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Public Wage Bills in the Middle East and Central Asia

IMF staff team led by Natalia Tamirisa and Christoph Duenwald

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Executive Summary

The Middle East and Central Asia is facing daunting economic development challenges. The region is striving to promote inclusive growth, reduce youth unemployment, and reach the United Nations Sustainable Development Goals (SDGs). At the same time, several countries in the region are dealing with internal conflicts, large inflows of refugees, and heightened security risks. With high debt levels and a prolonged decline in oil prices and remittances, many countries increasingly lack the fiscal capabilities to effectively tackle these challenges.

Countries need to find ways to finance policies that address the challenges. Stepped-up actions to raise revenues in a fair and equitable way should be part of these efforts. Pro-growth expenditure reforms are also needed, as energy subsidy reforms to generate resources for pro-poor expenditures have already been implemented in several countries.

An additional option is to reform large public wage bills—the focus of this paper. Many countries in the region have large public wage bills, both relative to their own revenues and expenditures and compared with their global peers. This can be a result of high levels of public employment, unusually large compensation, or sometimes both. Despite their disproportionate size, large public wage bills have failed to improve the availability and quality of public services that are vital for addressing the aforementioned economic development challenges. Meanwhile, labor markets are distorted in countries where public sector compensation grossly exceeds that in the private sector.

Public wage bill reforms can support countries' efforts to grow their private sectors and create jobs—ultimately, the more sustainable source of employment for the millions of new graduates entering labor markets. By enabling

higher investment in infrastructure and social protection and by removing labor market distortions, wage bill reforms can boost the private sector. While hiring and wage freezes or cuts can be useful in the short run, they may affect service delivery and be difficult to sustain and are no substitute for structural reforms of employment and compensation policies.

This paper proposes some options for reforms, such as improving the management of public wage bills as well as their governance and transparency. Drawing on earlier IMF policy analysis at the global level and new regional data, this paper calls for (1) ensuring that wage bill policies are fiscally sustainable by identifying drivers of wage bills and anchoring their growth in medium-term fiscal plans; (2) focusing compensation and employment policies on providing quality public services effectively and equitably, by undertaking sectoral expenditure reviews and strengthening mechanisms for public service delivery; (3) strengthening institutions and data, including human resource management and control over bonuses and allowances, and linking compensation to performance; and (4) sequencing reforms and building synergies with other policies. To smooth the transition, wage bill reforms should include early social impact analyses and be accompanied by steps to strengthen social protection, diversify the economy, strengthen governance, and improve the business environment and job creation.

CHAPTER

1 Introduction

Economic and social challenges have intensified across the Middle East and Central Asia. Despite a stronger global economy, the growth outlook for the region remains subdued (IMF 2017). Weak economic growth and high unemployment are putting pressure on the public sector to absorb labor market slack, while deteriorating fiscal positions necessitate adjustment. At the same time, countries need to work toward the SDGs, and public demands to improve the delivery of and access to public services are rising, in part because of young demographics and sizable inflows of refugees or migrants. Looking ahead, these pressures will continue to mount. More than 5 million new workers are expected to join the labor force annually in the Middle East and North Africa alone. Technological innovation will require rethinking the delivery of public services and the size of government. Flattening of the age pyramid could translate high public wage bills into significant pension liabilities in the future.

Policymakers in the region are looking for ways to finance policies that tackle these challenges. With fiscal headroom decreasing due to lower oil prices (oil exporters)[1] and remittances (oil importers)—and, in some cases, in the context of internal conflict, large inflows of refugees, and/or heightened security risks—country authorities are stepping up efforts to collect more revenue in an equitable way and adjust expenditures in favor of pro-growth outlays such as infrastructure, while ensuring adequate social protection. Strategies to tackle these challenges have been addressed in recent publications, including on fair taxation (Jewell and others 2015); subsidy reforms (Clements and others 2013; Sdralevich and others 2014); adjusting to lower oil prices (IMF 2015a; Sommer and others 2016); dealing with the economic implications of conflicts (Rother and others 2016); and raising growth (Mitra and others 2016).

[1]"Oil" refers to exports of all hydrocarbon resources (crude oil, condensate, oil products, and natural gas).

An additional option for many countries in the region is to reform their large public wage bills. Not only are public wage bills in most of the countries in the region higher than those in global peers, they have also not produced the desired economic and social outcomes. Public compensation exceeds private compensation in many countries compared with global peers, even at similar skills levels. This suggests that countries could benefit from redirecting budget resources from public wage bills to more productive uses.

Policymakers in many countries have recognized the need to evaluate their public wage bills in the context of broader fiscal reforms. Indeed, countries that face fiscal pressures need to decide on the composition of the adjustment, whether through spending cuts or measures to raise revenue to finance pro-poor investment. Where public wage bills are at the core of fiscal stress, a reduction in wage bill spending needs to be considered. Some countries have already begun the adjustment of wage bills, including Egypt, Georgia, Iraq, the Kyrgyz Republic, Morocco, and Tunisia. In many cases, immediate financing pressures require quick fixes, such as wage and hiring freezes. International experience suggests that, while effective in the short run, such measures may affect service delivery and are difficult to sustain. Lasting improvements need to address the underlying causes of oversized wage bills through structural reforms.

This paper sets out the stylized facts and identifies policy priorities for managing public wage bills in the region. It draws on policy recommendations of a recent global study (IMF 2016a) while examining the topic through the lens of the region. Using new data, case studies, and modeling, the paper lays out a general approach to improving management of public wage bills in the region and provides examples of reforms. The goal is to provide country authorities with a framework for managing their public wage bills. Country-specific policy advice is beyond the scope of the paper; rather, the objective is to enrich the analysis of IMF country teams by offering cross-country experiences and comparisons. The findings in the paper should be interpreted with caution because data weaknesses limit the comparative analysis and because most results refer to correlations rather than causal effects.[2]

The paper also analyzes the underlying factors behind high wage bills. Wage bill policies aimed at achieving too many socioeconomic goals, and inadequate institutions, have swelled public payrolls and distorted labor markets in several countries of the region, especially as they deal with young demographics and regional conflicts and their spillovers.

[2]Wage bill data cover the general government, as reported in the World Economic Outlook (WEO) database. Employment data often cover the public sector (including state-owned enterprises (SOEs). For more details on data and measurement issues, see Box 1 and Annex 1.

- In many countries, particularly in *the Middle East, North Africa, Afghanistan, and Pakistan (MENAP)*, past socioeconomic models have resulted in the government acting as an "employer of first resort," offering public sector jobs as a means of social support. Governments' efforts to redistribute resource wealth in some oil-exporting countries have resulted in government compensation significantly exceeding that in the private sector. These policies—against a backdrop of weak institutions and governance, favoring discretion and often enabling inefficient hiring and compensation practices—have discouraged private employment, lowered productivity growth, hindered skill development, and unfairly benefited insiders who are able to obtain public sector jobs.
- In the *Caucasus and Central Asia (CCA)*, public employment is high compared with peers. In the early 1990s, hyperinflation eroded public wages, reducing them below those in the private sector on average. While the diminishing role of the state during the transition to market-based economies has led to a slowdown in public hiring, public employment remains much higher than the average for emerging market and developing economies.

High public wage bills have not produced the desired outcomes in service delivery. Indicators of the quality of public services, as well as outcomes such as educational attainment and health, are subpar. Countries that employ a larger share of the workforce in the public sector have not achieved lower overall unemployment. On the contrary, high public sector employment may have favored vested interests and discouraged risk taking, effectively penalizing private sector job creation and undermining competitiveness. At the same time, high and rising wage bills may have crowded out social and infrastructure spending and undermined fiscal stability in many countries.

This paper proposes options for improving public wage bill management in the region. Ensuring that public wage bills are fiscally sustainable would support fiscal stability, which is particularly important in countries where high wage bills are driving fiscal pressures. It would also make room for other critical spending to enhance the growth of private sector jobs and provision of effective and equitable public services to meet the needs of growing young populations. Strengthening institutions and data would help governments better manage employment and compensation, recruit and retain skilled staff, improve productivity, and reduce corruption. Wage bill reforms should be coordinated with steps to foster private sector job creation and mitigate any short-term impact on the vulnerable, especially the poor, women, and youth. Given the high degree of heterogeneity in the structure and drivers of public wage bills across the region, the specific design and sequencing of reforms—and indeed the objective of the reforms—depend on country economic and political economy characteristics.

The rest of the paper is organized as follows. Chapters 2 and 3 discuss wage bill dynamics in the region and the underlying factors. Chapter 4 reviews fiscal and socioeconomic outcomes. Chapter 5 outlines possible reforms of wage bill policies. Chapter 6 concludes. Boxes and annexes contain background material. In particular, Box 3 summarizes views of civil society organizations (CSOs) and labor unions. Annex 1 describes the regional data set on public wage bills and institutions. Annex 2 presents case studies from the region, while Annex 3 summarizes international experience with wage bill reforms (IMF 2016b). Annex 4 presents a specially developed model and policy simulations.

CHAPTER

2 Benchmarking and Trends

Comparison with Global Peers

Public wage bills in the MENAP region are higher than in other emerging market and developing economies (Figure 2.1).[1] During the past decade, these economies[2] spent on average 6 percent of their GDP a year on general government payroll—equivalent to a fifth of their total expenditure.[3] In the same period, public wage bills represented 28 percent of total expenditure in the MENAP region. Public wage bills in the Gulf Cooperation Council (GCC) countries and Algeria were 3.6 percentage points of GDP higher than the corresponding emerging market and developing economy average and exceeded wage bill averages for fuel exporters from other regions. In MENAP oil importers, wage bills were 2.3 percentage points of GDP higher than in emerging market and developing economies. By contrast, wage bills in CCA oil exporters (16 percent of expenditure) were below those in emerging market and developing economies and other comparator groups, while wage bills in CCA oil importers were broadly comparable to the emerging market and developing economy average.[4]

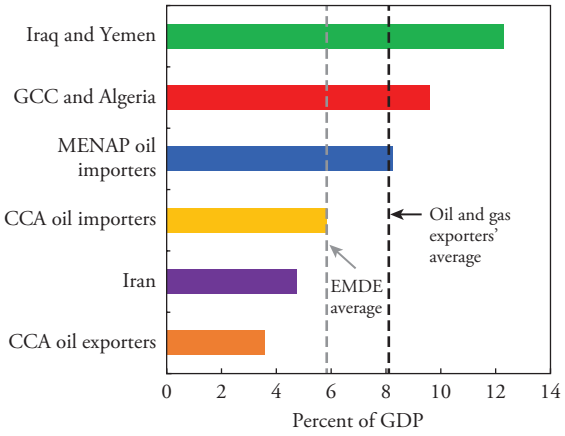
[1]International comparisons provide a common yardstick and serve as a starting point for deeper analysis and assessment. One size certainly does not fit all. Each country's appropriate wage bill level will depend on its specific circumstances, particularly preferences for the size of government, fiscal situation, demographic structure, security conditions, and resource constraints. There is also heterogeneity in the sectoral composition of the wage bill, which we were not able to capture for a significant number of countries given lack of data.

[2]The emerging market and developing economy group follows the WEO classification. Oil exporters comprise countries with average net fuel exports exceeding 1 percent of GDP during 2007–15 (Appendix 1).

[3]Public wage bill averages are weighted by countries' purchasing power parity (PPP)-based GDPs. Simple averages tend to be higher (8 percent of GDP compared with the 6 percent of GDP weighted average for emerging market and developing economies). For more details on simple averages for emerging market and developing economies, advanced economies, and other subgroups, see IMF 2016a.

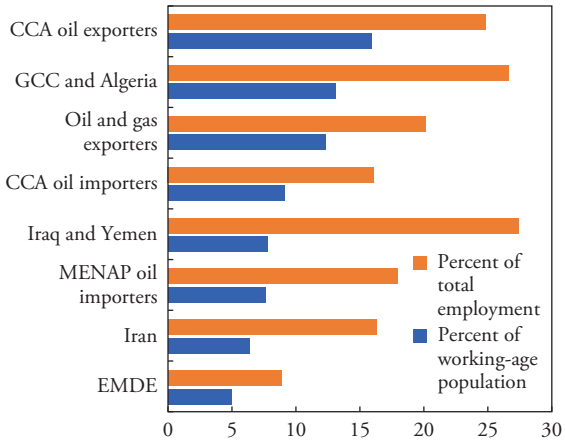
[4]CCA public wage bills do not cover employment by extrabudgetary funds (IMF 2014a, Box 4). Trends in CCA wage bills in percent of GDP are also difficult to interpret because of large swings in output and a sharp scaling up of oil production in the 1990s.

Figure 2.1. General Government Wage Bills, 2005–16
(Percent of GDP, period average)



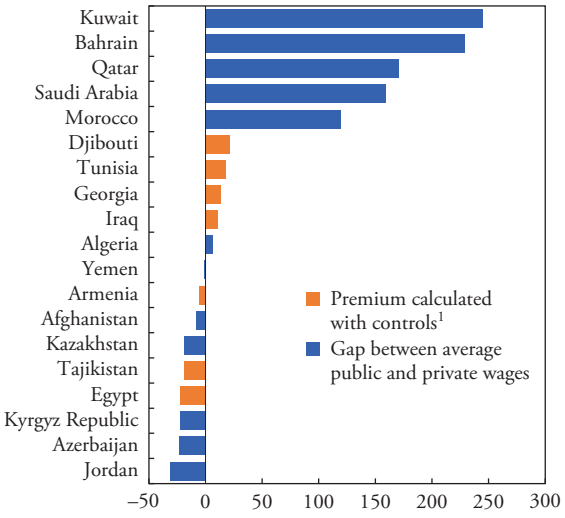
Sources: IMF, World Economic Outlook; and IMF staff estimates.
Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; GCC = Gulf Cooperation Council; MENAP = Middle East and North Africa, Afghanistan, and Pakistan.

Figure 2.2. Public Sector Employment, 2005–16
(Percent, period average)



Sources: National statistics; International Labour Organization; and IMF staff calculations.
Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; GCC = Gulf Cooperation Council; MENAP = Middle East and North Africa, Afghanistan, and Pakistan.

Figure 2.3. Public-Private-Sector Wage Gaps
(Percent, latest available)



Sources: Country authorities; national labor surveys, and International Labour Organization. Data for Morocco from World Bank 2011.
[1]Numbers represent wage premium estimates obtained after controlling for employee characteristics (IMF 2016a).

Governments in the region are larger employers than their peers in the rest of the world (Figure 2.2). Public sectors in emerging market and developing economies, on average, account for 9 percent of total employment and provide jobs for nearly 5 percent of the working-age population. By contrast, public employment in most countries in the region is well above these levels—every fifth job is in the public sector, and average public employment in percent of working-age population is nearly double the average in emerging market and developing economies (13 percent in the CCA and 9 percent in MENAP). Public employment in the region's oil exporters, for the most part, also exceeds the respective average for oil exporters outside the region.

Several MENAP countries have large gaps between public and private sector compensation (Figure 2.3). The average public sector wage premium—the amount by

which public sector wages exceed those in the private sector when controlling for skills and education—in emerging market and developing economies is nearly 12 percent (IMF 2016a).[5] The few available estimates of true wage premiums (with controls) for the MENAP region are positive, except for Egypt. Average public wages in the GCC and Morocco are about 2–3 times higher than average private sector wages. (The gap in the GCC countries is highest for expatriates, whereas for nationals it is typically about 30–50 percent.) These gaps would probably be even higher if substantial nonwage benefits in the public sector, such as various allowances, retirement benefits, and job security were included—information that is generally not available.[6] On the other hand, public sector workers in the CCA, non-GCC oil exporters, and Mashreq oil importers (Egypt, Jordan) are on average paid less than their private sector counterparts, although the reverse might be true if benefits could be incorporated.

Diversity within the Region

Differences in public wage bills across the region are significant (Figures 2.4 and 2.5).[7] For example, in the GCC, Saudi Arabia's wage bill of about 13 percent of GDP is more than double the public wage bills in the United Arab Emirates and Qatar. Among non-GCC MENA oil exporters, Iraq's public wage bill also exceeds 12 percent of GDP and is significantly higher than that of Iran. Public wage bills in Morocco, Tunisia, and the West Bank and Gaza are more than double what they are in Jordan and Sudan. The Kyrgyz Republic's wage bill is much higher than in the rest of the CCA.

Public employment and compensation also vary considerably (Figures 2.6 and 2.7):

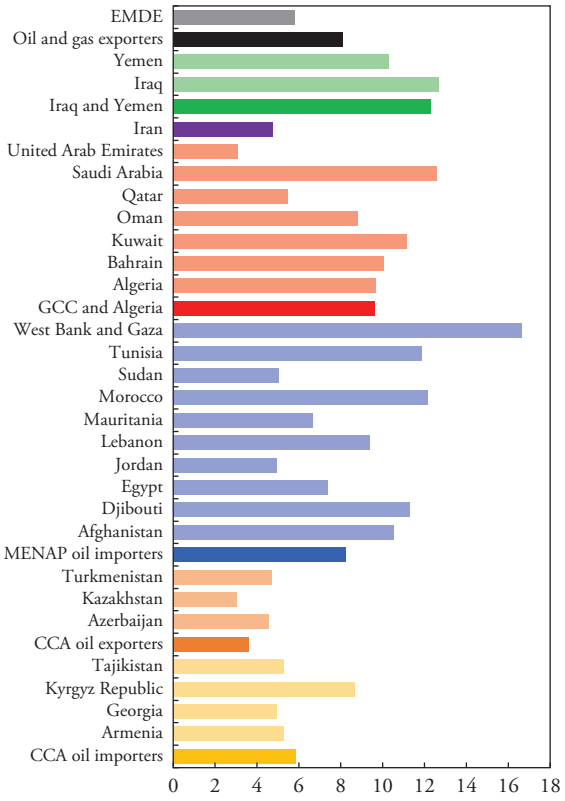
- *Differences are most significant in the GCC and Algeria*. Public employment levels in Algeria and Saudi Arabia are among the highest in the world, accounting for over a third of total employment. In addition, in Saudi Arabia, the public-private wage gap (over 150 percent) and the overall

[5]Premium calculations are distorted by noninclusion of benefits and allowances. While reliable data on the latter are scarce, they tend to be substantially higher in the public sector, with public wage premiums underestimating public compensation premiums. In addition, average wages hide differences in skill levels. Evidence for Saudi Arabia suggests that public wage premiums are higher for lower-skilled workers.

[6]As discussed by Gunderson 1979, wages of comparable workers in the public and private sectors may differ for various reasons, such as stronger unionization of public sector workers (Mueller 1998; Holmlund, 1993), differences in nonmonetary benefits and job security (Clements and others 2010). Public wage premiums may also be affected by differing degrees of rigidity. IMF 2016a finds that the public-private wage ratio increases significantly during downturns.

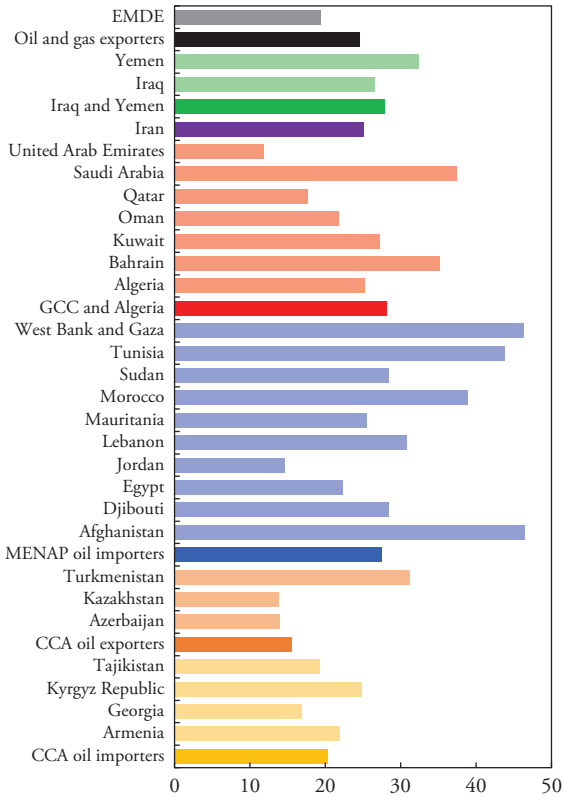
[7]Evaluating public wage bills by functional category (education, health, security, etc.) would greatly enrich the analysis, but unfortunately such data are generally not available for the countries in this region.

Figure 2.4. General Government Wage Bills, 2005–1
(Percent of GDP, period average)



Sources: IMF, World Economic Outlook; country authorities; and IMF staff estimates.
Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; GCC = Gulf Cooperation Council; MENAP = Middle East and North Africa, Afghanistan, and Pakistan.

Figure 2.5. General Government Wage Bills, 2005–1
(Percent of expenditure, period average)

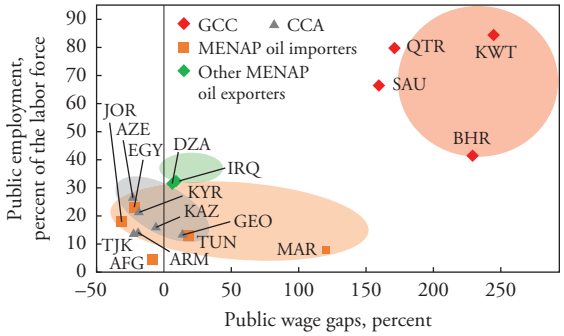


Sources: IMF, World Economic Outlook; country authorities; and IMF staff estimates.
Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; GCC = Gulf Cooperation Council; MENAP = Middle East and North Africa, Afghanistan, and Pakistan.

wage bill are above average, much higher than in Algeria (Jewell 2014: 16–17). Kuwait's public payroll is higher than Bahrain's because of both higher employment (18 percent of total employment) and wages (the public-private wage gap is 245 percent). This is even more noticeable within the labor market for nationals in the GCC, where government employment as a share of the national labor force exceeds emerging market and developing economy averages by a wide margin—particularly in Kuwait (84 percent), Qatar (80 percent), and Saudi Arabia (66 percent). In other GCC countries, public employment levels are moderate (less than 10 percent of total in the United Arab Emirates), but the gap between public and private sector wages is very high.

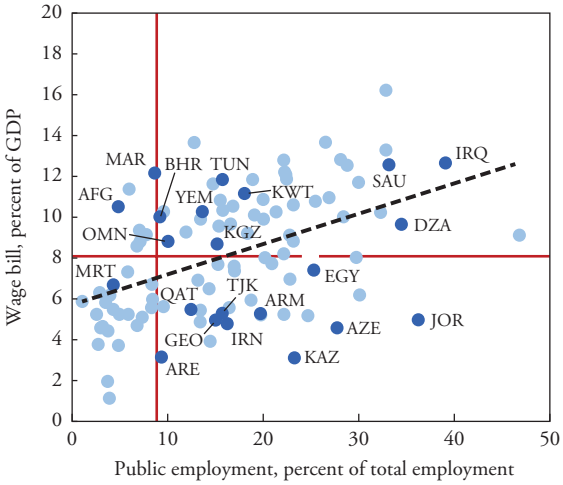
- *In MENAP oil importers, countries with high public wages relative to private wages employ fewer civil servants but have higher overall wage bills.*

Figure 2.6. Public Wages and Employment, 2005–16
(Percent, latest available)



Sources: Country authorities; national labor surveys; and International Labour Organization. Data for Morocco from World Bank 2011.
Note: CCA = Caucasus and Central Asia; GCC = Gulf Cooperation Council; MENAP = Middle East and North Africa, Afghanistan, and Pakistan. Bahrain, Kuwait, Qatar, and Saudi Arabia are as a percent of their national labor force. This is because nonnationals make up a significant portion of the labor force in GCC countries, while highly restricted to public sector employment. For Iraq, Tunisia, Egypt, Georgia, Tajikistan, and Armenia, gaps are represented by wage premium estimates obtained after controlling for employee characteristics (IMF 2016), while the rest are simple averages of public employee wages over private wages.

Figure 2.7. Wage Bills and Public Sector Employment, 2005–16
(Percent, average)



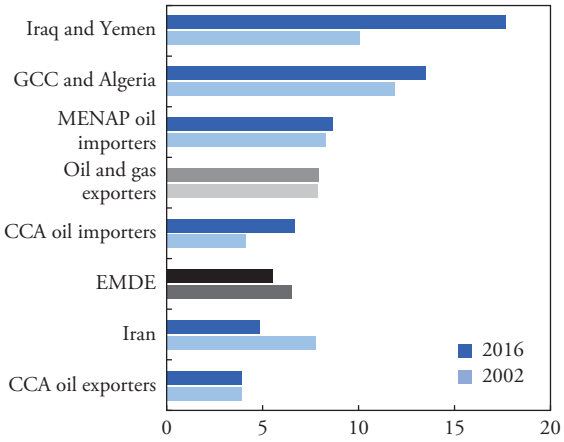
Sources: IMF, World Economic Outlook database; country authorities; national labor force surveys; International Labour Organization data; and IMF staff model estimates.
Note: Data labels in this figure use International Organization for Standardization (ISO) country codes. Coverage (120 countries) varies across periods. Red lines represent Emerging Market and Developing Economy (EMDE) weighted averages.

High average public-private wage gaps make for expensive public payrolls Morocco and Tunisia relative to those in other countries, despite a moderate share of public employment in total employment (15 percent and 9 percent, respectively). Although public sector jobs in Egypt and Jordan account for a significantly higher share of total employment (25 and 36 percent, respectively), they typically pay 20–30 percent less than in the private sector.[8] This places these countries' wage bills below those in Morocco and Tunisia. Standing out from its regional peers, Djibouti's public sector employs a considerably larger part of the labor force (46 percent in 2015) with a relatively high positive public wage premium (21 percent).

- *In the CCA, public sectors in oil exporters account for a larger share of total employment than in oil importers, despite similarly negative public wage gaps.* In oil exporters, public employment stands at a quarter of total employment, or 16 percent of the working-age population. In oil importers, the respective shares are smaller (16 percent and 9 percent), although still high compared with global peers. Greater prevalence of public employment in the CCA oil exporters may reflect oil wealth distribution (see below).

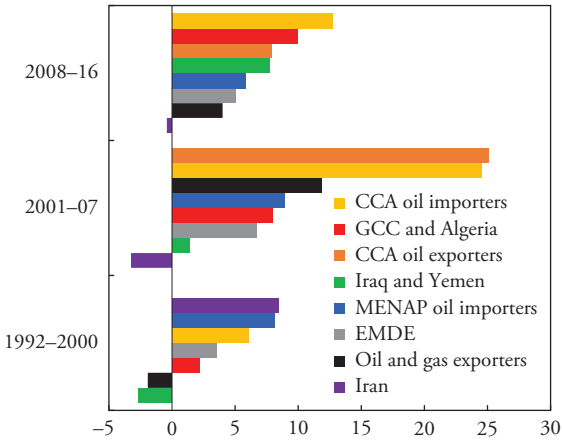
[8]Data from the Social Security Corporation of Jordan in 2013 indicate that the average public sector wage (including only civil servants) is 7.8 percent lower than the average private sector wage.

Figure 2.8. General Government Wage Bills, 2016 versus 2002
(Percent of GDP)



Sources: IMF, World Economic Outlook; and IMF staff estimates.
Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; GCC = Gulf Cooperation Council; MENAP = Middle East and North Africa, Afghanistan, and Pakistan.

Figure 2.9. General Government Wage Bills Average Annual Growth, 1992–2016
(Percent)



Sources: IMF, World Economic Outlook; country authorities; and IMF staff estimates.
Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; GCC = Gulf Cooperation Council; MENAP = Middle East and North Africa, Afghanistan, and Pakistan.

Trends

Although there is significant variation within the region, public wage bills in the Middle East and Central Asia have generally grown faster than in global peers in recent years (Figures 2.8 and 2.9).

- In the GCC countries and Algeria, real wage bill growth rose to 8 percent a year during 2001–07, from an average of 2 percent during 1992–2000. It continued to rise, reaching 10 percent during 2008–16, despite the global financial crisis and a prolonged decline in oil prices. This stands in contrast to other oil exporters and emerging market and developing economies, where wage bill growth slowed during 2008–16. Expansion of public employment has been the main driver of wage bill growth in the GCC in recent years, in part because of development programs.
- Among non-GCC MENA oil exporters, Iran's wage bill has been shrinking in real terms since the imposition of the UN sanctions in 2006 and a rise in inflation. In Iraq, wage bill growth rose after post–Gulf War restoration of oil production and public administration functions.
- In MENAP oil importers, after growth of 8–9 percent during 1992–2007, real wage bill growth moderated to below 6 percent during 2008–16, in line with trends in other emerging market and developing economies.

Wage growth, rather than employment, has been a more prominent driver of wage bill expansion since 2011.

- In the CCA, after a moderate expansion in the 1990s, real wage bills grew during 2001–07, almost 25 percent a year on average. In oil importers, this growth was driven by wages recovering from the sharp compressions during the 1992–93 hyperinflation. As in other emerging market and developing economies, wage bill growth slowed during 2008–16, but remained relatively strong, averaging 13 percent (8 percent) in oil importers (exporters).

The share of the labor force employed in the public sector has been stable or slowly declining in most countries, owing to gradual diversification of oil-based economies and private sector development. In the CCA, the decline in public employment was more pronounced, reflecting the transition from central planning. During the Arab Spring in 2011, some countries, such as Algeria, increased public employment. Others—the GCC countries and Tunisia, for example, reversed an earlier decline in public employment. Public employment shares also rose in Iraq, due to its conflict-related challenges.

CHAPTER

3 Drivers

Policy Objectives

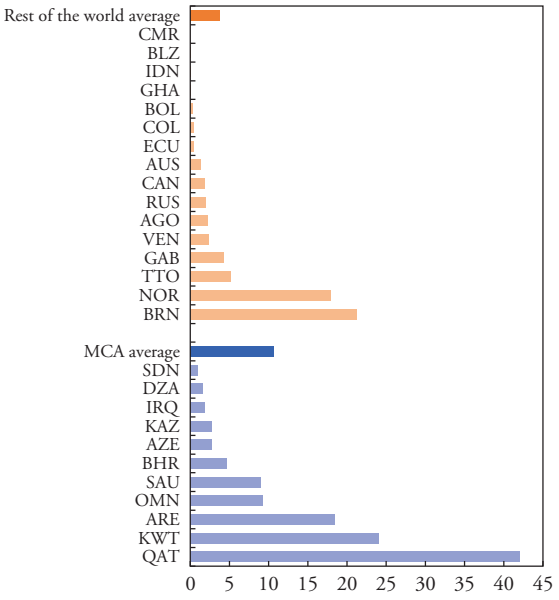
Employment

In many areas of the MENAP region, high wage bills reflect the traditional role of the state as the employer of first resort. Since the 1960s, some MENAP governments have provided jobs in exchange for the population's political support, to reduce unemployment and foster social cohesion.[1] A privileged civil service has evolved amid deep-rooted impediments to private sector development (Hertog 2017; World Bank 2009), incentivizing a strong preference of job seekers toward government employment (Gatti and others 2013: 51). In the wake of the Arab Spring (Amin and others 2012), real wage bill growth accelerated in most MENAP oil importers, reflecting wage hikes and/or increased hiring. In Tunisia, for example, annual government hiring significantly increased during 2011–12 as former contractors and informally employed workers were brought into formal public employment (Brockmeyer, Khatrouch, and Raballand 2015; Annex 2). Several MENAP oil exporters indirectly affected by the Arab Spring have also increased public employment (Algeria, Bahrain, Qatar).

The diminished role of the state in the CCA stands in contrast to that in the MENAP region. Following the breakup of the Soviet Union, public sectors have downsized with privatization and, in some cases, civil service reforms (Georgia) (IMF 2014b; case study on the Kyrgyz Republic in Annex 2). Hyperinflation eroded real public wages and pensions in the early 1990s. Public sector employment has lost much of its attractiveness—although it

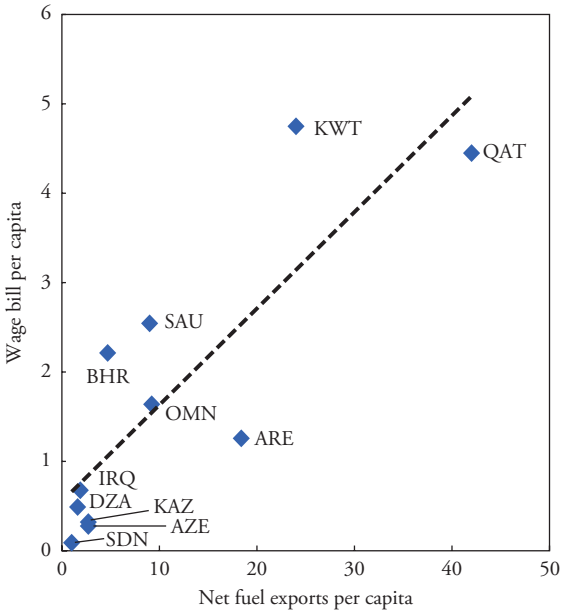
[1]Alesina, Danninger, and Rostagno (1999) argue that in most MENAP and CCA countries, public employment, directly or through state-owned enterprises, has been aimed at offsetting persistently high unemployment.

Figure 3.1. Average Net Fuel Exports per Capita, 2007–16
(Thousands US dollars)



Source: World Bank, World Development Indicators.
Note: Countries with net fuel exports of over 2 percent of GDP. Data labels in this figure use International Organization for Standardization (ISO) country codes. MCA = Middle East and Central Asia.

Figure 3.2. Wage Bills and Fuel Exports in the Region, 2005–15
(Thousands US dollars)



Sources: IMF, World Economic Outlook; and World Bank, World Development Indicators.
Note: Data labels in this figure use International Organization for Standardization (ISO) country codes.

remains higher than in comparable countries—while public wage growth has lagged that in the private sector.

Oil Wealth Distribution

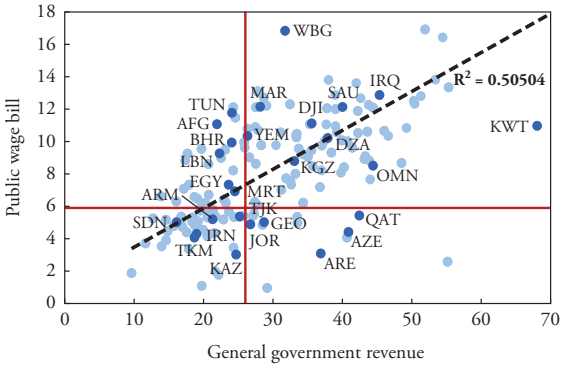
Public payrolls in the GCC have been used to distribute oil income. The region is home to the highest concentration of oil wealth in the world, and countries with higher oil income per capita generally have high public wage bills in per capita terms (Figures 3.1 and 3.2). This is associated with high public-private sector wage gaps and extensive public employment of nationals in the GCC, while their private sectors rely primarily on expatriate labor.[2]

Oil income distribution through public wage bills is less apparent in other oil exporters. In non-GCC MENA and CCA oil exporters, oil revenues and public wage bills per capita are significantly lower than those in the GCC (Figures 3.1 and 3.2). Wages of nationals and expatriates are more similar

[2]Hertog (2016) estimates that a citizen's odds at being employed in the public sector in GCC countries are some 10 times higher than in other parts of the world.

in these regions, and average government wages are more closely aligned with average private sector wages. Nonetheless, public employment is high, accounting for 25 percent of total employment in the CCA and nearly 40 percent in Algeria and Iraq. Public employment is lower in Iran and Yemen.

Figure 3.3. Public Wage Bills and Fiscal Revenue, 2007–15
(Percent of GDP, average)



Sources: IMF, World Economic Outlook; and World Bank, World Development Indicator databases.
Note: Data labels in this figure use International Organization for Standardization (ISO) country codes. Coverage (160 countries) varies across countries and periods. Red lines represent Emerging Market and Developing Economy (EMDE) averages.

Economic Factors

Fiscal Revenues

Availability of fiscal revenues is a key determinant of public wage bills over the long term (Figure 3.3).[3] An additional percentage point of GDP in the average long-term level of revenue is associated with an addition of 0.26 percentage point of GDP to the wage bill in a sample of 160 countries. The elasticity for the Middle East and Central Asia is similar.[4] Oil prices are an important driver of fiscal revenues in the region's oil exporters and, via their impact on remittances, of revenues in oil importers (Box 2).

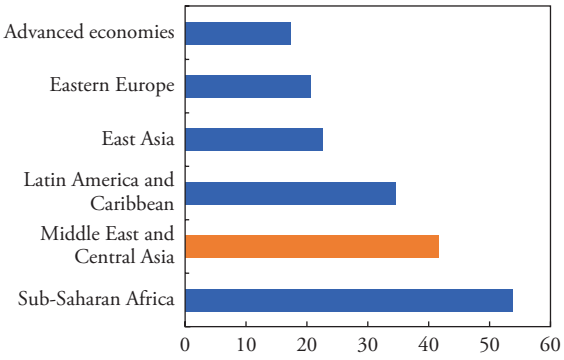
Temporary relaxation of fiscal constraints triggers increases in wage bills, especially in the region's oil importers.[5] A one percentage point increase in real revenue growth, on average, is associated with a 0.24 percentage point increase in real wage bill growth a year later in oil importers—a much higher increase than the emerging market and developing econ-

[3]Long-term correlations between public wage bills and other indicators, such as GDP per capita or average real GDP growth, were either small or insignificant both in the regional and global samples.

[4]So far, only a few studies have examined the impact of public wage bill spending on government revenue, expenditure, and overall balance. Kraay and Van Rijckeghem (1995) find a positive relationship between government employment and the easing of resource constraints in both Organisation for Economic Co-operation and Development (OECD) and developing economies. Eckardt and Mills (2014) and Cahuc and Carcillo (2012) suggest that the effect of wage bill expansions on the overall balance is negative and statistically significant for a broad set of countries.

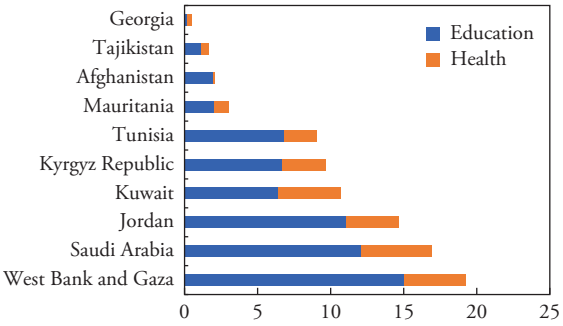
[5]There is no strong evidence to suggest that wage bills vary significantly over the business cycle in the region, possibly reflecting measurement issues in estimating output gaps or a limited role of wage bills in aggregate demand management. In a global sample, IMF (2016a) estimates that, on average, real wage bill spending grows by 0.22 pp more as the output gap widens by 1 pp. Public wage bills in that study were found to be more procyclical in advanced economies which is consistent with studies by Lamo, Pérez, and Schuknecht (2007) and Eckardt and Mills (2014). Cahuc and Carcillo (2012), using an OECD sample, find a strong positive correlation between the public wage bill and fiscal deficits.

Figure 3.4. Share of Population under 20, 2015
(Percent of total population)



Source: United Nations' Population Division.

Figure 3.5. Public Employment in Health and Education Sectors
(Percent of total employment, latest available)



Sources: Country authorities; national labor surveys; and the International Labour Organization.

omy average (0.05 percentage point).[6] The elasticity in the region's oil exporters is 0.08 percentage point, similar to that in other fuel exporters around the world.

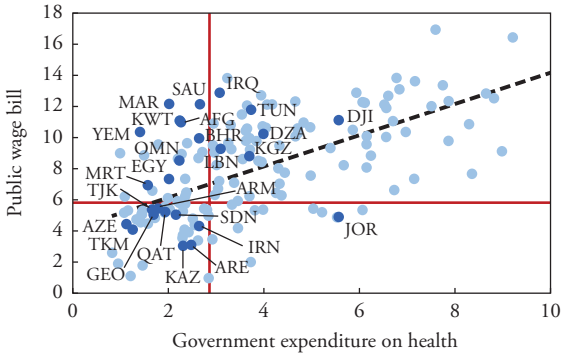
Demographics

Young demographics in most MENAP and CCA countries create high demand for education services. The region's population is among the youngest in the world, with over 40 percent under 20 years old (Figure 3.4). Not surprisingly, public education therefore accounts for a significantly higher share of spending and employment than in global peers (Figure 3.5). For example, government expenditure on education in the Kyrgyz Republic, Morocco, Saudi Arabia, and Tunisia is 1–2 percentage points of GDP higher than the emerging market and developing economy average of 4 percent of GDP. In the Kyrgyz Republic and Tunisia, the combined wage payments in health and education account for more than half of the total government payroll (Figures 3.6 and 3.7).

Young demographics also imply large numbers of new job market entrants. Youth unemployment, especially in MENAP countries, exceeds that in most comparators (Figures 3.8 and 3.9). Indicative of the lack of dynamism in the private sector, youth unemployment in many countries has increased since

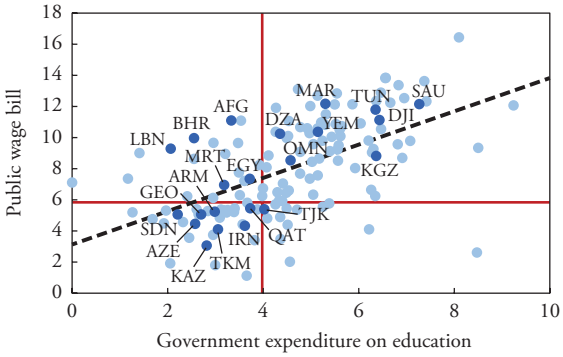
[6]These estimates are based on a fixed-effects panel regression of real public wage bill growth on lagged real fiscal revenue growth annual data from 1992 to 2016. Data availability varies by country. The quoted regional elasticities are statistically significant at the 1 percent significance level, whereas emerging market and developing economy elasticity was significant at the 5 percent level.

Figure 3.6. Wage Bills and Public Expenditure on Health, 2007–14
(Percent of GDP, average)



Sources: IMF, World Economic Outlook; and World Bank, World Development Indicators databases.
Note: Data labels in this figure use International Organization for Standardization (ISO) country codes. Coverage (160 countries) varies across countries and periods. Red lines represent Emerging Market and Developing Economy (EMDE) average.

Figure 3.7. Wage Bills and Public Expenditure on Education, 2007–16
(Percent of GDP, average)



Sources: IMF, World Economic Outlook; and World Bank, World Development Indicators databases.
Note: Data labels in this figure use International Organization for Standardization (ISO) country codes. Coverage (140 countries) varies across countries and periods. Red lines represent Emerging Market and Developing Economy (EMDE) average.

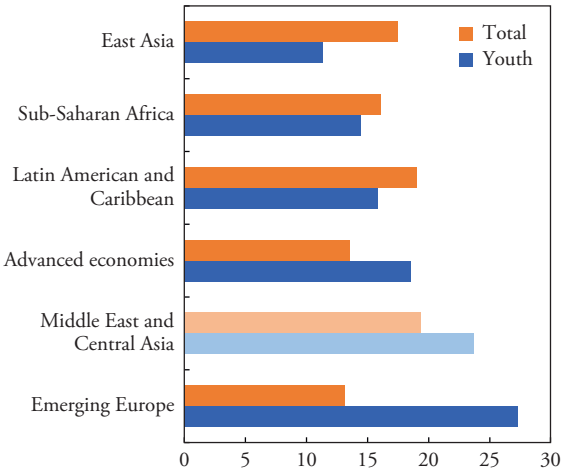
2000. These challenges have reinforced the demand for public employment and incentives to maintain social cohesion through government hiring.

Geopolitical Tensions

High incidence of conflicts and terrorism require large security-related payrolls (Rother and others 2016). Often not reported by governments, security-related payrolls are likely to be high in many parts of MENAP. In Afghanistan and Iraq, two countries where such data are available, security-related expenses account for nearly 70 and 40 percent, respectively, of the total government wage bill.

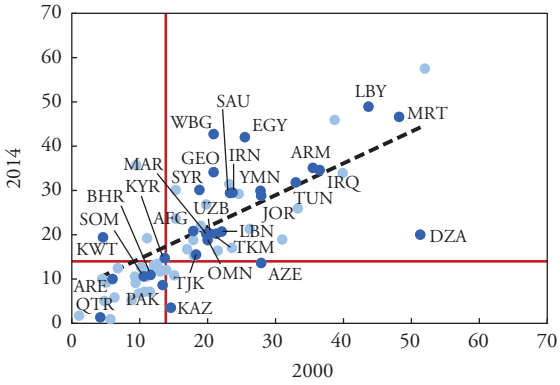
Spillovers from conflicts, such as increased inflows of refugees and internally displaced people also put pressure on public services and wage bills. In Lebanon and Jordan, refugees from Syria and Iraq account for one-quarter and one-tenth of the population, respectively. Similarly, Pakistan hosts many internally displaced people and close to 2 million refugees (1 percent of the population) from Afghanistan. Afghanistan had to accommodate many returning refugees and internally displaced people fleeing violence. These spillovers have augmented pressures on wage bills through increased demand for public infrastructure and basic services.

Figure 3.8. Unemployment Rate by Region, 2014
(Percent)



Source: International Labour Organization's model estimates.

Figure 3.9. Youth Unemployment, 2000 versus 2014
(Percent)



Sources: International Labour Organization's model estimates.
Note: Data labels in this figure use International Organization for Standardization (ISO) country codes. Coverage (78 countries) varies across countries and periods. Red lines represent Emerging Market and Developing Economy (EMDE) average.

Institutions

Weak institutions and governance have contributed to the swelling of public wage bills in the region and have complicated their management and control. Political pressures and entrenched corruption have also been a challenge in some countries. As in the rest of the world, wage hikes and employment are often significantly affected by political factors (Borjas 1984; Matschke 2003; Dahlberg and Mork 2011).[7] Many countries allow political appointments (Georgia, Kyrgyz Republic, Lebanon, Pakistan, Tajikistan) or decentralized hiring (Bahrain, Jordan, Mauritania, United Arab Emirates), which may enhance the role of politics in hiring. In some economies (Qatar, Saudi Arabia, Tunisia, West Bank and Gaza, Yemen), civil service commissions make hiring decisions, but they may not be free from political influence.

Governments in the region often do not know the true size of and have limited control over public employment and compensation. In many countries, comprehensive employee accounting and tracking systems are absent, public hiring is subject to few controls, and public sectors often employ "ghost" and informal workers (that is, those not on official payrolls or without formal employment contracts). In addition, public compensation policies are rarely well defined or are not linked to performance. Discretionary wage setting is prevalent. In many countries, elaborate systems of allowances—often exceeding base salaries—limit governments' control over wage bills.

[7]IMF 2016a estimates that the wage bill is 0.53 percentage points higher during an election year than a non-election year. The impact of elections is larger in emerging markets and low-income and developing countries compared than in advanced economies, most likely due to stronger fiscal institutions in advanced economies.

CHAPTER

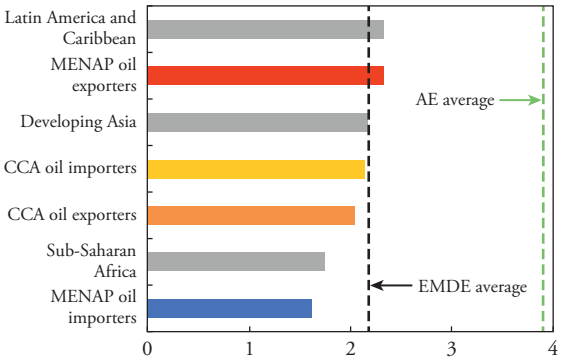
4 Outcomes and Economic Effects

Public Service Delivery

Higher wage bills have on average not produced better service delivery, though public services are also affected by other considerations (Figures 4.1 and 4.2). MENAP oil importers on average have much higher multidimensional poverty—a measure that aggregates health, education, living standards, income, empowerment, quality of work, and threat from violence—than the regional average in CCA or Latin America (MCD *Regional Economic Outlook,* 2014). This suggests that in a context of lackluster growth, resource scarcity, conflicts, lack of accountability, and rapid population growth, even generous public employment and compensation policies have limited impact on social outcomes. Compared with their peers, MENAP oil importers have lower government effectiveness—a measure that captures, among other things, perceptions of public service quality. Government effectiveness in MENAP oil exporters exceeds the emerging market and developing economy average, yet this result is driven by high-income GCC countries. The CCA's rankings are close to the emerging market and developing economy average because of extensive service infrastructure inherited from the Soviet era.

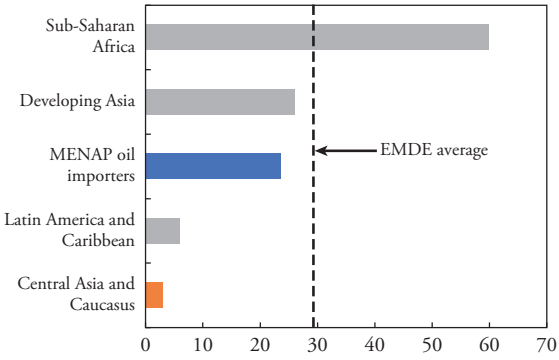
The quality of basic services is lagging. While enrollment in education has improved in recent decades, and pupil-to-teacher ratios compare favorably to peers, educational achievements—measured by international test scores—are lagging (Figure 4.3). Poor infrastructure, curriculums focused on public administration careers, absenteeism of students and teachers, and poor training of teachers lead to weak education outcomes in MENAP countries. Educational achievement is better in the CCA owing to a curriculum focus on sciences. Despite some progress, especially in closing the gender gap, much remains to be done (Heyneman 1997; World Bank 2008; Bouhlila 2015). Health outcomes (for example, life expectancy) vary in the region and

Figure 4.1. Government Effectiveness, 2015
(Index, from lowest 0 to highest 5)



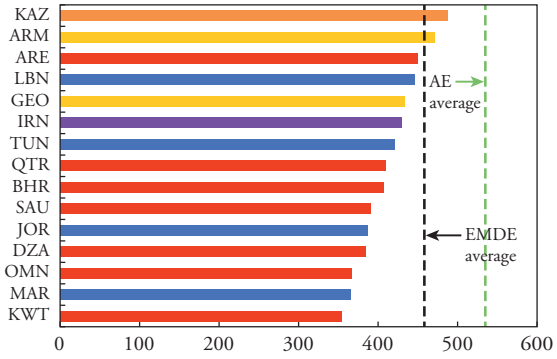
Source: World Bank, World Governance Indicators.
Note: Government Effectiveness captures perceptions of the quality of public services, the quality of the civil service, and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. AE = advanced economies; CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; MENAP = Middle East and North Africa, Afghanistan, and Pakistan.

Figure 4.2. Population in Multidimensional Poverty
(Percent)



Source: United Nations Development Program. Note: Regional averages are calculated by weighting countries relatively based on their total population. The data exclude Pakistan. EMDE = emerging market and developing economies; MENAP = Middle East and North Africa, Afghanistan, and Pakistan.

Figure 4.3. Mathematics Scores for the Region, 2015
(TIMSS: 8th-grade mathematics 50th percentile score)



Sources: International Association for the Evaluation of Educational Achievement; and World Bank.
Note: Trends in International Mathematics and Science Study (TIMSS) is a series of international assessments of the mathematics and science knowledge of 4th- and 8th-grade students around the world, administered every four years since 1995. At each grade level, the scale center point of 500 was set to correspond to the mean of the overall achievement distribution. Data labels in this figure use International Organization for Standardization (ISO) country codes.

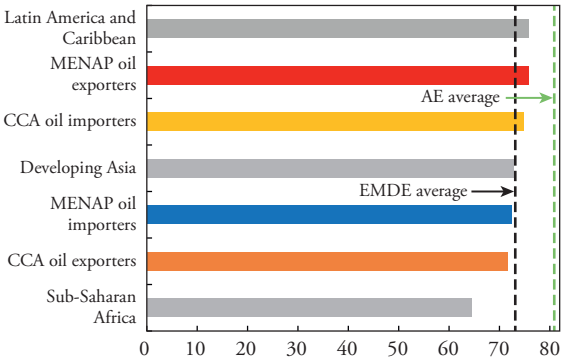
suffer from poor service quality, variable quality providers, and absenteeism (Yazbeck, Rabie, and Pande 2017) (Figure 4.4). Citizens' trust and satisfaction in public services are low throughout the MENAP region, with about half of MENA respondents in the 2013 Gallup World Poll expressing dissatisfaction with educational services and health care in their country. And infrastructure services are also relatively poor in many MENA countries: electricity blackouts are commonplace, and renewable water resources are dwindling at an alarming rate (World Bank 2015).

Weak governance, corruption, and lack of accountability are key factors behind inadequate public service delivery. For the MENA region, lack of accountability lies at the heart of the problem of poor public service delivery; when accountability is weak, services do not meet the needs of citizens, who then lose trust in government (Brixi, Lust, and Woolcock 2015). This disproportionately affects the poor, as they are unable to utilize private providers of such services (for example, private tutoring where public education is failing to deliver).

Fiscal Implications

Public wage bill increases have worsened fiscal balances (IMF 2016a; Figure 4.5). Cross-country panel data analysis shows that wage bill increases have been only partially financed by additional revenues. In resource-rich countries, these increases do not seem to be associated with current revenues, suggesting the use of resource wealth for wage bill financing.

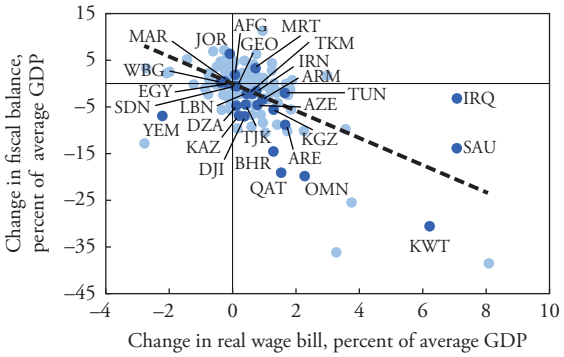
Figure 4.4. Life Expectancy at Birth, 2014
(Years)



Source: World Bank.
Note: AE = advanced economies; CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; MENAP = Middle East and North Africa, Afghanistan, and Pakistan.

Accounting for almost a third of total expenditure, wage bills have left less room for public investment and social transfers in the region (Figures 4.6 and 4.7). The latter spending categories are much smaller in MENAP than in global peers, although they are crucial for inclusive growth and poverty reduction. Evidence suggests that the impact of capital spending on growth is higher than current spending (including spending on wages)—often by a factor of 2 to 3—and more lasting.[1] The role and ability of fiscal policy in promoting inclusive growth have therefore been limited by high wage bill spending in the region.

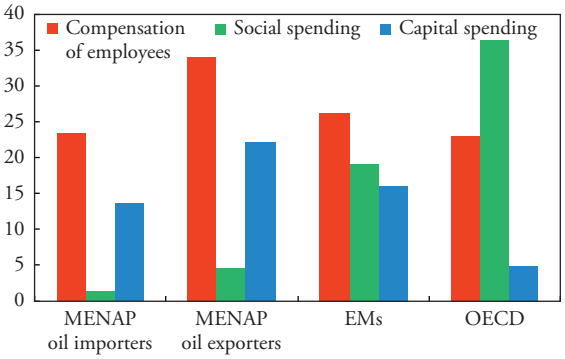
Figure 4.5. Change in Wage Bills versus Fiscal Balances, 2014–16
(Percent of GDP)



Sources: IMF, World Economic Outlook; country authorities; and IMF staff estimates.
Note: Data labels in this figure use International Organization for Standardization (ISO) country codes.

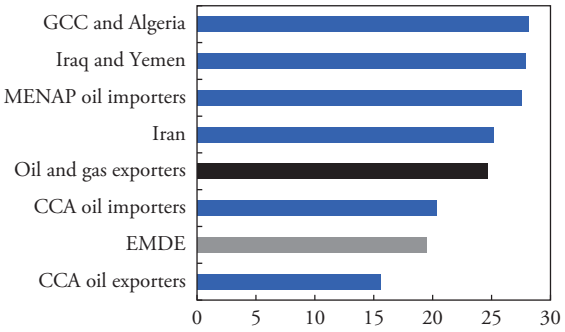
[1]Cerisola and others (2015) estimate the size and persistence of fiscal multipliers in MENAP. Their estimates range from 0.2 to 0.7 for current spending and from 0.6 to 1.4 for government investment spending. The impact of higher public investment on economic growth is larger and lasts longer than the impact of higher current spending.

Figure 4.6. General Government Spending by Expense, 2016
(Percent of total expenditure, latest available data)



Sources: Country authorities; IMF, World Economic Outlook; and IMF staff estimates.
Note: EMs = emerging market economies; MENAP = Middle East and North Africa, Afghanistan, and Pakistan; OECD = Organization for Economic Cooperation and Development.

Figure 4.7. General Government Wage Bills, 2005–16
(Percent of expenditure, period average)



Sources: IMF, World Economic Outlook; and IMF staff estimates.
Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; GCC = Gulf Cooperation Council; MENAP = Middle East and North Africa, Afghanistan, and Pakistan.

Labor Markets

Reliance on government employment has not improved labor market outcomes.

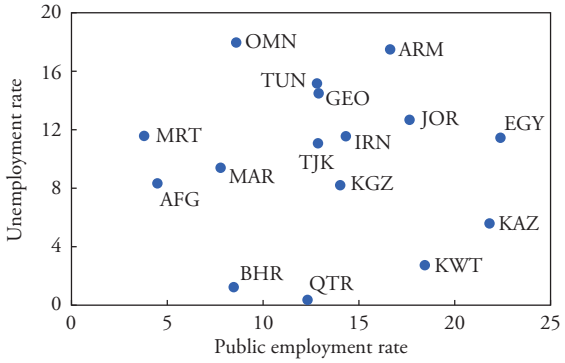
- *High public employment has not been associated with lower overall unemployment* (Figures 4.8 and 4.9).[2] In addition, there is evidence that countries with a higher share of the working-age population in public employment are also those with a lower share in private employment. The three main channels through which public employment can crowd out private sector employment and activity are, to different degrees, at play in the region: (1) In the product market, higher taxes, higher interest rates, and competition from state-owned enterprises may discourage private sector activity, thereby depressing labor demand. (2) In the labor market, higher compensation, more job security, or a higher probability of finding a public sector job can motivate people to seek or wait for public sector employment rather than take a job in the private sector. (3) In education, people seek qualifications suited to the public sector rather than skills needed for productive employment in the private sector, contributing to "wait" unemployment,[3] whereby university graduates queue up for government positions (Figure 4.10).[4] Only some GCC countries have been able to boost overall employment through public hiring, owing to their large resources and small populations.
- *High public employment has discouraged labor force participation* (Figures 4.11 and 4.12). Higher public employment has been associated with lower labor force participation, globally and in the region, especially among women

[2]Especially in MENAP oil importers, where Crivelli, Furceri, and Toujas-Bernaté (2012) find very low employment-output elasticities. Even economic growth in these countries has been largely jobless.

[3]Recent evidence for Egypt, Jordan, Lebanon, Tunisia, and West Bank and Gaza shows 55 and 68 percent of young unemployed men and women (respectively) had been searching for a job for over one year in 2014/15; 72 percent of young female university graduates and 60 percent of young male graduates had been unemployed for over a year (ILO School-to-Work Transition data set).

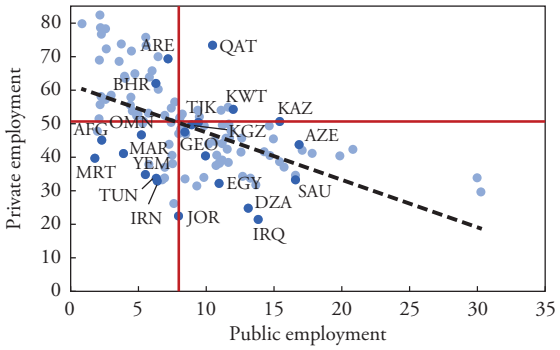
[4]Behar and Mok 2013; Feldmann 2009.

Figure 4.8. Public Sector Employment and Unemployment Rate, 2008–16
(Percent, period average)



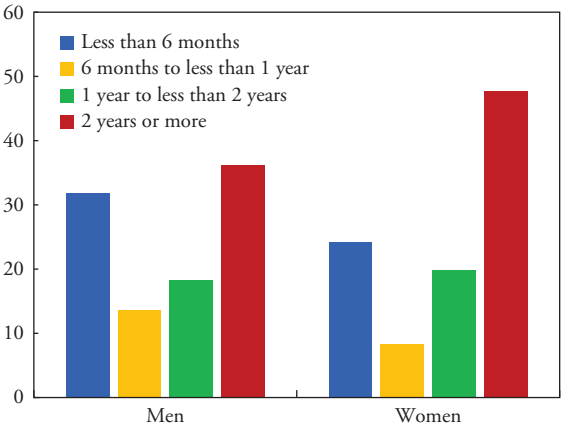
Sources: Country authorities; national labor force surveys; and International Labour Organization's data and model estimates.
Note: Data labels in this figure use International Organization for Standardization (ISO) country codes.

Figure 4.9. Public Employment versus Private Employment
(Percent of working age population, latest available data)



Sources: Country authorities; national labor force surveys; and International Labour Organization's data and model estimates.
Note: Data labels in this figure use International Organization for Standardization (ISO) country codes. Coverage (114 countries) varies across periods. Red lines represent Emerging Market and Developing Economy (EMDE) averages. Jordan public sector includes only Public Administration and Defense Compulsory Social Security.

Figure 4.10. Share of Unemployed Youth by Job Search Duration
(Percent of unemployed youth)

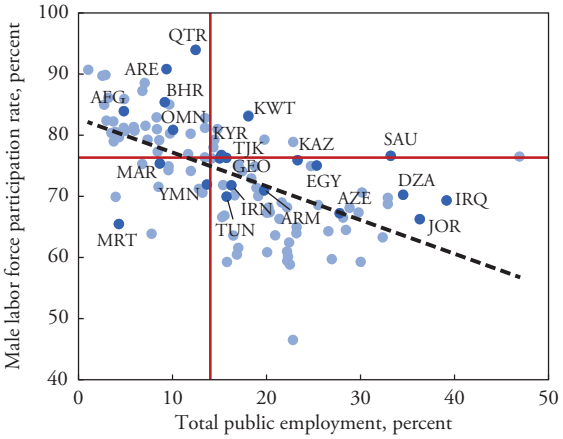


Source: IMF staff calculations based on International Labour Organization's School-to-Work Transitions data.
Note: Based on surveys conducted in Egypt, Jordan, Lebanon, Tunisia, and West Bank and Gaza.

and youth. Theoretically the link between public employment and labor force participation is indeterminate. On the one hand, a higher number of job opportunities in the public sector, which are generally of good quality, may attract more entrants to the labor market. On the other hand, better-paying and protected public jobs, which often afford benefits for family members, may discourage participation among groups that would traditionally bring secondary incomes to the household, especially women and youth. The latter effect of intrahousehold transfers, probably in conjunction with other cultural factors, therefore seems to dominate overall (Algan, Cahuc, and Zylberberg 2002).

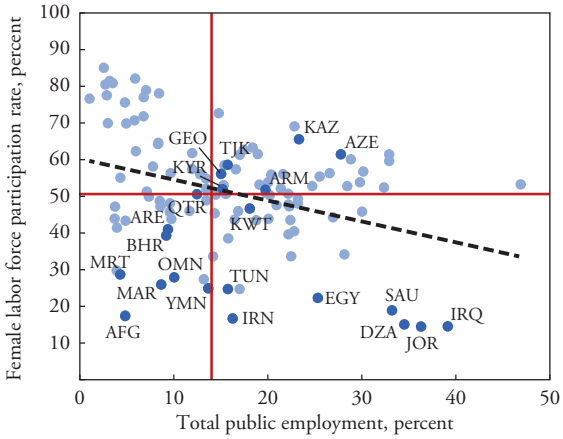
- High public compensation gaps in many parts of MENAP may contribute to undermining private sector development and competitiveness. Along with

Figure 4.11. Male Labor Force Participation versus Public Employment, 2005–16
(Period average)



Sources: Country authorities; national labor force surveys; and International Labor Organization's data and model estimates.
Note: Data labels in this figure use International Organization for Standardization (ISO) country codes. Coverage (113 countries) varies across periods. Red lines represent Emerging Market and Developing Economy (EMDE) averages.

Figure 4.12. Female Labor Force Participation versus Public Employment, 2005–16
(Period average)



Sources: Country authorities; national labor force surveys; and International Labor Organization's data and model estimates.
Note: Data labels in this figure use International Organization for Standardization (ISO) country codes. Coverage (113 countries) varies across periods. Red lines represent Emerging Market and Developing Economy (EMDE) averages.

the lack of *private sector* jobs, large wage gaps are one of the reasons job seekers may be diverted away from the private sector, which lowers its skill level, productivity, and competitiveness.[5] The disconnect between public compensation and productivity fragments labor markets, discourages accumulation of skills, and cultivates dependence and resistance to reforms. Furthermore, large gaps between public and private sector compensation exacerbate actual and perceived social inequities, especially where more equitable social transfers are small or absent.

Model-based analysis confirms the adverse effects of pursuing employment goals with public wage bill policies. In a model with job search and matching, higher public employment lowers the marginal product of labor in the public sector. Reducing the gap between public and private compensation can help ensure efficient labor allocation between sectors. If this does not happen because of rigidities, labor supply in the private sector declines, lowering overall employment and raising labor cost. Private employment and output end up below their optimal levels (Annex 4).

[5]Pérez and Sánchez Fuentes (2010), Fernández-de Córdoba, Pérez, and Torres (2009), and Lamo, Pérez, and Schuknecht (2008) analyze the relationship between public and private wages. A 1 percent increase in the average real government wage is associated with a 0.4 percent increase in private wages within three years (IMF 2016a).

CHAPTER

5 A Way Forward

Rising Challenges

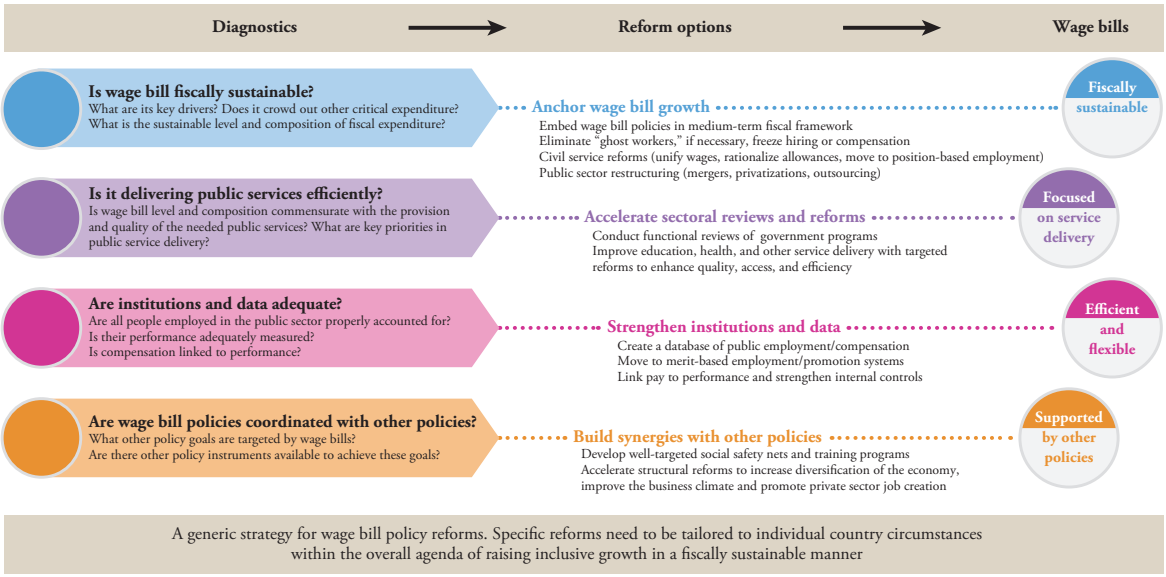
The pursuit of multiple goals with public payrolls—often with limited success—has left several countries in the region with high wage bills at a time of heightened fiscal pressures. The use of public wage bill policies to influence broad socioeconomic outcomes has not achieved the desired objectives. Though other factors are also at play, countries continue to struggle with high unemployment, poverty, and inadequate service delivery. At the same time, high public payrolls have not improved public services. Furthermore, already consuming a significant portion of fiscal resources, wage bills are now weighing on fiscal sustainability amid slowing or declining fiscal revenue and economic growth due to lower oil prices and remittances.

If left unaddressed, these tensions will intensify in the coming years due to demographic changes and technological innovation. Although advanced economies and other emerging market economies will on average see negligible growth in their labor force, MENAP countries will see an annual increase of 5.5 million people in their labor forces in the next five years,[1] requiring sustainable job creation and public services. Looking further ahead, with the expected flattening of the age pyramid in the civil service, the current wage bills will require even larger fiscal resources to finance rising pension liabilities. Countries in the region can step up efforts to raise revenues but reconsidering the approach to wage bill management is also a matter of increasing urgency for the region.

Reforming public wage management is already on the policy agenda of several countries in the region. In some—including the GCC, Egypt, Georgia,

[1]Average annual growth of the labor force over the next five years is estimated at 2.2 percent in MENAP, 0.8 percent in other emerging market economies, and 0.2 percent in advanced economies.

Figure 5.1. How to Strengthen Public Wage Bill Management in the Middle East and Central Asia



A generic strategy for wage bill policy reforms. Specific reforms need to be tailored to individual country circumstances within the overall agenda of raising inclusive growth in a fiscally sustainable manner

Iraq, the Kyrgyz Republic, and Tunisia—bringing the wage bill under control has been an important component of fiscal consolidation. In Mauritania, the government has taken steps to improve public payroll management. Several countries have implemented short-term measures designed to address pressing fiscal needs (see Tables 5.1 and 5.2 for examples).

Modernizing Public Wage Bill Management

A new approach to managing public employment and compensation would benefit the region. The proposed path forward is based on policy recommendations in IMF 2016a and analysis of regional and international experiences (Annexes 2 and 3) and in part reflects points raised by civil society organizations (Box 3) and other international organizations such as the World Bank and the International Labour Organization. To ensure an appropriate level, growth, and composition of public wage bills, four key considerations should be taken into account (Figure 5.1):

- *Ensure that public wage bill policies are fiscally sustainable*. This requires evaluating the contribution of wage bills to fiscal pressures and crowding out of critical spending, identifying the key drivers of wage bills and anchoring their growth in medium-term fiscal frameworks through policy reforms. In countries where wage bills are at the core of fiscal problems, short-term measures, such as hiring and compensation freezes, can help address immediate financing pressures. However, only deeper civil service reforms and/

Table 5.1. Toolbox for Public Wage Bill Management

Measures	Short Term	Structural
Compensation	- Wage freezes, ceilings, or cuts - Elimination of indexation of allowances - Reduction of allowances	- Unifying wage structures - Rationalizing allowances - Introducing comparisons of public and private sector compensation - Tightening the link between pay and performance
Employment	- Hiring freezes - Employment caps or cuts - Attrition - Early Retirement	- Reviewing government programs to identify understaffing and/or overstaffing - Enhancing quality and control of payroll (e.g., payroll census and elimination of ghost workers) - Replacing career-based employment with position-based employment for some jobs - Public sector restructuring

Table 5.2. Middle East and Central Asia: Examples of Recent Public Wage Bill Policy Measures

Policy Measures	Short Term	Structural
Wage-Related Measures	• Wage freezes or reductions in wages (Egypt, Bahrain, Saudi Arabia) • Tightening eligibility and reducing the number and size of allowances (Bahrain, Kuwait, Saudi Arabia)	• Structural reforms of the compensation structure (Armenia, Georgia) • Reforms tightening the link between pay and performance (Algeria, Georgia, Saudi Arabia) • Expenditure review (Saudi Arabia)
Employment-Related Measures	• Partial or selected hiring freezes (Algeria, Djibouti, Tunisia) • Attrition-based employment reduction (Algeria, Bahrain, Egypt, Iraq, Tunisia)	• Identification and elimination of ghost workers (Iraq, Mauritania, Saudi Arabia, Yemen)
Fiscal Planning		• Medium-term budget incorporating measures to gradually reduce the wage bill as percent of GDP (Algeria)
Other	• Wage subsidies to reduce public-private wage differentials (Bahrain, Kuwait, Saudi Arabia, United Arab Emirates)	

or broader public sector restructuring can bring wage bills to sustainable levels in the medium term. These may include unifying wages, rationalizing allowances, introducing comparisons of public and private sector wages, auditing payrolls to remove ghost workers, and replacing career-based employment with position-based employment for some jobs.

- *Focus wage bill policies on providing public services effectively and equitably*. Achieving this fundamental goal requires a comprehensive review and benchmarking of government programs to identify the sectoral composition of the wage bills and areas of understaffing and overstaffing. Human resource management must allow greater flexibility in reallocating employees across sectors by removing legal impediments and enhancing training, to direct resources to critical areas and improve efficiency. Public service delivery mechanisms also need to be improved, possibly through the increased use of digital technologies and e-government.
- *Strengthen institutions and data pertaining to public employment and compensation management*. This includes developing transparent technocratic institutions to ensure merit-based employment selection and promotion

systems (by strengthening control over hiring and allowances, linking compensation to employee performance, developing codes of conduct, and strengthening internal controls and transparency). This would help governments recruit and retain skilled high-performing staff and improve productivity while helping reduce corruption. Conducting payroll audits and building comprehensive databases of public employment and compensation can help inform human resource management. Digital technologies can also be useful in this context.

- *Sequence reforms and build synergies with other policies*. The design and sequencing of wage bill reforms must be tailored to country characteristics—one size will not fit all. Steps to improve the business climate and governance frameworks, diversify the economy, create private sector jobs, and enhance the functioning of the labor market should accompany wage bill reforms. Social impact analyses should be conducted up-front—with particular attention to the impact on women—and social protection systems strengthened to smooth the transition. Mobilizing all relevant stakeholders around a long-term growth strategy will require an open dialogue between the public and private sectors, civil society, trade unions, and employer associations and clear public communications. This will help to manage expectations of public employment and explain the rationale for public wage bill reforms and their benefits—better public investment, social assistance, and improved delivery of public services.

Reform Options and Considerations

Ensuring Fiscal Sustainability while Improving Public Service Provision

Countries facing pressing financing needs where wage bills are at the core of fiscal problems can use fast-acting, short-term measures to reduce public payrolls. The design of such measures needs to be informed by detailed data on public wage bills as well as the analysis of their key drivers (for example, a high level of government compensation relative to the private sector, rapid expansion of government employment, or both). Country experience shows that for the effect on the fiscal position to be sustained, short-term measures (described below) will need to be followed by structural measures (Annex 3).

- *Limiting hiring:* Natural attrition or, if fiscal space allows, voluntary separations or early retirement, reduce the public labor force while avoiding redundancies. Limiting new hiring has been the preferred approach in the region in response to recent fiscal worsening. Measures have varied from general hiring freezes to attrition-based programs (Algeria, Iraq, Tunisia) through which governments plan to replace 5 to 6 retiring employees with one new hire. Egypt and the Kyrgyz Republic are considering similar measures. Some economies—Algeria, Armenia, Iraq, Jordan, Tajikistan, West

Bank and Gaza—have employment caps (Annex 1). Outside the region such measures were used with varying success: attrition (France, Ghana, Ireland, Kenya, Moldova, Portugal, Romania, South Africa), employment caps (France), and outright cuts (Annex 3). Some countries have exempted education, health, or other strategic sectors from limits on new hiring (Algeria, Jordan) to protect service delivery.

- *Limiting compensation growth:* MENAP and CCA countries' efforts to align public and private sector wages have included ceilings on public wages and elimination of indexation of allowances and bonuses (Egypt), streamlining of allowances and bonuses (Tunisia), and the freezing of allowances and nonwage compensation (Bahrain). Saudi Arabia launched a review of allowances for government employees. While supporting fiscal consolidation, measures limiting compensation are often partly or fully reversed by offsetting measures (Côte d'Ivoire, Jamaica, Moldova, Netherlands, Portugal, Romania, Saudi Arabia, Senegal) (Annex 3).

Structural reforms of public wage bills are necessary to ensure medium-term fiscal sustainability and improved provision of services. A comprehensive review of government programs can help identify areas of understaffing and overstaffing. It must be complemented by strategic staffing, based on objectives, job profiles and competencies, and enhanced employee mobility across sectors and their training. Formalizing informal employment in the public sector can improve planning and budgeting. Countries will need to decide on the optimal mix of civil servants and contractual employees in the context of broader civil service reforms. If public sector restructuring is needed, it may involve mergers of functions and organizations, outsourcing, privatization, and/or downsizing.[2] Structural wage bill reforms require time, administrative capacity, and political will, but they generate significant and lasting savings. For example, Morocco started civil service reforms—supported by a voluntary retirement program—unsuccessfully in 2003 and with more success in 2005.[3] Countries can also benefit from more targeted sectoral reviews and benchmarking, which can improve spending efficiency and delivery of specific public services (Annex 4).[4]

[2]An analysis of the appropriate role of the government in delivery of specific services, its size, and public sector restructuring measures is beyond the scope of this paper. Although many countries have been successful in outsourcing some services to the private sector (public transportation and other municipal services) while keeping core functions (administration, regulation) within the civil service, this may not be feasible in all countries. Countries' choice of the mode of service delivery will have implications for the size and flexibility of public wage bills.

[3]The latter reform has reduced the civil service by over 7 percent, although most of the fiscal savings were eroded by wage hikes after the Arab Spring (El Massnaoui and Biygautane 2011). This underscores the importance of complementing such initiatives with reforms to foster private sector development.

[4]For example, in the United Arab Emirates, there may be room to improve the performance of the education system within current spending, but improving health outcomes will likely require increased spending (Annex 2).

Reforms of government employment and compensation should aim to ensure competitive compensation and adaptability, which are essential for effective and equitable delivery of public services. Merit-based employment and promotion systems help governments recruit and retain skilled and high-performing staff members, raising public sector productivity. Position-based employment can be better suited than traditional career-based employment to adjust payroll over time, in response to changing demand for services, resource constraints, or technological change.[5] Compensation reforms can include introducing a unified wage scale, consolidating allowances and bonuses, linking pay to employee performance, and introducing regular comparisons between public and private sector wages.[6] Such reforms of government employment and compensation can help make wage bills affordable while improving public sector productivity and reducing labor market distortions (Annex 4).

Strengthening Institutions and Data

Public wage bill policies need to be firmly embedded in medium-term fiscal frameworks. Medium-term forecasting of the wage bill, budgeting, and planning would help prevent excessive economic and political procyclicality of wage bills and would provide useful guideposts for wage bill reforms. For example, in 2016, the government of Algeria prepared for the first time a medium-term budget that incorporated measures to gradually reduce the wage bill relative to GDP over the following few years. Structured wage negotiations (instead of ad hoc or continuous negotiations) and comparisons with private sector wages (instead of automatic wage indexation) would help integrate wage setting better with the budget process and medium-term fiscal frameworks.

Better data are critical for improving payroll control. Conducting a census and building a comprehensive database of government employment and compensation, paying salaries through bank accounts, and improving human resource management are among the measures that proved most successful

[5]Career-based employment involves open competition and assessment of merit at entry; civil servants have life tenure and promotion is handled from within. Position-based employment involves open competition and entry at all levels, under fixed-term contracts or contracts for specific tasks, and promotion based on merit and performance. For more details, see IMF 2016a.

[6]In Georgia, for example, the authorities are preparing to adopt a remuneration law for public civil service, and in 2011 the Kyrgyz Republic consolidated allowances so that base salary represents up to 80 percent of compensation from an initial 20 percent. In Ghana, Portugal, Romania, and Zambia, reforms focused on consolidating allowances and bonuses into base pay and mapping professional categories and sectors to a common base pay (Annex 3).

across the world in controlling public payrolls.[7] For example, better data systems help identify ghost workers and account for informal employment, eliminating waste and fraud and generating savings. Mauritania, among others, is improving control over its wage bill by removing ghost workers from the employment registers. This is also a key reform in Iraq. To get a full picture, statistics on employment and compensation in sectors that are not normally included in central government, as well as in state-owned enterprises, could be consolidated.

Transparency and strong governance are key to ensuring sustained gains and public support of wage bill reforms, as well as improved service delivery. Measures need to focus on building transparent mechanisms for public hiring, compensation setting and the overall strengthening of governance in the public sector. Ensuring adequate compensation (consistent with functions and responsibilities), institutionalization and professionalization, reducing opportunities for discretion (for example, by channeling payments through the banking system), and strengthening human resource policies and internal controls are also key elements of broader efforts to fight corruption. Improving institutional quality and accountability mechanisms, motivating public servants and providers to serve the poor and other nonprivileged populations, and empowering communities and local leaders to find local solutions can help enhance public service delivery (Brixi, Lust, and Woolcock 2015).

Sequencing Public Wage Bill Reforms

Fostering diversified private-sector-led growth is critical. The capacity of the public sector to absorb the growing labor force is increasingly limited, making private investment and job creation the only sustainable and inclusive way of addressing the persistent unemployment and low employment challenge in the region. Creating a level playing field for all businesses, improving access to finance for small and medium enterprises, promoting greater trade integration, and diversification away from oil are key components of this reform agenda and should complement public wage bill reforms. Measures that reduce skill mismatches through training and education, improve the efficiency of labor markets, and lower labor market friction (for example, make it easier to post vacancies and match them with the unemployed) also help boost the private sector and reduce unemployment (Annex 4).

Improved unemployment insurance and cash transfers can improve social outcomes and smooth the transition during public wage bill reforms. Since using public employment to reduce unemployment and distribute oil income

[7] In Portugal, for example, the creation of such a database enhanced oversight and transparency, helping identify and address inefficiencies (Annex 3).

is highly distortionary and expensive, other social policies can be used. Unemployment insurance can better address the risk of unemployment while supporting well-functioning labor markets. Developing an alternative instrument for oil income distribution would allow broader coverage and greater flexibility to adjust to oil price shocks. Similarly, social safety nets can be developed to reduce poverty and social exclusion, as well as mitigate the cost of wage bill reforms. Social impact analysis of wage bill reforms needs to be conducted up front to ensure that the reforms are designed in a socially and politically acceptable way.

Favoring efficient public investment over public employment is an effective way to create jobs and foster inclusive growth (Albino-War and others 2014). Public investment raises productivity of private investment and marginal productivity of labor, boosting the creation of quality jobs in the private sector in a lasting manner. Using savings from public wage bill reforms to increase public investment could more than offset slower growth in public employment (Annex 4).

Managing Public Wage Bills in Extraordinary Circumstances

Countries affected by conflict need to strive to maintain adequate public wage bill management. Countries affected by conflict (Iraq, Libya, Yemen) face urgent spending needs just when their revenue, financing, and administrative capacity are weakening (Rother and others 2016). In countries facing spillovers from conflicts (Jordan, Lebanon, Tunisia), large refugee flows and heightened security concerns boost demand for public services while intensifying social tensions and labor market pressures. The challenge is maintaining functioning institutions and basic services amid shrinking fiscal space. In such circumstances, wage bill pressures can be contained by reallocating employment from nonessential areas and accelerating efforts to eliminate inefficiencies (including ghost workers). Increased use of contractual employment for certain positions or sectors could help adapt to changing needs and keep costs under control. Outsourcing can reduce the burden on the state, while supporting the private sector. Shifting the policy focus to increasing private sector job creation and improving the delivery of public services for both host and refugee populations can help foster social cohesion.

CHAPTER

6 Conclusion

Management of public sector wage bills has emerged as an important policy challenge for the region. Reflecting legacies from the past—including the large role of the state—as well as considerable oil wealth and high incidence of conflicts, public sector wage bills in MENAP are higher than in other regions. In the CCA, public employment is still high by international standards, and public wage bills may be underestimated. Wage bill policies in the region have had limited success in achieving their objectives, while exacerbating fiscal pressures and clouding prospects for inclusive growth. Some countries have started reforms, while for others the challenge still looms large.

This paper lays the ground for modifying approaches to public wage bill management in the region. It emphasizes the need to ensure that growth of public wage bills is fiscally sustainable; focus wage bill policies on their core objective of providing public services effectively and equitably; strengthen institutions and data; and complement public wage bill reforms with measures to boost private sector job creation and strengthen social safety nets. The design of public wage bill reforms depends critically on country-specific diagnostics and circumstances, and the paper provides examples of reforms in the region and globally. The IMF stands ready to assist countries in reforming their public wage bill policies with a view to contributing to stronger, more stable, and more inclusive growth.

Box 1. Measurement Issues in Public Wage Bill Data for the Middle East and Central Asia

Issues of comprehensiveness and comparability arise in public wage bill data for the region. There are differences in the coverage of data between wage bills of the public sector and of general and central governments. The *public sector wage bill* includes compensation for employees from central governments, local governments, state-owned enterprises, and social security funds. The *general government wage bill* covers central and local governments and social security funds. The *central government wage bill* covers units in central government, including in many cases security forces. All three definitions include compensation for permanent employees (civil servants) and temporary employees.

Wage bill data coverage across the region is limited. The reported general government wage bill often covers only parts of the general government or just the central government. In some cases, key sectors, such as education and health care, as well as extra-budgetary funds, are excluded. Recording of contractors' salaries in other budget categories and scarce data on local governments and state-owned enterprises present additional challenges.

Wage bills typically include salaries, allowances, subsidies for the wage bill for central government public entities, and social security contributions as well as security and military salaries. In-kind benefits are usually recorded as goods and services. For some countries (Iran, Jordan, Oman, United Arab Emirates, Uzbekistan), security and military salaries are excluded. For other countries (Armenia, Iraq, Somalia, Tunisia), only some security and defense personnel salaries are included in the wage bill.

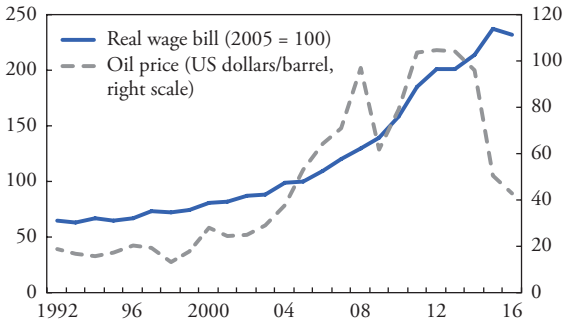
Wage bill data are recorded on a cash basis. Exceptions are Mauritania, Tajikistan, United Arab Emirates, and Yemen, where recording is on an accrual basis. Changes in recording practices may lead to exclusion of key factors from the wage bill. For instance, in Tunisia, 2017 wage increases were not fully reflected in the wage bill data but were paid as a tax credit.

Collecting data on the public wage bills of state-owned enterprises, public entities, and local governments would help obtain a more comprehensive picture of public sector wage bills. Such data would allow assessing more comprehensively the fiscal liability of central governments, which remain the last resort for paying public sector salaries. Many countries transfer subsidies to state-owned enterprises and local governments, which helps them achieve financial and cash balances and, primarily, pay salaries. Local governments and state-owned enterprises became instrumental in addressing high unemployment through hiring, for instance in Algeria, Azerbaijan, Iran, Iraq, Kazakhstan, Mauritania, Pakistan, Saudi Arabia, Tunisia, and the United Arab Emirates. That led to an increase in central governments' subsidies to these entities, while keeping central governments' wage bills contained. To improve cross-country data consistency, this paper uses, wherever possible, the IMF World Economic Outlook database, excluding state-owned enterprise and local governments data (Annex 1).

Box 2. Oil Prices and Remittances—Key Drivers of Fiscal Revenue and Wage Bills

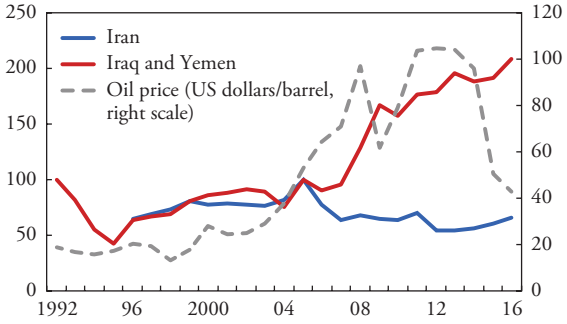
Oil price is the main economic variable for oil exporters (Figures 2.1.1 and 2.1.2). These countries emerged from the 1980s with mostly double-digit ratios of public wage bills to GDP. In the following decade, low oil prices led to persistent fiscal deficits and rising public debt. At the same time, public wage bills were declining in relation to GDP in the context of a broader fiscal adjustment. With the reversal of the oil price trend around 2000 and improved financial conditions, wage bill growth rose, on average outpacing real GDP growth since 2004. The significant fiscal space created during this period allowed uninterrupted growth of public wage bills during the two episodes of oil price declines—in 2008, after the financial crisis, and since mid-2014, when wage bills increased in real terms and in percent of GDP. Outside the Gulf Cooperation Council (GCC) countries, however, the influence of oil prices on public wage bills has been overshadowed at times by other factors. In the non-GCC Middle Eastern and North African oil exporters, conflicts and geopolitical factors have played an important role. In the Caucasus and Central Asian (CCA) oil exporters, real public wage growth was partly offset by declining public employment during the post-Soviet transition.

Figure 2.1.1. Wage Bill and Oil Price in GCC and Algeria, 1992–2016
(Index 2005 = 100, unless indicated otherwise)



Source: IMF, World Economic Outlook.
Note: GCC = Gulf Cooperation Council.

Figure 2.1.2. Wage Bills and Oil Price in Other MENA Oil Exporters, 1992–2016
(Index 2005 = 100, unless indicated otherwise)

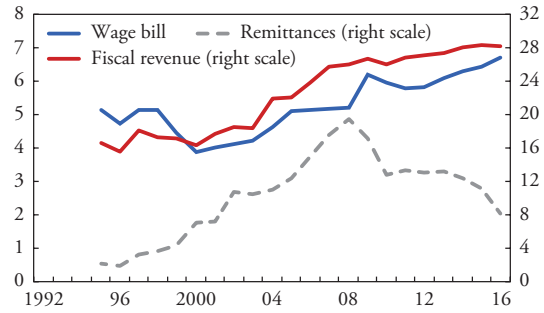


Source: IMF, World Economic Outlook.

Remittances play a key role in oil importers' economies (Figures 2.1.3 and 2.1.4). Remittances from Russia underpinned a decade of strong wage bill growth in the CCA oil importers. Since 2000, higher oil prices affected the CCA through increased exports and outward migration to Russia, increasing inflows of remittances. The share of remittances in GDP doubled in Georgia and increased tenfold in Tajikistan and the Kyrgyz Republic in the decade beginning in 1998. Fueled by remittances, fiscal revenues rose by 10 percentage points of GDP during this period, triggering double-digit growth in

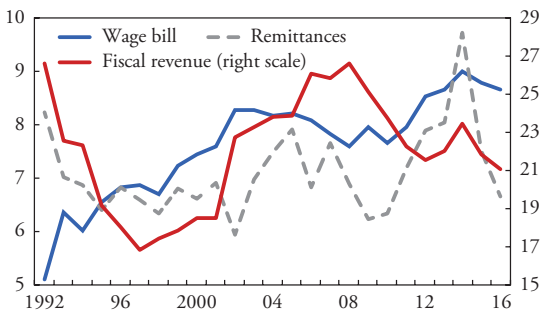
Box 2. *(continued)*

Figure 2.1.3. Wage Bills and Fiscal Indicators in CCA Oil Importers, 1992–2016
(Percent of GDP, unless indicated otherwise)



Source: IMF, World Economic Outlook.

Figure 2.1.4. Wage Bills and Fiscal Indicators in MENAP Oil Importers, 1992–2016
(Percent of GDP, unless indicated otherwise)



Source: IMF, World Economic Outlook.

real public wage bills. Even after Russia's economy slowed in 2008 and 2013–15, and remittances declined, wage bills in the CCA oil importers continued to grow. Similarly, in oil importers in the Middle East, North Africa, Afghanistan, and Pakistan (MENAP), wage bills have fluctuated in correlation with remittances. Although smaller compared with the CCA and less correlated with oil prices, remittances from GCC countries, the United States, and Europe to MENAP oil importers have been significant, between 6 and 10 percent of GDP, affecting fiscal revenues.

Box 3. Views of Civil Society Organizations and Labor Unions

The IMF staff consulted with representatives of international, regional, and national civil society organizations (CSOs),[1] including labor unions. The main points raised by CSOs are summarized in this box, and some of their feedback has been reflected in the paper.

Most CSOs agreed that the level and composition of public wage bills is an issue that governments in the region need to look at in the current economic and fiscal context. They noted however that public wage bill reforms are not necessarily the most appropriate policy to address economic weaknesses or fiscal imbalances in all countries in the region. Any decision to reform wage bills should be made based on an in-depth analysis and understanding of the underlying drivers of these problems. They argued that in some countries in the region, unfair and inefficient taxation systems contribute more to the fiscal deficits and debt than the size of the public wage bills. Looking at improving the tax system may therefore be a better option than reforming the public wage bills.

CSOs also cautioned that exceptional circumstances may hinder wage bill reforms. Even if wage bills pose fiscal sustainability concerns, some countries may be unable to reform wage bills. Security threats and social discontent could create extraordinary demand for public services that only the public sector could meet. In such delicate circumstances, wage bill reforms could increase instability.

In case reforms are needed, CSOs, like IMF staff, did not see wage compression or freezing as enduring solutions, but recommended more structural reforms such as improving transparency and accountability, linking wages to performance, or dealing with the issue of ghost workers.

CSOs stressed the need for governments to identify the social implications of wage bill reforms through an ex ante social impact analysis to design reforms in a socially and politically acceptable way. Looking at the impact on women was seen as especially important because a large proportion of women are employed in the public sector and would be significantly affected by reforms. CSOs also emphasized that sequencing would be crucial to the success of the reforms. Public wage bill reforms need to be preceded by reforms to boost the private sector, create jobs, and provide social protection.

CSOs recommended that the IMF look more closely at the reasons for the recent increases in public wage bills in the region and frame its analysis in this context. The region is facing several challenges (inclusive growth, reaching the United Nations Sus-

[1]Arab NGO Network for Development, Bretton Woods Project, ITUC, Transparency International Jordan, Tunisia's UGTT, Albawsala, Cercle des Economistes Arabes, GJFTU Jordan, and Georgia's Trade Unions Confederation.

Box 3. ***(continued)***

tainable Development Goals, youth unemployment, the inflow of refugees) that may justify high public wage bills. For example, in Tunisia the public wage bill increased because a large number of contractual employees or people working in the informal sector were brought into the civil service after the Arab Spring. In Iraq, it was because of a need to increase security.

CSOs asked the IMF to tailor its analysis to country circumstances since regional and international comparisons of public wage bills may mask heterogeneity. Similarly, they advised that the paper analyze sectoral breakdowns of public wage bill data to help explain how much countries spend on the military, education, etc., since this could lead to different conclusions on the size of the public wage bill and whether reforms are needed. For example, a larger public sector wage bills because all health service delivery is through the public sector may be a valid reason. Different sectoral breakdowns of public wage bills may also imply different recommendations. When most of the public wage bill is made up of the military sector and education, asking for cuts may not be wise for security and developmental reasons.

CSOs questioned the finding of a negative relationship between public and private sector employment. They pointed out that the public sector wage bill is not the main reason behind the weakness of the private sector in the region. Other factors may be at play. In many countries, there are just not enough job opportunities in the private sector. The type of private sector that has developed has not generated jobs. In many countries, the military is the main public employer, but it does not compete directly with the private sector since the job requirements are different. On the contrary, limiting hiring in the public sector may exacerbate the problem: it could accelerate brain drain and emigration, ultimately reducing the potential for private-sector-led growth.

CSOs emphasized that wages in the public sector are not always too high compared with the private sector, though they recognized that this can be a problem in some countries. They argued that in many countries public wages are in fact too low. This is one of the reasons for the large number of ghost workers: people are forced to take another job to survive and are absent from their public-sector job. CSOs also suggested granular analysis because the average public sector salary in a country may not a good indicator. There are vast differences within the public sector—wages may be too high in one sector (for example, tax collection) but too low in others (for example, teaching).

Finally, they advised that if governments want to implement reform, they should initiate open and frank dialogue between the public and private sectors, civil society, trade unions, and employer associations and have a strong communication plan to convey all objectives of wage reform and future steps to manage expectations.

Annex 1. Data on Public Wage Bills and Related Institutional Arrangements for the Middle East and Central Asia

Data Sources

Data on government wage bills and key economic variables were sourced mainly from the IMF's World Economic Outlook (WEO) database. The indicators included GDP (nominal, real, and purchasing power parity (PPP)), government expenditure (total, current, capital, and compensation of employees), government revenue, exports (total and fuel), gross government debt, demographic data (population, labor force, and unemployment rate), and commodity prices. Data on public wage bills were cross-checked against the database created for the IMF's 2016 paper on Managing Government Compensation and Employment and the World Bank databases. The WEO aggregates for public wage bills and other fiscal indicators were for the general government.

Data on employment and compensation were collected from several other sources. Public employment and compensation data are both scarce and inconsistent in definitions and coverage. A new data set was constructed for the purposes of this paper to combine the existing information with data from national statistics websites, a survey of IMF desk economists (see below), the International Labour Organization (ILO), and the World Bank database (Annex Table 1.1). Labor market indicators for other comparator countries were obtained from the ILO as well as from the Fiscal Affairs Department (FAD) databases.

Data on structural indicators were collected from external databases. The World Bank World Development Indicators (WDI) and Global Competitiveness Index (GCI) databases were used to retrieve indicators of labor market development and business climate, as well as fuel exports. Data on security,

The World Bank's government wage bill and employment database is available online: http://www.worldbank.org/en/topic/governance/brief/size-of-the-public-sector-government-wage-bill-and-employment.

Annex Table 1.1. Public Sector Data Sources and Coverage

Country	Source	Series	Coverage	Notes
MENA Oil Importers				
Afghanistan	Afghanistan Central Statistics Organization	Number of Current Employees Male and Female by Ministries and Departments	2002–16	http://cso.gov.af/en/page/demography-and-socile-statistics/social-statistics/employee-statics; http://cso.gov.af/en/page/1500/4722/2016-17
Egypt	ILO	Total Public Sector Employment	2005–14	
Jordan	Jordan Department of Statistics	Number of employees in the public sector	2000–14	http://www.dos.gov.jo/dos_home_e/main/linked-html/employment/index.htm
Mauritania	Questionnaire	Public sector employment	2005–16	
Morocco	National Statistics Office	Public sector employment	2004–15	http://www.hcp.ma/downloads/Activite-emploi-et-chomage-trimestriel_t13038.html Staff estimates for 2004-06 obtained by extrapolating national statistics data for 2007 and ILO-based growth rates.
Tunisia	Country authorities[1]	Public sector employment	2008–16	
West Bank and Gaza	Country authorities[1]	Public sector employment	2007–15	
GCC MENA Oil Exporters				
Bahrain	Bahrain labor market indicators published by Labor Market Regulatory Authority	Public sector employment	2002–16	http://blmi.lmra.bh/2016/12/mi_data.xml
Kuwait	Kuwait Central Statistical Bureau, annual statistical abstracts, various issues	Employees in government civil service (a sum of government offices and departments, attached budgets, independent budgets, and state-owned enterprises)	2000–14	https://www.csb.gov.kw/Socan_Statistic_EN.aspx?ID=18
Oman	Oman National Center for Statistics and Information	Employees in the public sector	2002–13	http://www.data.gov.om/en/DataAnalysis
Qatar	Ministry of Development Planning and Statistics, labor force surveys, various issues	Employees in government departments and government companies/corporations	2001–15	http://www.mdps.gov.qa/en/statistics1/pages/topicslisting.aspx?parent=Social&child=LaborForce
Saudi Arabia	Country authorities[1]		2007–16	
United Arab Emirates	ILO	Public sector employment	2007, 2010	
Non-GCC MENA Oil Exporters				
Algeria	Country authorities[1]	Public sector employment	2004–13	
Libya				
Iran	Country authorities[1]	Public sector employment	2005–15	
Iraq	Country authorities[1]	Public sector employment	2006–16	
Yemen				
CCA Oil Importers				
Armenia	National Statistics Service of the Republic of Armenia, Labor Market Indicators, various issues	Public sector employment	2001–15	http://www.armstat.am/en/?nid=81&id=1625; data for 2001-03 provided by the authorities
Georgia	National Statistics Office of Georgia, Distribution of Employed by Institutional Sector	Employment in the public institutional sector	2002–16	http://www.geostat.ge/index.php?action=page&p_id=146&lang=eng; Data for 2002-05 is from thr World Bank Database[2]
Kyrgyz Republic	ILO and World Bank database[2]	Public sector employment	2000–15	Data for 2000-07 from the World Bank database, and from ILO afterwards
Tajikistan	National Statistics Agency	Public sector employment	2000–15	http://www.stat.tj/ru/analytical-tables/real-sector/
CCA Oil Exporters				
Azerbaijan	State Statistics Committee of the Republic of Azerbaijan	Public sector employment	2000–15	http://www.stat.gov.az/menu/13/?lang=en
Kazakhstan	ILO	Public sector employment	2009–13	

[1]"Country authorities" refers to data provided by the authorities to IMF country teams or the IMF Fiscal Affairs Department. Data for missing years were extrapolated from the available data for adjacent years.
[2]World Bank government wage bill and employment database: http://www.worldbank.org/en/topic/governance/brief/size-of-the-public-sector-government-wage-bill-and-employment.
Note: CCA 5 Caucasus and Central Asia; GCC 5 Gulf Cooperation Council; MENA 5 Middle East and North Africa; ILO 5 International Labour Organization.

social unrest, and political stability came from the World Bank World Governance Indicators (WGI) database.

Weaknesses in the availability and quality of data for the Middle East and Central Asia region hindered the analytical work for this paper. Some countries in the region (Libya, Pakistan, Syria, Uzbekistan) do not provide public wage bill data, which required excluding them from the sample used for this paper. The West Bank and Gaza is also excluded from aggregates because its PPP GDP data are not available. WEO data were collected for the period from 1990 to 2016. Yet for most countries in the region data start in the mid-1990s, with data for Caucasus and Central Asia oil exporters and some economies in conflict (Afghanistan, Iraq, West Bank and Gaza) start in the early to mid-2000s. Data on employment and population from national websites or submitted by country authorities covered a shorter period than the WEO data, creating additional challenges for analytical work.

Desk Survey

To enhance the data set used in this paper, a survey was developed and sent to IMF country desks to gather more detailed public wage bill data for countries in the region. The survey requested desks to provide data on civil service wages and employment; wage bills for education, health care, and security sectors; and basic salary, allowances, and social contributions. IMF desk economists filled in the survey using country authorities' sources as well as external country-specific sources. The survey had limited success, and detailed public wage bill data for many countries was not obtained (Annex Table 1.2). The average response rate was roughly 50 percent. There is no apparent bias in the response rate based on geography; however, oil importers had an average response rate of 57 percent, while oil exporters averaged 32 percent.

The survey was also used to collect information on the current institutional arrangements underlying government hiring and compensation. The following questions were presented to IMF desks:

- How are wages determined?
- How strong are public sector unions at the national level (for example, are they able to influence legislation and regulations related to labor issues)?
- Is the percentage of public sector workers covered by the terms of public sector collective wage agreements high, moderate, or low or there are no collective wage agreements?
- Are base wages indexed?
- Does the government have a ceiling on the total wage bill?

Annex Table 1.2. Survey Responses Regarding Data on Public Wage Bills

(Latest observations; data reflects 2000–16 averages)

	Government Wage Bill (percent of GDP)	Government Wage Bill (percent of total spending)	Government employment (percent of working-age population)	Wage Bill				Type of Compensation		Employment				Social Benefits		
				Total	Education	Health	Civil Servants	Salaries	Allowances and Other	Total	Education	Health	Civil Servants	Total	Education	Health
Gulf Cooperation Council (GCC) and Algeria																
Algeria	11.0	27.0	20.2	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
Bahrain	12.0	33.8	16.1	Yes	Yes	Yes	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
Kuwait	18.2	32.8	15.8	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
Oman	12.6	24.1	20.4	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes	No	No
Qatar	7.2	20.9	15.7	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes
Saudi Arabia	13.5	40.0	16.3	Yes	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
United Arab Emirates	4.7	15.7	16.5	Yes	No	No	No	No	No	Yes	No	No	No	Yes	Yes	Yes
Other Middle East and North African (MENA) Oil Exporters																
Libya				No	No	No	No	No	No	No	No	No	No	No	No	No
Iran	4.9	27.1	21.5	No	No	No	No	No	No	No	No	No	No	No	No	Yes
Iraq	18.3	43.6	19.8	Yes	No	No	No	No	No	No	No	No	Yes	Yes	No	Yes
Yemen	11.4	46.8	22.5	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes	No	Yes
Middle East, North Africa, Afghanistan, and Pakistan (MENAP) Oil Importers																
Afghanistan	12.8	48.0	19.9	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Djibouti	9.2	19.0	21.5	Yes	No	No	No	Yes	Yes	No	No	No	No	Yes	Yes	Yes
Egypt	7.9	24.1	19.8	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
Jordan	5.0	17.2	19.7	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lebanon	9.3	34.7	19.8	Yes	Yes	No	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Yes
Mauritania	7.4	26.4	19.6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Morocco	11.9	39.4	19.3	Yes	No	No	No	No	No	No	No	No	No	No	No	No
Pakistan				No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
Sudan	3.8	33.8	19.7	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
Syria				No	No	No	No	No	No	No	No	No	No	No	No	No
Tunisia	14.6	51.0	18.4	Yes	Yes	Yes	No	Yes	Yes	No	No	No	No	Yes	Yes	Yes
West Bank and Gaza	15.2	45.0	0.0	Yes	No	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No
Caucasus and Central Asia (CCA) Oil Exporters																
Azerbaijan	6.1	17.0	19.7	Yes	No	No	No	No	No	No	No	No	No	No	No	No
Kazakhstan	3.0	13.3	18.3	Yes	No	No	No	No	No	No	No	No	No	No	No	No
Turkmenistan	4.5	31.7	21.1	Yes	Yes	Yes	No	No	No	No	No	No	No	Yes	Yes	Yes
Uzbekistan				No	No	No	No	No	No	No	No	No	No	No	No	No
Caucasus and Central Asia (CCA) Oil Importers																
Armenia	6.0	22.3	17.9	Yes	No	No	No	No	No	Yes	No	No	No	Yes	Yes	Yes
Georgia	5.2	17.2	15.7	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Kyrgyz Republic	9.8	23.9	21.0	Yes	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
Tajikistan	6.9	21.5	22.0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Responded? Yes No

Source: National authorities; IMF staff calculations.

- Does the government have an overall ceiling on the total number of government employees?
- Can government employees be made redundant/laid off?
- Can staff be employed on a contractual basis?
- Who approves the creation of new staff positions?

The response rate for these questions was higher than that for the detailed public wage bill data, averaging close to 70 percent across all questions (Annex Table 1.2). There is no apparent bias in the response rate based on geographic or other factors (for example, whether a country is an oil exporter or importer).

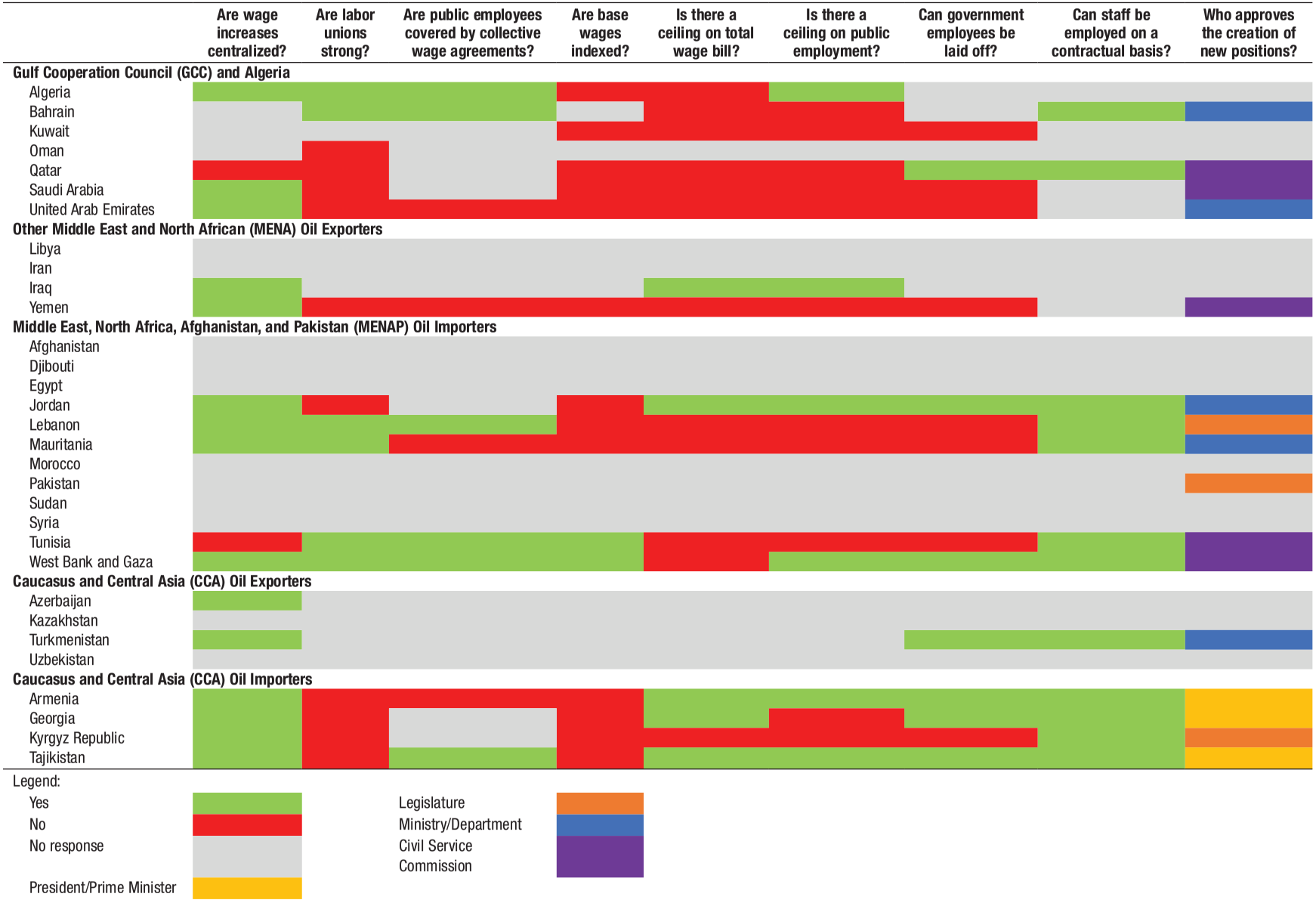
Despite high cross-country variation in institutional arrangements, there are some areas of commonality (Annex Table 1.3). These include (1) the lack of wage indexation, (2) highly centralized decision making on wage increases, and (3) hiring of contractual labor. A systematic difference is also apparent between countries in the Middle East, North Africa, Afghanistan, and Pakistan (MENAP) and in the Caucasus and Central Asia (CCA). CCA countries tend to have some ceilings on government employment and wage bills. They also permit laying off public employees, and decisions on creation of new positions are highly centralized, either through the president/prime minister or the legislature. By contrast, MENAP countries (particularly in the Gulf Cooperation Council [GCC]) have broader decision-making bodies for the creation of new positions, usually at the departmental level or through a commission. These countries have few or no established ceilings on employment and the overall public wage bill.

Country Groupings and Comparators

The region's country groupings are skewed. In countries with similar characteristics, one country tends to be much larger than the rest. This can be seen in Annex Table 1.4, in which Kazakhstan is by far the largest country among CCA oil exporters, Egypt among MENAP oil importers (the relevant data for Pakistan, another heavyweight in this grouping, are missing), Saudi Arabia among the GCC countries, and Iraq among other MENA oil exporters (Iran was not included in this group because of idiosyncrasies). These large-weight countries account for at least 45 percent of the respective subgroup's weight. The most balanced category is CCA oil importers, where Armenia, Georgia, and the Kyrgyz Republic have broadly similar weights.

The emerging market and developing economies country group corresponds to the WEO definition. The full list of countries can be located at the WEO portal on the IMF website: https://www.imf.org/external/pubs/ft/weo/2017/01/weodata/groups.htm.

Annex Table 1.3. Survey Responses to Institutional Questions
(Latest observations)



Source: National authorities; IMF staff calculations.

Annex Table 1.4. Weights for Middle East and Central Asian Countries, by Grouping, 2000–16
(Percent, period average)

Grouping	Country	Weight
GCC and Algeria	Algeria	16.4
	Bahrain	1.7
	Kuwait	8.2
	Oman	4.8
	Qatar	6.1
	Saudi Arabia	45.2
	United Arab Emirates	17.6
Other MENA Oil Exporters	Iraq	77.6
	Libya	0.0
	Yemen	22.4
MENAP Oil Importers	Afghanistan	2.4
	Djibouti	0.2
	Egypt	53.6
	Jordan	4.1
	Lebanon	4.2
	Mauritania	0.8
	Morocco	13.5
	Pakistan	0.0
	Sudan	9.0
	Syria	5.5
	Tunisia	7.0
	West Bank and Gaza	0.0
CCA Oil Exporters	Azerbaijan	22.7
	Kazakhstan	67.5
	Turkmenistan	9.9
	Uzbekistan	0.0
CCA Oil Importers	Armenia	24.9
	Georgia	34.1
	Kyrgyz Republic	20.7
	Tajikistan	20.3

Source: IMF staff calculations.
Note: Based on purchasing-power-parity GDP. Zero weights indicate missing data. CCA 5 Caucasus and Central Asia; GCC 5 Gulf Cooperation Council; MENAP 5 Middle East and North Africa, Afghanistan, and Pakistan.

Annex Table 1.5. Fuel-Exporting Economies Outside the Middle East and Central Asia

Country	Net Fuel Exports, 2007–15 (percent of GDP)
Brunei Darussalam	56.0
Angola	52.4
Gabon	43.7
Trinidad and Tobago	28.1
Venezuela	21.4
Norway	19.5
Russia	16.7
Bolivia	13.9
Ecuador	10.1
Colombia	7.5
Ghana	4.7
Canada	4.0
Australia	2.4
Cameroon	2.2
Indonesia	1.9
Belize	1.2

Source: World Bank, World Development Indicators.

The fuel exporters group represents countries with average net oil and gas exports exceeding 1 percent of GDP during 2007–15. The data on net fuel exports were sourced from the World Bank World Development Indicators database. The list of countries is provided in Annex Table 1.5.

Some key observations for countries outside the region are missing. Among advanced economies, these include Japan and the United Kingdom, which represent, respectively, 12 percent and 6 percent of the advanced economy grouping. Canada and the United States also have missing data for the latest year, 2016. Among emerging market economies, China and Mexico are the largest countries with missing data, representing 32 percent and 6 percent of the emerging market group, respectively.

Several large countries stand out in global groupings because they carry at least a 5 percent weight. For the advanced economies these standouts are the United States (40 percent weight), Germany (11), France (8), Italy (7), South Korea (5), and Spain (5). Among emerging market economies, India (23), Russia (15), Brazil (13), Indonesia (9), and Turkey (5) stand out. Low-income countries Bangladesh (26), Kenya (7), Ethiopia (6), Tanzania (6), and Ghana (6) are notable for a higher weight.

Annex 2. Experience with Public Wage Bill Reforms in the Middle East and Central Asia

Iraq[1]

Iraq's public spending is high in international comparison, driven by the public wage bill. The public sector payroll lacks centralized control and, as a consequence, has been growing rapidly. The number of positions financed may not reflect the number of employees performing a meaningful job in the absence of systems that would prevent absenteeism or fraud. Relatively high public sector wages and job security make other alternatives appear undesirable, curtailing private sector job growth.

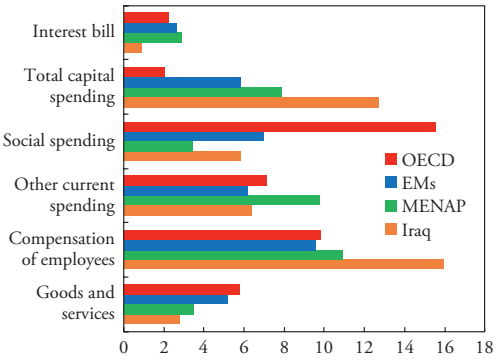
Institutional Background

The central government has limited control over the actual size of the public sector. There is no central authority exercising hiring, promotion, redundancy and retirement rights. While a legal framework establishing the condition of employment exists, the extent to which spending units observe the rules is difficult to control. There is no central registry of public sector employees, and there is a discrepancy between reported payrolls financed by the budget and the actual number of workers.

In terms of the size and cost of the payroll, significant uncertainty is attributable to sectoral and governance issues. The size of the defense and security sector is not fully known, partly because of the changing relationship between the government and non-governmental militias and partly because the reporting standards in this sector are even less developed than in the civilian areas, with potentially large numbers of fictitious employees and rank inflation. The incomplete flow of information between the central government and the

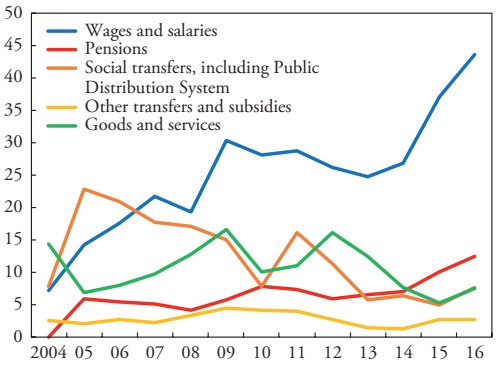
[1]Prepared by Csaba Feher.

Annex Figure 2.1. General Government Spending by Expense, 2016
(Percent of total expenditure)



Sources: Country authorities; IMF, *World Economic Outlook*; and IMF staff estimates.
Note: EMs = emerging market economies; MENAP = Middle East and North Africa, Afghanistan, and Pakistan; OECD = Organization for Economic Cooperation and Development.

Annex Figure 2.2. Iraq: General Government Spending by Category, 2004–16
(Percent of total expenditure and net lending)



Sources: Country authorities; and IMF staff estimates.

Kurdistan Regional Government also makes it difficult to establish the size and structure of public sector employment in the country as a whole.

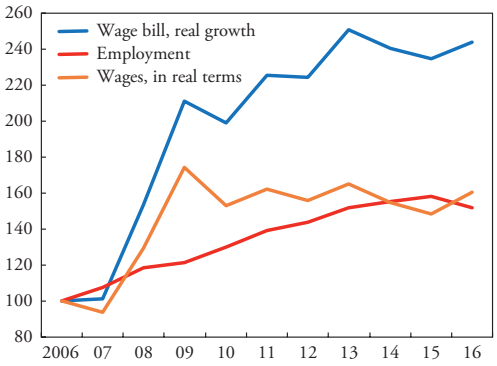
Allowances represent a high portion of the compensation package, weakening the performance-remuneration link. Allowances range between 35 percent and 150 percent of the base salary, with the relative weight of allowances growing with grades. Given that some allowances are linked to marital status, number of dependents, and other socioeconomic factors, total compensation does not reflect position or performance. This compensation profile ensures that the wage premium—including allowances and supplements—compared with the private sector is constant, at approximately 11 percent, in all grades.[2]

Trends and Issues

Over the past 10 years, Iraq's public wage bill has grown very large, fed by abundant hiring and generous remuneration policies. In response to the recent plunge in oil prices, Iraqi governments have made large expenditure cuts, but these have focused on investments, goods, and services and have left personnel and social expenditures structurally unchanged. Any reductions in salaries, pensions, or social welfare transfers stemmed mostly from

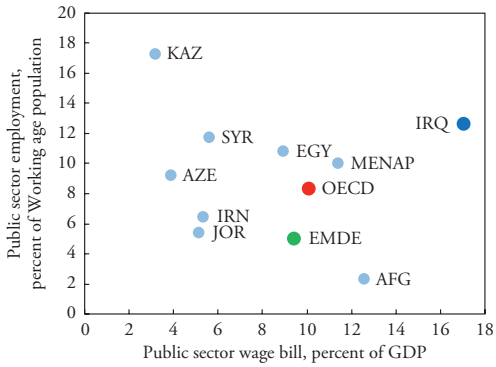
[2]The wage premium, in most countries, is positive for public sector employees in lower grades and positions but gradually turns negative at higher grades, which limits the public sector's ability to retain senior civil servants. Although the 10–11 percent wage premium is close to that observed in comparator countries, on average, it remains constant along the public sector wage distribution.

Annex Figure 2.3. Iraq: General Government Wage Bill, 2006–16
(Index 2006 = 100)



Sources: Country authorities; and IMF staff estimates.

Annex Figure 2.4. Wage Bills and Public Sector Employment, 2016
(Percent, latest available data)



Sources: Country authorities; IMF, *World Economic Outlook*; and IMF staff estimates.
Note: Data labels in this figure use International Organization for Standardization (ISO) country codes. EMDE = emerging market and developing economies; MENAP = Middle East and North Africa, Afghanistan, and Pakistan; OECD = Organization for Economic Cooperation and Development.

the government's inability to pay. By 2016, Iraq's spending on public sector compensation (wages and pensions) had grown above that of various comparators: geographic comparators (Middle East and North Africa, MENA), oil-exporting emerging economies, and transition economies (Annex Figures 2.1 and 2.2).

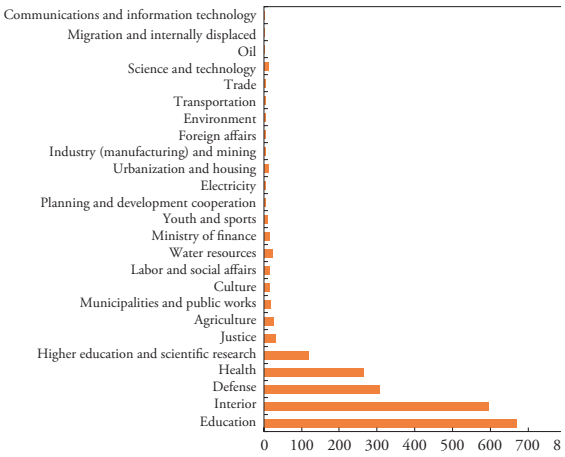
While both the expansion of the payroll and the increasing real compensation levels contributed to the growing wage bill, the payroll played a more important role. The wage bill rose almost 2.5 times between 2006 and 2016, and the real value of employee compensation increased by 40 percent in the same period (Annex Figure 2.3). Iraq, on an international scale, has become an outlier in terms of the size of its wage bill (Annex Figure 2.4).

The largest employers are the education sector,[3] defense, and interior ministries (Annex Figure 2.5). These comprise approximately 1.8 million employees, or 78 percent of the total payroll.[4] Whereas security-related employment is large as a share of the total, payroll expansion in this sector took place mostly before 2011 and has continued only among non-security-related ministries since then.

[3]The education sector includes institutions under the Ministry of Education and under the Ministry of Higher Education and Scientific Research.

[4]These numbers exclude the Kurdistan Regional Government since no information is available regarding the sectoral distribution of public employees in that jurisdiction.

Annex Figure 2.5. Iraq: Public Sector Employment by Ministry, 201
(Thousands of people)



Sources: Country authorities; and IMF staff estimates.

In addition to the expansion of the payroll, the growth of the wage bill has been driven by an increase, in real terms, of average compensation per employee. The real value of the average total compensation received by public employees grew, between 2006 and 2016, by 60 percent, and the number of public employees also grew over 50 percent. The overall picture conceals differences between the federal government and the Kurdistan Regional Government: whereas the government payroll went up by 64 percent in the institutions under Baghdad's control, the same indicator increased by 22 percent in those controlled by the Kurdistan Regional Government.

Reform Challenges

To reduce the public sector wage bill and to control the drivers of its potential future growth, the government needs to implement measures addressing both the size of the payroll and, to a lesser extent, the level of compensation. Given that wage bill growth observed over the past 10 years was driven primarily by payroll expansion, reform measures should focus mostly on this aspect of wage bill management.

Although the low-inflation environment makes it harder to reduce real compensation, restructuring and recalibrating public sector wages and supplements can make room for curtailing further wage growth. The public sector wage premium is relatively low at approximately 10 percent. The lack of private sector alternatives and the availability of nonwage benefits (such as health insurance and eligibility for generous old-age pensions) allow for a gradual decrease in allowances without risking a large-scale exodus from public employment. Efforts in this area should focus primarily on strengthening the relationship between performance and compensation. But such measures should not rule out such emergency measures as a temporary cap on allowances, freezes on promotions, and seniority wage increases.

Sector-specific approaches and a business environment conducive to private sector employment will be needed to address the oversized public sector payroll. Addressing the oversized public wage bill, while improving the quality of public goods provided by the state will require sector-specific approaches. For instance, health care is critically understaffed, whereas employment levels in secondary and higher education can be justified only if enrollment rates

improve. Demobilization is expected to exert supply pressure on the labor market, and the government must resist the fiscally irresponsible urge to expand the public sector and employment by state-owned enterprises. Such a differentiated approach will require a functional and procedural review and a medium-term human resource strategy. It will also mean improving the business environment to generate jobs for Iraq's growing labor force and those employed in the public sector whose jobs cease to be necessary or affordable.

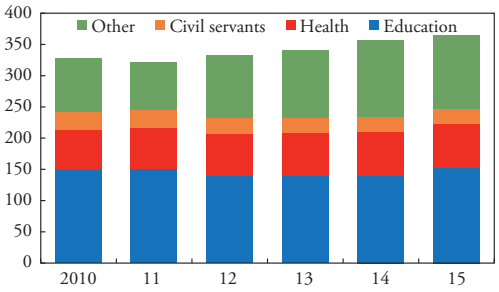
In cases of both voluntary and involuntary separation, risks to service quality should be considered. Voluntary departures may lead to various risks, including adverse selection (the most productive and best-skilled employees leave), improperly priced severance packages (for example, overly generous or insufficiently generous), and the risk of rehiring (especially when such programs are inappropriately targeted or are implemented without sufficient analysis of future staffing needs).

In terms of short-term employment measures, the government needs to implement a staff reduction plan through natural attrition. This approach would not amount to a full hiring freeze but would prevent automatically filling positions that become vacant due to retirement or other reasons. The effectiveness of this measure depends on the age structure of public employees and the hiring flexibility retained at higher decision-making levels. In cases where clear staffing indicators can be established (such as population-health personnel ratios and minimum operating staff numbers), the government may link the expiration of the partial hiring freeze to reaching these indicators.

The government needs to urgently complete a payroll census. Under the current Stand-By Arrangement, the government will conduct a payroll audit. Given the number of public employees, it is crucial to establish a risk-based audit timetable whereby a sample would first inform the Board of Supreme Audit of the sectors where fraud is most frequent and then focus on these areas early on. It is equally important to have a standardized action plan in case of identified cases of fraud, with clearly established legal and financial consequences affecting not only the worker involved (in the form of termination of employment) but, more important, officials who were or who could reasonably be expected to be aware of the fraud.

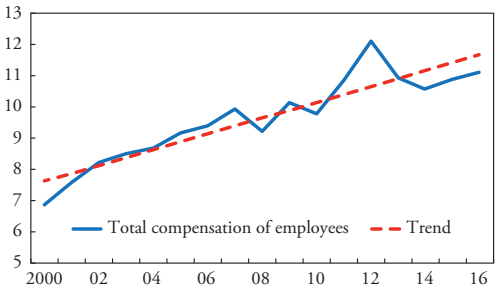
The government may need to consider outright staff reductions, coupled with voluntary early retirement, as a one-off measure. This measure could be best implemented in sectors where service outcomes are unrelated to population growth, economic activity, or the security situation or where service has been reduced or contracted out to the private sector. At the same time, voluntary retirement programs can achieve their objectives only if there is a credible threat of layoff.

Annex Figure 2.6. Kyrgyz Republic: Public Sector Employment by Sector, 2010–15
(Thousands of people)



Sources: Country authorities; and IMF staff estimates.

Annex Figure 2.7. Kyrgyz Republic: General Government Wage Bill, 2000–16
(Percent of GDP)



Sources: Country authorities; and IMF staff estimates.

Hiring decisions, as a matter of commitment control, should be subject to fiscal authorization. For the sake of simplification, this may take the form of joint authorization by the hiring department and the Ministry of Finance. Over the medium term, a different institutional arrangement should be introduced. Uniform hiring, promotion, and termination rules would be handled by a central human resource management unit or a civil service and public employee commission. Regulations establishing legal and financial liability for unauthorized and unlawful hiring decisions—potentially retroactively with a short grace period—are needed. These would penalize decision makers and all officials who could reasonably be expected to be aware of such decisions.

To better reflect performance and to make the wage scale more transparent, total remuneration needs to rely less on allowances. A system of allowances is a common approach to blur the actual remuneration of public sector employees, to grant more discretion to supervisors for differentiating emoluments without necessarily reflecting performance, and to decrease the link between remuneration and responsibilities and performance of employees. As part of the human resource strategy, allowances should be merged with wages, restricting nonwage remuneration to performance-based, occasional bonuses.

Kyrgyz Republic[5]

Over the past several years, the public wage bill in the Kyrgyz Republic has been rising, reaching almost 10 percent of GDP by 2016—which is high compared with the country's peers (Annex Figures 2.6 and 2.7). The 2011 attempt to reform the civil service was unsuccessful. There is now an urgent need for a com-

[5]Prepared by Claire Gicquel with inputs from Maura Francese, Chad Abdallah, Christopher Ben, and Liv Bjornestad.

prehensive strategy to improve the efficiency of public wage bill spending and to contain its rising cost, given the tight fiscal constraints faced by the country. With a high debt level, the Kyrgyz Republic needs to create fiscal space to rebuild buffers for dealing with future unexpected shocks and to promote inclusive growth. Reforming public wage bill spending will require strong political commitment at the highest level.

Institutional Background

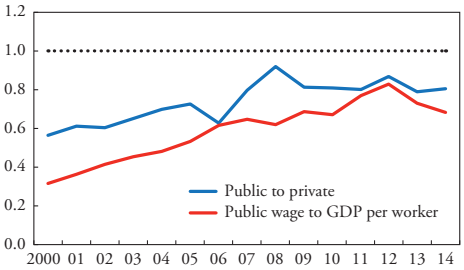
A reform strategy for the civil service was developed in 2011, but has been only partially implemented. The main objective of the strategy was to increase the wage level at the low end of the pay scale to align it to nationally identified subsistence levels. A second objective was to move toward a performance-based compensation framework. Overall, the objectives of the strategy appear to have been only partially achieved, since wage dynamics have mostly been driven by a series of large ad hoc increases in 2011, 2013, and 2015. The main outcomes of the 2011 reform were (1) an increase in the share of base salaries in total compensation and a decrease in allowances; (2) the separation of pay scales in health and education to better tailor pay progression and composition; (3) elimination of the 13th month of pay; and (4) some progress in introducing incentive-based pay by linking bonuses to performance reviews.

The government wage bill is set by the legislature as part of the overall budget process. It comprises public wage bill spending by the central government, autonomous and semiautonomous agencies, municipalities, and other public agencies that are fully or partially funded by the budget. However, it excludes wages paid by the social funds, particularly the Mandatory Health Insurance Fund (MHIF), as well as by smaller government agencies. The MHIF represents close to 20 percent of the public wage bill. The lack of an institutional framework to guide wage policies has enabled several large discretionary increases in public wages across several sectors in the past years.

The structure of public employee compensation (the shares of the base salary, allowances,[6] and incentive bonuses) varies dramatically among sectors. Prior to 2011, base salary represented less than 20 percent of wages, but since the 2011 reform, the base salary share has increased and the allowance system has been streamlined. In 2015, base salary represented more than 80 percent of total compensation in some sectors, such as recreation, culture, and religion, but only about 55 percent in social security.

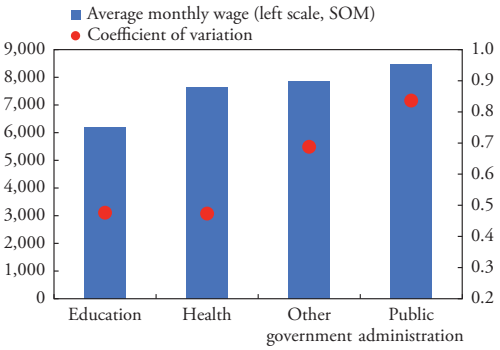
[6]Allowances reward seniority, education, or the difficulty of working conditions.

Annex Figure 2.8. Kyrgyz Republic: Average Public Sector Wages, 2000–14
(Ratio to average private sector wages)



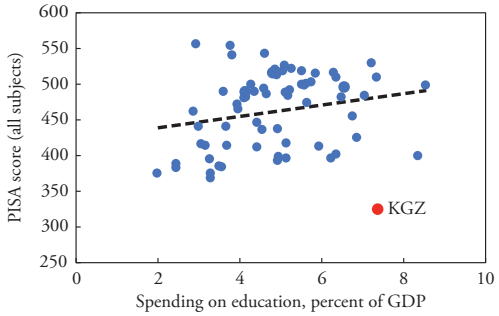
Sources: Country authorities; and IMF staff estimates.

Annex Figure 2.9. Kyrgyz Republic: General Government Wages by Sector, 2014
(Local currency)



Sources: 2014 Combined Household and Labor Force survey, Kyrgyz Republic; and IMF staff estimates.

Annex Figure 2.10. Figure 2a.10. Education Spending and Performance, latest available data
(X-axis: percent of GDP; Y-axis: units)



Sources: Country authorities; IMF, World Economic Outlook database; and IMF staff estimates.
Note: KGZ = Kyrgyz Republic; PISA = Programme for International Student Assessment.

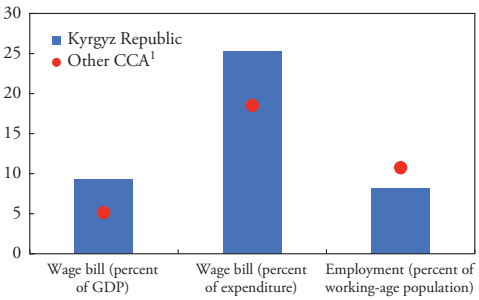
The education and health sectors absorb the largest share of the wage bill, yet the outcomes of education and health service delivery are uneven (Annex Figures 2.8–2.10). Despite the large amount of spending, outcomes in education are poor as indicated by the Programme for International Student Assessment (PISA) scores below. Outcomes in the health sector are comparable to those in the Kyrgyz Republic's peers, but there is room for containing costs. The wage premium to work in the public sector is negative, and the level of wages across sectors varies considerably. The highest average wage is paid to government employees working in public administration, the lowest to employees in the education sector. Compared with the private sector, medical staff in the public sector appear to have the highest wages, while the opposite holds for teachers and other government workers.

Trends and Issues

Overall public spending on wages is high and has been rising since 2011 (Annex Figure 2.11). Increases in compensation have been the main driver behind the rising public wage bill rather than increases in employment. Average public wages have grown at a rate much faster than inflation. Specifically, wages in education grew the fastest, albeit catching up from a low base, followed by wages in the health sector; in other sectors they

were close to inflation. In addition, a wage drift, such as seniority-related increases, estimated at 1.7 percent a year, has contributed significantly to public wage growth.

Annex Figure 2.11. Benchmarks for Wages and Employment, 2015
(Percent of GDP; unless indicated otherwise)



Source: IMF, FAD Expenditure Assessment Tool (EAT), excluding Uzbekistan.
Note: CCA = Caucasus and Central Asia.
[1]Countries are Armenia, Azerbaijan, Georgia, Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan.

Notwithstanding the 2011 reforms, a comprehensive approach to public wage bill management is lacking. The wage bill has surged due to discretionary increases in compensation, which makes it difficult to manage public wage bill spending and even more difficult to contain it. The country lacks a clear policy framework for setting public wages and employment and, more broadly, a medium-term strategy for its civil service. This reflects in part the absence of systematic information on government employment and compensation, particularly a comprehensive registry of public employees. Medium-term fiscal planning has been in place since 2009, but there is no link between medium-term wage policies and the budgeting process. The lack of a human resource management information system is also an impediment to proper public wage bill management. With each service delivery unit being responsible for its own payroll management, control over overall public payroll is weak.

Given its high debt level, the country needs to create fiscal space to avoid crowding out expenditure, promote inclusive growth, and build up buffers for unforeseen future shocks. Fiscal consolidation is necessary to keep the country's debt sustainable. Containing the public wage bill is one of the most important elements of the consolidation program because the public wage bill is rising without producing the desired public service outcomes, especially in education. In that area, increasing access to postsecondary education and vocational training would be key to reducing skills mismatches and boosting the country's medium-term growth prospects (Said, forthcoming).

Reform Challenges and Lessons

Given the rising trend in public wage bill spending, the authorities decided to take action in 2016. In the context of the latest Extended Credit Facility arrangement, which started in 2014, IMF staff members have been supportive of the authorities' initiative to reduce the public wage bill as a share

of GDP and have included this measure in the program's conditionality. Although some basic measures, such as hiring or freezing salary increases, can deliver wage bill adjustment in the short term, over a longer horizon, only structural measures can put spending on a sustainable path. The main objectives of structural wage bill reforms are to enhance efficiency and control wage spending, get wage policies in sync with overall fiscal targets, and increase the predictability of wage dynamics. The IMF recommended several short- and medium-term measures to achieve the wage bill reduction without having to lay off employees or cut wages, including (1) only partially replacing departing workers, (2) limiting growth of allowances and bonuses as well as of base salaries to inflation, and (3) suspending seniority-based allowance and promotion increases.

The authorities recently designed an action plan to reform the staffing and remuneration policy, which is expected to reduce the public wage bill over 2016–19. The first step envisaged under the action plan is to create an inventory of all employees along with their wages and allowances. This should help identify and eliminate inconsistencies in the overall remuneration. Next, the authorities plan to conduct a functional analysis of the different sectors to streamline the number of employees and identify outsourcing options. The last stage of the reforms includes the development of an automated system, which is expected to be integrated with the financial management information system to control and manage the wage bill efficiently.

So far, progress in reforming the public wage bill has been slow, and tangible results have not yet materialized. Since 2017 was an election year, , reforms in this sensitive area have lacked traction. Experience from other countries shows that political will at the highest level is key for successful implementation of a challenging reform agenda in the area of public wage bill management. In addition, to be successful, reform should be comprehensive, well-sequenced, and coordinated, with a carefully thought-out communication strategy.

Tunisia[7]

Since 2011, Tunisia has made great strides politically, yet economic progress has lagged—slow job creation, high unemployment, and security threats (terrorism and the conflict in Libya) have added fuel to social discontent. Macroeconomic vulnerabilities have been rising as low growth, exogenous shocks, and policy slippages have led to high fiscal and external deficits and accumulating debt. One of the main factors contributing to the deficits has been Tunisia's rapidly expanding wage bill: today it stands at 14.1 percent of GDP, representing about two-thirds

[7]Prepared by Robert Blotevogel. The case study draws on IMF 2016b.

of tax revenue and about half of total expenditure. The government intends to comprehensively reform the civil service to reduce the wage bill to 12 percent of GDP by 2020, based on wage restraint, limits on recruitment, and voluntary head count reduction.

Institutional Background

The central government wage bill is the largest spending category of the budget, accounting for about half of total expenditure. The Parliament's annual budget law contains the central government wage bill, covering wage spending by central administrative units, executive agencies, and other agencies that depend on budget financing. It excludes the wages of local governments and state-owned enterprises.

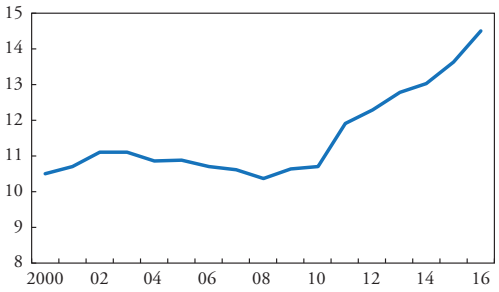
Collective bargaining determines wages in the public sector. The Union Générale Tunisienne du Travail (UGTT)—the umbrella organization of sectoral unions—negotiates on behalf of all public employees with the government, typically over a three-year period. In addition, sectoral unions negotiate in a decentralized manner sector-specific pay with line ministries and the government. Since 2011, the bargaining process has led to several exceptional pay increases to respond to social tensions.

Recruitment is based on competitive procedures. The Statute of the Public Service mandates a competitive and centralized recruitment process (*concours*) for entry into the public service (Assemblée Nationale, 1998). However, recruitment became more decentralized since 2011, as line ministries and agencies hired directly, effectively bypassing competitive recruitment processes. New recruits are hired on a permanent basis, after an initial internship of one year (new graduates and contractual workers) or two years for all other civil servants. Overall, hiring tends to be based on ad hoc requests instead of a systematic evaluation process that assesses personnel needs.

The current framework does not adequately support redeployment nor encourage mobility. A law authorizing redeployment was passed in 2014, but the implementing regulations have met with significant resistance from unions.

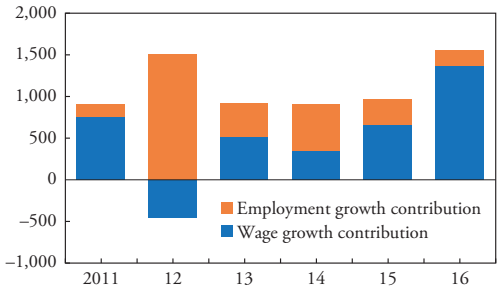
Tunisia's public sector compensation system is complex. It combines a base salary with numerous allowances, which vary according to employees' professional group, category or unit, and rank. Allowances make up about 60 percent of average pay. All public servants receive common allowances, such as for mileage and family members, and a performance bonus. Some allowances are specific to various professional groups and statutes and others

Annex Figure 2.12. Tunisia: General Government Wage Bill, 2000–16
(Percent of GDP)



Sources: Country authorities; and IMF staff estimates.

Annex Figure 2.13. Tunisia: Contribution to Yearly Wage Bill Growth, 2011–16
(Thousands of dinars)



Sources: Country authorities; and IMF staff estimates.

apply on special occasions (such as religious holidays and the beginning of the school year).

Promotions are largely based on seniority, making them almost automatic. Public employees automatically advance a level within their grade based on a timetable defined for each professional group (usually 1–2 years). The annual performance rating lacks transparency: the assessment often reflects personal sentiment instead of a transparent comparison of achievement of previously agreed on work objectives.

Trends and Issues

Tunisia's wage bill increased to 14.1 percent of GDP in 2016 (from 10 percent in 2010) and is now among the highest in the world (Annex Figure 2.12). Tunisia's public wage bill has traditionally been high because governments used public sector employment as a means of distributing public resources and securing political support. After 2011, this trend became more pronounced when successive governments resorted to hiring and wage increases, partly in response to social pressure. Annex Figure 2.13 decomposes the increase in the wage bill since 2011 into contributions from employment and wages. The figure suggests that the authorities' policy response since the revolution went through two phases:

- Strong recruitment (2011–14). In the years following the 2011 revolution, the number of employees in the civil service rose from 430,000 to about 590,000 by the end of 2015, an increase of about 35 percent.[8] Hiring reflected in large part social demands to improve the status of contractual

[8]A negative contribution in 2012 reflects a decline in average wages in the civil service owing to the recruitment of less-qualified workers at lower wages.

workers and compensate families of political opponents. Hiring slowed in 2015, except for more security personnel as Tunisia stepped up its efforts against terrorism.

- High real wage increases (2015–16). The government and the influential labor union UGTT agreed on several wage settlements for all civil servants, the most recent one covering 2016–18. In addition, specific professions benefited from additional improvements in pay and conditions. As a result of the multitude of wage settlements, average nominal wage growth in the civil service reached 12 percent in 2016, about 7 percentage points above the average inflation rate. Yet the average increase conceals significant differences across civil servants. For example, primary school teachers received pay increases of 11 percent, whereas medical doctors saw increases of only 5 percent.

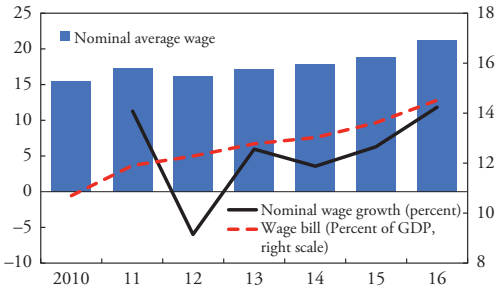
Significant wage premiums arose in the public sector. The overall public sector wage premium compared with private sector wages was about 20 percent, based on detailed household salary information drawn from the 2012 labor force survey. At 34 percent, the wage premium was even higher for employees of state-owned enterprises. Split across levels of education, the wage premium is highest for university graduates and close to zero for workers without a high school diploma. In fact, the public sector (including state-owned enterprises) employs a disproportionate share of university graduates; attractive jobs in the private sector remain too rare. About 30 percent of university graduates are officially unemployed (twice as many as the national average), often waiting for an opportunity to enter the public sector and earning meager wages in the informal economy in the meantime. The positive wage premium therefore reflects Tunisia's unemployment challenge.

Strong growth in government employment and compensation has been associated with a decline in productivity and negative spillovers to the private sector (Annex Figures 2.14–2.16). Labor productivity in the civil service (measured as value added per worker) declined by about 10 percent between 2010 and 2015. The productivity slump is related to strong hiring during 2011–13, especially for low-skill jobs. Tunisian graduates tend to continue to prefer a career in the civil service over a job in the private sector. The resulting high reservation wages tend to slow entrepreneurial initiative, dent overall competitiveness, and contribute to the slow pace of job creation in the private sector.

Reform Challenges and Lessons

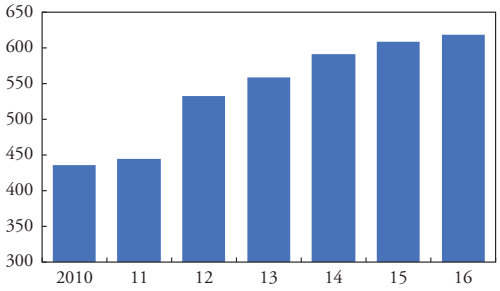
The authorities have expressed commitment to bring down wage bill spending to 12 percent of GDP by 2020, with the aim of channeling freed-up

Annex Figure 2.14. Tunisia: Nominal Wages, 2010–16
(Thousands of dinars; unless indicated otherwise)



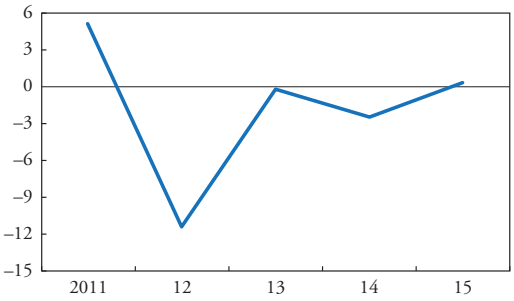
Sources: Country authorities; and IMF staff estimates.

Annex Figure 2.15. Tunisia: Public employment, 2010–16
(Thousands of people)



Sources: Country authorities; and IMF staff estimates.

Annex Figure 2.16. Tunisia: Productivity Growth in Public Sector, 2011–15
(Percent)



Sources: Country authorities; and IMF staff estimates.

resources to priority public investments that stimulate inclusive growth. Wage restraint is expected to deliver about half of the total adjustment. The recently adopted comprehensive civil service reform strategy contains the following priorities:

- Wage setting: When the current wage agreement expires in 2019, the government intends to consider civil service wage increases only if economic growth outperforms the current forecast. Equally important, the government will simplify the compensation system to reduce the number of profession-specific bonuses and allowances (currently more than 100 regimes exist).
- Hiring control: The number of people hired fell below the number of retirees in 2017, leading to a permanent reduction in head count. In 2018, the government plans to implement a hiring freeze. The office of the Head of Government will have full control over all hiring decisions in line ministries, ensuring consistency between personnel plans at the departmental level and central government objectives.
- Departure programs: The government has committed to identifying up to 25,000 employees during 2017–18 who are willing to leave the civil service, which will save the public wage bill about 0.4 percent of GDP. Two types of departure programs are planned: (1) A voluntary separation program for employees younger than 57 will offer a compensation package in return for permanently leaving the civil service (the authorities are currently seeking financing for the one-off costs). (2) An early retirement program for workers 58 and older will advance by one or two years the date of

retirement. Unlike the voluntary departure program, the early retirement program will not lead to significant net savings over time as higher pension transfers will offset the savings in wages.

- Human resource management: Functional reviews of the main ministries will systematically identify areas for efficiency gains. A dashboard, fed by a modern information technology system, will monitor the allocation of human resources across ministries and functions. Finally, the creation of *la haute fonction publique* will improve performance management and recruitment for strategic positions in the civil service.

Reforming the civil service will require overcoming economic and political obstacles. Tunisia's economy currently suffers from high unemployment, slow job creation, and strong social pressure to improve living conditions quickly. In this environment, many stakeholders question the rationale for reducing the role of the civil service as the country's most stable employer. Many Tunisians fear that less employment in the public sector will add to unemployment, exacerbating the already difficult social climate. Forthcoming comprehensive civil service reform must therefore coalesce into a broad coalition in favor of the reform. For that reason, the reform will emphasize the expected improvements in public service quality and the gains from higher public investment, including in the form of more jobs in the private sector.

United Arab Emirates[9]

A key goal of the UAE National Agenda is a more diversified and productive economy supported by a skilled and healthy population. To distill lessons from international experience, it is crucial to consider the Emirates' special characteristics, including a relatively young population, a large share of migrants in the labor force, and the importance of the private sector in the provision of health and education services. Accounting for these characteristics, the analysis suggests that (1) better educational outcomes are possible while containing costs, (2) a gradual increase in public resources for health care may be necessary to reach the Agenda's goals, and (3) equitable outcomes require coordination to equalize education and health care standards and outcomes across regions and systems.

Education

Public expenditure on education is high relative to Organisation for Economic Co-operation and Development (OECD) peers. Education spending is estimated at 1.6 percent of GDP a year. Although at first glance this seems low compared with the OECD average of 4.5 percent of GDP, a proper com-

[9]Prepared by Mauricio Soto, based on the *Selected Issues Paper* for the IMF 2017 Article IV Consultation.

Annex Table 2.1. Public Education Spending

		Adjustment for private sector size and demographics					
	Public education spending (percent of GDP)	Percent of students in private education	School-age population to population 20–64 years old	Adjusted public education spending (percent of GDP)	Expenditure per student ($)	Students per teaching staff	PISA scores (average of science, reading, and math)
UAE	1.6	69	17	1.6	22,055	13	433
OECD average	4.5	16	29	0.9	9,052	14	492
Denmark	6.1	3	31	0.8	11,838	12	504
Finland	5.6	2	28	0.7	11,046	12	523
Norway	6.2	15	31	0.7	15,310	10	534

Sources: UAE Ministry of Education; Organisation for Economic Co-operation and Development; and IMF staff calculations.
Note: OECD = Organisation for Economic Co-operation and Development; PISA = Programme for Interational Student Assessment; and UAE = United Arab Emirates.

parison requires adjusting for large differences in the role of the private sector (in the United Arab Emirates, 80 percent of primary and secondary students are enrolled in private institutions compared with 31 percent in OECD countries) and demographics (in the Emirates, the school-age population is 17 percent of the working-age population compared with 29 percent in the OECD) (Annex Box 2.1). Accounting for these differences, the United Arab Emirates spend more on public education than the most generous OECD countries (Norway, Denmark, Finland). Expenditure per student is above $22,000, more than twice the average in OECD countries (Annex Table 2.1).

However, education outcomes are substantially lower than those in the OECD peers. The considerable resources devoted to education have not yet translated into strong outcomes. For example, the UAE's PISA scores are at the bottom of those in the OECD economies. Importantly, in all subjects, more than 40 percent of students are at or below level 2—a proficiency level deemed by the OECD as necessary to participate fully in a globalized world.

Going forward, the challenge is to address the performance gap within the same resource envelope while ensuring equitable outcomes. In the United Arab Emirates' institutional context, the Ministry of Education sets the broad national guidelines and regulations and administers public schools in Dubai and the Northern Emirates; the Abu Dhabi Education Council (ADEC) manages public schools and oversees private schools in Abu Dhabi; and the Dubai Knowledge and Human Development Authority is responsible for the quality of private education in Dubai.

- *Increasing the efficiency of education spending:* The performance gap is not explained by expenditure levels. As a share of GDP and in terms of inputs (student-per-teacher ratios are comparable to the OECD levels), the United Arab Emirates are well positioned to achieve strong outcomes. Ongoing initiatives could help bridge the performance gap without raising costs by implementing new quality standards for teachers and schools, developing

curriculums, introducing a common framework for school evaluation, and promoting science, technology, engineering, and math as well as innovation. As performance monitoring is enhanced, granting greater autonomy to schools could be considered.

- *Ensuring equitable outcomes:* The education system is largely divided between the types of providers (public schools with 27 percent of students, private schools with the rest), curriculum (Ministry of Education or international), and jurisdiction (Abu Dhabi with 35 percent of the students, Dubai and the Northern Emirates with the rest). The fragmentation of the education system risks causing disparities in outcomes. For example, in Dubai, private schools that follow international curricula perform better on the PISA tests than private or public schools that follow the Ministry of Education curriculum. Furthermore, even within public schools, there are substantial differences: average spending per student is estimated to be 50 percent higher in the ADEC public schools than in other public schools. Furthermore, differences in gender outcomes are rising among nationals, with lower rates of secondary school graduation and postsecondary enrollment for males. It is crucial to continue monitoring the evolution of these outcomes, aiming to lift all boats. To this end, the establishment of a national exam (piloted in 2017 and planned to be adopted in 2018) should help monitor the evolution of performance across jurisdictions (Abu Dhabi, Dubai, and other Emirates) and systems (public/private).

Health Care

Public health care expenditures have been rising but remain lower than in OECD peers. Public health care expenditures in the general government increased by more than 0.5 percentage point of GDP during 2011–16, largely reflecting efforts by the government of Abu Dhabi to improve the health care infrastructure. Overall, the World Health Organization estimates public health expenditures at 2.6 percent of GDP, substantially below OECD peers, even after accounting for the younger population in the United Arab Emirates (Annex Box 2.1). At nearly $1,500 a year, total health expenditures per capita are also below the $3,800 OECD average (about $2,200 adjusted for demographics) (Annex Table 2.2).[10]

Fiscal pressure associated with health care is likely to rise. Better health care outcomes call for higher inputs, including raising the number of doctors and nurses over time. To approach OECD levels, this would cost as much as 1.3 percentage point of GDP over the next few years. A gradual approach is warranted given fiscal and implementation constraints, and additional resources must demonstrably improve outcomes. Nevertheless, the

[10]The analysis does not distinguish between nationals and expatriates.

Annex Table 2.2. Public Health Spending

		Adjustment for demographics							
	Public health spending (percent of GDP)	Share of population age 0–4	Share of population age 60 and older	Adjusted public health spending (percent of GDP)	Total health expenditure per capita ($)	Doctors (per 100,000 population)	Nurses (per 100,000 population)	Healthy life expectancy (years)	Infant mortality (per 100,000 births)
UAE	2.6	5.4	2.3	2.6	1,478	253	316	68.3	5.9
OECD	6.8	5.8	22.1	3.9	3,779	329	841	71.6	4.8

Sources: World Health Organization; United Nations; and IMF staff calculation.
Note: OECD = Organisation for Economic Co-operation and Development; and UAE = United Arab Emirates.

gap in outcomes and expenditures compared with OECD countries highlights the importance of protecting health care expenditures during fiscal consolidation.[11]

Achieving greater integration across health care models could improve service delivery. Currently, the health care system is a mix of a mandatory health insurance model (in Abu Dhabi and Dubai, including special insurance plans for government employees and nationals) and a government-funded model (in the Northern Emirates). A more integrated system could prevent future health care disparity and avoid duplication of services. Integration could be achieved through better coordination by insurers and service providers across regions and eventually by a national insurance market. To this end, plans for separating the regulatory and service provision arms of the Ministry of Health would be a step in the right direction, similar to those in the education sector (Italy, Sweden, and the United Kingdom also separate such roles).

Enhancing monitoring and oversight is crucial to unlock the potential for a universal insurance model at an affordable cost. Robust regulation can help maintain proper standards across public and private service providers. To contain the growth of health care costs, efforts to increase *price transparency* and implement episode-based payment, which bundles payments to providers by medical conditions, can increase the efficiency of service delivery. Promoting the use of *health information technology,* which allows for data sharing across insurers and providers, and benchmarking costs would also be useful. In the medium term, reviewing the *incentive and payment structure for public providers* would contain fiscal costs and improve the quality of care. Today, public providers receive a budget allocation for current and capital expenditure. Over time, these allocations could be linked to indicators of quantity and quality of care to place public providers on the same footing as private providers. Care must be exercised when considering the use of public-private partnerships to finance health care initiatives. The Ministries of Finance and Health could develop an inventory of all such partnerships, clearly identifying existing commitments and the exposure of the government (for example, through demand guarantees).

[11]Health care expenditures must be protected in order to improve health outcomes and because of demand drivers in the local population, such as population growth and aging, and the emergence of so-called lifestyle diseases, which are likely to put more demands on the health care system over time.

Annex Box 2.1. Education and Health Care Adjustments

Public education in percent of GDP can be expressed as the product of expenditure per student to GDP per working-age population, public enrollment to total enrollment, enrollment to school-age population, and school-age population to working-age population (A2.1).

$$\frac{\text{Public education spending}}{GDP} = \frac{\frac{\text{public education spending}}{\text{public school enrollment}}}{\frac{GDP}{\text{pop. } 20\text{–}64}} \times \frac{\text{public school enrollment}}{\text{total enrollment}} \times \frac{\text{total enrollment}}{\text{pop. } 5\text{–}19} \times \frac{\text{pop. } 5\text{–}19}{\text{pop. } 20\text{–}64} \qquad \text{(A2.1)}$$

Following this identity, it is possible to adjust the OECD expenditure to account for differences in public school enrollment (multiplying expenditure by the ratio of public school enrollment in the United Arab Emirates to that in the OECD) and demographics (multiplying this result by the ratio of the school-age to working-age population in the United Arab Emirates to that in the OECD). That is, 4.5 percent of GDP X 30.7/84.4 X 16.5/28.8 = 0.9 percent of GDP. This adjusted expenditure is a counterfactual, interpreted as the level of public education expenditure the average OECD country would have assuming similar private school coverage and a demographic profile similar to that in the UAE.

Public health spending in percent of GDP can be expressed as the product of health spending per capita for the population ages 40–44 to GDP per capita and the sum of the product of the share of the population in each age group and the ratio of health spending per capita of that group to the health spending per capita for the population ages 40–44 (A2.2).

$$\frac{\text{Public health spending}}{GDP} = \frac{\frac{\text{health spending (age 40–44)}}{\text{pop. } 40\text{–}44}}{\frac{GDP}{\text{population}}} \times \sum_{i=0-4}^{i=95-100} \left(\frac{\text{population (age } i)}{\text{total population}} \times \frac{\frac{\text{health spending (age } i)}{\text{population (age } i)}}{\frac{\text{health spending (age 40–44)}}{\text{population (age 40–44)}}} \right) \qquad \text{(A2.2)}$$

Using this identity, it is possible to control for the different demographic profiles of the UAE and OECD countries. This can be done by changing the demographic profile (the share of the population at each age group, corresponding to the first term in the sum in (2)). Using the UAE's demographic profile would reduce health spending from 6.8 to 3.9 percent of GDP. This adjusted expenditure is a counterfactual, interpreted as the level of public health care expenditure the average OECD country would have assuming demographic profile to that in the UAE.

Annex 3. International Experience with Public Wage Bill Reforms

This annex summarizes country experiences with reforming public wage bills based on case studies undertaken by the IMF and the World Bank in the context of technical assistance, country surveillance, or IMF-supported programs (see IMF 2016b). Examples presented in the table below cover both short-term employment and compensation measures, as well as structural and institutional reforms of public wage bills. The overall outcome of these reforms is difficult to quantify because it depends on country-specific factors—such as hiring practices, type of wage indexation, and the age structure of public employees. In addition, the overall economic conditions may substantially alter the impact of wage bill reforms as, for example, wage freezes generate larger savings in a highly inflationary environment. Finally, because the reforms of the wage bill are typically introduced as a package of measures—affecting both public sector wages and employment—the contribution of individual measures is difficult to quantify.

In almost all countries covered, the key motivation for reforms stemmed from high levels and/or fast growth in public wage bill spending, which was crowding out other spending and threatening to undermine fiscal sustainability. Controlling for skills, education, and other characteristics, a high and persistent public-private pay gap also had to be addressed in some countries (Honduras, Ireland, Jamaica).

Slowing growth in public wage bills required identifying and addressing the country-specific practices driving it. For example, in France, the public wage bill was growing rapidly, partly reflecting decentralization as well as hiring and promotion practices at the local level, while in Jamaica the main reason was excessive reliance on contractual and temporary workers, who comprised a significant share of the government workforce.

When designing reforms, countries across all income groups and regions relied heavily on wage freezes. Control of public sector wages through nominal or real freezes delivered fiscal savings while narrowing the gap between public and private wages (Côte d'Ivoire, Honduras, Ireland, Jamaica, Kenya, Moldova, Netherlands, Portugal, Romania). In Ireland, wage reductions resulted in the wage bill falling by about 4 percentage points of GDP by 2015,[1] but frozen wage scales did not prevent public wages from a significant increase in France. The potential gains from freezing nominal wages and wage scales depend on the size of inflation. For example, wage-bill-to-GDP ratios diminished by less than 0.5 percentage point of GDP in the case of France and the Netherlands thanks to very low inflation rates after 2010. The potential gains from wage freezes are larger in countries with higher rates of inflation. Nevertheless, fully freezing public wages in a highly inflationary environment may dramatically erode the purchasing power of public employees after a few years. However, the extensive use of wage freezes may have made public sector jobs less attractive and undermined the morale of public workers. In addition, wage freezes often led to nontransparent increases in bonuses and allowances and further reinforced distortions in the public compensation system (Côte d'Ivoire, Ghana, Portugal). In several countries (Côte d'Ivoire, Jamaica, Moldova, Netherlands, Portugal, Romania, Senegal) the effect of wage freezes was partly or fully reversed by abandoning these measures and returning to previous practices, such as in Portugal and Romania, where the impact of wage freezes and reductions was reversed by constitutional courts, resulting in recurring wage pressure.

To strengthen control over the wage bill and to provide competitive, equitable, and transparent remuneration, some countries reformed government compensation structures. In Ghana, Portugal, Romania, and Zambia, reforms focused on consolidating allowances and bonuses into base pay and mapping various professional categories and sectors to a common base pay. The implementation of these reforms is typically gradual and requires adequate administrative capacity—and it may also involve up-front wage costs, as happened in Ghana and Portugal. In addition, in South Africa and Romania reforms of compensation structures did not deliver expected reductions in wage pressures.

Some countries consolidated employment levels by limiting new hiring and by relying on attrition-based employment reductions. Over the long horizon, the size of the public sector should develop in line with the size of the population or the working age-population. Temporarily limiting public employment growth to levels below population and/or working-age population growth may significantly reduce the public wage bill in young economies

[1]In addition to significant cuts in the incomes of public employees, the Irish government introduced a public sector moratorium on recruitment, employment control frameworks, and incentivized retirement plans.

whose populations are growing rapidly—for example, Millennium Challenge Account countries. As part of fiscal consolidation efforts, Ireland relied on a public sector moratorium on recruitment and a number of incentivized retirement plans. In France, employment was cut through the introduction of employment caps beginning in 2006 and the implementation of attrition targets (replacing only 1 of 2 retiring civil servants) during 2007–12. Moreover, as many of those measures were phased out or reversed, the wage bill rose slightly again. To attain desired employment levels, governments in Portugal and Romania replaced only a fraction of all retirees, while in Ghana, Kenya, Moldova, and South Africa attrition rules were implemented in specific sectors.

A few countries embarked on public sector restructuring over the past decade. Effective restructuring takes time, requiring technical capacity and strong political will. In Honduras, to strengthen oversight and to identify irregular (ghost) workers, the government implemented a census of public employment, and in combination with wage and hiring freezes, the wage bill declined by about 2.5 percentage points of GDP during 2014–15. In Portugal, the government also made structural changes to improve oversight, address inefficiencies, and increase flexibility in the management of human resources. One important step was the development of a comprehensive government employment and remuneration database in 2011. This enhanced oversight and transparency and became an important tool in identifying inefficiencies and potential areas for reforms.

Strengthening human resource management can reduce the wage bill while improving control over employment and compensation. In Malaysia, the government decided to rebalance the highly centralized human resource management system and to give spending ministries more flexibility over staff management to achieve better outcomes. To examine the pay and working conditions of civil servants and make recommendations on the best practices, a remuneration commission was created in South Africa in 2013. In Honduras, the government implemented a census in 2014, followed by automation of payroll payments to validated workers. In many countries in sub-Saharan Africa, censuses also proved to be key for identifying ghost workers and paved the way for removing them in the 1990s. More recently, new technology, such as biometric monitoring of government employees, has proved effective in identifying ghost workers, as implemented in Kenya and Nigeria. Nevertheless, the process of developing effective payroll management systems can take a long time. As in Jamaica, a full roll-out of a centralized human resource management and payroll system was expected to take 4–5 years. In Portugal, a new wage grid that integrates all careers in a single wage scale and replaces the existing arrangement of over 115 base wage levels and exceptions

was adopted in 2014. Yet the roll-out of the reform has been postponed, and it will not generate savings in the short and medium term.

The short-term impact of the reforms on the size and dynamics of the wage bill was in general positive and significant. Specifically, wage and hiring freezes proved effective in containing growth of the wage bill in the short run. However, the reforms did not provide expected and lasting savings for countries such as Côte d'Ivoire, France, Zambia, and Romania—often because reform was phased out or reversed, as in France, Romania, and Portugal. Country experience suggests that a medium-term approach to wage bill management supplemented by structural reforms of public employment and pay are key for sustaining short-term gains from the reforms.

Annex Table 3.1. International Experience with Public Wage Bill Reforms

	Issue	Measures Implemented	Impact	Lessons
Côte d'Ivoire	- Steadily growing wage bill crowding out other expenditure.	- Medium-term strategy for 2014–20 to lower the wage bill from 44 to 35 percent of tax revenue.	- The measures may not provide sufficient savings in the short term.	- Integrating the administrative and financial management of human resources is key for wage bill sustainability.
	- Increasing public employment in health and education sectors.	- Move from a short-term approach to a more medium-term approach to ensuring fiscal sustainability.		- Medium-term approach to wage bill management can help put the wage bill on a sounder footing.
	- Fragmented management of government compensation and employment.	- Pay in full previous wage commitments, cancel wage arrears, shift some of the pension contribution to the employees, reinstate automatic progression in the wage grid, boost wages for high-skilled staff and priority sectors, reduce recruitment targets, and commit to introducing a new wage grid to address equity issues.		
France	- High wage bill (a quarter of total spending) due to high employment levels.	- Reduce employment by attrition and employment caps.	- Limited employment effect due to policy reversal.	- Decisions on wage increases are made without linkages to the budget process. Greater coordination could facilitate wage bargaining and oversight.
	- Soaring wage bill of local governments due to loose hiring practices and rapid promotions.	- Across-the-board wage freeze.	- Limited impact of wage freezes due to low inflation.	- A more stringent legal control of local governments' employment practices by the central government offices is required.
Ghana	- Expenditure on public compensation increased dramatically in 2008–14 due to introduction of a new wage structure.	- Introduction of a single spine salary structure to increase equity, ensure fiscal sustainability of the wage bill, simplify negotiations and better connect pay and productivity.	- Most of general government employees covered under a common compensation framework.	- The fragmentation of human resource management across services and agencies makes it difficult to advance reforms.
			- Increase in the wage bill to GDP ratio by 2 percentage points.	- The introduction of a new pay scale requires fiscal space.
Honduras	- Wage bill to GDP between 11 to 15 percent of GDP over the past 15 years	- Wage freezes in nominal terms in 2014 and 2015.	- The wage bill declined by 2.3 percentage points of GDP.	- A flexible employment framework is critical to downsizing in the public workforce.
	- High public sector wages, especially in education.	- Elimination of vacancies.	- In sectors other than health care and education more than 80 percent of unfilled vacancies were eliminated.	- The reform agenda needs to be focused on an exit strategy from the short-term measure such as across-the-board freezes.
		- Enhancement of oversight following a census of public employment.	- Identification of irregular (ghost) workers.	
Ireland	- Growing public wage bill between 2000 and 2009.	- Cutting incomes of public employees; moratorium on recruitment and promotion; incentivized retirement schemes; reduction in paid benefits such as sick leave and annual leave; and productivity-enhancing measures.	- By 2015 public sector wage levels have only fallen back to 2005 levels and the wage bill remains high.	- Introducing significant reductions in public sector wages is challenging.
	- Significant positive wage premium in the public sector.			- An agreement on the need for wage reductions was achieved without significant industrial action.
	- Sharp increase in government employment between 2000 and 2009.		- Since 2009, public sector employment levels have fallen and remain below the average of advanced economies.	

(Continued)

Annex Table 3.1. (continued)

Jamaica	- Fluctuating wage bill due to accumulation of arrears that are cleared every few years. - Contractual and temporary workers comprise a significant share of the government workforce. - Significant public-private pay gap.	- Wage freezes between 2010 and 2012. In 2013, an agreement with labor unions to further freeze wages in order to reduce wage spending to 9 percent of GDP. - The filling of vacated posts being reviewed and approved by the Post Operations Committee (the Ministry of Finance and Planning, the Office of Services Commission, and public sector unions).	- The medium-term goal is to keep the wage bill at 9 percent of GDP.	- Hiring restrictions appear to have reduced the relative number of younger full-time permanent employees.
Kosovo	- Fast-growing wage bill due to wage hikes and additional hiring.	- Since 2018, a budget rule to limit the increase in the wage bill to no more than nominal GDP growth.	- Tighter link between the wage bill and overall economic developments.	- Changes in nominal GDP translate into caps on the public sector wage bill with a considerable lag.
Mali	- Steadily increasing wage bill due to increasing recruitment in priority areas and increase in the base pay and allowances. - Compensation payments to civil servants not properly recorded.	- Reforms linking pay to employee performance. - Improved monitoring of public workforce.	- Attempted, but failed, to reform financial incentives for staff from the tax and customs departments. - As of 2016 the outcomes of the staff census not disclosed.	- Vigorous resistance has largely stalled policy reforms on human resource management.
Moldova	- High wage bill at 9 percent of GDP due to high public employment. - Wages low relative to the private sector while affected by a political cycle.	- Short-term measures to contain the wage bill, e.g., postponing wage increases, freezing employment, and cutting permanently vacant positions. In 2012, merit-based promotions and basic salary increases became more formalized.	- Budgetary savings in 2010–11. - The cost of the civil service reform was not trivial. While being lower than the 2009 peak, the total wage bill in 2012 was 0.3 percentage points of GDP higher than the 2011 level.	- Nonstructural reforms can contain the size of the public wage bill only in the short run. - Strong political will is important for the reforms to succeed; most of the reform efforts have been weakened during preelection periods.
Philippines	- Enhanced public service delivery and accountability.	- Replacing across-the-board bonuses to all civil servants with performance-based bonuses.	- The wage bill has gradually decreased since 2011 as a percent of GDP indicating that the introduction of performance-based bonuses was not fiscally costly. - Improved performance at unit and individual levels.	- The system of performance bonuses has improved public service delivery at a low fiscal cost. - The overall view of the performance-based bonus system was positive among government employees. - Measuring performance in the public sector is challenging.
Portugal	- High wage bill due to generous wages. - Organization of civil service characterized by large inefficiencies.	- Across-the-board attrition and cuts in the number of temporary workers. - Introduction of progressive wage cuts and suspension of the 13th and 14th month salaries. - Promotions, performance bonuses and mobility-related salary changes have been frozen. - Single salary scale introduced. - Structural reforms to improved oversight, limit inefficiencies, and increase flexibility in the management of human resources.	- In 2010–2014, the wage bill was reduced by 2 percentage points. - General government employment declined from 14 to 11 percent of the working-age population. - Attrition was the main instrument for employment rationalization.	- These reforms have been largely effective in containing the wage bill. - Wage cuts proved less successful in curtailing compensation spending due to successive adverse Constitutional Court rulings and recent reform reversals.

Romania	- Fast-growing wage bill due to both wages and employment. - Fragmented wage bill management.	- Nominal wage cuts. - Attrition-based reduction in public employment. - Rationalization of nonbase pay, removal of special salaries, discounting payments for overtime work, and elimination of 13th month salaries and holiday bonuses. - Strenghtened wage-setting processes for state-owned enterprises.	- Many of measures were phased out or reversed and the wage bill rose slightly again.	- Structural reforms as well as consistency between policy measures are needed to rein in the wage bill over the medium and long term. - Some of the more drastic measures were ruled unconstitutional. - Beyond legal challenges, the reforms failed to address important distortions in the pay and employment system.
South Africa	- Growing wage bill due to a new compensation framework.	- Employment freezes in 2015 and 2016. - Introduction of a voluntary severance package, combined with attrition and redeployment. - Pension benefits restructured. - Allowances consolidated into the base salary. - Salary scales simplified. - Job categories consolidated.	- Close to a 10 percent reduction in public employment by 1999.	- Political will and social dialogue are key for the success of the reforms. - Across-the-board employment restrictions could yield some savings in the short term, but they are not efficient. - Achieving a rapid and sustainable reduction in the wage bill requires a combination in the wage bill requires a combination of wage and employment measures.
United Kingdom	- Fast-growing wage bill.	- Pay and recruitment freezes. - Reform of pension benefits: raising retirement age, increasing contribution rates, and moving from final salary to career average defined-benefit plans. - Modernized 1 D46 terms and conditions of employee contracts. - Reform automatic progression pay.	- Reforms have been largely successful in controlling the wage bill.	- Having clear policy goals facilitates reforms.
Zimbabwe	- High and fast-growing wage bill due to high employment and wages. - Extensive allowances.	- Hiring freezes. - Nominal wage freeze since 2014. - A number of direct interventions based on salary and employment audits.	- The freeze in positions has not been successful in containing growth in the civil service. Employment has continued to grow as service delivery priorities have overridden the commitment not to increase staff numbers. - Wage growth has been driven mainly by the need to restore public service real wages that were eroded by hyperinflation during the 2000s.	- It is challenging to contain the wage bill while ensuring service delivery. - A clear and credible wage bill target should be anchored in fiscal objectives.

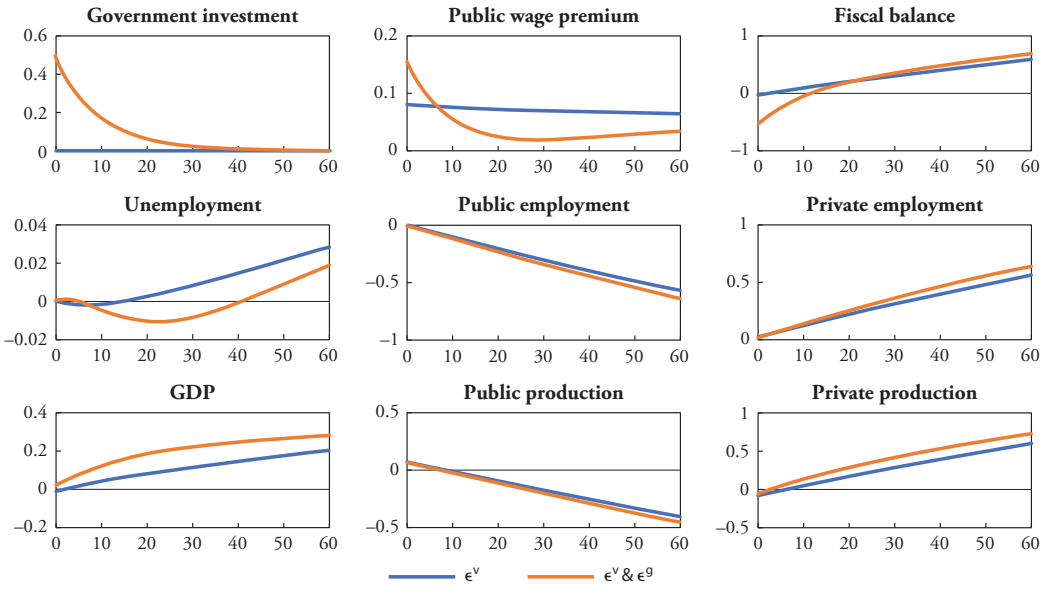
Annex 4. Model-Based Simulations of Public Wage Bill Policies

A small dynamic stochastic general equilibrium (DSGE) model is used to simulate the impact of alternative policies on the labor market, growth, and fiscal position. The model allows the public and private sectors to interact and is a suitable tool for examining the effects of public wage bill policies on the economy.[1] The model has been used to analyze the impact of lower public employment and higher public investment (Scenario 1) and then an increase in private sector productivity (for example, owing to structural reforms) under different public wage-setting rules (Scenario 2).

- Scenario 1—Limiting the number of public vacancies while increasing public investment boosts private sector output and employment. Annex Figure A.4.1 (red dashed line) shows the impact of a policy mix that consists of a permanent decrease in public vacancies by one-fifth and a temporary autoregressive increase in public investment by 0.5 percentage point of GDP. Since public employment decreases following a reduction in public vacancies, unemployment rises. Nonetheless, as both private sector production and employment increase (0.5 percent) in response to higher public investment, most of the unemployed are absorbed by the private sector. Such a policy mix proves to be effective in creating fiscal space in the longer run (0.8 percent) and providing much needed public investment. The outcome of this policy mix is contrasted to an alternative scenario (blue line) in which public vacancies decrease permanently and public investment remains unchanged.

[1]Model simulations presented in this appendix are an outcome from a small DSGE model drawing on Gomez (2015). The model is expanded by search and matching frictions and calibrated to a representative economy in the region. Steady-state levels of labor income tax, the debt-to-GDP ratio, unemployment, public employment and private employment have been set to correspond to those for the Egyptian economy. Parameters characterizing labor market frictions replicate the stylized facts of labor markets in the region.

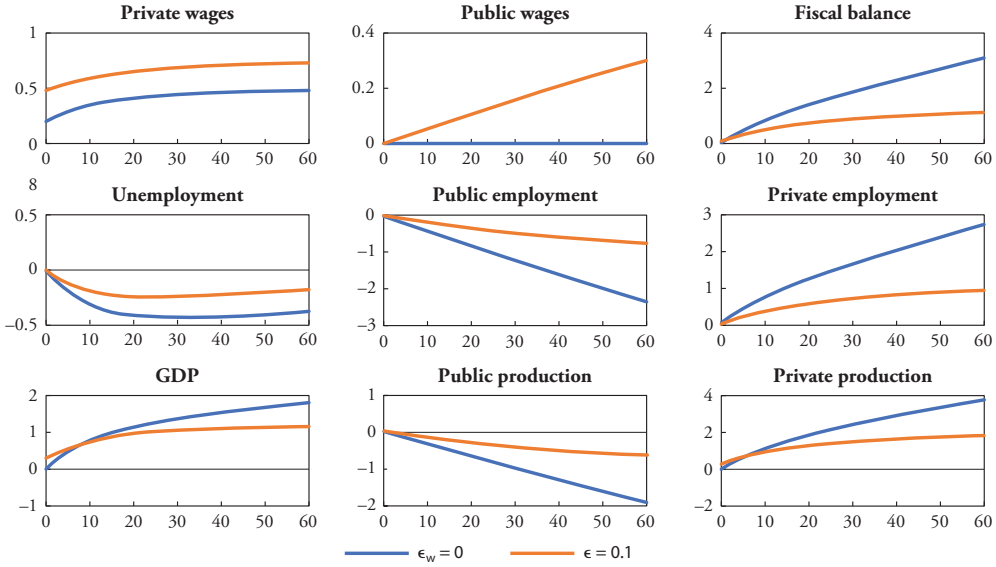
Annex Figure 4.1. Decreasing Public Wage Bills by Lowering Public Vacancies and Increasing Investment through a Temporary Shock to Government Investment



Source: IMF staff estimates.
Note: All variables are reported at monthly frequency, as deviations from the steady state. Unemployment, public employment, and private employment are expressed in percent of the labor force. Public investment and private and public production are in percent of GDP.

- Scenario 2—Higher private sector productivity increases private sector wages, reduces the public wage premium, and motivates the unemployed to search for jobs in the private sector, leading to lower employment in the public sector. The increase in private employment—in response to improved productivity—outweighs the reduction in public employment and leads to lower unemployment (blue line). In addition, lower public employment translates into a lower public wage bill and improved overall fiscal position. However, in a special case when wages in the public sector are set to protect the size of public wage premiums, wages in the public sector follow wage developments in the private sector but also influence their development (yellow line). While such a wage-setting rule helps smooth out responses of public wages and other economic variables over time, it might lead to a spiral of ever-increasing public and private wages.

Annex Figure 4.2. Different Public Wage Rules in Response to a Permanent Positive Shock to Private Private Sector Productivity

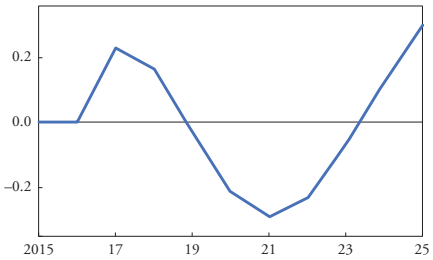


Source: IMF staff estimates.
Note: All variables are reported at monthly frequency, as deviations from the steady state. Unemployment, public employment, and private employment are expressed in percent of the labor force. Public investment and private and public production are in percent of GDP.

Annex Box 4.1. Simulating Complementary Policies to Public Wage Bill Management Policies

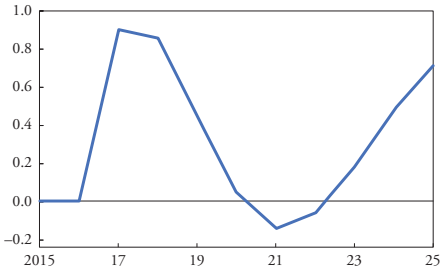
This box investigates economic effects of public wage bill policies using the Global Integrated Monetary and Fiscal (GIMF)[1]model of the IMF calibrated to Saudi Arabia.[1] Scenario 1 presents the impact of a mix of two policies—decreasing the number of public vacancies and increasing the level of public investment—with a neutral impact on the overall fiscal balance. Scenario 2 presents the same mix of policies complemented by an increase in targeted social transfers to liquidity-constrained households.

Annex Figure 4.1.1. Real GDP
(Percent difference)



- Scenario 1—*A decrease in public employment* is accompanied by *a budget-neutral increase in public investment* of 1 percentage point of GDP. The two policy measures have the opposite impact on the economy. On the one hand, higher public investment translates to a larger stock of public capital, which enhances private sector productivity and increases GDP. On the other hand, reduction in public employment reduces real GDP. Specifically, in the short run, higher public investment (1 percentage point of GDP) leads to real GDP that is above the baseline level by 0.2 percent. In the medium term, real GDP falls below the baseline level mainly due to lower employment in the public sector. However, the long-run effect of these two policy measures turns positive as real GDP reaches levels above the baseline mainly due to faster accumulation of public capital.

Annex Figure 4.1.2. Real GDP
(Percent difference)



- Scenario 2—In response to negative effects of lower public employment and higher unemployment, the government introduces *social transfers targeted to liquidity-constrained households* (1 percentage point of GDP). Compared with Scenario 1, the negative adjustment in real GDP—due to lower public employment—is less dramatic thanks to larger public spending in the form of targeted transfers. However, the higher real GDP is accompanied by a permanent deterioration in the overall fiscal balance by 1 percentage point of GDP.

[1]The GIMF model is a finite horizon DSGE model augmented by sticky prices and wages, real adjustment costs, the presence of liquidity-constrained households that all imply an important role for fiscal policy. For details, see Kumhof and others 2010 and Anderson and others 2013.

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