementation of the "Action Plan to Reduce Water Sector Losses" has proceeded as planned but the increase in electricity tariffs and the influx of Syrian refugees h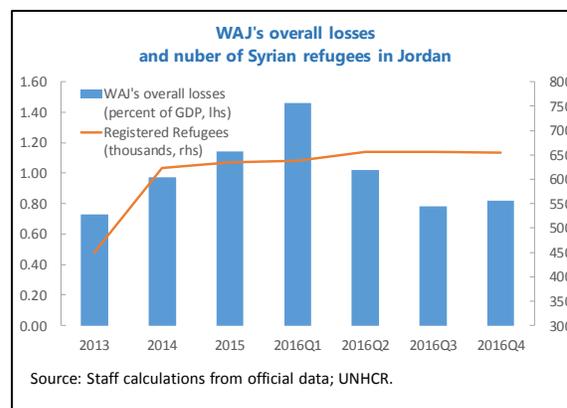as presented new challenges. This plan, which started in 2013, consists of three main components: overall efficiency gains; shift to renewable energy; and targeted tariff increases.[2,3]

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[1] Prepared by Maximiliano Appendino (MCD).

[2] The plan has aimed for cost reduction through energy efficiency in pumping operations, the improvement of water supply systems to reduce physical losses and energy input, including the use of renewable energy, and system automation to optimize operation and personnel input.
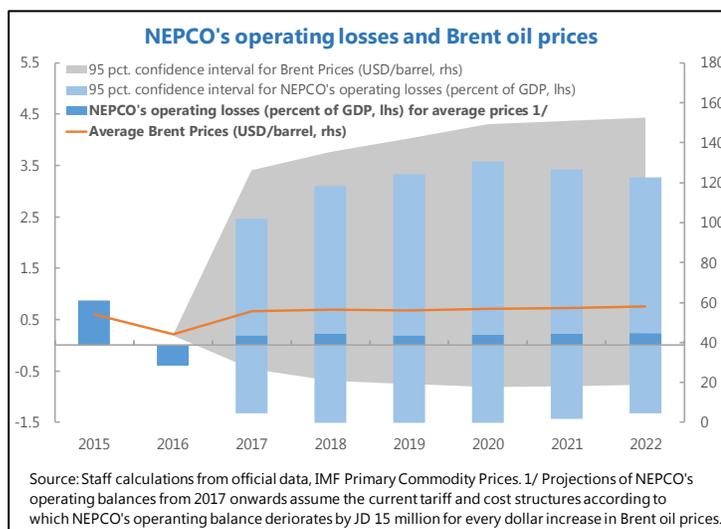
[3] These tariffs adjustments include industrial ground water charges in 2013 and 2016, wastewater tariff in Amman (25 percent), and other governorates (15 percent) in 2014, water and wastewater connection fees in 2015, the municipal water tariff in 2015, and the implementation of ground water irrigation tariff in highland in 2017.

However, the fact that Jordan is one the most water-scarce countries in the world and hosts 1.3 million Syrian refugees reduced the effectiveness of these measures and imposed the need for substantial capital investments. These factors are the main reason behind the Water Authority of Jordan's (WAJ) persistent overall losses.[4,5] Moreover, the 24-percent increase in electricity tariffs for water pumping since 2013 impacted the cost of operations of the sector substantially.

WAJ's overall losses and nuber of Syrian refugees in Jordan

Source: Staff calculations from official data; UNHCR.

B. Securing the Progress in the Energy Sector

3.   **The new automatic electricity tariff adjustment mechanism (AETAM) is expected to shield NEPCO's operating balance from volatile oil prices.** Under the current tariff structure, staff estimates that NEPCO's operating losses over the next five years could be about 1.3 percent of GDP, with substantial upward risks given the volatility of oil prices. The EMRC has already included a "fuel clause" in consumers' electricity bills in 2015, which is currently set to zero, and the authorities announced the commitment to maintain NEPCO at operational balance over the medium term. The EMRC has already adopted and published in its website the regulation of an AETAM in October 2016 that will be implemented in January 2017 to secure the annual cost recovery of the electric system, and keep NEPCO at annual cost recovery.[6] This mechanism would ensure the pass-through of the fuel costs for electricity generation to end-users, which is in line with regulatory principles since these costs are outside the control of the electricity sector.

NEPCO's operating losses and Brent oil prices

Source: Staff calculations from official data, IMF Primary Commodity Prices. 1/ Projections of NEPCO's operating balances from 2017 onwards assume the current tariff and cost structures according to which NEPCO's operanting balance deriorates by JD 15 million for every dollar increase in Brent oil prices.

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[4] Jordan's annual renewable freshwater resources available per capita are 123.4 cubic meters as of 2014 well below the international poverty line of 500 cubic meters.

[5] As reported by the authorities. UNCHR numbers in the figure are smaller than the authorities' because they only include registered refugees.

[6] The regulation makes use of the existing "fuel clause" but this clause will be used to reflect any change in the energy sector cost structure. The process starts in November when NEPCO submits its cost structure to the EMRC, which will evaluate the costs of NEPCO and the other companies in the sector in December, and, if needed, will adjust tariffs in January 2017.

4.   The adjustment mechanism will secure the electrical sector's cost recovery and could follow international best practices. The design of the AETAM includes several characteristics that are in line with international best practices:

- **An independent regulator with a transparent mandate.** The regulation establishes a formula, which the EMRC will use to map the fuel costs—given the structure of the energy mix for generation, and other costs in the electrical system—to the electricity tariffs using the existing "fuel clause."

- **Public information**. The regulation describes the timeline of, and principles guiding, future tariff adjustments, which ensures more transparency and commitment than an ad hoc approach. The new published regulation includes a clear mandate and timeline for the EMRC to update tariffs. The EMRC will disclose the updates on costs of the system to make the process more transparent once the implementation of the mechanism starts in order to explain any change in the "fuel clause."

- **Frequency of adjustment.** The effective application of this mechanism will be monthly, to avoid substantial departures of the revenues of the electrical sector from its volatile cost structure, and includes a buffer to shield the targeted annual cost recovery from unforeseen developments.[7]

- **Smooth the adjustment.** The three-month moving average that the new regulation follows to update the cost structure of the electric system is a smoothing mechanism that reduces the impact of highly volatile oil prices on end-consumers' welfare.[8]

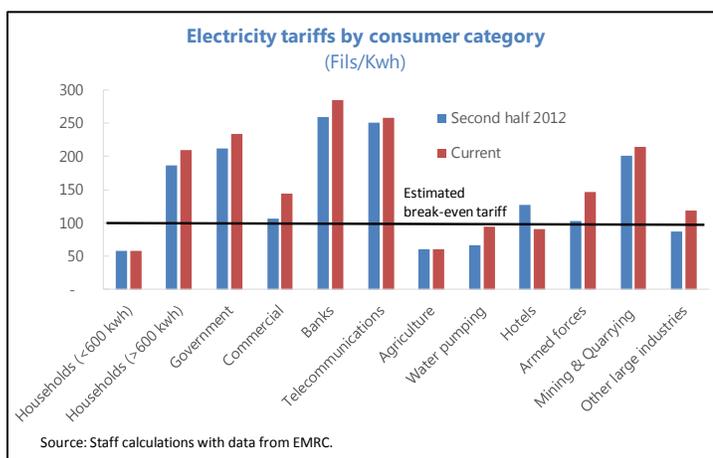**5.   However, the AETAM could be strengthened by**:

- **Including efficiency targets.** The mechanism does not specify the way in which tariff adjustments will secure the efficient generation, transmission, and distribution of electricity. However, the EMRC oversees these operations using performance indicators and oversees NEPCO since 2015. Consideration could be given to introducing specific efficiency gains over the next several years.

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[7] Jordan successfully removed general fuel subsidies in 2012 and, since then, updates retail fuel prices monthly considering past month international prices and a publicly available price equation at the website of the Ministry of Energy and Mineral Resources. This successful experience could help the implementation of the electricity tariff adjustment mechanism.

[8] Several countries have implemented such smoothing mechanisms including ex-post adjustments of the projections in order to secure cost-recovery of the electricity sector over specific periods.

- **Protecting the poor while preserving cost recovery.** An increase in cross-subsidies could heighten incentives for large consumers to exit the grid and risk depriving the electric system of one of its main sources of revenue (see figure).[9] The impact on the poorest segments of the population could be mitigated by minimizing the adjustment of existing lifeline tariffs.[10,11] The published regulation does not specify the way in which the tariff adjustment will be applied across the different categories of consumers. However, the Ministry of Energy and Mineral Resources has conducted a study that provides policy options for the effective change of the tariff of the different categories of consumers and is expected to conduct a comprehensive analysis of the tariff structure with the help of a specialized consulting firm, which is expected to be finalized by the end of 2017.

Electricity tariffs by consumer category
(Fils/Kwh)

Source: Staff calculations with data from EMRC.

6.   **The AETAM should be part of the medium-term strategy of the sector.** Renewables could supply up to fifteen percent of the electricity generation's needs in the coming years. They may help to move the energy mix away from spot oil prices while contributing to global efforts to reduce carbon emissions. Even within gas, alternative sources not necessarily tied to oil prices, such as gas from the Mediterranean or the resumption of gas flows from Egypt, may help to achieve these targets as gas is less harmful to the environment than other fossil fuels.
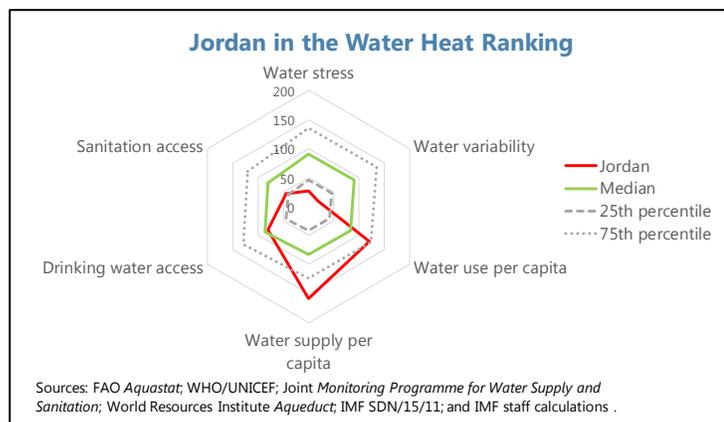
C.   The Challenges of the Water Sector

7.   **Despite being one the most water-scarce countries, Jordan has almost universal coverage of water services.** Jordan ranks highly in the water stress index because of its relatively high variability of water supply and its extremely low water supply per capita. The government could manage this scarce resource successfully by reaching a low use of water per capita and more than 95 percent of the population with access to drinking water and sanitation (see figure). The Syrian

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[9] EMRC reduced the tariffs of large consumers, such a mining and quarrying, large industries and telecommunication companies, by about 8 percent on average in November 2016, thereby reducing cross-subsidization.

[10] The World Bank, using the Household Income and Expenditure Surveys of 2010 from the Department of Statistics of Jordan, estimated that the lowest quintile of the household income distribution in Jordan expended less than 2 percent of its budget in electricity and that this share decreases as income rises.

[11] The Ministry of Planning and International Cooperation launched the National Unified Registry and Outreach Program for Targeting Social Assistance in September 2016. Once in place, this registry will allow the government to reach more effectively the most vulnerable by enhancing information-sharing, eligibility, and enrollment in social programs. The government could use this registry to target assistance to vulnerable groups in periods of high fuel prices, as it did after the removal of general fuel subsidies in 2012.

Refugees Crisis aggravates the challenge because the demand for water in Jordan has increased by 21 percent since the crisis began. Groundwater overdraft is depleting this resource since the total water extraction rates exceeded the renewable water amount in northern governorates, where the demand for water is estimated to have increased 40 percent.

Jordan in the Water Heat Ranking

Sources: FAO *Aquastat*; WHO/UNICEF; Joint *Monitoring Programme for Water Supply and Sanitation*; World Resources Institute *Aqueduct*; IMF SDN/15/11; and IMF staff calculations .

8.   Further reforms could ensure universal water coverage in this challenging environment. Since Jordan is in the group of countries with high water stress and high access to water services, it needs to rationalize even further the water use and to identify other water resources to sustain its past performance.[12] In order to deal with these structural factors and the persistent demand from the refugees and the potential increase in electricity tariffs, which is an essential input for water pumping, owing to the implementation of the AETAM, the multiple efforts of the government of Jordan to continue providing this essential good include:

- The "Action Plan to Reduce Water Sector Losses" that continues towards 2020 with some further measures.[13]

- The recently published "National Water Strategy 2016–2025" confirms the government commitment to rationalize the price structure of water and wastewater services to ensure efficient use of water.[14]

- The "Capital Investment Program 2016–2025" includes projects to increase the water supply through cross-border collaboration with neighbor countries such as the Red Sea-Dead Sea Water Conveyance Project.

- These substantial investments, as well as those needed to increase the efficiency, collection of non-revenue water and introduce renewable energy in the water sector, will require substantial financial resources, which cannot be financed through domestic commercial debt given the long-term returns of the provision of this essential public good. The Ministry of Water and Irrigation has prepared a first draft of the new debt management strategy for WAJ and is currently planning future steps with the Ministry of Finance. The strategy includes the

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[12] See discussions on water sector policies in Kochhar, K. and others (2015).

[13] These measures include groundwater extraction tariff increases, the introduction of meters to reduce non-revenue water losses, and the introduction of renewable energy to diversify the sources of energy for water pumping.

[14] The World Bank, using the Household Income and Expenditure Surveys of 2010 from the Department of Statistics of Jordan, estimated that the highest quintile of the household income distribution in Jordan expended half the share of its budget in water compared to the lowest quintile.

optimization of WAJ's cash and debt management. Its main targets are: to reduce WAJ's commercial domestic borrowing and rely more on external grant and concessional financing and on central government transfers; to reduce roll-over needs by lengthening maturities; and to centralize WAJ's debt management at the Ministry of Finance.

- The updated action plan on how to reduce the water sector's losses over the medium term, with further revenue enhancing and cost reduction measures, has been approved by Cabinet and published on April 2017.[15] It addresses the impact of refugees and the monitoring of the projects implemented in collaboration with donors, as well as the impact of electricity tariffs on the sector.

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[15] In order to boost revenues, the government plans to target the reduction of illegal and non-revenue water, to install new meters, and tariff adjustments to distribute the burden to population in a socially acceptable way without affecting the lowest tariff category. And to reduce costs, the government plans to continue to invest in energy efficiency projects, renewables to reduce their exposure to changes in electricity tariffs, new pumping stations, and physical water loss reduction infrastructure projects.

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PAYROLL TAXES AND EMPLOYMENT: CONSIDERATIONS AND INTERNATIONAL EXPERIENCE[1]

Given Jordan's challenging environment and relatively limited policy options, comprehensive measures to boost job creation are needed urgently. To complement planned reforms to improve the business environment and enhance labor market flexibility, a reduction in payroll taxes can increase the share of formal jobs, increase after-tax wages and domestic demand, and reduce unemployment, with the greatest potential impact for youth, women, and low-skill workers. Evidence suggests that payroll-tax cuts have the largest effect in countries like Jordan where the minimum wage is binding for a significant part of the labor force, and such cuts should be combined with measures that preserve the confidence in the solvency of the social-security system.

A. Jordan's Present Challenges

1. **High and rising unemployment in Jordan threatens to undermine macroeconomic stability**. Following a series of economic shocks in recent years, Jordan faces an increasingly challenging economic environment—including muted investor confidence, reduced foreign inflows, large presence of refugees in the labor market, and a subdued growth outlook. In this context, unemployment is rising, reaching a 10-year high of 15.8 percent in 2016 (25 percent for women and 36.5 percent for youth), while participation rates continue to slide. Although 60 percent of new jobs are taken by individuals without university degrees, these new jobs are insufficient to absorb the steady inflow of job seekers (World Bank, 2016). Given Jordan's difficult regional situation, which has lowered growth and raised production costs, there is a need for policies that promote employment.

2. **With limited traditional policy options, active employment measures need to be seriously considered.** Given that the challenging regional environment is likely to persist, and with limited fiscal space and monetary policy (appropriately) focused on supporting the exchange-rate peg, there are few traditional macroeconomic tools available to boost activity and job growth. Nonetheless, there may be scope to lift employment by tackling some of the main obstacles to job creation. This is a core theme of the authorities' longer-term economic strategy for Jordan, as outlined in the *National Strategy for Human Resources Development* and the updated *National Employment* Strategy. But these efforts, which appropriately address skills mismatches, labor-market inflexibility, gender inequality, and public-sector hiring practices, are likely to take time to bear fruit. Measures with a shorter-term payoff may also need to be considered. In this regard, the level of social security contributions (so-called payroll taxes, currently 21.75 percent) is widely regarded—across sectors and participants in the economy—as a key impediment to formal employment, particularly for low-skilled job seekers, youth and women. Lowering these contributions, even temporarily, would reduce non-wage labor costs and

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[1] Prepared by Andrew Tiffin and Martin Cerisola (MCD).

so encourage job creation and formalization. Other countries facing similar challenges, such as Colombia, have taken this approach and have met with significant success in raising formal employment.

3.   **A much-needed boost to employment could be provided by drawing on the financial strength of the Social Security Corporation (SSC)**. Currently, the reserve fund of the SSC stands at around JD8.3 billion, and the corporation is operating with a sizable surplus—JD550 million in 2016, expected to rise to JD600 million in 2017. These surpluses are currently invested in the Social Security Investment Fund (SSIF), but could be allocated toward alternative goals, such as reducing the cost of labor. Effectively, the surpluses "saved and invested" by the population in the SSIF would be given back (temporarily) to households and firms, which would then help lower the costs of formal jobs, improve working capital, and increase disposable incomes. However, the SSC faces large future needs, as the number of retirees is growing significantly faster than the number of active subscribers, and around three-quarters of new retirees are early retirements. Currently, the reserve fund's solvency is only assured up to 2051—suggesting that further parametric reforms will eventually be required to ensure that SSC can meet its obligations. To guarantee the SSC's continued solvency and credibility, any cut in contributions (payroll taxes) would have to be presented as part of a *broader* package, including parametric reform to improve the SSC's actuarial position.

B.   The Theory of How Payroll Tax Cuts Can Help

4.   **Payroll taxes result in higher labor costs for firms, and reduced take-home pay for workers**. In a competitive labor market, a payroll tax introduces a gap (the *labor tax wedge*) between the total amount that employers must pay to hire a worker, and the amount that the worker actually receives.[2] The existence of this gap means that, for the employer, labor costs are increased and so there is less incentive to take on more workers. And for the worker, with fewer jobs on offer, take-home pay (excluding taxes) tends to be lower. In theory, it does not matter whether the tax is levied on employers or employees. If levied on the employer, labor costs rise directly, prompting a cut in employment and a consequent fall in take-home wages. If levied instead on the employee, workers will demand higher wages to compensate, driving up labor costs indirectly and prompting the same fall in employment and take-home wages as before. In either case, the wedge is the same—*and the burden of the payroll tax is shared between firms and workers*.[3]

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[2] Formally, the labor tax wedge measures the difference between labor costs to the employer and the corresponding net take-home pay of the employee. It comprises the sum of personal income tax, employee and employer social security contributions, less cash transfers. Often, "payroll taxes" are defined to include both personal income tax and social security contributions, but for this paper we consider income taxes separately, so that payroll taxes are synonymous with social security contributions.

[3] For an overview of standard labor-market theory, including discussion of the theoretical impact of payroll taxes, see Borjas (2015), Chapter 4.

JORDAN

5.   Cutting payroll taxes reduces the labor wedge and so encourages employment.
With lower labor costs, firms will demand more workers. And as employment rises, competition
will cause market clearing (take-home) wages to also rise, partially offsetting the initial drop in
labor costs. The relative portions of the tax cut enjoyed by employers and employees will depend
on their relative elasticities of labor supply and demand (i.e. how sensitive they are to changes in
wages). For example, if workers are insensitive to changes in wages—unable or reluctant to
supply significantly more labor even if wages increase—then firms would have to offer large
wage hikes to attract additional workers. In this case, most of the tax cut would be captured by
higher wages, leaving little net impact on employers' total labor costs and so little net impact on
employment. On the other hand, for countries like Jordan with a sizable (refugee-augmented)
informal labor market, there is likely to be a significant pool of workers eager to enter the formal
labor force, making the supply of formal labor relatively sensitive to wages. The extent to which
lower payroll taxes result in higher wages (the pass through) will differ from country to country—
but the greater the pass though, the lower the impact of payroll taxes on overall employment.

**6.   The impact on employment can be maximized by limiting any potential impact on
future social-security benefits**. Most payroll taxes are used to fund specific social benefits
(future pensions, disability and unemployment insurance, etc). The link is generally not perfect
and will differ from country to country, but if a tax cut is associated with lower benefits, workers
will demand higher wages to compensate; adding to the pass though, and muting any potential
impact on employment. *To maximize the impact on employment, therefore, it is important to
ensure that payroll-tax cuts are not perceived as compromising the SSC's ability to meet future
obligations—perhaps by emphasizing the temporary nature of the cut, or by including the cut
within a broader package of parametric reforms that ensure the SSC's longer-term solvency*.

**7.   The impact on employment will be greatest for those workers receiving close to the
minimum wage and also those with informal-sector jobs**. A binding minimum wage implies
that there are workers who would be willing to accept a job at that wage (perhaps moving from
the informal sector), but who are unable to do so owing to a lack of employer demand. In this
case, as payroll-tax cuts reduce total labor costs and boost demand, these workers will be willing
to fill the new positions without any additional upward pressure on wages. In effect, binding
minimum wages ensure that the supply of labor is perfectly elastic—so there is no pass though,
and employment gains are relatively large. *In the case of Jordan, around 12 percent of the formal
workforce earns close to the minimum wage, so we might expect that reduced payroll taxes could
significantly impact this segment of the labor market*. Moreover, taxes and social-security
contributions are typically identified as a key factor behind informality. Given the size of Jordan's
informal labor force, which has been exacerbated by the recent inflow of refugees, lower payroll
taxes may help incentivize formalization and reduce tax evasion, as firms would optimally choose
to hire more workers formally.

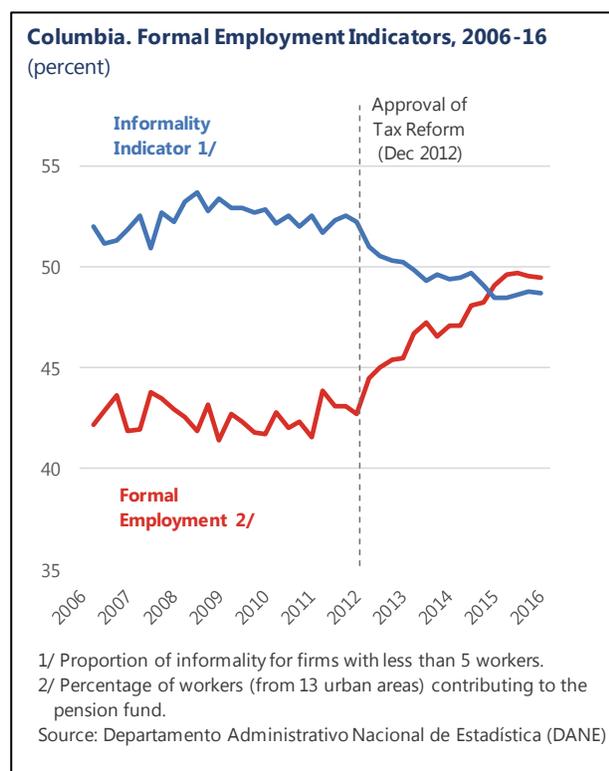## C.   The International Experience with Payroll Tax Cuts

The Experience with General Payroll Tax Cuts

8.   Cross-country evidence suggests that payroll tax cuts can be effective in boosting employment. For example, international panel estimates suggest that a cut in payroll taxes by 10 percentage points would (on average) increase employment by 7 percent—4.5 percent in Latin American countries, and 10 percent in OECD countries (Heckman and Pagés, 2004). And these results are in line with other simulation-based studies suggesting that a 10 percent reduction in the labor-tax wedge would boost employment by 2 percent in the short term; rising to 7 percent within 4 years and with a larger impact during periods of slack (IMF, 2016). However, individual country experiences differ significantly; which is perhaps unsurprising, as labor market conditions and institutions will vary from country to country.[4]

9.   An illustrative and relevant example for Jordan is the case of Colombia. Like Jordan, Colombia has a sizable informal sector and a minimum wage that appears to be binding for a significant portion of the workforce, particularly at the low-skill end of the market. Colombia also has a link (albeit imperfect) between payroll taxes and benefits, as it includes a fully-funded system of individual accounts, in addition to a more basic pay-as-you-go (PAYG) pillar. Based on the experience of the 1980s and 1990s, when payroll taxes were increased from 35½ to 51½ percent, estimates suggest that a 10-percentage point cut in these taxes would boost formal employment by 4-5 percent (Kugler and Kugler, 2009). Following on from that experience, the authorities in 2012 cut employer contributions to health insurance as well as for training and family welfare institutes—reducing non-wage costs by 13.5 percentage points. As designed, the fiscal costs of the tax cut were supposed to

Columbia. Formal Employment Indicators, 2006-16
(percent)

1/ Proportion of informality for firms with less than 5 workers.
2/ Percentage of workers (from 13 urban areas) contributing to the pension fund.
Source: Departamento Administrativo Nacional de Estadística (DANE)

be recouped through a tax on corporate profits.[5] Formal employment picked up almost immediately, and simulation studies suggest that the tax cuts were likely responsible for a

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[4] For an overview of different country-level studies, see https://wol.iza.org/articles/do-payroll-tax-cuts-boost-formal-jobs-in-developing-countries/map.

[5] In the event, although corporate income tax (CIT) rates were increased from 25 to 34 percent, actual collections *fell* by 0.3 percent of GDP between 2013 and 2015. Nonetheless, higher CIT rates still served as an incentive for increased formal employment, as both wages and social-security contributions are deductible from the CIT.

3½-percent increase in formal employment (although much of this represents a shift from the informal sector, leaving a modest overall impact of around ½ percent) (Anton, 2014). Firm-level empirical data also supports this finding, where estimates suggest that the cuts helped boost formal employment by almost 1 percent over the short run, with an estimate long-run impact of around 3 percent (Morales and Medina, 2016).

The Experience with Targeted Payroll Tax Cuts

10. **Payroll tax cuts can be focused narrowly at specific sections of the labor market.** There may be a case for targeting the tax cut at specific groups of workers—particularly those that are poorly integrated into the formal labor market (women, youth, and low-skilled workers) where supply elasticities are largest. The evidence indicates that for young workers in high-income countries, untargeted payroll-tax cuts aimed at *both* (young) incumbent workers and new (young) hires seem to have had a somewhat limited impact on employment outcomes. On the other hand, *hiring subsidies* in the form of payroll tax cuts (i.e. cuts that apply *only to new hires*) have had a more marked impact (ILO, 2015).

11. **France may be another illustrative example, as reduced payroll taxes for low wage earners has long been a key component of French employment policy**. First introduced in 1993, and in the context of one of the OECD's largest tax wedges, France's targeted tax concessions seem to have met some success, albeit at sizable fiscal expense. Following the 1993 cuts, overall non-wage labor costs for minimum-wage earners fell markedly and the share of unskilled workers in total employment improved, despite an overall economic slowdown (IMF, 2016b). More recently, additional measures have included: a tax rebate for competitiveness and employment (*CICE*) that offsets payroll taxes on wages below 2.5 times the minimum wage; and the Pact for Responsibility and Solidarity (*PRS*) that provides for a 1.8 percentage point reduction in employers' social security contributions for wage earners up to 3.5 times the minimum wage. The impact of these recent measures has been muted so far, but simulation results suggest that job creation could eventually be significant. Jordan's safety net is different to those nets existing in advanced economies. But such studies nonetheless point to the benefits of targeting low-skill, high-elasticity workers—for the same budgetary cost, the studies suggest that a tax-cut aimed at low-wage workers is up to 2½ times more effective than one that applies to all wage earners (Espinoza and Ruiz, 2014).

D. Communicating a Payroll Tax Cut Package

12. **The case of Portugal suggests the need for a carefully crafted communications strategy**. In 2011, as part of a Fund-supported program, the Portuguese authorities committed to a major reduction in employers' payroll taxes, to be financed by offsetting fiscal measures, including higher VAT rates. This initiative (a so-called "fiscal devaluation") was not only aimed at boosting employment, but also had the goal of "replicating" a currency depreciation and so improving external competitiveness. Specifically, lower payroll taxes would reduce non-wage labor costs and so lower the cost of production, including that of exports. Higher VAT rates, on the other hand, would offset the impact of these lower costs on domestic consumer prices, while

also increasing the price to consumers of imports. Overall, with lower export prices and higher import prices, the net effect would be similar to a currency depreciation, and so was expected to boost Portugal's competitiveness (IMF, 2011). After two attempts to design and implement the measure, it was abandoned—largely due to widespread political resistance. A key issue was the size of the cut in employer contributions (6 percentage points) and an associated concern about the financial integrity of the social security system, in a context where taxes are generally linked to benefits. As the cuts only affected employer contributions, it was perceived by many to inequitable, favoring firms at the expense of workers (this perception was worsened by a decision of the Constitutional Court that compelled the authorities to announce an *increase* in employee contributions). Ultimately, the initiative was unsuccessful.

E.   Some Key Lessons for Jordan

- The experience of other countries suggests that a cut in payroll taxes could significantly boost employment, reduce informality, and may even contribute to higher take-home wages, particularly for informal workers who join the formal market—with an overall positive impact on demand and growth.

- However, it is important to ensure that any tax cut is accompanied by parametric reform of the social security system, to limit fiscal costs and ensure the fund's ability to meet its obligations going forward.

- As part of the authorities' communications strategy, any payroll-tax measure should therefore be included within a broader package of reforms that credibly guarantee the future solvency of Jordan's social security fund.

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