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ALGERIA

SELECTED ISSUES

June 2018

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ALGERIA

SELECTED ISSUES

May 15, 2018

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CONTENTS

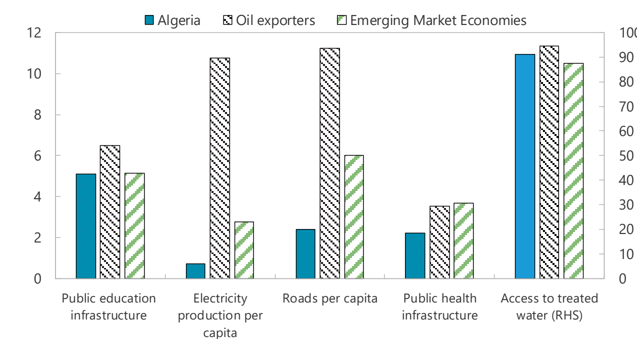
IMPROVING PUBLIC SPENDING EFFICIENCY TO FOSTER MORE INCLUSIVE GROWTH[1]

Fostering more inclusive growth in a sustainable way requires addressing Algeria's long-standing structural issues that have led to persistently high unemployment, weak private sector job creation, and insufficient quality of public services. To help reverse this situation, particularly in an environment of dwindling financial resources, Algeria should improve the efficiency of public spending, including through strengthening public wage bill and investment management. This would enable the country to increase the return on investment in human capital and infrastructure, and improve the quality and reach of public service delivery. It would help ensure that the public sector fosters private sector activity rather than competes with it. Additionally, such a step may enable Algeria to more effectively implement much-needed fiscal consolidation.

A. Background

1. **The social unrest and economic challenges of the 1990s left Algeria with significant infrastructure gaps and social needs.** The period resulted in over 100,000 deaths, a mass exodus of the civilian population from villages to big cities, and important damage to infrastructure.[2] At the same time, the government had limited financial means to deal with this situation, given the severe macroeconomic imbalances resulting from the oil price crash in 1986. By the end of the 1990s, as Algeria succeeded in restoring macroeconomic stability, important infrastructure gaps existed compared with peers and other emerging economies, especially for roads and electricity production. Meanwhile, access to public services, such as health and education, was significantly below peers.

Measures of Infrastructure Access[1]
(1990s Average)



Sources: World Development Indicators; and IMF staff calculations.
[1] Units vary to fit scale. Left hand axis: Public education infrastructure is measured as secondary teachers per 1,000 persons; Electricity production per capita as thousands of kWh per person; Roads per capita as km per 1,000 persons; and Public health infrastructure as hospital beds per 1,000 persons. Right hand axis: Access to treated water is measured as percent of population.

2. **This experience largely shaped public spending policy in the following decades.** Since the end of the 1990s, Algeria has made massive investments in health and education in response to the pressing needs of its people, while also working to close large infrastructure gaps. Public investment has been about 20 percent of nonhydrocarbon GDP on average since 2000, much larger than in comparator countries. Reflecting the country's policy priorities, Algeria allocated on average

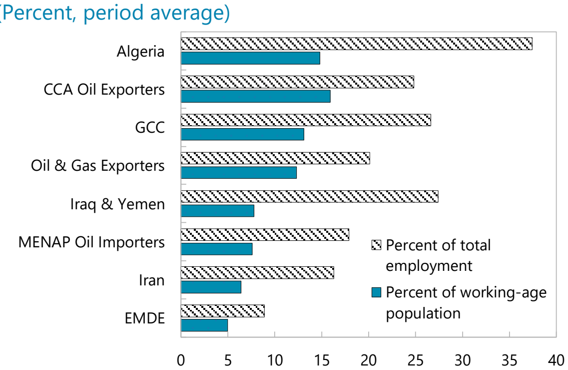
[1] The paper benefited from comments and suggestions by Racheeda Boukezia (FAD), Jose Diaz Sanchez, Ali Souag, and Fulbert Tchana Tchana (all World Bank).

[2] About 1.5 million Algerians fled their villages between 1993 and 1997 (Martinez, 2004).

about 70 percent of public investment to economic (that is, roads, ports, rails, airports and power and energy) and social infrastructure (such as housing, health, education, and recreation and culture). With the role of the state being traditionally dominant in the economy, public investment became an engine for growth, and public employment absorbed the growing labor force. By 2017, public employment was 40 percent of total formal employment, with central government workers alone accounting for about 20 percent of the total formal employment.

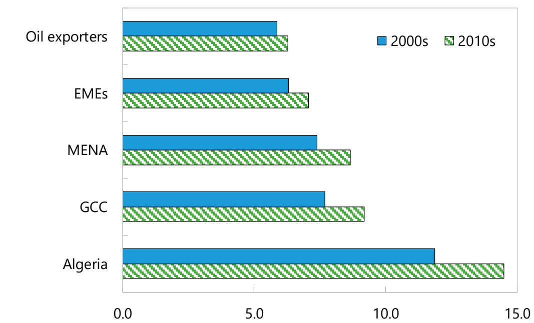
Figure 1. Algeria: Selected Indicators for Public Spending Policy

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



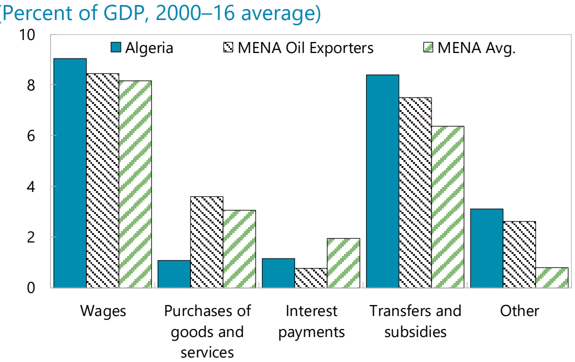
Sources: ILO; and Algerian authorities.

Public Investment
(Percent of GDP)



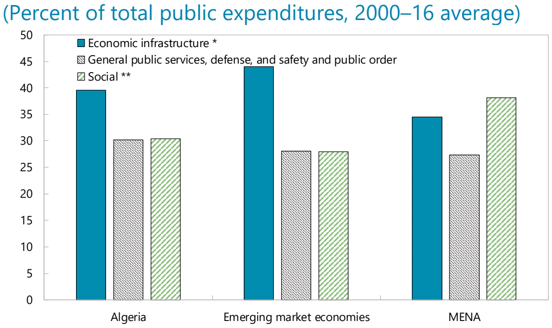
Sources: Algerian authorities; and IMF staff calculations.

Composition of Current Spending
(Percent of GDP, 2000–16 average)



Sources: IMF WEO, REO October 2017.

Public Investment by Function
(Percent of total public expenditures, 2000–16 average)



Sources: Country authorities; and IMF staff calculations.
*Social comprises public investment in education, health, housing, social protection, and recreation and culture.
**Economic infrastructure comprises investment in power and energy, roads, airports, and rails.

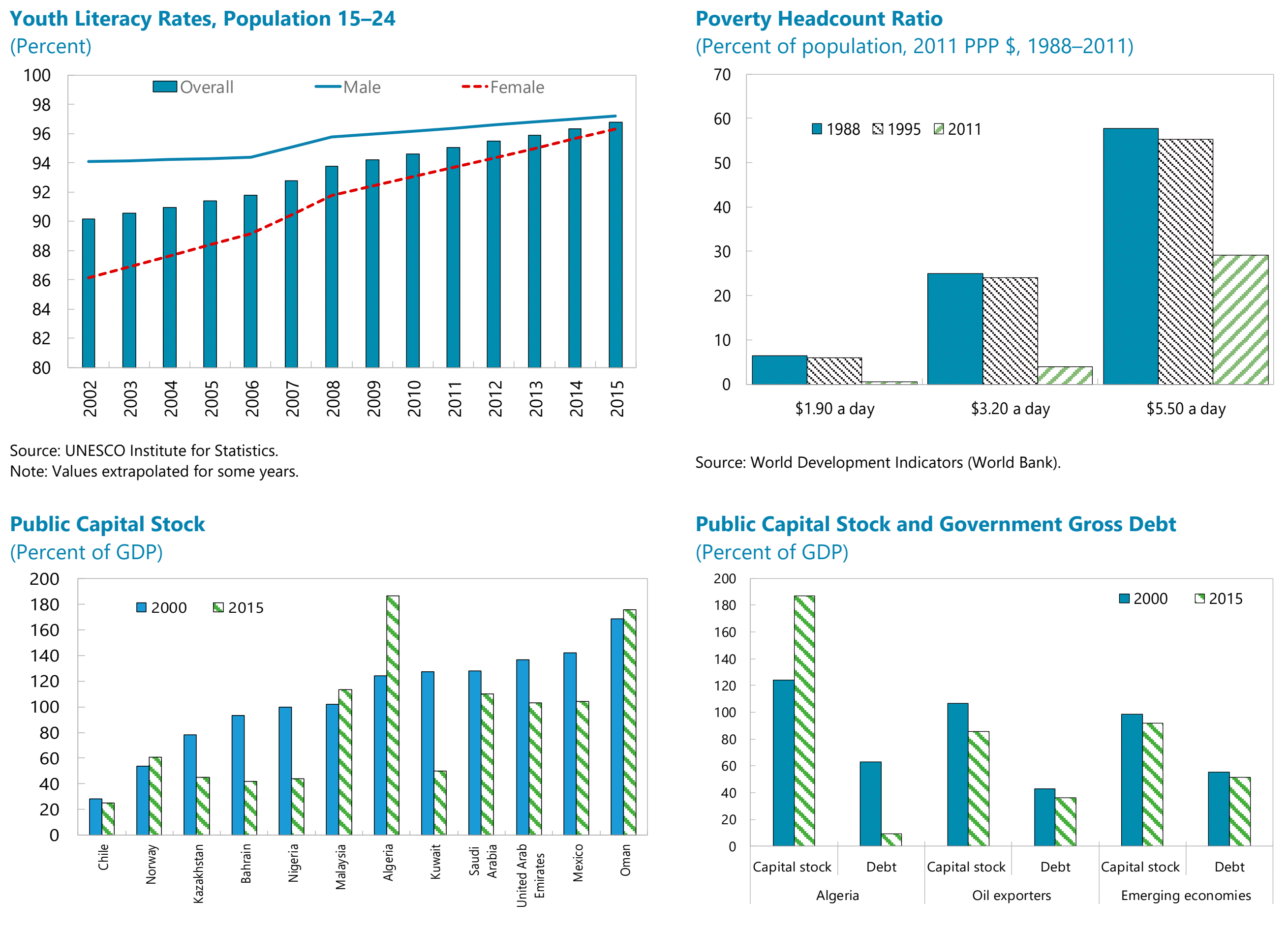
3. Thanks to these policies, Algeria has made significant progress on numerous socio-economic indicators. Social outcomes have improved in several dimensions: school enrollment has increased for both men and women; extreme poverty (measured as the share of population living below $1.25 per day)[3] was significantly reduced from 6.4 percent in 1995 to 1.5 percent in 2011; the Gini coefficient is low (at 38 percent); and under-five mortality rates went from 47 per 1,000 births in 1990 to 25 in 2013. The country's Human Development Index[4] for 2014 was 0.74 (up from 0.6 in

[3] Adjusted for purchasing power parity.

[4] The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable, and have a decent standard of living (United Nations Development Programme).

1990), placing the country in the high human development category. The basic infrastructure backbone of the country was built, with an expansion in access to telecommunications, treated water, and housing. Algeria has also increased public capital stock (from 120 percent of GDP in 2000 to about 190 percent of GDP in 2015), while reducing government debt (from 63 percent of GDP in 2000 to less than 10 percent in 2015).

Figure 2. Algeria: Selected Socio-Economic Indicators



Source: UNESCO Institute for Statistics.
Note: Values extrapolated for some years.

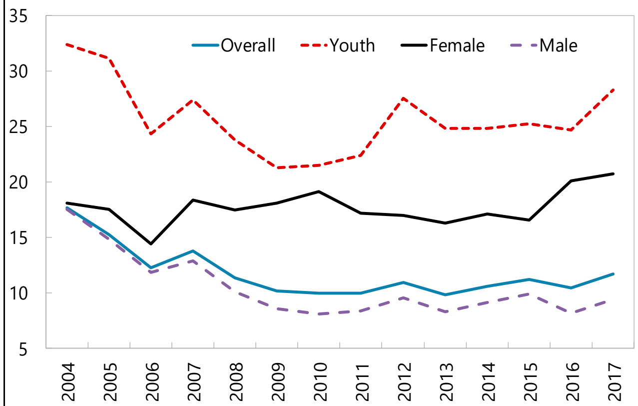
Source: World Development Indicators (World Bank).

Sources: Algerian authorities; and IMF staff calculations.

Sources: Algerian authorities; and IMF staff calculations.

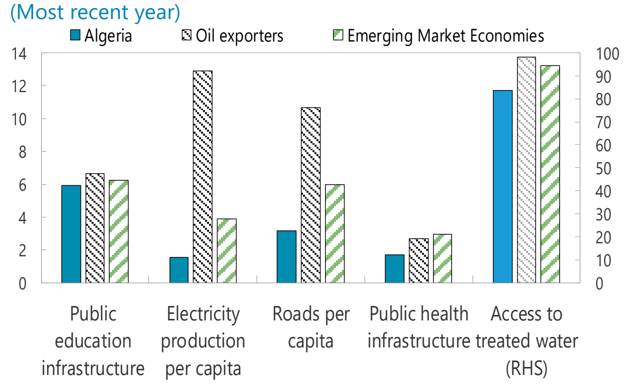
4. Yet, social challenges are still numerous and infrastructure gaps persist. Labor force participation is low, especially for women. Unemployment has been persistently high (around 12 percent), and about 60 percent of the unemployed have been looking for a job for over one year. Unemployment rates are especially high for youth (over 28 percent) and for women (20.7 percent). A third of youth are neither employed nor enrolled in school. At the same time, access to infrastructure and service delivery, notably to electricity and roads, is still weaker in Algeria than in peers.

Unemployment
(Percent)



Source: Algerian authorities.

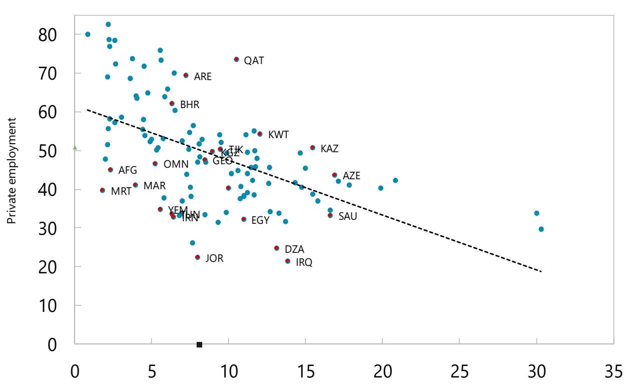
Measures of Infrastructure Access[1]
(Most recent year)



Sources: World Development Indicators; and IMF staff calculations.
[1] Units vary to fit scale. Left hand axis: Public education infrastructure is measured as secondary teachers per 1,000 persons; Electricity production per capita as thousands of kWh per person; Roads per capita as km per 1,000 persons; and Public health infrastructure as hospital beds per 1,000 persons. Right hand axis: Access to treated water is measured as percent of population.

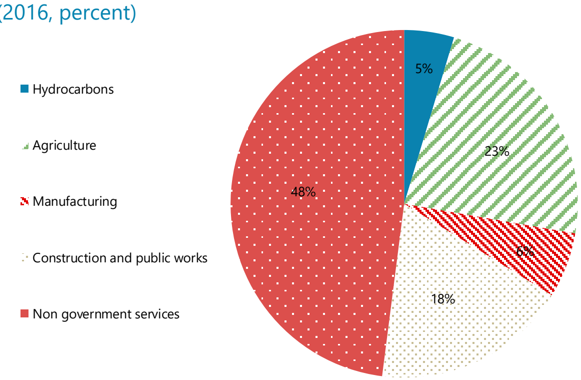
5. Moreover, public spending policies have led to multiple distortions that have undermined private sector development. The state has become an employer of first resort, offering employment conditions that reduce the appeal of private sector jobs, discourage entrepreneurship, and distort the demand for education toward skills that are best suited for success in the public sector (Pierre, 2014). This in turn worsens skills mismatches faced by the private sector. In addition, the dominant role of the state has stifled the development of the private sector through various controls and multiple regulations (Souissi and Auclair 2017). These restrictions have diminished opportunities for incumbents to innovate and develop new business ideas. Moreover, large public spending on investment projects has incentivized the private sector to capture the resulting rent rather than take risks that would ultimately boost business and create. As a result, the private sector is dominated by low-productivity and non-tradable activities (Souissi and Auclair, 2017).

Public and Private Employment
(Percent of the working age population, latest available data))



Source: Algerian authorities.

Sector Distribution of Private Sector's Value-Added
(2016, percent)

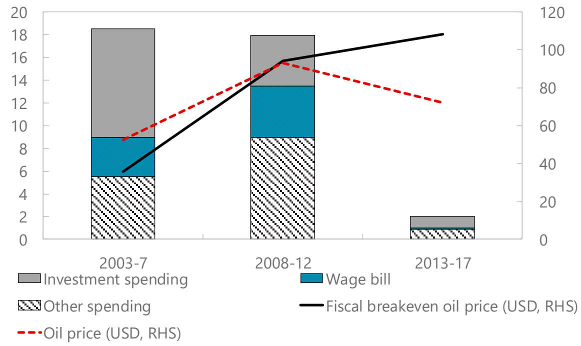


Sources: World Development Indicators; and IMF staff calculations.

6. Also, the level of spending supporting past policies, which has been funded by hydrocarbon revenues, cannot be sustained. The oil windfall was used to build a growth model based on redistributing the hydrocarbon resources through public spending, which averaged about

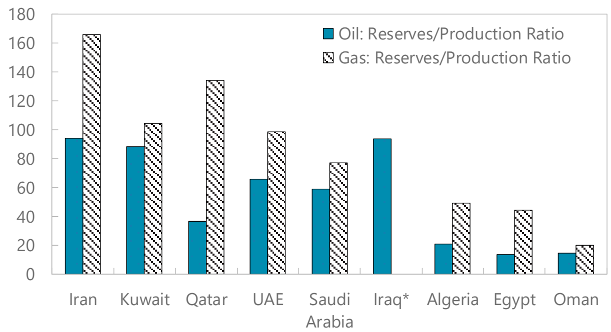
18 percent per year between 2003 and 2012. However, sustaining that level of spending is difficult as hydrocarbon revenues are based on finite resources.[5] Prolonged lower oil prices since 2014 have added to the challenge, increasing the urgency to adjust and making it even more evident that the government can no longer be the employer of first resort for a young and fast-growing population.

Decomposition of Fiscal Expenditure Growth
(Average annual growth by 5-year period, nominal)



Sources: Algerian authorities; and IMF staff estimates.

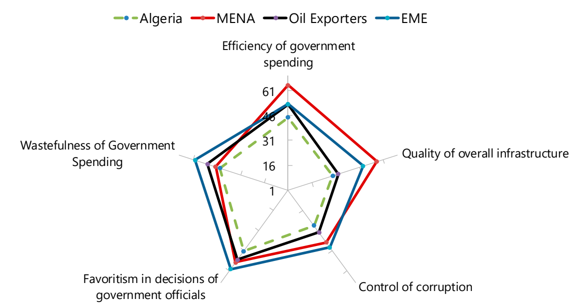
Years of Oil and Gas Production Remaining
(Years of production based on current reserves and extraction rates)



Source: 2017 BP Statistical Review.
*Data on gas reserves/production unavailable.

7. And, public spending policies are implemented in the context of relatively weak institutional capacity and governance. Algeria ranks well behind other oil exporters and emerging market economies in its capacity to control corruption and limit favoritism in decisions of government officials (Worldwide Governance Indicators and World Economic Forum).[6] Combined with high public spending, these weaknesses lead to greater opportunities for corruption, rent-seeking behavior and waste in public resources.

Public Spending Efficiency
(1=minimum, 100=maximum)



Source: Worldwide Governance Indicators and Global Competitiveness Report, 2017/18.

8. Hence, improving the efficiency of public spending is a priority. To adjust to lower oil prices, the government has recently focused on reducing spending in real terms, mostly by freezing government wages and hiring, and cutting investment. However, spending cuts may eventually affect the quality of public service delivery and infrastructure. Countries need to keep a certain level of spending to maintain and improve infrastructure

[5] Algeria's proven hydrocarbon reserves (excluding shale oil and gas) are projected to be exhausted in 1–2 generations' time.

[6] The paper uses several survey-based indicators, which are not produced by Algeria's statistical office. Caution is needed when comparing the indicators across countries. Although they are updated yearly and survey methodologies are revised frequently, they are partly constrained by the data that can realistically be collected and are based on perceptions. The worldwide governance project reports aggregate and individual governance indicators for over 200 countries and territories over the period 1996–2017, for six dimensions of governance, including control of corruption. They are based on a mix of quantitative measures and survey-based indicators. The World Economic Forum's Global Competitiveness report includes several indicators on the quality of institution, which are based on executive opinion surveys.

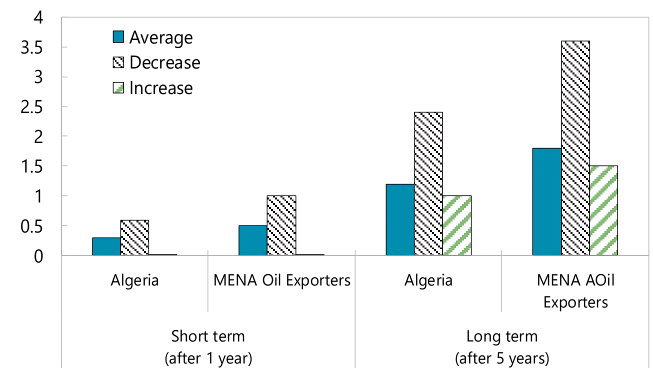
quality. For example, Ianchovichina and others (2013) estimate this amount at about 11 percent of GDP per annum for oil exporters outside the Gulf Cooperation Council. Therefore, spending cuts cannot therefore be the only way forward. Improving public spending efficiency would help get more benefits from a given level of spending and limit the negative impact of spending cuts on growth. Notably, this approach will be critical to better manage two key expenditure items: public investment and the wage bill. The rest of the paper takes these two issues in turn.

B. Improving Public Investment Efficiency

Public Investment Efficiency

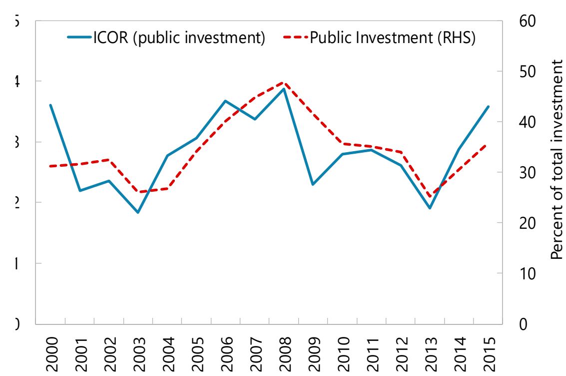
9. There is some macroeconomic evidence that public investment efficiency is relatively weak in Algeria. Algeria's capital spending multipliers are lower than the average of other oil exporters in the region, pointing to the relative inefficiency of its capital spending. Moreover, the close relationship between Algeria's incremental capital-output ratio (ICOR) and public investment indicates a relatively low productivity of public investment.[7] As public investment has increased (as a percent of total investment), so has the ICOR, indicating diminishing returns, in terms of output, to increases in public investment.

Multipliers of Capital Spending [1]
(Percent)



Source: IMF staff calculations.
[1] Defined as the ratio of a change in output to an exogenous change in public capital spending.

ICOR vs. Public Investment



Sources: Algerian authorities; and IMF staff calculations.

10. Investment efficiency seems lower in Algeria than in other oil exporters in the region and well below the global average. A comparison of efficiency scores across countries points to substantial room for efficiency improvements.[8] Algeria's investment efficiency score of 0.76 for infrastructure *quality* indicates that it could have improved its infrastructure quality by about 24 percent with the same spending amount. As for infrastructure *quantity*, Algeria's investment

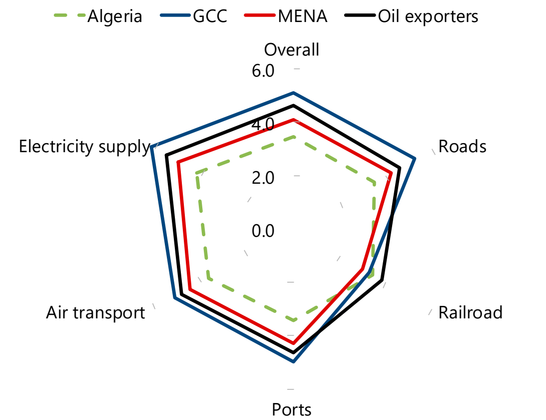
[7] The ICOR is computed as the ratio of public investment to the change in nonhydrocarbon GDP.

[8] The efficiency of public investment efficiency in Algeria can be assessed using efficiency frontier analysis. Albino-War and others (2014) use efficiency frontier analysis to assign investment efficiency scores to individual countries. The investment efficiency score reflects how far a country is from the frontier determined by the best performers. Efficiency is measured in terms of both the quality (using the infrastructure sub-component of the global competitiveness indicator of the World Economic Forum as described in paragraph 11 and the quantity (measured as an index of physical infrastructure) of infrastructure.

appears much less efficient than in oil exporters with strong institutions, such as Canada, Norway, and Singapore. The efficiency gap with these countries is about 0.6, suggesting that Algeria could have built up to 60 percent more infrastructure with the same amount of investment if its public investment management institutions (PIM) had been stronger.

11. Algeria's infrastructure quality is also lower than that of peers. Surveys of executive opinions (Global Competitiveness Indicators, 2017) suggest that Algeria's overall infrastructure quality is lower than in other oil exporters. While Algeria's railroad infrastructure appears relatively well-developed, the quality of ports, roads, air transport, and electricity supply seems to be relatively lower.

Quality of Infrastructure
(Infrastructure quality index: 1–7, 7=best)

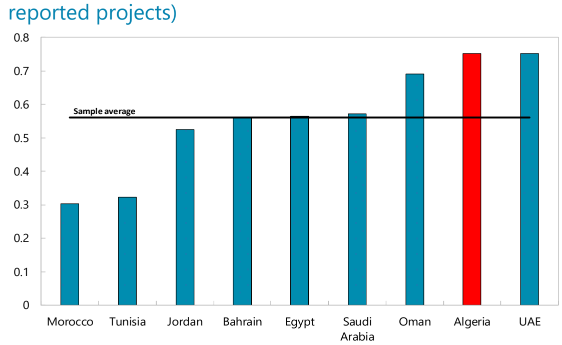


Source: Global Competitiveness Indicators (2017).

12. Large public investment projects tend to be relatively costly in Algeria. Data on unit costs, which are available on roads and metro construction projects, suggest that the final costs of these projects are higher than the average, and than most countries of the region where data are available.[9]

- *Roads*.[10] Algeria's unit cost of road construction projects is one of the highest among benchmark countries (about 34 percent higher than the average cost). This may reflect various factors, including the following: (1) a high cost of land-particularly routing and expropriation costs and other inputs such as high insurance costs due to the perceived lack of security; and (2) challenging geography, particularly in highly urbanized cities. However, these factors are unlikely to account for the full difference in costs as they may also affect other countries to some extent.

Road Construction Cost, 2011–17
(Millions $ per KM, average cost estimate, median of all reported projects)

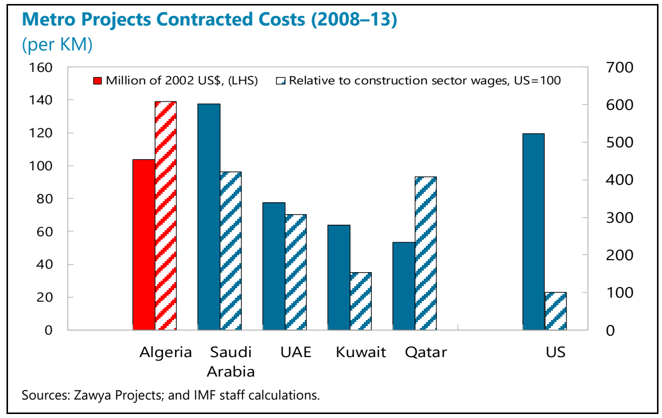


Sources: Zawya Projects; and IMF staff calculations.

[9] Cost estimates are based on project-level data from Reuters Zawya's database, which contains data on construction project life cycles in MENA. Following earlier studies (e.g., Alexeeva and others (2011), Flyvbjerg (2008), and Fox (2000)), we compare countries' median per-kilometer of roads and metro projects using the final contracted cost for each project.

[10] Available data cover 2011-17. The included road construction projects are in Algeria (10), Bahrain (19), Egypt (35), Morocco (30), Oman (90), Saudi Arabia (406), Tunisia (6), and the United Arab Emirates (56).

- *Metros.*[11] Algeria's per-kilometer cost of metro construction is about 30 percent higher than the average unit cost in other countries. Metro projects seem even more expensive in Algeria when adjusting for labor costs. Algeria's adjusted unit cost of metro construction is two-and-half times the adjusted cost in benchmark countries, and six times the adjusted cost in the U.S.[12]



13. Yet, the efficiency of public investment improved in the 2010s. Authorities' data for 2002–16 on public investment projects larger than 20 billion dinars show significant improvements in both the delays in project completion and cost overruns after 2010.

- *Delays in project completion have been significantly reduced since 2010, but they remain large.*[13] On average between 2002 and 2016, projects completion took two years longer than initially planned and in some cases, much longer: for eight of the 65 projects covered in the database (mostly road projects), implementation took five years longer than expected. Since 2010, however, delays have been declining, with the difference between contract deadlines and actual finish lines being cut by more than half (50 percent in the 2010s compared to 120 percent in the 2000s).

- *Cost overruns have also been trending downward since 2010.*[14] Large delays generate cost overruns. Overall, final costs were 32 percent higher than initially planned. Out of the 65 investment projects, 19 saw their costs increased by more than 100 percent. Nonetheless, cost overruns have significantly decreased from 45 percent in the 2000s to 16 percent in the 2010s, on average, and range now between 10 percent (for construction projects) and 22 percent (for territorial development projects). This range is comparable to international standards.[15]

[11] Data covers projects in Algeria (1), Kuwait (1), Qatar (4), Saudi Arabia (4), and the United Arab Emirates (4).

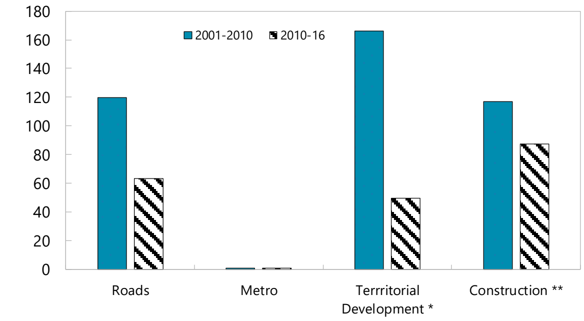
[12] The large metro construction costs in Algeria may be partly explained by technical complexities due to underground components. An important qualifier to the comparison with the United States is that this calculation does not control for the cost of land or for different costs of raw materials—such as those needed to reinforce underground structures— which Algeria must import at an additional expense.

[13] Delays in project completion are measured by the percent difference between contract and actual durations.

[14] Cost overruns are measured by the percent difference between initial and final budget authorizations.

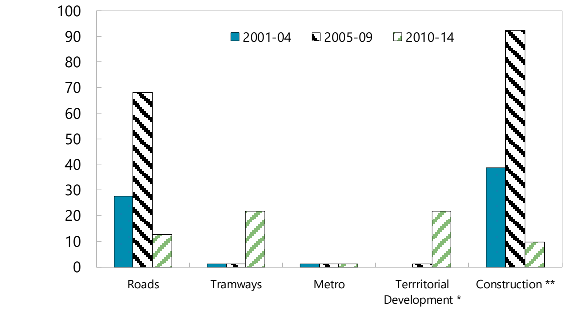
[15] Flyvbjerg, Skamris, and Buhl (2008) find that the average cost overrun for metro investment projects—which typically incur larger cost overruns than other types of infrastructure projects—is about 65 percent in countries outside Europe and North America Metro projects.

Delay in Project Completion (2002–16)
(Average, percentage of contract deadline)



Sources: Algerian authorities; and IMF staff calculations.
* Territorial development stands for the creation of new cities
**Construction comprises recreation and culture.

Cost Overrun
(Period average, percentage of initial contracted cost)



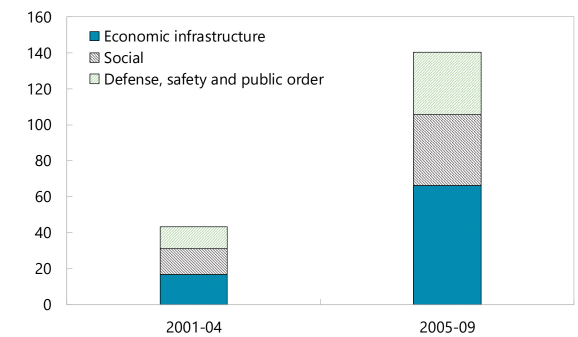
Sources: Algerian authorities; and IMF staff calculations.
* Creation of new cities
**Recreation and culture.

Public Investment Management

14. In the 2000s, weak public investment management lowered public investment efficiency. Faced with the urgency to meet the population's needs in the wake of the decade of civil strife, Algeria adopted two extensive investment programs.[16] But important shortcomings in PIM institutions and excessive rush in the execution of investment programs lowered efficiency (World Bank 2007). This is consistent with international evidence. IMF (2015) finds a strong positive relationship between the overall strength of PIM institutions and the efficiency of public investment. Furthermore, international experience shows that poor public investment management performance creates serious obstacles to government investment objectives in many countries (Judge and Klugman, 2003). Four main weaknesses can be identified from this experience:

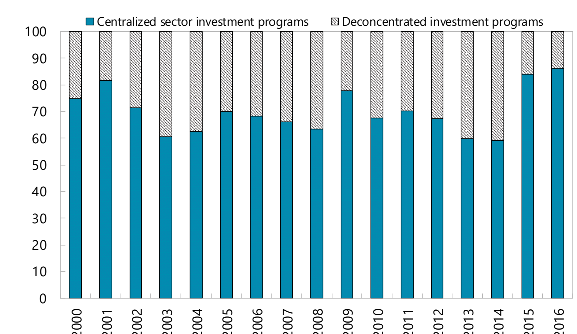
- *Limited strategic sectoral content.* The design of investment programs lacked explicit strategic objectives that translate into clear sectoral priorities. As such, the investment plans were insufficiently structured and sequenced.

Public Investment by Function
(Total budget authorization as percent of last year's GDP of the 5-year investment program)



Sources: Algerian authorities; and IMF staff calculations.

Public Investment by Level of Government
(Percent of total budget authorizations)



Sources: Algerian authorities; and IMF staff calculations.

[16] The first public investment program ("*Plan de Soutien à la Relance Économique*", PSRE) was implemented during 2001–04. The second ("*Plan Complémentaire de Soutien à la Croissance*", PCSC) was implemented during 2005–09. They involved budget authorizations equivalent to 43 percent of 2004 GDP and 140 percent of 2009 GDP, respectively.

- *Insufficient project preparation, including weak cost-benefit analysis.* Pressure to speed project execution combined with insufficient cost-benefit and social returns analyses resulted in inadequate programming, overbudgeting, and lengthy delays in project implementation. Moreover, several projects were entered in the budget prior to the completion of their feasibility studies.

- *Weak governance and institutional frameworks.* Overlapping responsibilities among multiple authorities and stakeholders (25 ministerial and 48 regional commissions in the case of the PSRE) significantly complicated project management. Moreover, windfall hydrocarbon revenues led to an acceleration in project execution. Hence, the preparation and execution capacity of already-stretched line agencies weakened further. Furthermore, substantial resources were transferred to the regions (wilayas), which showed higher execution ratios than some centralized entities, while at the same time lacking sufficient capacity to monitor outlays.[17] These factors resulted in wasted resources, duplication of activities, and in some cases, procurement failures.

- *Weaknesses in the budget process.* The absence (until recently) of a medium-term expenditure framework (MTEF), the lack of performance-based budgeting, and insufficiently developed information systems led to a disconnect between budget planning and sectoral priorities and to significant variations between the approved capital budgets and the actual outturns. Moreover, the use of special treasury accounts ("Comptes d'Affectation Spéciale," CAS), which allow for the carryover of budget appropriations with no time limit, weakened the ability to control investment spending and led to the implementation of obsolete, delayed, or costlier projects.

15. Over the past decade, Algeria took important steps to improve PIM. These included:

- *The creation of an institution to oversee the preparation, execution, and evaluation of large investment projects.* The government created the Caisse Nationale d'Equipement pour le Développement (CNED) in 2004 to strengthen the preparation and execution of public investment projects.[18] The mandate of CNED was strengthened in 2009 when the institution became responsible for the evaluation of the economic viability of all large projects (that is, above 20 billion dinars) before detailed studies can be launched, and the validation of the results of these studies. These steps must be followed prior to including investment projects in the budget.[19]

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[17] Public investment projects funded from the central government's budget are classified into two types. The centralized sector investment programs, particularly for economic infrastructure, are managed centrally by line ministries or public agencies with financial autonomy. The deconcentrated investment programs, particularly in social infrastructure, are managed at the wilaya level, but remain under the concurrent responsibility of the relevant line ministry. Local governments also implement some investment projects upon delegation of the Prefect.

[18] CNED is an autonomous public establishment of industrial or commercial nature created by Decree 04–162 of June 5, 2004. It is governed by a board chaired by the minister of finance and comprising four other ministers in addition to the minister directly concerned with the issue under discussion, as well as individuals selected for their competence and credibility.

[19] Line ministries are responsible for project preparation. This includes identifying projects to support the government's strategy, undertaking prefeasibility, and feasibility studies. CNED is expected to ascertain the

(continued)

- *A new manual on the management of large centrally managed investment projects*. In 2010, CNED published guidelines for line ministries on how to better identify projects that would support the government's strategy, undertake prefeasibility studies, and design projects.

- *A decree reforming public procurement.* A presidential decree governing procurement related to public investments was introduced in 2015. It indicates that open, competitive bidding is the main procurement method, while stating clear award conditions for mutual agreements.[20]

- *Strengthened rules on cost revaluation*. To reduce cost overruns, the government decided in 2013 to subject cost revaluations higher than 15 percent of the initial budget authorization to Cabinet approval before additional funding can be awarded.

- *Budget reforms.* Algeria has taken welcome actions to improve its budget framework by: (1) adopting for the first time in 2017 a medium-term budget framework (MTBF) to provide a clear anchor for public spending; (2) closing several CAS, which helped strengthen the capacity to monitor budget execution and reduce the risk of payment arrears;[21] and (3) starting to modernize information systems to better control expenditures and monitor project execution.

16. However, important shortcomings remain. A recent survey of public investment management practices that suggests that Algeria falls behind oil exporters in the region and other emerging economies in several areas, including the following:[22]

- *The planning, selection, and implementation of investment projects*. Since 2016, line ministries have been requested to cut nonpriority or obsolete investment projects due to financing constraints. While the process involved interministerial collaboration to identify projects that should not be cut due to their expected growth impact, it lacked close intra-sectoral coordination necessary to avoid duplication, inefficiencies, and misallocation of resources. Furthermore, according to CNED, contracting authorities (line ministries or regions) lack sufficient capacity to manage the numerous major projects they launched simultaneously. This leads to frequent revisions of the projects' timelines during their implementation, resulting in delays and cost overruns.

- *Ex-post evaluation of investment projects.* There are no systematic ex-post project evaluations, in part due to limited resources—CNED focuses on a few projects selected in consultation with the sectors concerned.

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consistency of the proposed project with the sector, and in its appraisal of investment projects, CNED calls on experts outside the central administration.

[20] The conditions are detailed in article 49 of the decree. For example, mutual arrangements can be awarded in the case of serious and imminent threat to public assets or public order.

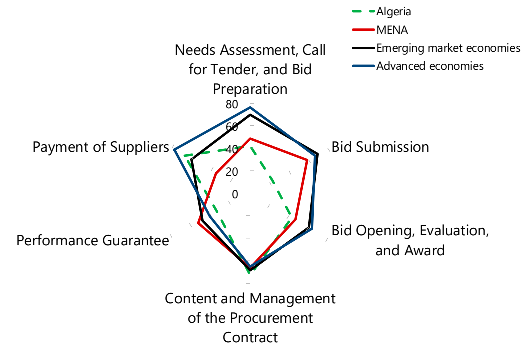
[21] See 2017 Article IV report (Country Report No. 17/141).

[22] The survey covers PIM practices across a sample of 25 countries, including Algeria. The responses from country authorities were validated by IMF country Desks and the Fiscal Affairs department. More details can be found in IMF (2015).

- *Budgeting processing and execution.* Insufficient capacity to monitor budget execution in real time and control spending commitments led to large payment arrears and disruption of investment projects.

17. Public procurement system could also be strengthened. According to the World Bank's 2017 Benchmarking Public Procurement report, Algeria ranks below benchmark countries in three key areas. First, the quality, adequacy, and transparency of the information provided to prospective bidders is insufficient. Second, the requirements that suppliers must meet to bid effectively appear relatively inadequate. Third, the regulatory framework and procedures do not seem to effectively ensure a fair and transparent evaluation process.

Public Procurement Scores
(Higher = greater transparency/best practices)



Source: World Bank – 2017 Benchmarking Public Procurement.

Recommendations

18. There is scope to further improve PIM.[23] Building on recent efforts, Algeria can take the following actions:

- *Ensure consistency between macroeconomic objectives and the planning of public investment projects.* Public investment policy should be better articulated with multiyear sectoral planning to ensure that investment expenditures are driven by policy priorities and fiscal objectives. For this purpose, Algeria should move forward with implementing an MTEF, as set out in the new organic budget law. The resulting budgeting approach—which combines top-down, sustainable fiscal resource envelope (MTBF) with bottom-up, efficient allocation of available resources across sectors (MTEF)—would also help better align line ministries' sectoral strategies with broader macroeconomic objectives.

- *Improve the coordination among the sectors.* Policies and practices should be reviewed to ensure that the selection and appraisal of investment projects is conducted based on standardized criteria that are applied at all government levels. The prioritization of investment projects would benefit from better intersectoral coordination between the relevant sectors and the wilayas. An investment authority—which could be attached to the prime minister's Office—could oversee the overall consistency of sectoral priorities and coordinate the strategic planning of investment projects. [24]

[23] Algeria would benefit from a Public Investment Management Assessment (PIMA)—the IMF's new tool that provides a comprehensive assessment of PIM practices and weaknesses of the public investment processes. To date, 30 assessments were performed, including for Tunisia and Morocco. For more details, see IMF (2018a).

[24] As a technical body, CNED has no authority to review the sectoral strategies themselves. The formulation of sector strategies is the core responsibility of the concerned ministries, in theory, in consultation with each other and the Ministry of Finance, and they must be approved at the highest levels of government.

- *Strengthen budget execution*. Algeria should strengthen its capacity to monitor budget execution in real time and control spending commitments, which is critical to preventing the reoccurrence of payment arrears. It also needs to accelerate the implementation of a modern integrated information system, which would allow information access in a timely manner and foster results-oriented budgeting.

- *Enhance central oversight of public investment projects*. While CNED is expected to ascertain the economic viability of investment projects, its role is only advisory. The above-mentioned recommended investment authority could be given the power to discard projects that do not fit with the government's development objectives or are deemed technically or economically unsound. It could also oversee ex-post evaluations and audits of investment projects to review experience and draw lessons for future plans.

- *Better enforce investment regulations*. Actions should be developed in two complementary directions to strengthen the role of contracting authorities. First, their capacity could be strengthened in both project preparation and execution, including by pursuing permanent capacity building efforts, such as seminars as well as specific guidance for each sector based on best international practices. Second, the compliance of contracting authorities with public investment rules and standards could be strengthened. For this purpose, CNED suggested that a legal framework that defines their responsibilities, while promoting a result-oriented approach, should be put in place.

- *Improve policies and practices to ensure that public procurement is competitive*. Existing rules and processes should be reviewed to ensure that they are consistent with international best practices and evenhandedly applied to ensure competition and transparency.

C. Improving Wage Bill Efficiency

19. Better managing the level and evolution of the wage bill, implies diagnosing its main drivers and performance. As mentioned above, the education, health, and security needs are great in a country that has a relatively young and large population and is located in a region shaken by conflicts. In addition, Algeria has sought over the years to provide public employment to help absorb the increasing labor force. But the main question is whether current public-sector employment and compensation policies help the government reach its objectives, in particular the delivery of high-quality public services.

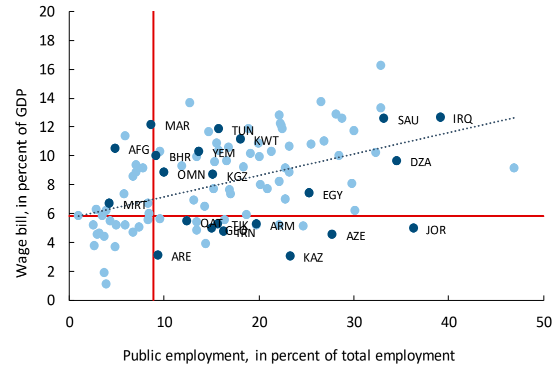
Level and Composition of the Public Wage Bill

20. The level of the public wage bill is high by international standards. Algeria has a large public wage bill, similar to other oil exporters in the region, and is among the countries with high shares of public employment in total employment. Over the period 2005–16, the wage bill represented around 10 percent of GDP— compared to about 6 percent in emerging and developing economies on average. In the first half of the decade, the wage bill increased both as a share of

GDP and as a share of total expenditure, as the government hired more workers, increased salaries, and granted back payments. This reflected the governments' efforts to maintain social stability amid popular uprisings in the region, and was accompanied by increases in other current spending items, including subsidies and transfers. Such spending helped maintain social stability but also fueled inflation and introduced expenditure rigidities (Jewell, 2014). The growth of the public wage bill has been more moderate in the second half of the decade, as fiscal sustainability concerns increased. But the latest data suggest the wage bill still represents close to 12 percent of GDP in Algeria—and nearly 30 percent of total expenditure. Meanwhile, public sector employment represents 40 percent of total formal employment, with government employment representing about 20 percent.

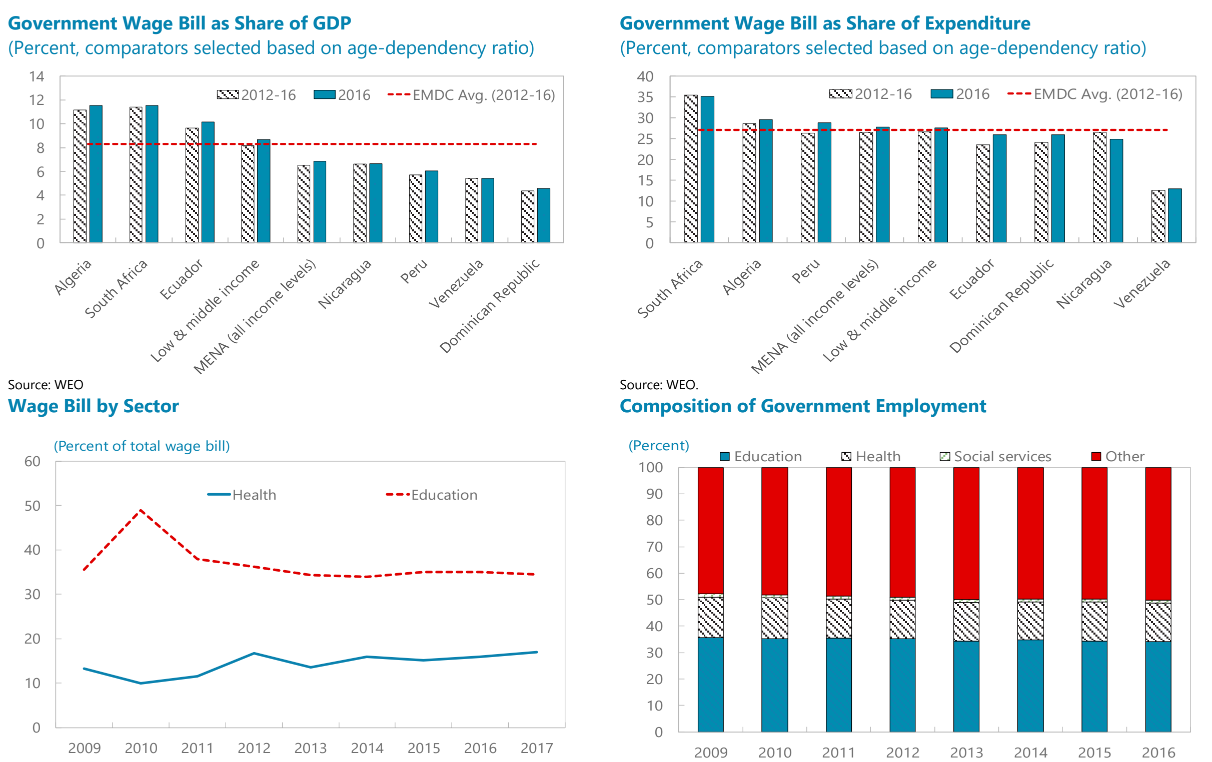
Wage Bills and Public Sector Employment, 2015–16

(In percent, average)



Sources: WEO database; Algerian authorities; national labor force surveys; ILO data and model estimate.
Note: Coverage (12 countries) varies across periods. Red lines represent EMDE weighted averages.

Figure 3. Algeria: Government Wage Bill Level and Composition

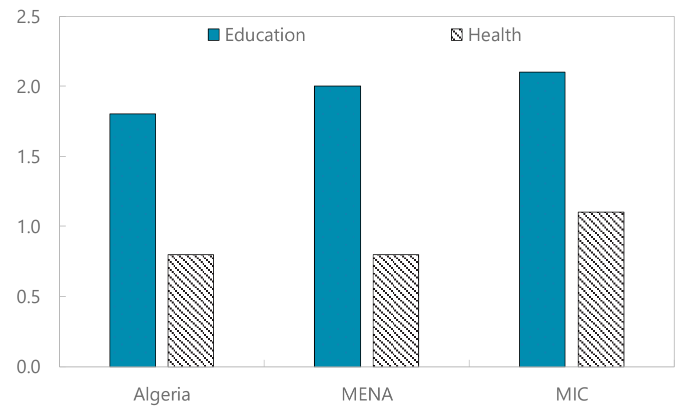


Source: Algerian authorities.

Source: Algerian authorities.

21. Yet, the health and education sectors appear somewhat understaffed. Algeria spends more on public wage bills than countries that have similar old-age and youth dependency ratios but allocates a similar share of its spending to public wage bills.[25] For the past decade, the health and education sectors have represented about half of total government employment and half of public wage bills. Compared with middle-income countries and the average found in the Middle East and North Africa (MENA) region, Algeria employs fewer public workers in the education and health sectors as a share of the population. Also, employment in the health sector represents about a third of total health spending, which is relatively low, since on average, they represent at least 40 percent in all regions of the world (Clements and other, 2010).

Employment as a Share of the Population
(Percent)



Sources: Algerian authorities; Clements and others (2010

Efficiency of Public Services

22. Algeria fares less favorably than peers in terms of quality of public services. An internationally comparable measure of government effectiveness shows that Algeria performs worse in terms of quality of public institutions than its level of GDP would suggest.[26] Moreover, the quality of education is below the average for emerging countries, according to international standardized tests (TIMSS and PISA).[27] Access to health services varies throughout the country, leading to some health indicators, such as infant mortality, being below what it could achieve given its GDP level.

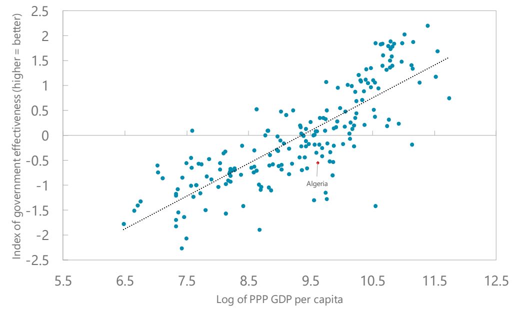
[25] We assume countries with similar old-age and youth dependency ratios have similar needs in terms of health and education.

[26] 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 (Worldwide Governance Indicators).

[27] TIMSS is the Trends in International Mathematics and Science Study, which is an assessment done by the International Association for the Evaluation of Educational Achievement. TIMSS assesses 4th and 8th grade students from a diverse set of educational systems (countries or regional jurisdictions of countries) in terms of economic development, geographical location, and population size. In each of the participating educational systems, a minimum of 4,500 to 5,000 students is evaluated. PISA is the Programme for International Student Assessment carried out by the OECD. It is a triennial international survey which aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students. Country participation in both of these assessments is voluntary.

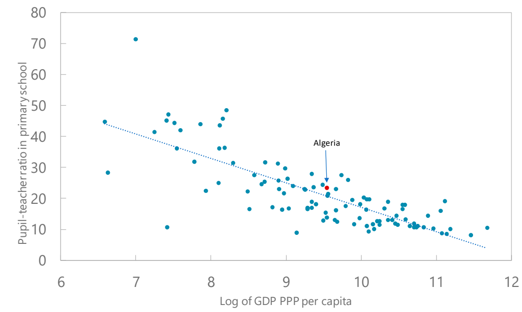
Figure 4. Algeria: Selected Indicators for the Quality of Public Services

Government Effectiveness



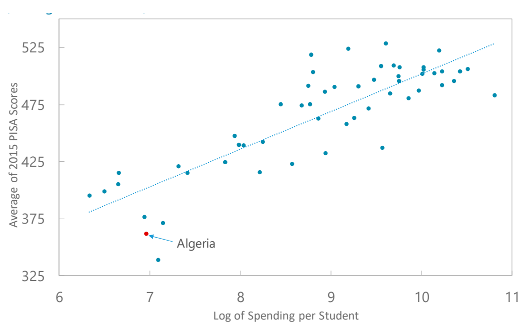
Source: World Governance Indicators.

Pupil-Teacher Ratio



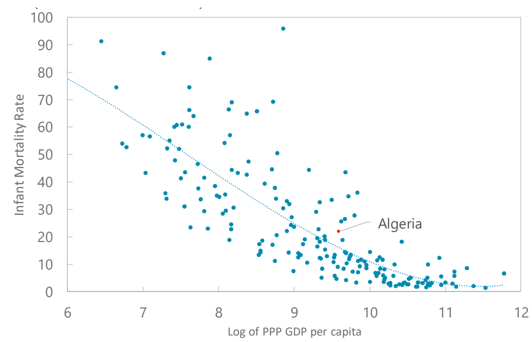
Source: World Development Indicators.

Student Assessment Scores and Spending per Student
(Average scores, 2015)



Source: Progrmme for International Student Assessment, OECD.

Infant Mortality Rate
(Per 1000 live births)



Source: World Bank.

Distortions in the Labor Market

23. The large public sector, combined with the dominant role of the state in the economy, has stifled formal private sector activity. The formal private sector remains concentrated on relatively low productivity activities. Self-employed individuals, fixed-term employees/apprentices represent respectively 42.1 percent and 39.8 percent of private employment. Above 70 percent of private sector employment is in firms that have fewer than five employees. Moreover, employment tends to be concentrated in low productivity sectors, with over half of total private sector employment being in the commerce and construction sectors. Meanwhile, higher-productivity sectors such as manufacturing and transport and telecommunications represent only 12.9 percent and 7.6 percent of employment, respectively (Pierre, 2014).

24. Public jobs tend to be of better quality, providing a disincentive to work in the private sector. The MENA region has some of the highest public-private wage gaps in the world (IMF 2018b). Compared with other countries of the region, this gap is fairly low in Algeria, but is still positive at about 6 percent. On average, public wages are higher than private sector wages in all economic sectors except the financial sector.[28] The actual gap may be higher if nonwage benefits in the public sector, such as various allowances, retirement benefits, and job security, were included.

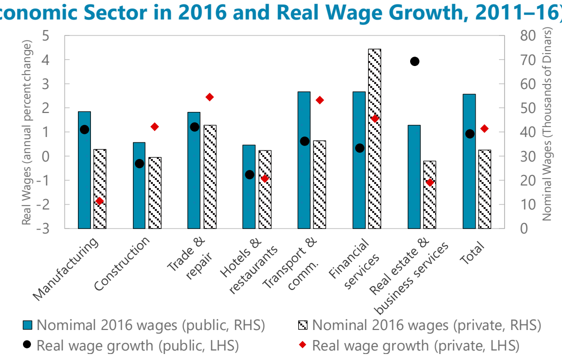
[28] The fact that the financial sector differs is consistent with previous findings (Clements and others, 2010).

For example, employees in the public sector are more likely to have permanent contracts than employees in the formal private sector (over 70 percent of employees are permanent in the public sector versus less than 20 percent of employees in the private sector).[29] Combined with a lack of good job opportunities in the formal private sector, more attractive public sector jobs can divert workers away from the private sector, thereby limiting the accumulation of skills that are relevant to the private sector.

25. Increases in public wages have likely driven up private sector wages, reducing Algeria's competitiveness. Over 2011–16, private sector wages increased at a slightly higher rate than public sector wages in real terms. This trend hides differences between sectors. Combined with the finding of relatively small wage gaps, this suggests that private sector wages tend to follow closely public wage increases over time. Since the middle of the 2000s, these increases did not seem connected to productivity increases, leading to an increasing gap between wages and productivity. This trend has abated in the past five years as the increase in productivity has accelerated and the average of public and private wages has remained broadly flat in real terms. However, Algeria's level of global competitiveness, measured through pay and productivity, tends to remain lower than what it could be given its level of development.

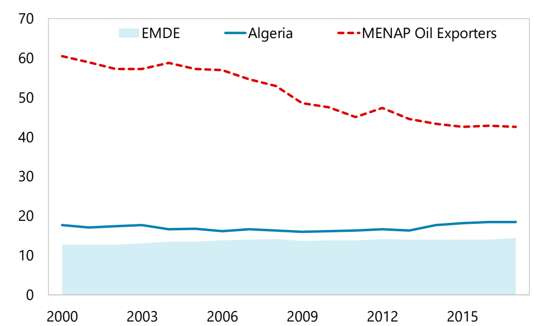
Figure 5. Algeria: Public and Private Sector Wages and Productivity

Nominal Wages in Public and Private Enterprises by Economic Sector in 2016 and Real Wage Growth, 2011–16)



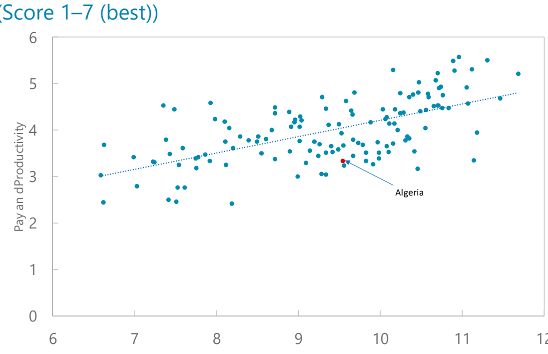
Source: Algerian authorities' survey of enterprises.

Output per Worker
(GDP constant 2010 US $, thousands)



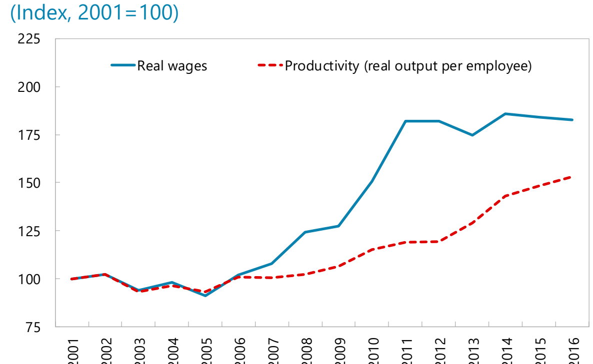
Source: ILO modelled estimates.

Pay and Productivity
(Score 1–7 (best))



Source: Global Competitiveness Report.

Wages (Public and Private) vs. Productivity
(Index, 2001=100)



Sources: Algerian authorities; and IMF staff estimates.

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[29] ONS, 2014.

Public Wage Bill Management

26. Wage and hiring freezes have been used to reduce fiscal pressures in the short term. In the context of pressing fiscal constraints, the government has sought to control the evolution of the public wage bill through a hiring freeze—except in strategic sectors such as health and education, where it imposes a replacement ratio of persons going into retirement. It also minimized public wage increases. Cross-country experience shows that such measures help control the wage bill in the short term but are often later reversed (IMF 2018b). Furthermore, they may have short-term negative impacts that need to be carefully evaluated. For example, these policy approaches may disproportionately affect women, who are more likely to work for the public sector and have little alternative for decent work in the private sector. They can also lower the morale, and thereby the productivity, of public sector workers and weaken the quality of public services.

27. Short-term measures should be complemented with deeper budget reforms. The recently established MTBF is a useful framework to improve public wage bill management. By their nature, wages and social contributions are incompressible in the short term. Reviewing public and social contribution spending as early as possible during the preparation of the MTBF therefore allows for a better control of their evolution and level. Taking full advantage of this framework by developing tools to better understand the drivers of the wage bill and forecast its evolution would further contribute to improving wage bill management. A strategic planning of needs should be put in place including according to performance-based objective. Current efforts to improve public financial management (PFM) to enable more effective expenditure control should help better control wage bills.

28. Moreover, there is scope to review public wage-setting. Algeria's public wage increases are currently established through a set of rules based on seniority, with civil servants progressing in the pay scale as their tenure increases. Reviewing such a system so that it better links pay increases to performance would improve workers' efficiency and productivity in the public sector. At the same time, attention should be paid to decompressing the pay scale, and potentially reviewing allowances to make them more transparent.

29. Strengthening institutions and the coverage and quality of data would help enhance wage bill management. Improved public finance statistics would help with budget preparation. An integrated information management system, on which the government is currently working, will provide timely and reliable data and increase synergies between various departments.

30. Reviewing government programs could also help gain efficiency. Ex-post evaluations of government programs (for example, active labor market programs) are needed to identify those that are the most effective and those that could be modified or eliminated (Jewell 2014, Pierre 2014). Functional reviews of government departments can also help identify areas of duplication and overlap. The goal should be to improve the delivery and quality of public services, at given or possibly lower levels of public employment and wages.

D. Conclusions

31. Overall, the reforms to improve the management of public investment and public wage bill can be summarized in four principles:

- *Refocus public spending on their core goals.* Public investment and public wage bills should be focused on delivering appropriate infrastructure and public services that facilitate private sector activity and satisfy the basic needs of the population. Algeria has been trying to achieve more than these core goals with its public spending. Through public investment, it has sought to spur economic activity directly by providing markets. Through public wage bills, it has aimed to redistribute oil wealth and provide employment. Overall, by trying to overreach their core goals, these policies have stifled the private sector.

- *Adopt a pluriannual strategy.* The adoption of an MTBF was a welcome step to anchor public spending levels and therefore control their evolution. Adding a medium-term expenditure framework would allow to better align sectoral expenditures with the government's priorities and long-term development objectives.

- *Formulate sectoral strategies more effectively.* For both public investment and public wage bills, spending decisions seem insufficiently aligned with the government's broader economic strategy. This is largely due to insufficient inter-sectoral coordination and a lack of clear performance indicators by sector. Enhancing coordination across sectors would help reduce overlaps and improve the quality of the sectoral strategies. Better taking into account the sectoral strategies during budget preparations would strengthen line ministries' incentives to develop sound and well-coordinated sectoral strategies.

- *Improve institutional capacity, data collection and analysis.* Algeria is working on strengthening the capacity to monitor budget execution in real time and control spending commitments. These welcomed reforms are critical to enhancing public spending efficiency. Algeria should also accelerate the modernization of its information system, which is needed to allow transparent information access, proper monitoring of expenditures, and results-oriented budgeting.

32. Reforms of the management of public spending should be part of the broader inclusive growth agenda. In particular, they go hand in hand with improvement in policy frameworks and governance, and reforms to facilitate private sector activity. The broader agenda should include the following priorities:

- *Improvements in transparency and governance.* This will help facilitate reforms, enforce regulations in a more equitable manner, and build trust between the public and institutions.

- *Measures to foster private sector activity and job creation.* For the private sector to become the main engine for job creation, the state needs to facilitate private sector activity by improving the efficiency the labor and product markets (Pierre 2014, Souissi and Auclair 2017), and increasing opportunities through policies that would support economic diversification (Lahreche 2014). There is evidence that reducing distortions and impediments to private sector development so that the gap in structural indicators[30] with the best performers is cut by half could increase growth potential by up to 2.5 percentage point (Souissi and Auclair, 2017).

- *An effective communication strategy*. Public communication on the general long-term benefits of reforms is crucial. Moreover, by discussing reform design within the ongoing social dialogue about the country's reform strategy, the government can increase the chances of success (IMF 2018b).

[30] Structural indicators include product market regulations and competition, labor market efficiency, trade openness, and financial market functioning.

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