

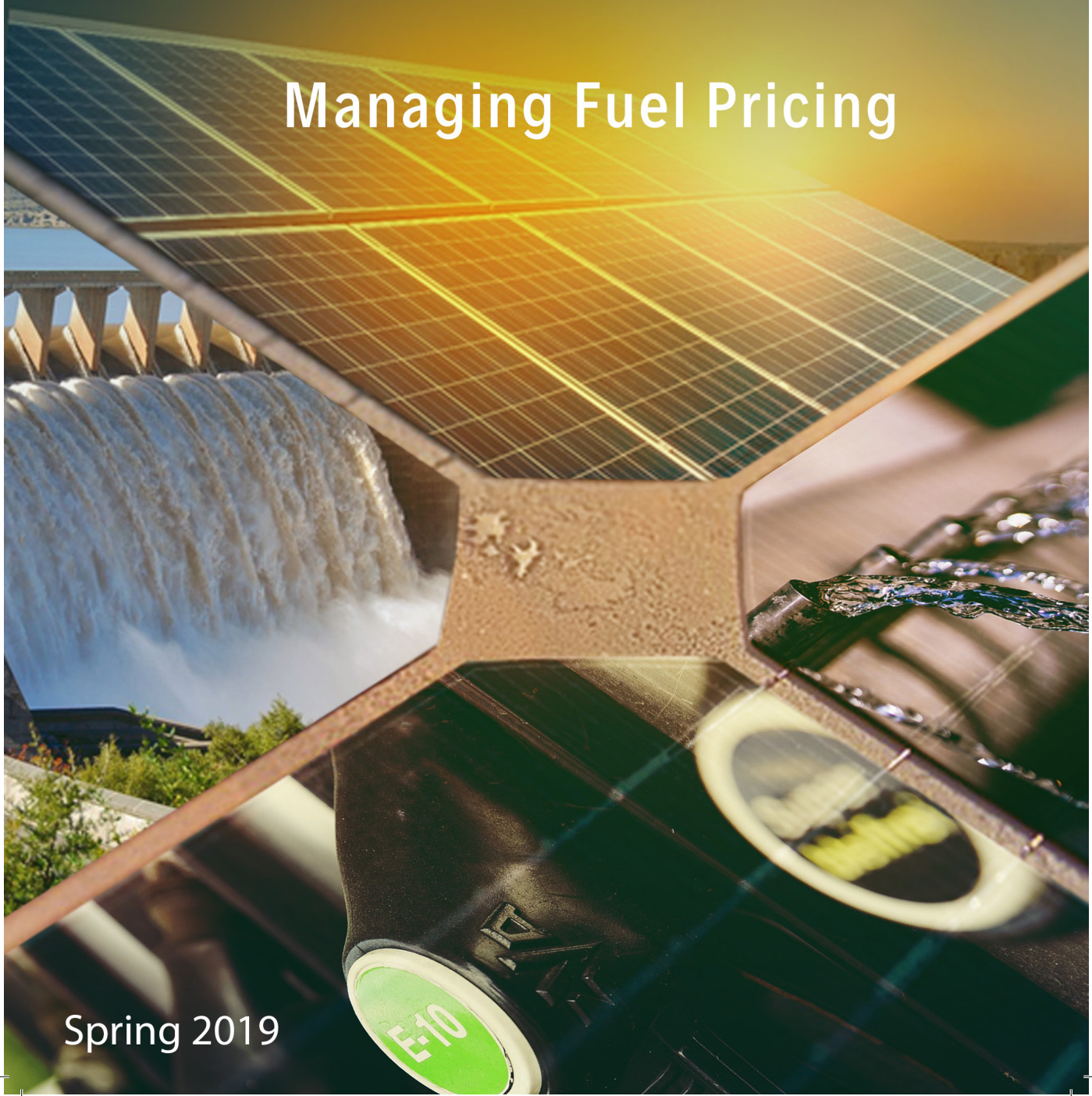


THE WORLD BANK  
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# MADAGASCAR ECONOMIC UPDATE

## Managing Fuel Pricing

Spring 2019





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# ACRONYMS

<b>CBM</b>	Central Bank of Madagascar
<b>ENSOMD</b>	<i>Enquête Nationale sur le Suivi des Objectifs du Millénaire pour le Développement</i>
<b>FAO</b>	Food and Agriculture Organization
<b>GDP</b>	Gross Domestic Product
<b>HHI</b>	Herfindahl-Hirschman Index
<b>IMF</b>	International Monetary Fund
<b>INSTAT</b>	National Institute of Statistics ( <i>Institut National des Statistiques</i> )
<b>JIRAMA</b>	State-owned utilities company ( <i>Jiro sy Rano Malagasy</i> )
<b>MEF</b>	Ministry of Economy and Finance
<b>MGA</b>	Malagasy Ariary
<b>OMH</b>	<i>Office malgache des hydrocarbures</i>
<b>PIM</b>	Public Investment Management
<b>PPP</b>	Public Private Partnership
<b>RCF</b>	Rapid Credit Facility
<b>TPP</b>	Taxes on Petroleum Products
<b>USD</b>	Unites States Dollar
<b>VAT</b>	Value Added Taxes
<b>WB</b>	World Bank

# FOREWORD

Welcome to the Spring 2019 edition of the World Bank's Madagascar Economic Update, which presents recent economic developments and our medium-term outlook.<sup>1</sup> The economy has continued to perform well, with growth in 2018 estimated at 5.2 percent, above regional and global averages. External demand for Malagasy goods and services remains strong, with exports such as cash crops, metals and business process outsourcing performing well. A small but dynamic private sector is responding to this increased economic activity with banking, logistics and services to support companies all under expansion.

The central challenge remains of how this growth can benefit a wider population, so that Madagascar can make inroads in reducing poverty. Increasing access to reliable, sustainable and affordable energy supply is critical in this regard. Improving the reliability of energy supply would support firm's competitiveness, which is crucial for helping industries to grow and creating job opportunities. At the household level, only an estimated 13 percent of the population has access to electricity, which limits opportunities to engage in non-agricultural activities and exacerbates the remoteness of the rural population.

This context underscores the importance of having an effective public policy in place to support the growth of a sustainable energy sector. The national utilities agency, JIRAMA, is implementing reforms to improve its financial situation and operational performance. Although much needs to be done, certain reforms are starting to bear fruit, including improvements to revenue collection, a decline in system losses, and enhancing financial accountability and transparency. These measures are expected to help improve JIRAMA's financial situation and should allow the company to invest in better electricity services on the interconnected network as well as isolated grids. Madagascar's abundant potential for renewable energy presents an opportunity to increase access to reliable, affordable and sustainable energy, provided that projects are selected on a least-cost basis and are well-sequenced in line with demand and capacity to pay.

As the transition to renewable energy is ongoing, implementing a fuel pricing strategy to promote access to reliable and affordable petroleum products, without the state having to bear the cost, will continue to remain critical for stimulating growth over the medium term. Implementing the automatic fuel price adjustment mechanism will mean that changes in global oil prices are passed through to consumers. Such a fuel pricing approach should be complemented by efforts to reduce the fixed cost drivers of fuel, mitigate the effects of price increases on the most vulnerable, and promote price competition supported by a strong and independent regulatory agency. Continuing to eliminate the fuel subsidy would mean that the government should have greater resources available to increase social and investment related expenditures that more concretely benefit the poor.

And last but not least, the constitutional transition of power following the outcome of the Presidential elections marks an important milestone in Madagascar's history. The government is on a solid foundation to implement its development program in pursuit of inclusive growth that benefits all Malagasy.

Coralie Gevers  
Country Manager, Madagascar

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<sup>1</sup> The cut-off date for all data in this document is February 28th 2019

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# PART ONE

RECENT ECONOMIC  
DEVELOPMENTS



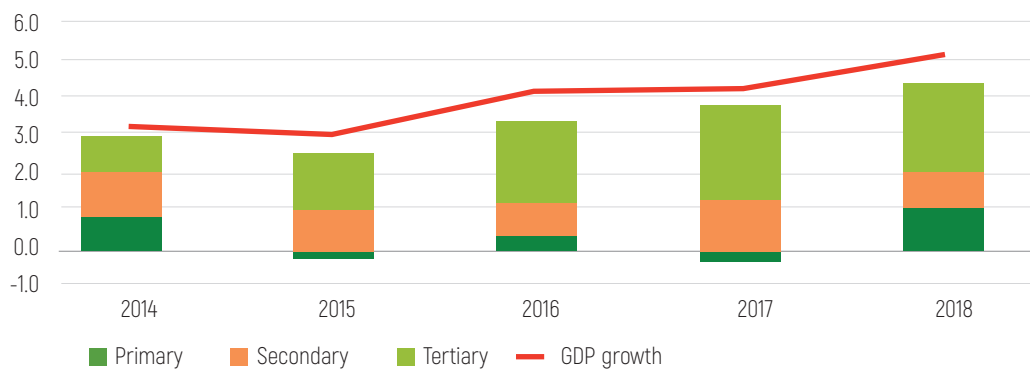
## A THE REAL SECTOR

**1. The Malagasy economy remained strong in 2018, with growth estimated at 5.2 percent.** A combination of favorable macroeconomic conditions such as lower inflation, a fiscal deficit under control, and an adequate level of international reserves have helped to sustain the growth trend. For the fifth consecutive year, the pace of economic

growth has outpaced the estimated population growth rate of 2.7 percent (Figure 1).<sup>2</sup> The performance of the Malagasy economy compares favorably with other economies in the region and also globally. GDP per capita growth in Madagascar in 2018 was at an estimated 2.4 percent, compared with 0.03 in sub-Saharan Africa and 1.9 in the world (Figure 2).

**Figure 1: The services sector continues to be a strong driver of growth**

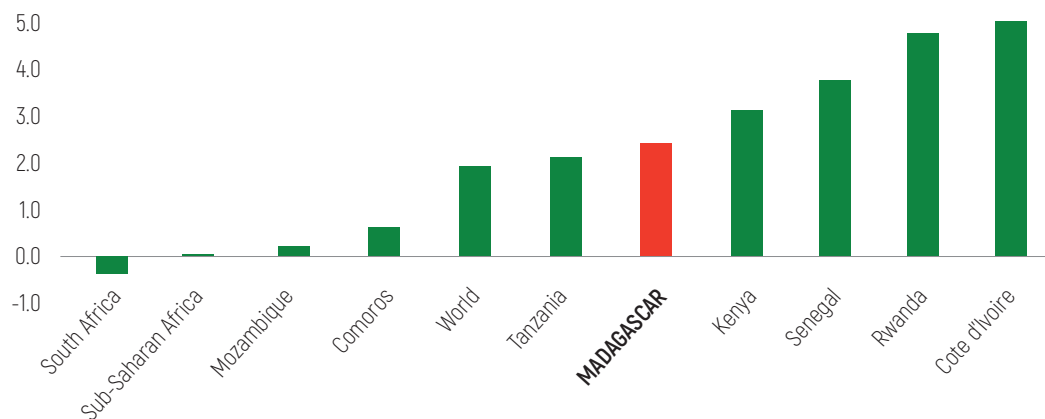
Contribution to GDP growth (percentage point)



Source: World Development Indicators and INSTAT

**Figure 2: Madagascar's per capita growth rate compares favorably with other regions but still lags other high performing economies in Africa**

Annual percent change (data for 2018)



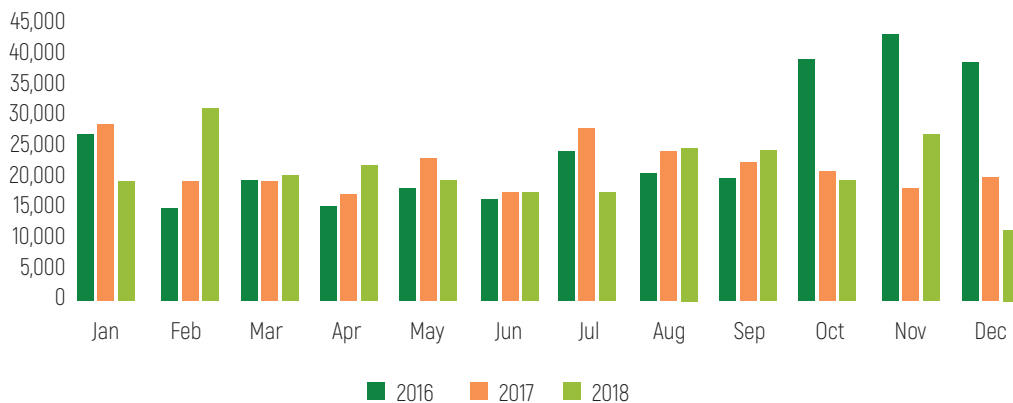
Source: World Development Indicators and INSTAT

<sup>2</sup> The population growth rate is estimated using the 1993 population and household census. The 2018 census is expected to provide an updated population growth rate.

**2. The services sector continues to be the most important driver of growth.** The tertiary sector grew by 5.2 percent in 2018 as financial services, telecommunications, transport and logistics continue to expand. Relatively new industries such as *Business Process Outsourcing* have also been performing well. However, performance of the services industry has been uneven. Services to support the growth of domestic industries have been flourishing, including for those companies engaged in the export of goods and services. These developments are likely to bode well for enhancing employment opportunities in urban areas, including the capital, where private sector activity is most concentrated.

**3. However, other services such as tourism have been affected by uncertainty related to the pre-election period and the outbreak of health epidemics, which have deterred foreign visitors.** The number of tourists visiting Madagascar declined by 14 percent between 2016 and 2018. These developments are likely to affect popular tourist destinations including the coastal regions, with an unfavorable impact for hospitality services. The constitutional transition of power following the Presidential elections should help to redeem this situation, which may be further supported by private sector development in the tourism industry, including the establishment of internationally recognized hotel brands in Madagascar.

**Figure 3: International visitor numbers in 2018 have fallen**  
Number of tourist arrivals



Source: INSTAT

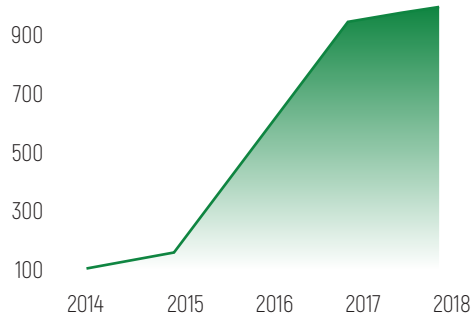
**4. The performance of the manufacturing sector was mixed, particularly for goods produced in export processing zones.** Overall, the growth of the secondary sector decelerated from 9 percent in 2017 to 5.4 percent in 2018. Garments feature among Madagascar's top three exports and realized mixed performance. The value of garment exports to France and Germany fell by 25 percent, which is significant as an estimated 50 percent of garment production in Export Processing Zones is destined to these two markets. However, this lackluster performance of exports to European markets was to

some extent compensated by an increase in the value of garment exports to the United States by 25.5 percent. Given global growth prospects, demand for Malagasy garments is expected to pick up over the medium term, which should be reinforced by plans to strengthen capacity of the Toamasina Port. Demand for other Malagasy goods remained strong. The price of vanilla continues to remain high, but is likely to fall over the medium term as more suppliers enter the market. The price of nickel has been on an upward trend although was a slump in prices at the end of quarter 1, 2019, whilst cobalt prices continue to rise.

External demand for Malagasy goods and services remained strong, and prices of vanilla and cobalt continue to be high

**Figure 4: Prices of vanilla continue to trend upward**

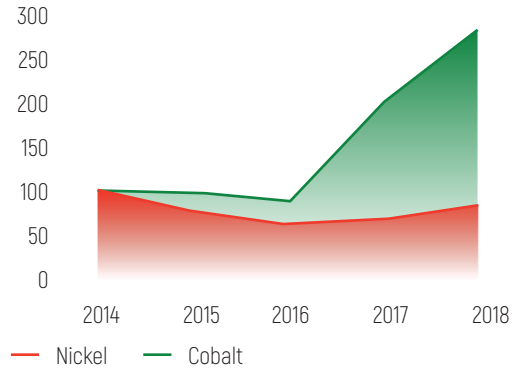
Price index for vanilla (2014=100)



Source: Central Bank of Madagascar

**Figure 5: Since 2016, prices of nickel and cobalt have started to rebound (latest official data available)**

Price index for nickel (2014=100)



Source: World Bank

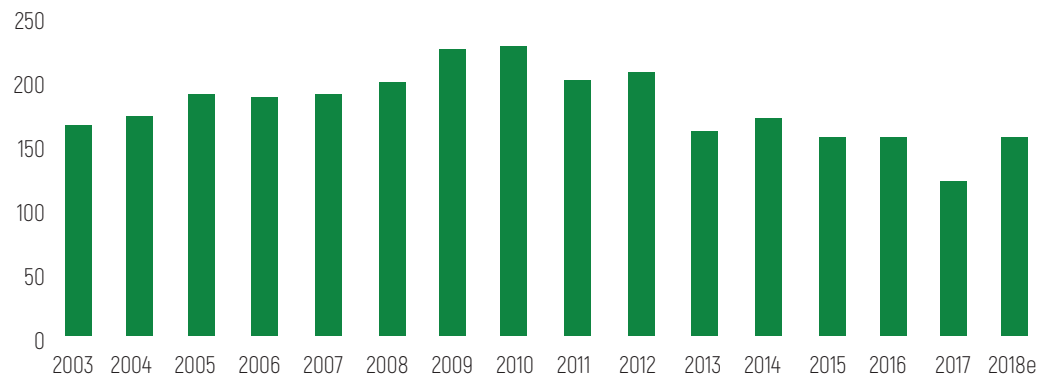
**5. The agriculture sector received a boost in 2018 following a recovery in rice production.**

Favorable weather conditions have supported a productive rice harvesting season, where domestic production increased from 3.1 million tons in 2017 to an estimated 4.0 million tons in 2018. Paddy production per capita in 2018 was on par with levels realized in 2016. The most recent available data from 2012 indicates that an estimated 77.9 percent of the rural population live below the poverty line, and are largely dependent on subsistence agriculture for their livelihoods.

While the improvements to the rice harvesting season should bode well for farmers based in rural areas, this development alone is unlikely to have a substantial impact on reducing poverty levels in the short term. Farmers based in rural areas continue to face several challenges to their livelihoods including a deterioration in the producer price of key crops, such as rice, relative to input costs, distances to food markets which is exacerbated by the poor condition of primary roads, low levels of human capital, and limited buffers to shocks.<sup>3</sup>

**Figure 6: Paddy production levels in 2018 are estimated to be on par with earlier years**

Paddy production, kg per capita



Source: INSTAT, Central Bank, Ministry of Agriculture and FAO

<sup>3</sup> World Bank, 2016, 'Shifting Fortunes and Enduring Poverty in Madagascar: Recent Findings,' World Bank, Washington DC

**Table 1: Madagascar: Selected economic and financial indicators: 2016-2022**

	2016	2017	2018	2019	2020	2021	2022
	Actuals	Estimates	Projections				
<b>Real sector</b>							
GDP (billions of ariary)	31,634	35,729	40,344	45,247	50,628	56,295	62,085
Real GDP (annual % change)	4.2	4.3	5.2	5.2	5.3	5.1	4.9
Primary sector (contri. to real GDP growth, pp)	0.4	-0.3	1.2	0.6	0.6	0.5	0.5
Secondary sector (contri. to real GDP growth, pp)	0.9	1.4	0.9	1.2	1.2	1.1	1.2
Tertiary sector (contri. to real GDP growth, pp)	2.1	2.4	2.3	2.6	2.7	2.8	2.5
GDP per capita (current USD)	400	448	461	496	521	544	563
Real GDP per capita (annual % change)	1.4	1.5	2.4	2.4	2.5	2.4	2.2
GDP deflator (annual % change)	6.7	8.3	7.3	6.6	6.3	5.8	5.2
Inflation, consumer prices (annual %, end of year)	7.0	9.0	6.1	6.0	6.0	5.4	5.0
<b>Public Finance (%GDP)</b>							
Total revenue and grants	14.8	14.8	14.6	15.5	15.0	14.7	14.7
o/w: Tax Revenues	11.0	11.5	11.8	12.2	12.5	12.7	12.8
Total spending (commitment basis)	16.1	17.2	16.6	17.4	17.9	18.0	18.4
o/w: Capital spending	5.2	5.5	5.8	6.6	7.8	8.1	8.3
Overall balance (commitment basis)	-1.3	-2.4	-2.0	-1.9	-2.8	-3.2	-3.7
Total public debt	38.6	36.1	35.8	35.7	36.6	38.4	40.6
o/w: External	26.8	25.4	26.2	26.8	28.5	30.9	33.2
<b>Monetary accounts (annual % change)</b>							
Money Supply (M2)	21.3	19.3	13.7	17.1	13.3	14.7	15.0
Net Foreign Assets	37.4	23.1	13.1	10.9	15.2	16.3	13.8
Net Domestic Assets	10.8	14.2	14.2	20.6	8.6	10.9	13.5
of which: Credit to the Private Sector	8.2	18.4	16.4	17.8	11.5	11.0	14.2
<b>External sector (%GDP)</b>							
Exports of goods, f.o.b.	21.7	24.4	24.7	23.1	22.6	21.9	21.4
Imports of goods c.i.f	28.7	31.5	32.7	32.2	32.0	32.5	32.1
Current account balance	0.6	-0.5	0.8	-1.0	-2.6	-3.2	-3.7
Foreign Direct Investment	4.5	3.1	3.9	2.4	2.7	2.8	2.9
Foreign Reserves (months of imports)	3.9	4.0	4.0	...	...	...	...
Terms of Trade (percent change)	35.7	2.4	3.4	-4.6	-0.4	0.1	0.0
Exchange Rate LCU/USD(average)	3,176.5	3,116.1	3,333.6	...	...	...	...

Source: Malagasy authorities, IMF and WB staff calculations, February 2019

## B EXTERNAL SECTOR

### 6. The current account recorded a surplus of 0.8 percent of GDP, largely due to good export performance.<sup>4</sup>

Madagascar's traditional exports such as vanilla and nickel have been performing well but there have been in-year fluctuations of export receipts, in line with the seasonality of certain cash crops. In the third quarter of 2018, the current account recorded a deficit of 14 percent of GDP, coinciding with the low-season of vanilla exports before reverting to a positive balance in the last quarter of the year. Thus the current account balance broadly continues the same trend maintained since 2013, where there is either a small surplus or deficit. The performance of the current account balance, combined with continued growth, indicates that the Malagasy economy continues to perform well.

### 7. The upward movement of international oil prices placed a strain on the economy.

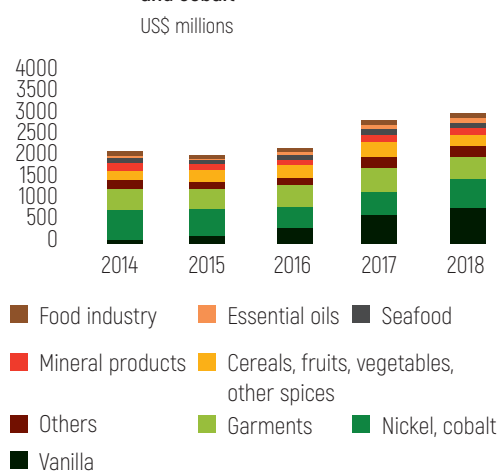
The Free on Board price of diesel increased from an average of US\$481 per metric ton in 2017 to US\$605 in 2018.<sup>5</sup> As the economy has been under expansion, demand for petroleum has increased particularly by industry and the transport sector. By contrast, reliance on diesel for thermal electricity generation has tempered and contributed to imports

reducing by 8 percent in volume in 2018 compared to the previous year. Favorable rainfall conditions have enabled the state-owned utility, JIRAMA, to increase hydropower capacity, which is part of the company's strategy to transition away from thermal energy and increasingly utilize renewable energy supported by least-cost and competitively procured investments. However, the higher price of imported petroleum has offset the reduced demand of petroleum (volume effect).

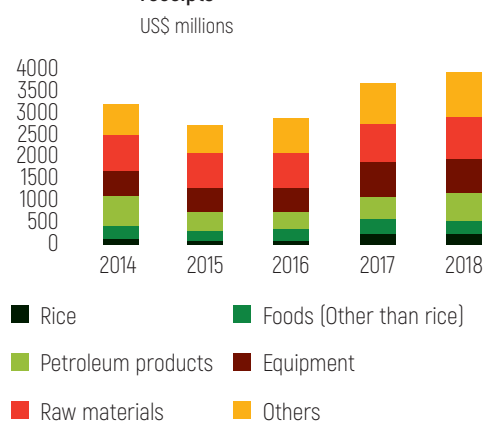
### 8. The performance of export receipts and higher external financing have contributed to preserving the level of official reserves.

The aim of holding foreign currency is for countries to protect themselves if there is an external crisis, preserve economic and financial stability against pressures on exchange rates, and create space for policy autonomy. Having an adequate level of reserves is particularly important for the central bank to be able to manage large volatility in currency associated with the seasonality of exports of cash crops. In 2018, a combination of external financing and export receipts contributed to preserving the level of official reserves at an equivalent of four months of imports.

**Figure 7: Export receipts continue to perform well, particularly for vanilla, nickel and cobalt**



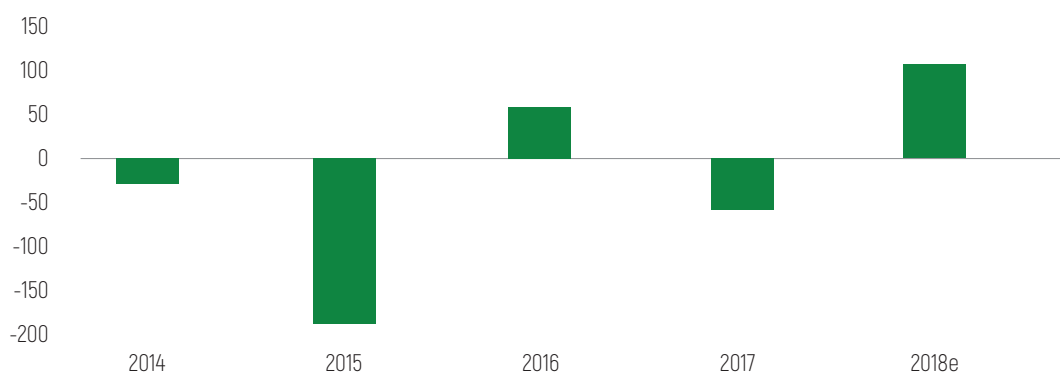
**Figure 8: Import bills have increased largely due to a higher price of petroleum, instead of receipts**



Source: Malagasy authorities, IMF and WB staff calculations, February 2019

<sup>4</sup> The current account records payments for the exports and imports of good and services, earnings on investments and transfers. Reference for U.S. Gulf Coast Ultra-Low Sulfur No 2 Diesel Spot Price downloaded from [https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pets-eer\\_epd2dxl0\\_pf4\\_rgc\\_dpg5f-m](https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pets-eer_epd2dxl0_pf4_rgc_dpg5f-m). Madagascar imports mainly from the Persian Gulf. Diesel is used for illustrative purposes as diesel represents almost 60 percent of the volume of petroleum imports. Free on Board is a trade term which means that the seller is relieved of responsibility once goods are shipped, in contrast to Cost, Insurance and Freight where the seller assumes additional costs.

**Figure 9: The current account balance realized a moderate surplus in 2018**  
 USS millions



Source: Central Bank of Madagascar

**Table 2: Balance of Payments financing requirements and sources (% GDP)**

	2016	2017	2018	2019	2020	2021	2022
	Actuals	Estimates		Projections			
Total financing requirements	<b>9.1</b>	<b>8.4</b>	<b>7.9</b>	<b>7.3</b>	<b>7.7</b>	<b>7.6</b>	<b>7.8</b>
Current account deficit	-0.6	0.5	-0.8	1.0	2.6	3.2	3.7
Net repayment of private sector debt	2.1	1.2	2.2	1.8	0.8	0.7	0.4
Repayment of government debt	0.7	0.7	0.6	0.5	0.6	0.6	0.7
Gross reserves accumulation (+/=increase)	3.2	3.1	1.5	1.2	0.8	0.8	0.8
IMF repayments	0.1	0.1	0.1	0.0	0.1	0.1	0.2
Other (inc. unrepatriated export revenues)	3.5	2.9	4.3	2.8	2.8	2.1	2.1
Available financing	<b>9.1</b>	<b>8.4</b>	<b>7.9</b>	<b>7.3</b>	<b>7.7</b>	<b>7.6</b>	<b>7.8</b>
Foreign direct and portfolio investment	4.5	3.1	3.9	2.4	2.7	2.8	2.9
Budgetary support loans	0.2	0.7	0.4	0.0	0.4	0.0	0.0
Project support	4.0	3.5	3.2	3.9	4.7	4.8	4.9
IMF: RCF and ECF arrangement	0.4	1.1	0.4	1.0	0.0	0.0	0.0

Source: Central Bank of Madagascar, World Bank staff and IMF

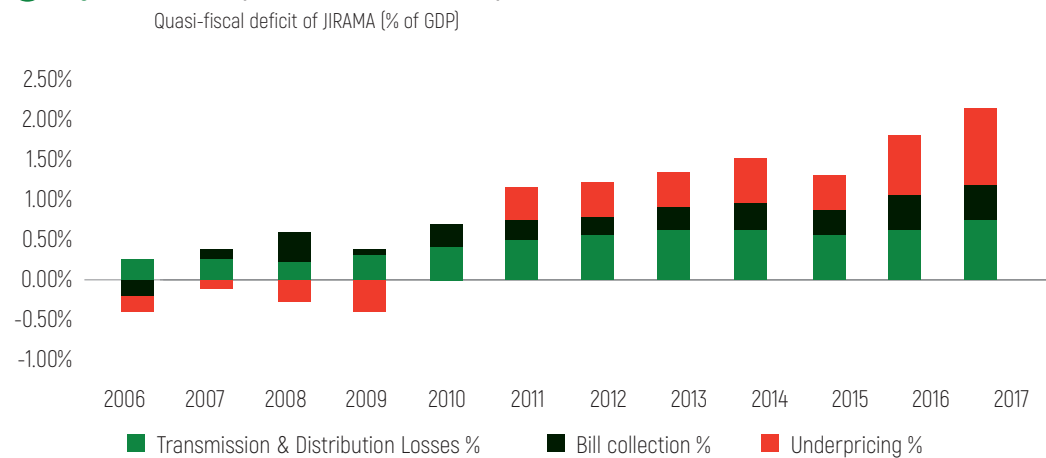
**Box 1: Electricity Subsidies in Madagascar**



JIRAMA, Madagascar’s national electric utility, is one of the main recipients of the country’s energy subsidies. Between 2008 and the end of 2018 the Government provided over US\$580m in direct budget transfers and—as JIRAMA’s only shareholder—absorbed another US\$700m in losses<sup>6</sup> that have eroded the company’s equity. On an annual basis, the ‘quasi-fiscal deficit’ to the Government—the difference between JIRAMA’s cost and the cash it collects, which is closed by implicit and explicit subsidies—averaged just over 1.1 percent of GDP. From 2010 to 2017 this quasi-fiscal deficit has increased more than three-fold from 0.66 percent of GDP to 2.12 percent of GDP (Figure 10).

JIRAMA’s financial woes became pronounced at the beginning of this decade – it was a profitable company during 2006–09. Since then, however, undue delays in the preparation of hydropower and solar projects— which are cheaper but much more complex—led to overreliance on power generated from petroleum fuels. Consequently, Madagascar’s abundant renewable energy resources remain untapped and more than half of power generation is from expensive and polluting diesel or heavy fuel. The procurement of privately-owned power supply contracts and the negotiation of power purchasing agreements have been opaque, often resulting in prices above market benchmarks.

**Figure 10: JIRAMA’s quasi-fiscal deficit is on an upward trend**



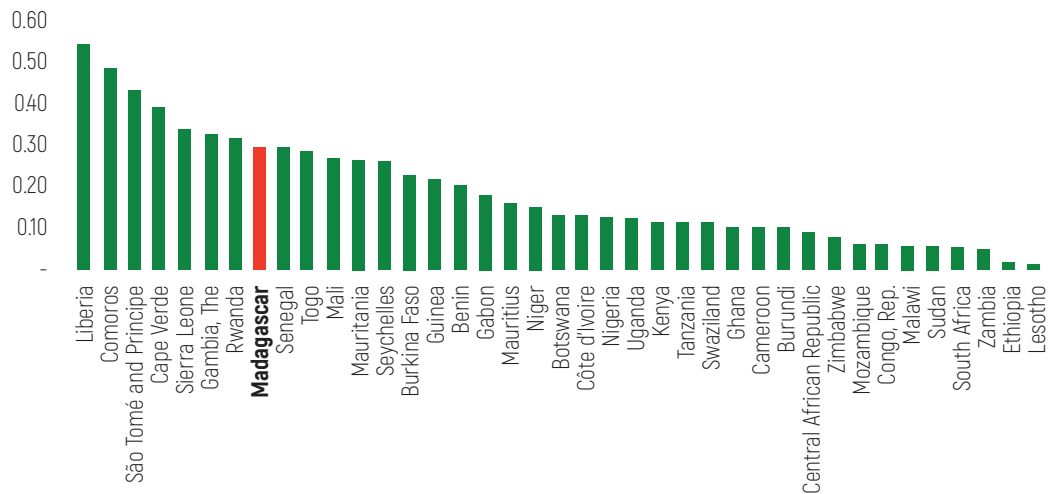
Source: World Bank staff calculations based on data provided by JIRAMA

<sup>6</sup> This amount does not include unpaid government bills

On the cost side, fuel and power purchases is the largest contributor, averaging 76 percent of the total cost of JIRAMA over the period 2007 to 2017. The operational cost of power generation in Madagascar are among the highest in the region, reaching almost US\$0.30/kWh in 2017.<sup>7</sup> A recent regional comparison put Madagascar's cost of

electricity service at 230 percent of the weighted regional average.<sup>8</sup> Generation cost could be cut by more than half by switching from oil-based to competitively procured renewable power (the average cost in countries with predominantly non-oil-based power was around US\$0.13/kWh in 2014).<sup>9</sup>

**Figure 11: The operating costs of power generation in Madagascar are amongst the highest in Africa**  
(US\$/kWh)



Sources: Note: Data for 2014 or latest available, from Trimble et al. (2016). Madagascar data updated to 2017.

On the revenue side, about a third of produced electricity is unaccounted for (up from less than a quarter in 2008) and another 14 percent is billed but no cash is collected. This means that less than half of electricity produced is actually paid for. Since charging the full cost of supply would make power unaffordable to many, the Government suppresses tariffs to a level that it deems acceptable, currently an average of around US\$0.13/kWh. Part of the

gap is financed by government transfers, which jumped to 1.54% of GDP in 2017, but JIRAMA still faces large cash shortages and often cannot pay its suppliers. As a result, arrears to suppliers are accumulating with high levels of interest, further increasing the fiscal burden that JIRAMA poses for the government and compromising the ability of the utility to serve as a conduit for realizing renewable energy investments on competitive terms.

<sup>7</sup> A recent regional study found only seven countries in Africa with operating cost of power generation above US\$0.30/kWh: Liberia, Sierra Leone, The Gambia, Rwanda, Cape Verde, Comoros and São Tomé and Príncipe. Trimble, Chris; Kojima, Masami; Perez Arroyo, Ines; Mohammadzadeh, Farah. 2016. Financial Viability of Electricity Sectors in Sub-Saharan Africa: Quasi-Fiscal Deficits and Hidden Costs. Policy Research Working Paper; No. 7788. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/24869> License: CC BY 3.0 IGO

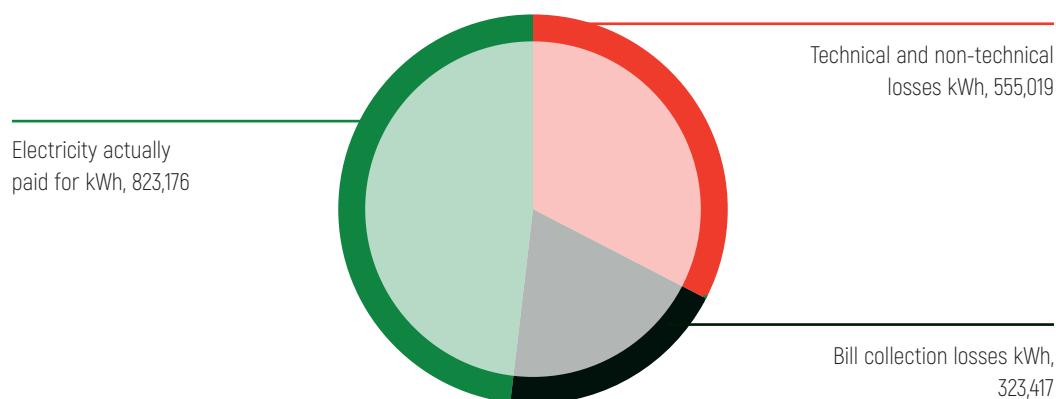
<sup>8</sup> Source: Ibid.

<sup>9</sup> Source: Ibid.



**Figure 12: Less than half of produced electricity is actually paid for**

Utilization of produced electricity (total production in 2017: 1,701,612 kWh)



Sources: JIRAMA and World Bank staff calculations

Government subsidies, if well targeted, can help make electricity accessible and affordable to the poor. Virtually all countries globally have provided budget transfers to bridge their utilities' finances in periods of high investment in electrification. Madagascar's New Energy Policy, approved in 2015, has the target of increasing electrification rates from the current 13 percent to 70 percent by 2030, which would require 260,000 new connections each year. And going further, universal electricity access as envisaged under the Sustainable Development Goals would require 400,000 new connections each year. Thus, if subsidies to Madagascar's energy sector are well-utilized to enable strategic investments, they could help improve access to affordable electricity, including for the poorest, which could open opportunities to engage in activities of higher value.

JIRAMA's continuing cash shortage has multidimensional consequences. First, JIRAMA has been able to connect a mere 9,000 customers on average over the past 12 years, which falls far short of policy objectives to increase access. JIRAMA's continuing cash shortage also leaves it with insufficient resources to fund regular

network maintenance and rehabilitation or invest in modernizing its billing and collection systems. Second, those who are wealthier than the majority benefit from electricity subsidies. An estimated 83.5 percent of electricity subsidies in 2017 went to the richest quintile of the population, compared to only about 1 percent for the bottom 40 percent. In a recent comparison of 22 countries in sub-Saharan Africa, only two countries (Rwanda and Mozambique) had a more skewed ratio of electricity access between the rich and poor.<sup>10</sup> In fact, total grid access, now estimated at below 13 percent of the population, has fallen over the past decade, as access has failed to keep up with population growth. Third, JIRAMA's financial situation means that it frequently does not pay its suppliers, resulting in arrears accumulating with high levels of interest. This situation increases the fiscal burden that JIRAMA poses for the government and compromises the ability of the utility to serve as a conduit for realizing renewable energy investments on competitive terms.

Madagascar clearly can and must do better. Seeking to improve this situation, the Government is engaging in

<sup>10</sup> Kojima, Masami; Zhou, Xin; Han, Jace Jeeseun; de Wit, Joeri; Bacon, Robert; Trimble, Chris. 2016. Who Uses Electricity in Sub-Saharan Africa? Findings from Household Surveys. Policy Research Working Paper/No. 7789. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/25029> License: CC BY 3.0 IGO.

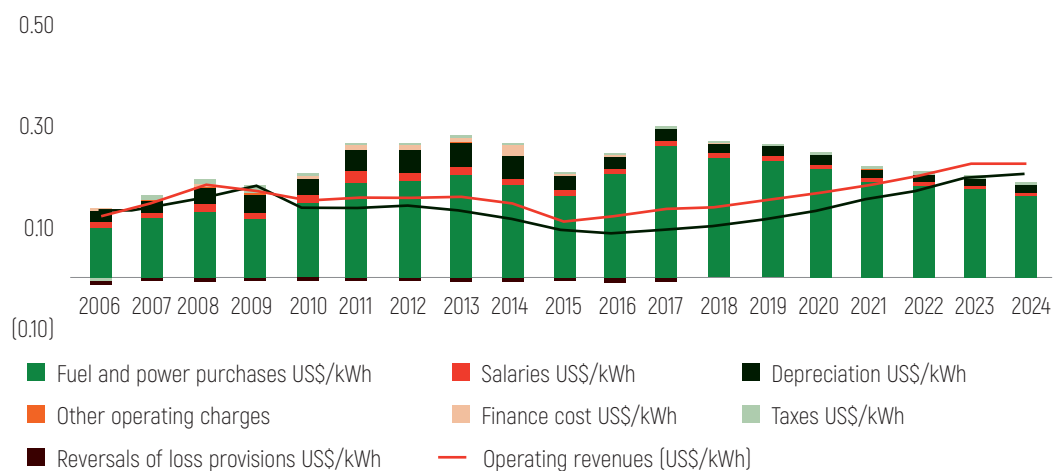
numerous reforms, which are being organized as part of JIRAMA's Financial Recovery Plan. Utility oversight is being strengthened to improve transparency of JIRAMA's financial management, including the audit and review of new and ongoing projects. The overall tariff framework is also under review, to ensure that low-income customers are not unfairly facing the burden of high costs of service. To improve transparency and get better value-for-money from privately supplied power, the Ministry of Energy, Hydrocarbons and Water has mandated that all new projects have to undergo a rigorous assessment of cost effectiveness and environmental and social impacts and follow competitive procurement. In 2017, JIRAMA has also adopted a standard template for future power purchasing agreements to improve transparency and ease negotiations with private suppliers.

The reforms to improve JIRAMA's financial situation have started showing results. Seasonally adjusted revenues in

the first two months of 2018 were 46 percent above the level of 2015 and 23 percent above the level of 2016. Steps have been taken to improve financial accountability and transparency, including the publication of financial audits. An urgently needed least-cost generation expansion plan was completed and adopted in November 2018 and is currently being updated to reflect the priorities of the new government. The expansion plan is the guiding framework for the selection of renewable energy generation projects. And as a result of network improvements and better commercial management (including regular meter audits of large consumers), system losses have started reversing a decade-long downward trend (falling from 34 percent in 2015 to an average of 32 percent in 2016-17). However, more accountability and transparency of investment and procurement decisions are needed to ensure that pipeline projects are strategically selected to accelerate progress towards universal access to sustainable electricity for all.

**Figure 13: If JIRAMA's reform momentum continues, financial equilibrium should be reached by 2022**

JIRAMA's revenues and cost of service: historic and forecast



Source: JIRAMA and World Bank staff calculations

In the short-term, subsidy needs can be reduced through a well-developed tariff policy under which higher-income households and larger commercial consumers pay the full cost of service. A move towards greater cost-recovery would undoubtedly lead consumers to pose questions regarding key cost drivers, which should also strengthen accountability for JIRAMA's procurement decisions. Similarly, close management oversight of procurement and

contract management of all independent power producers can help reduce power purchasing costs.

In the medium-term, the most important consideration towards rationalization and phasing out of subsidies is through diligent planning and implementation of investments in solar and especially hydro power in line with the least cost sector development plan. And even

in the absence of direct subsidies, support from the government will remain important in the form of sovereign guarantees to facilitate private investment in public private partnerships. Since these take time to materialize—large

hydropower plants often take five years or more from contract award to commissioning—JIRAMA will depend on Government support well into the next decade.

Source: JIRAMA, MEF and WB staff analysis

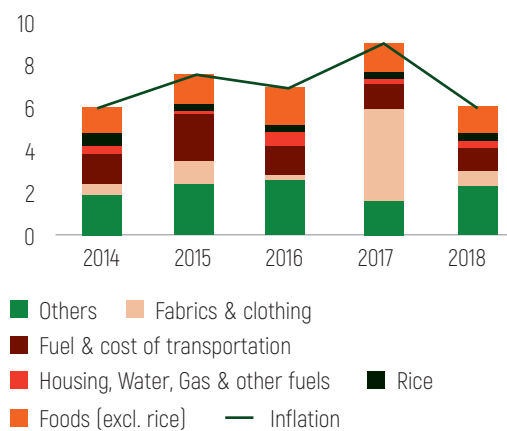
## C MONETARY SECTOR

**9. Inflation eased in 2018, averaging 7.3 percent compared with 8.3 percent in 2017, largely due to improved agricultural performance.** Favorable weather conditions have facilitated improved agricultural production. Since food and beverages comprise nearly half of the consumption basket, the increased supply of domestic produce has supported a deceleration of inflationary trends. However, while the pressure on the price of domestically produced rice has abated, average market prices remain above the pre-peak level in 2017. Furthermore, some components of the

consumption basket have followed an upward trend, such as the cost of public services which has recorded an average increase of 18 percent in 2018.<sup>11</sup> In line with efforts to support the financial recovery of JIRAMA, electricity tariffs for all consumers rose by an average of 10-14 percent over the period 2016 and 2018. Despite the recent easing of inflation, the monetary policy committee of the central bank has maintained the policy rate at 9.5 percent since end-2017. The monetary policy committee is scheduled to meet in May 2019 to review the policy rate.

**Figure 14: Inflation in 2018 fell compared with the previous year**

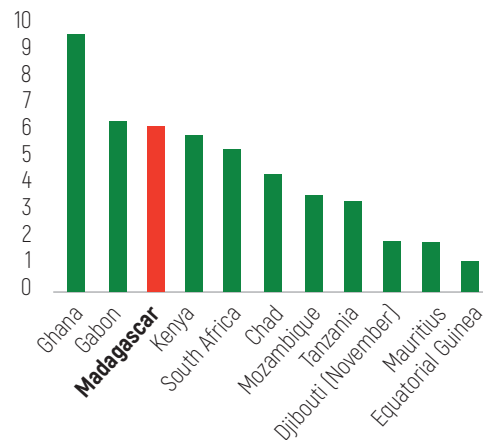
Percentage contribution to inflation, end of period (%)



Source: INSTAT, National institute of statistics of benchmark countries

**Figure 15: Inflation still remains relatively high in Madagascar compared with other countries**

y-o-y inflation rate, end of 2018 (%)

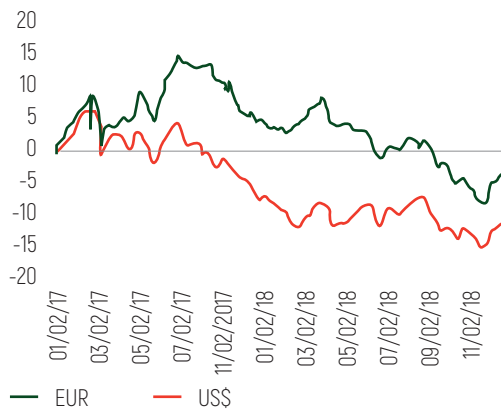


<sup>11</sup> The cost of public services is estimated using a combination of different prices, the most important being salaries of domestic employees, registration fees at public primary and secondary schools, stamps, and fees at public hospitals.

**10. Madagascar has a flexible exchange rate, where the real effective exchange rate has remained largely constant.** A flexible exchange rate means that market dynamics are used to guide the conversion rate of the Ariary into other currencies. The central bank only intervenes to smooth high volatility in currency fluctuations, which is applied on a limited scale. Since

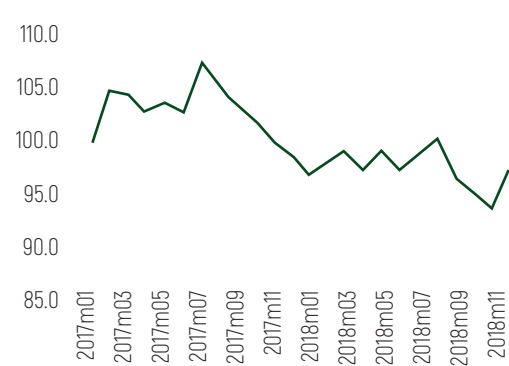
the beginning of 2018, the Ariary depreciated against the US dollar by 8.3 percent and the Euro by 1.9 percent in nominal terms, with some fluctuations within the year. Depreciation of the Ariary was most notable in the low export season, when demand for the local currency was low. Notwithstanding the fluctuations, the real effective exchange rate remained relatively stable (Figure 17).

**Figure 16:** The ariary has been on a depreciating trend in nominal terms



Source: Central Bank

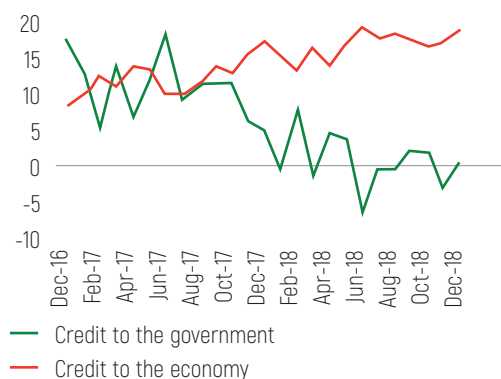
**Figure 17:** The real effective exchange rate has been relatively constant in 2018 (2017 = 100)



**11. Credit to the economy has been steadily increasing, while central bank financing to the government slightly reduced.** Between December 2017 and December 2018, credit to the economy from private banks increased by 14.1 percent, which is largely on a short term basis. While this upward trend is a reflection of an economy under expansion, with credit to the economy at 13.6 percent

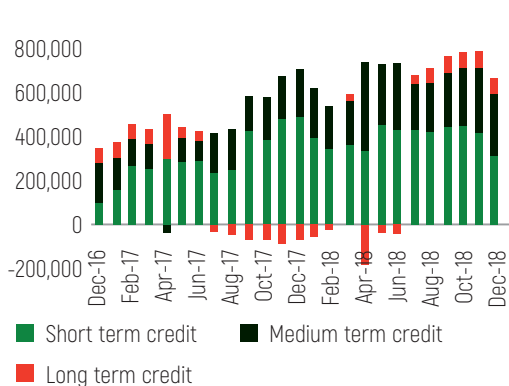
of GDP in 2018, financial intermediation in Madagascar remains low compared to the regional average (Figure 20). Conversely, central bank financing to the government has been decreasing in line with the provisions of the central bank statutes updated in 2016. Notably, statutory advances declined from 0.9 percent of GDP at end 2016 when the law was enacted to 0.5 percent of GDP in December 2018.

**Figure 18:** Lending to the private sector has picked up...  
% change y-o-y

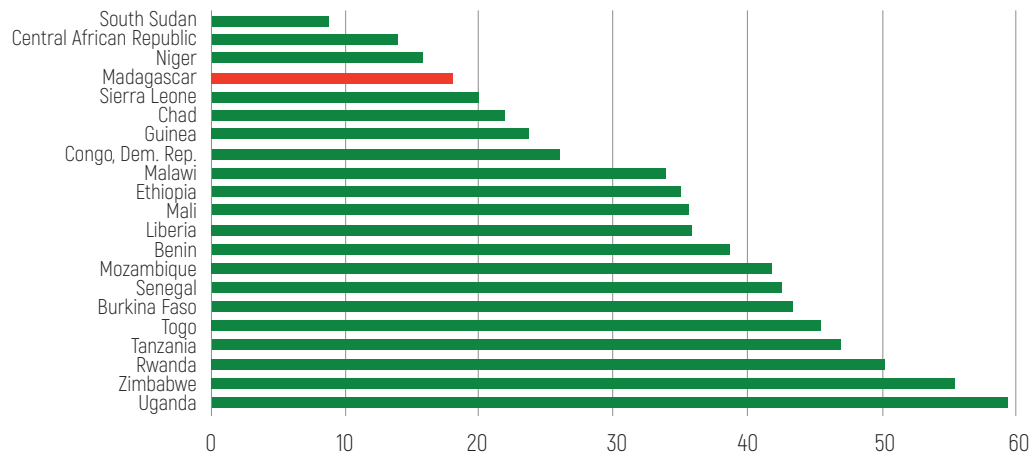


Source: Central bank, World Development Indicators, Global Index Database

**Figure 19:** ... Which remains on a largely short-term basis  
Annual variation (millions of MGA)



**Figure 20: Low levels of financial intermediation are reflected by less than 20 percent of the population being banked**  
 Percentage of the population that is banked (age 15 and over)



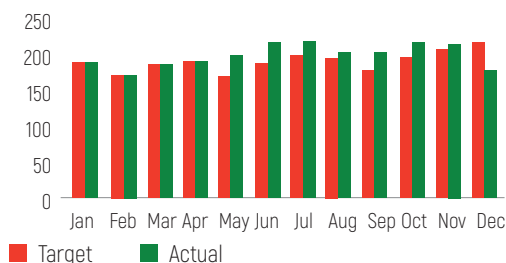
Source: Central bank, World Development Indicators, Global Findex Database

## D FISCAL SECTOR

**12. Tax revenue collection showed a slight improvement in 2018 compared with the previous year.** The most important change to tax policy in 2018 was the increase in taxes on petroleum products (TPP), which contributed to an increase in TPP collection by 71 percent in 2018 compared to the previous year.<sup>12</sup> Compared to other types of taxation, TPP can be considered as progressive: the wealthiest in society are the largest consumers of fuel products and bear the burden of taxation. The increase in TPP as well as continuous improvements in the administration of customs led to the government exceeding their annual target for taxes on trade and transactions by 4.2 percent (Figure 21). By

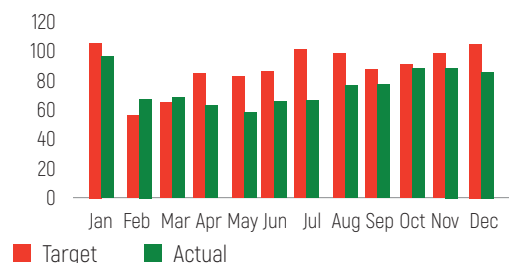
contrast, the performance of domestic tax collection fell short of expected targets by 94 percent mainly due to an under-collection of VAT and excise duties (Figure 22). This performance underscores the need to continue strengthening domestic tax administration. Overall, the performance of tax revenue collection was at 97 percent of the annual target. While tax collection rates have been increasing over the last five years (Figure 23), performance still falls short of other countries in sub-Saharan Africa, where average tax collection rates are over 15 percent compared with over 10 percent in Madagascar for the same period (Figure 24).

**Figure 21: Customs revenues exceeded target starting in the second quarter of the year**  
 Customs revenue collection MGA billions



Source: MEF, IMF

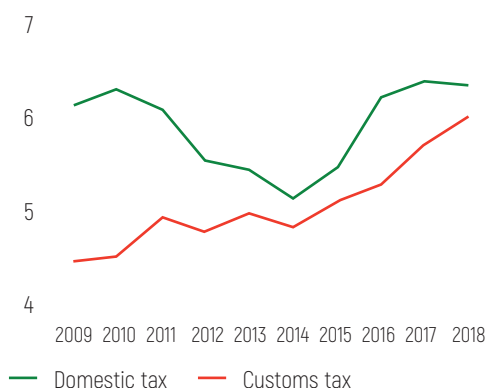
**Figure 22: VAT receipts started to fall below targets in April**  
 Domestic VAT collection MGA billions



<sup>12</sup> Taxes on petroleum products (per liter) increased from MGA 105 to MGA 213 for jet fuel, MGA 390 to MGA 503 for gasoline, MGA 120 to MGA 228 for diesel, and MGA 20 to MGA 128 for fuel oil.

**Figure 23: While tax revenues have been increasing over the last five years...**

Tax collected (gross), in percentage of GDP



Source: MEF, IMF

**Figure 24: ...Tax revenue performance remains weak compared to other countries**

Percentage of GDP, 2013-2017 average



**13. Current expenditures, which refer to the cost of running government and public services, were executed as planned in the Revised Finance Law.** To increase the level of resources available for financing social and investment programs, the government has an objective of reducing current expenditures, which have fallen from 11.7 percent of GDP in 2017 to 10.8 percent of GDP in 2018 (Figure 25). This reduction is largely due to a fall in the transfer to JIRAMA (from 1.2 percent of GDP in 2017 to 0.8 percent of GDP in 2018). Expenditures on social priority sectors was at an estimated 1 percent of GDP, nearly in line with the government’s target of 1.1 percent of GDP.<sup>13</sup>

**14. The execution rate of capital expenditures is improving, although the scale-up is progressing at a slower pace than expected.** Capital expenditures were estimated at 5.8 percent of GDP. Close to 80 percent of capital expenditures programmed in the Revised Finance Law 2018 were executed, comparing favorably with the 67 percent execution rate realized the previous year. The most significant infrastructure projects (in terms of budget execution) in 2018 include the expressway that connects the capital city with the international airport, the

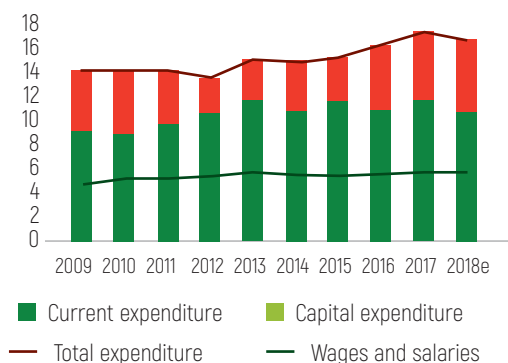
extension of the port in Toamasina, and the reconstruction of infrastructures in Antananarivo. The slower than planned execution rate has affected the implementation of major roads projects which benefit from external financing.<sup>14</sup>

**15. On balance, the government’s management of public finances in the pre-electoral period has demonstrated restraint, with the deficit contained at 2.6 percent of GDP (cash basis)** (Figure 26). The deficit is mainly financed through external financing, which is largely on concessional terms in line with the government’s medium-term debt strategy. The slower than expected execution of externally financed investment projects has contributed to containing the deficit. Domestic financing is through the issuance of government bonds mainly subscribed to by commercial banks as well as limited central bank financing. The financing of the fiscal deficit from domestic sources has fallen from 50 percent in 2014 to 27 percent in 2018, reflecting increased access to external borrowing and adherence to the limit set by the updated central bank statutes on statutory advances. Over time, it is expected that the domestic debt portfolio will shift from largely short-term to increasingly medium-term bonds, as foreseen in the debt strategy.

<sup>13</sup> Social priority expenditures are defined as spending on health, education, water and population sectors excluding salaries and externally financed investments.

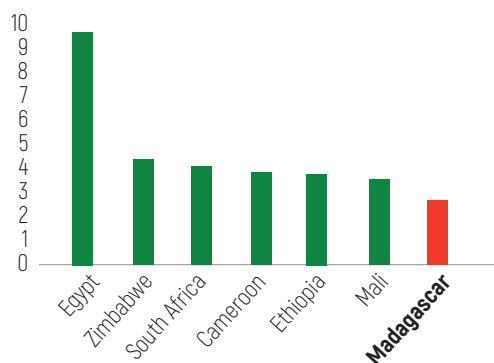
<sup>14</sup> The roads projects subject to delays include the RN5 and the Rocode North-East.

**Figure 25: Current expenditures fell, largely due to a reduction in transfer to JIRAMA**  
Percentage of GDP



Source: MEF, IMF

**Figure 26: Fiscal deficit (cash basis) was contained compared with other countries which held presidential election in 2018**  
Percentage of GDP



**16. Overall, the level of debt distress remains moderate.** Madagascar’s risk of external debt distress is moderate, which means that while overall levels of debt are currently manageable if there is a shock to the economy, such as a reduction in growth, the capacity of the country to repay its debt service is under moderate risk. The latest estimations of Madagascar’s debt were undertaken in October 2018, and show that the ratio of public debt to GDP fell from 38.6 percent of GDP in 2016 to an estimated 35.8 percent of GDP in 2018.

**17. The realization of unforeseen liabilities could pose additional costs that the government had not planned or budgeted for.** The risk of unforeseen expenditures or liabilities arising is of concern to all countries; what matters is how these risks are managed. In Madagascar, the most pertinent sources of fiscal risks arise from fuel pricing, JIRAMA, the Pension Fund and natural disaster related risks. The issue of fuel pricing is discussed in detail in section 3, and refers to the accumulation of liabilities to petroleum companies if retail prices are not adjusted in line with movements in global oil prices. Weather-related

shocks that affect hydro power generation could result in increased utilization of thermal energy, which combined with poor procurement and planning decisions, may lead the government to bear additional costs, as was the case in 2017. The transfer to the Pension Fund has been higher than expected as the management of the government’s civil service roster continues to progress. And finally, risks related to natural disasters are estimated to cost the economy on average 14 percent of GDP each year, given Madagascar’s high level of exposure to cyclones and other climatic shocks.

**18. The government is taking steps to improve the management of contingent liabilities.** These efforts include creating a consolidated contingent liabilities registry at the MEF to monitor guarantees, SOEs liabilities, and commitments under PPP agreements. There has been increased transparency of debt, where the government has undertaken its own analysis of debt sustainability and published the results. The government also publishes its medium-term debt management strategy and a quantified analysis of fiscal risks is included as an annex to the budget.

Public debt to GDP is estimated at **35.8%** in 2018 and the level of debt distress is moderate



# PART TWO

## ECONOMIC OUTLOOK



**19. The medium-term economic growth outlook is positive.**

Growth is projected at 5.2 percent in 2019, a trend which is expected to continue over the medium-term. The peaceful environment in which the Presidential elections and handover took place bodes well for investor confidence. Growth of manufacturing-related activities is expected to remain strong. Developments in the energy sector should support this growth outlook, with average y-o-y growth projected at 10.8 percent over the period 2019 to 2021, assuming that JIRAMA will continue to realize improvements. The services sector is expected to continue realizing strong performance. Construction-related activities are projected to intensify following the planned scale-up of public works. The primary sector is expected to moderately expand, including through the development of agribusinesses and cash crops, such as vanilla.

**20. The pressure on the current account deficit is expected to gradually heighten over the medium-term, reflecting the country's external financing needs as plans to scale-up investments continue.** The deficit is projected at 1 percent of GDP in 2019, and then average 3.2 percent of GDP over the period 2020 to 2022, as the scale-up in public and private investments drives the demand for imports. The current account deficit will be offset by the related surpluses in the capital and financial accounts from public sector loans and foreign direct investment. The financing of the current account is consistent with preserving the moderate risk of debt distress.

**21. Monetary policy is expected to maintain its focus on controlling inflation.** Total inflation is estimated to hover around 6 percent over the 2019 to 2022 period. Assumptions are based on food inflation being contained, and moderate increases in energy prices, in line with JIRAMA's Business Plan. The central bank's intervention in the exchange rate market is expected to remain limited to smoothing large

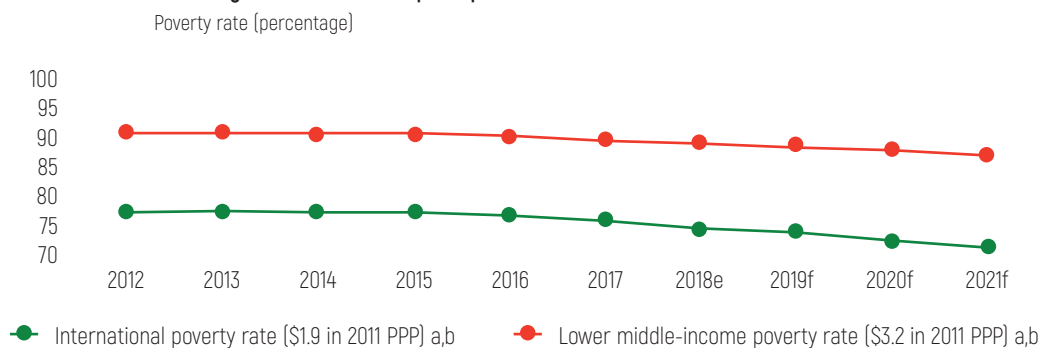
fluctuations and meeting the target of foreign reserves.

**22. Over the medium-term, public expenditures are expected to moderately rise, but with a changing composition toward lower current spending and higher capital expenditures.**

Public spending is projected to increase from 16.6 percent of GDP in 2018 to 17.4 percent of GDP in 2019, and then average 18.1 percent of GDP over the period 2020 to 2022. Current expenditures are projected to continue following the same trend at around 10.7 percent of GDP in 2019, based on the assumption that the transfer to JIRAMA will gradually decline as the utility realizes improvements to its operational performance. Capital expenditures are projected to gradually increase, as public investment projects are implemented, in line with external financing commitments. PPP agreements are also expected in key sectors such as energy and ports, following the approval of the PPP law in 2016.

**23. This positive growth forecast should bode well for poverty reduction, provided that the sectors driving growth are accessible to the poor.** Given that the majority of the poor population live in rural areas, which is dominated by subsistence agriculture, it remains unlikely that the positive growth forecast will incorporate the poorest over the short term. However, if over the medium to long term, structural barriers can be lifted in the economy, for example through the provision of electricity at affordable prices, access to credit and to infrastructure, including greater connectivity of farmers to markets, there could be opportunities for the poor to be more meaningfully engaged in Madagascar's growth trajectory. Such efforts would also need to be complemented by investments in the human capital of the next generation of Malagasy by improving education, health and social protection services. Based on the current growth forecast, the World Bank projects that the percentage of people living on less than US\$1.90 a day could decline from 75 percent in 2018 to 71 percent by 2021.

**Figure 27: The percentage of the population living below the poverty line is expected to decline over the medium term as growth continues to pick up**



Source: INSTAT and World Bank staff projections



# PART THREE

**MANAGING FUEL PRICING  
IN MADAGASCAR**

## A INTRODUCTION

**1. The objective of this special focus section is to inform the public debate on fuel pricing in Madagascar.** As the transition to renewable energy is ongoing, demand for fuel will remain high. The government has been engaged in reforms to fuel pricing with the objectives of ensuring fuel supply at an affordable price, in a way that does not require the state having to pay. Notably, a universal fuel price subsidy was eliminated, which was regressive because it disproportionately benefited the rich, and reduced the level of resources available for spending

on pro-poor priorities. In the first quarter of 2018, the government also agreed with petroleum companies that the formula for calculating fuel prices could be modified to reduce the final retail price paid by consumers. While these advances show that steps have been taken in the right direction, there is still further scope for reforming fuel prices. This special focus section aims to inform the public debate, by discussing: (i) why the reform to fuel pricing and subsidies is important; (ii) considerations in pricing fuel; and (iii) policy options available to Madagascar.

## B WHY THE GOVERNMENT HAS ENGAGED IN THE REFORM OF FUEL PRICES

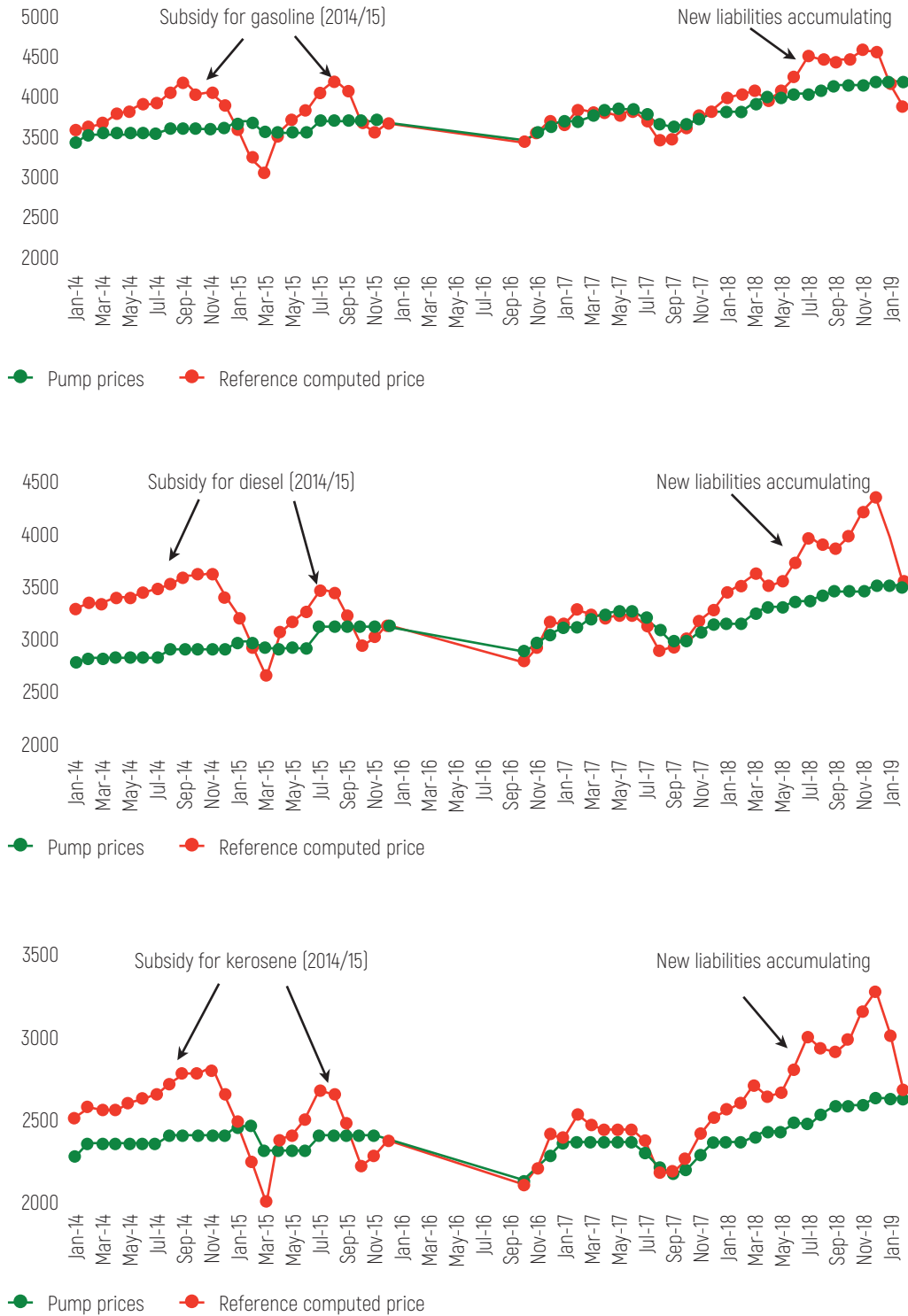
**2. To contain the impact of high and volatile fuel prices, changes to global oil prices have not been passed through to consumers.** The price of fuel paid by consumers at the pump has been lower than what would have prevailed if the *reference calculated price* was applied. The reference calculated price is a way of calculating the final retail price of fuel, in a way that reflects changes in global oil prices and exchange

rates plus other fixed cost drivers. When there is a gap between the reference calculated price and the retail pump price this means that changes in global oil prices are not being fully passed through to the consumer. Instead, the government either subsidizes the price, as was the case in 2014 and 2015, or liabilities accumulate to petroleum companies, which has been the case in late 2018 and early 2019 (Figure 28).



As the transition to renewable energy is ongoing, demand for fuel will remain high.

**Figure 28: The gap between the retail price and the reference computed price is the subsidy (2014/15) or liabilities (2018). The gap is particularly high for diesel and kerosene**  
 (prices in MGA/liter)



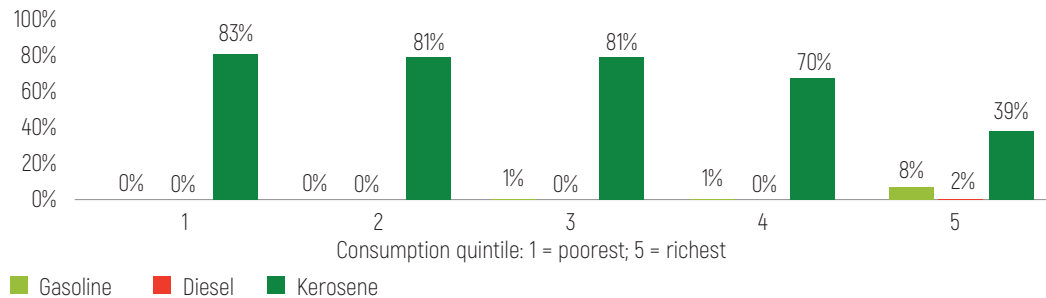
Source: National Office of Hydrocarbons

**3. Any fuel pricing policy that results in the government subsidizing the cost of fuel benefits the wealthy who consume the most fuel.** A universal fuel price subsidy benefits all consumers regardless of whether they are rich or poor. The greatest beneficiaries of the universal price subsidy are those who consume the most fuel. As

Madagascar is one of the poorest countries in the world,<sup>16</sup> it is only the richest 20 percent of the population who have the purchasing power to consume diesel and gasoline (Figure 29). By contrast, the poorest 60 percent of the population consume largely kerosene but no other fuels, which explains why kerosene prices are lower.

**Figure 29: Gasoline and diesel are consumed by the richest, while the poorest 60 percent of the population largely consume kerosene**

Share of households consuming fuel products, by quintile (in percentage)



Source: ENSOMD, 2012; World Bank staff calculations

**4. Similarly, it is largely the wealthiest in society who consume goods and services that utilize fuel as an input, with the bottom 40 percent mostly excluded.**

As fuel is used as an input for producing a range of goods and services, it is important to consider how the poor may be affected by price changes. Since the poor have limited levels of consumption of electricity, public transportation and non-subsistence food, they are largely sheltered from price changes of these goods and services.

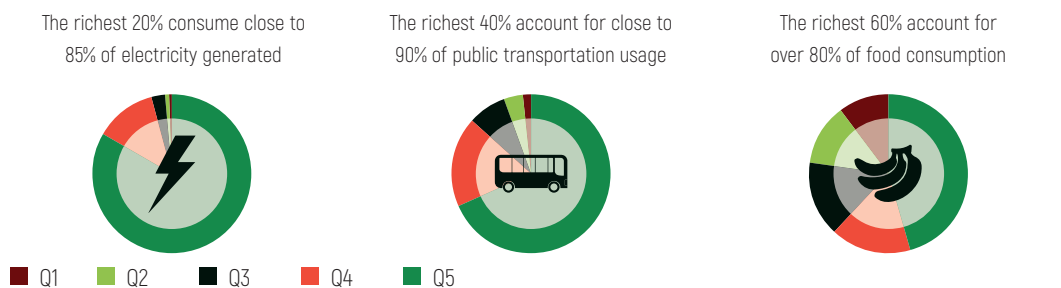
- Electricity:** The richest 20 percent of the population consume 85 percent of electricity compared with negligible levels of consumption by the poorest 40 percent. The cost of service provision may not reflect changes in global fuel prices, and tariffs paid

by consumers are subsidized.

- Public transportation:** The poorest 40 percent utilize only 5 percent of services. The prices of public transportation in urban areas have previously been subsidized by the government partly to mitigate the effects of fuel price increases, a scheme which has had limited success.

- Food:** The richest 60 percent of the population are the largest purchasers of food products, which may use fuel as an input to food processing, while the poorest 40 percent purchase just over 15 percent, indicating high levels of consumption of home-grown food (auto-consumption).

**Figure 30: Consumption patterns of goods and services that utilize fuel show that the wealthiest are the largest consumers while the poor are excluded**



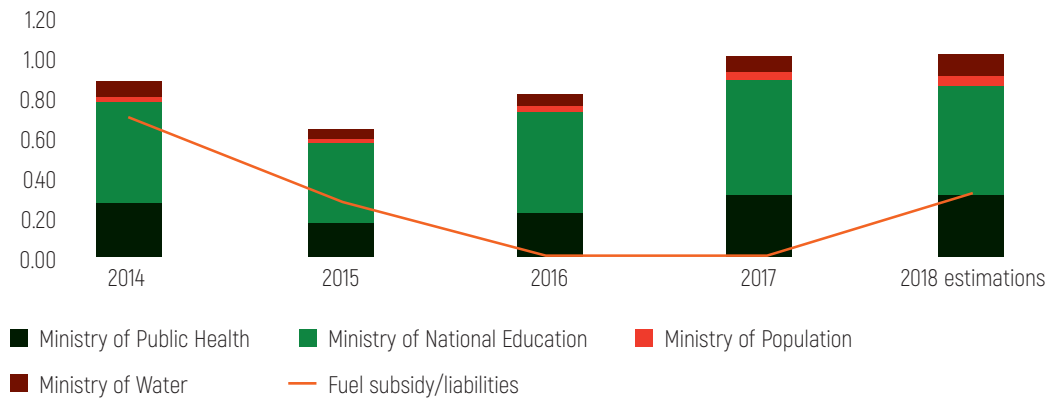
Source: ENSOMD, 2012; World Bank staff calculations

**5. By using public resources to subsidize fuel prices which benefit the rich, the government has in the past had fewer resources available to spend on pro-poor programs.** On average in 2014 and 2015, 0.5 percent of GDP was spent on subsidizing fuel compared with only 0.8 percent of GDP for

social priority expenditures.<sup>17</sup> Therefore, policy makers are confronted with a choice of either using valuable public resources to subsidize the price of diesel and gasoline which supports the lifestyles of those who are better off than the majority, or to spend on pro-poor programs.

**Figure 31: Spending on a regressive fuel subsidy reduces resources available for pro-poor priorities**

Expenditures on fuel subsidies / liabilities compared with priority social expenditures [% of GDP]



Source: MEF and OMH

**6. Furthermore, the policy of subsidizing fuel was not affordable, and arrears accumulated to petroleum companies.** A universal fuel subsidy became unaffordable as a policy measure at a time when the fiscal space available for spending on social priority sectors was already constrained. During the fuel subsidy period in 2014 and 2015, the government was not able to compensate petroleum companies on time for the lowered price of fuel. The lack of timely payments by the government created cash-flow problems for petroleum companies. For a business company, the lack of cash flow often perturb the ability to manage operations and to implement the investment plan.

Arrears accumulated to petroleum companies were paid through issuing treasury bills. The government committed to passing through changes to global oil prices to the retail price of fuel to avoid a recourse to the fuel subsidy.

**7. Following these challenges with the fuel subsidy scheme, the government embarked on a process to reform fuel pricing.** As global oil prices started to fall at the beginning of 2016, the government eliminated fuel subsidies by decree,<sup>18</sup> which supported the government's objective of improving the composition of expenditures to have more resources available for pro-poor spending.

**8. However, as global oil prices continued to rise in 2018, the pass-through of higher prices to the retail price has been moderated, resulting in liabilities once again accumulating to petroleum companies.** In 2018, the retail price of fuel was adjusted six times, marking a break with the period characterized by price regulation. However, since price changes were only ad hoc, a gap has once again emerged between the retail price of fuel and the *reference calculated price*, estimated at 0.3 percent of GDP. In addition, the possibility of writing off part of the fees due by petroleum companies to the Road Maintenance Fund has been considered to compensate these operators for losses related to fuel pricing.<sup>19</sup> These recent developments have once again opened the debate on how to optimize policy-making related to fuel pricing.

<sup>17</sup> Social Priority Spending is the sum of budget allocations to the Ministries of Health, Education, Population, and Water, excluding salaries and externally financed investment.

<sup>18</sup> Décret n°2016-014 du 12 janvier 2016 portant fixation des prix maxima affichés à la pompe

<sup>19</sup> OMH Petroleum Bulletin, first quarter 2019. The reference price structure for calculating the cost of fuel includes a fee that the petroleum companies are required to pay to the Road Fund.

## C KEY CONSIDERATIONS IN PRICING FUEL

### 9. As Madagascar is a fuel importing country, ensuring the security of fuel supply for this large island is essential.

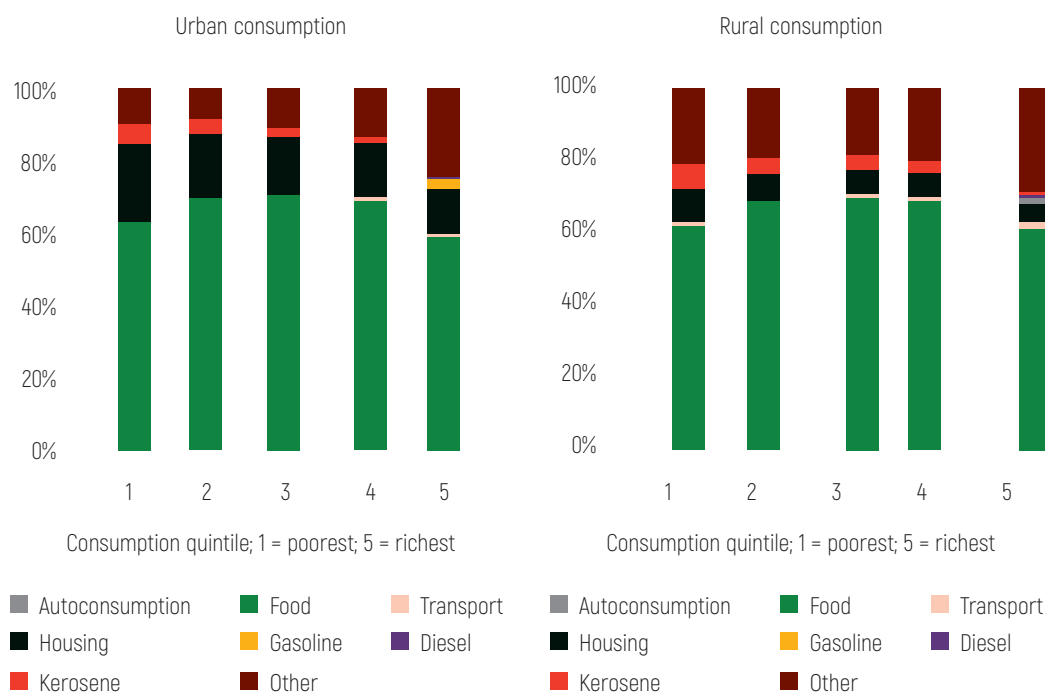
In the past, when petroleum companies have not been compensated for the difference between the reference calculated price and the retail price of fuel, there have been concerns that procurement will not be completed in time to meet local demand. The government does have a 21-day minimum stock requirement in place, as set in the regulatory framework. A key factor in helping to secure fuel supply is for liabilities to not accrue to petroleum companies, which can compromise their ability to supply quality fuel to consumers and meet their investment obligations.

### 10. A fuel pricing policy should aim to protect the poor from price increases and promote affordability of this key commodity.

While poorest 40 percent of the population do not consume gasoline and diesel, they do consume kerosene. Furthermore, the poorest 40 percent of the population spend a higher share of their overall budget compared with wealthier income groups, in both urban and rural areas. In addition, the poor also spend a higher share of their overall budget on food, which uses fuel as an input. Therefore, the pricing of kerosene is particularly important for the poorer segments of the population for lighting and other services.

**Figure 32: The poorest spend a higher share of their budget on fuel and goods and services that utilize fuel compared with the rich**

Share of total household expenditures spent directly and indirectly on fuels, by quintile (in percentage)



Source: ENSOMD, 2012; World Bank staff calculations

### 11. Furthermore, any fuel pricing policy should not result in the state having to subsidize the cost of fuel.

A universal fuel subsidy is a regressive policy, benefiting those who are better off compared to the majority of the population. Previous episodes of subsidizing fuel have shown limited

success, with the state having insufficient resources to pay. In addition, from an environmental perspective, subsidizing fuel could reduce the incentives to transition to renewable energy, a critical and complementary reform which is already underway (see Box 1).

## D POLICY OPTIONS AVAILABLE FOR FUEL PRICING

### (i) Price smoothing

**12. The policy option the government is currently implementing is price smoothing, which has intuitive appeal, as the aim is to charge more when world fuel prices are low and use the savings to subsidize prices when world fuel prices are high.** The basic principle underlying a self-financing scheme to smooth prices—which in theory requires no budgetary support—is to keep domestic prices relatively high when world fuel prices are low and set aside the savings (over-recovery) to subsidize domestic prices when world fuel prices are high (under-recovery). This mechanism may be managed virtually, whereby petroleum companies manage over- and under-recoveries on their own, or a fuel stabilization fund may be set up into which savings are deposited and amounts withdrawn for subsidies. The aim is for the government to moderate the transmission of world price volatility to the domestic market at little or no budgetary cost.

**13. However, price smoothing has had limited success globally and in Madagascar in avoiding budgetary costs.** The premise of a price smoothing approach being self-financing rests on petroleum product prices reverting to a mean on a regular basis, so that under-recoveries are followed by over-recoveries frequently. The movement of the oil price level over the past 15 years indicates that a mean-reversion model has not held, and fuel stabilization funds (or buffer mechanisms) have virtually universally failed to achieve their original objectives without incurring large fiscal costs.<sup>20</sup> In the most recent attempt to implement price smoothing in Madagascar, liabilities have accumulated to petroleum companies to the tune of 0.3 percent of GDP and the possibility of waiving certain fees has been considered.

**14. Given this global experience, many countries no longer use the concept of price smoothing to manage fuel pricing.** Examples of countries that had used a price stabilization fund but found them developing very large deficits include Chile, Colombia, Ethiopia, Peru, and Thailand. Where these funds have been retained and used, the degree of price smoothing is extremely limited, either in magnitude or coverage of fuels. In Thailand and Vietnam, a fee is imposed on each fuel to finance the fund.

**15. A further risk of implementing a price smoothing approach in Madagascar, is that there is no formalized stabilization fund with clear and transparent governance arrangements.** In previous episodes of price smoothing, for example between mid-2017 to mid-2018, petroleum companies kept account of any 'over-recovery.' However, there is no established procedure for the use of the stabilization fund, which raises the risk of poor management.

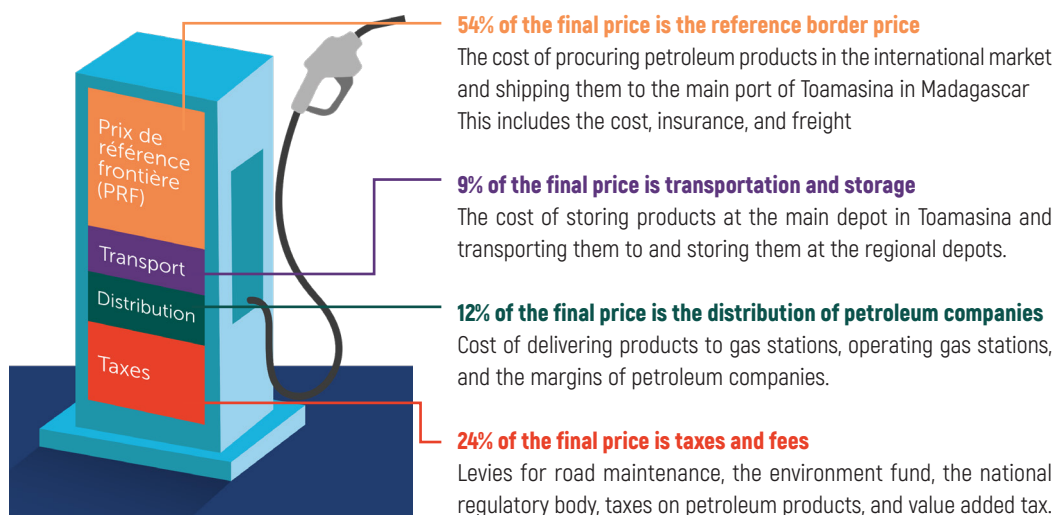
### (ii) Automatic adjustment mechanism with complementary policies

**16. Another option for managing fuel pricing is to use the automatic adjustment mechanism, so that changes in global oil prices are passed through to consumers.** This approach avoids the state having to pay for subsidizing the cost of fuel. Countries that use the automatic price adjustment mechanism implement a formula to calculate the *reference computed price*, which has four major components: the reference border price, transportation and storage costs, distribution and margins, and taxes and fees (Figure 33). Changes to global petroleum product prices and the exchange rate are variable factors that affect the final retail price of fuel. The other components of the reference computed price are generally fixed costs that are agreed between the government and petroleum companies.

<sup>20</sup> An international study covering 65 countries showed that price stabilization funds have continuously required budgetary transfers. See Kojima, M. (2013). 'Petroleum Product Pricing and Complementary Policies: Experience of 65 Developing Countries Since 2009'. Washington DC : World Bank



**Figure 33: Determinants of the reference computed price**



**17. A concern related to applying the automatic price adjustment mechanism is that price increases and price volatility could adversely affect the poor, which has contributed to prices for kerosene being lower than other types of fuel.** One way that fuel pricing has been tailored to meet the needs of the poor is to have kerosene prices lower than other types of fuel. While this policy can help to increase accessibility to fuel, a note of caution should be taken, as large price difference between kerosene and diesel bears the risk of illegal diversion of lower-priced kerosene to the higher-priced diesel fuel market. To reduce the risk, the government has imposed different coloring for each type of fuel.

**18. Other countries that have successfully implemented**

**the automatic price adjustment mechanism have applied appropriate mitigating measures to cushion the effects on the poor.** Mitigating measures should be well-targeted to the poorest who would be most affected, according to objective and transparent criteria. The cost of implementing mitigating measures should be assessed early with financing secured, although such interventions should be considered temporary.

**19.** Box 2 presents a selection of relevant country experiences where mitigating measures have been implemented, although it must be noted that these countries have a higher implementation capacity compared with Madagascar and that it takes time to rollout the types of programs discussed below.

**Box 2: Mitigating Measures Accompanying Fuel Subsidy Removal - A Summary of Selected Experiences**

Experience in other countries highlights the important role that mitigating measures have played in contributing to the success of fuel pricing reforms by cushioning the effects of price increases and indicating public commitment to social welfare. Selected country experiences include the following:

- In *India*, the delivery mechanism for delivering price subsidies for liquified petroleum gas (LPG) was modified, taking the form of a social protection program administered through the Direct Benefits Transfer Scheme. Under this mechanism, consumers pay market prices for LPG and receive a subsidy directly to their bank account. All

<sup>21</sup> Kerosene and diesel may be considered nearly perfect substitutes for the purpose of commercial malpractice, where mixing of up to 30 percent may be undetected by vehicle users.

households except tax-payers with an annual income exceeding Rs 1 million per year (equivalent to (US\$14,525), are entitled to this benefit up to twelve refills annually.<sup>22</sup> While beneficiaries are required to self-enroll, the government also conducted a campaign to encourage the well-off to give-up to the subsidy.

- In *Egypt*, the fuel subsidy reform in 2014 was accompanied by social safety net programs such as an increase in minimum wages for public servants and measures to limit food price increases, which helped to gain broader support.<sup>23</sup> The reform was introduced right after the Presidential elections.
- In *Morocco*, the energy subsidy reform was initiated in 2012 and fuel price subsidies were fully eliminated by the end of 2014 with the exception of the price subsidy for LPG. The successful implementation of the fuel subsidy reform was accompanied by an expanded government program to support school-aged children and medical assistance for the poor. In parallel, the government introduced new social protection programs for low-income widows and physically disabled and provided support for public transport.<sup>24</sup>

**20. The mitigating measure which has been used to cushion the effects of higher and volatile fuel prices is the subsidy for urban transport companies to stabilize bus fares, but this is not targeted to alleviate the effects on the poor.**

First, 91 percent of Madagascar's poor live in rural areas and are therefore excluded from this transport subsidy. Second, even within urban areas the poor make limited use of public transport, whereby less than four percent of urban households in the poorest quintile and less than 10 percent in the second poorest quintile use public transport (Table 3).

Third, global experience shows that public transport subsidy schemes transferred as cash to bus companies are inefficient with an estimated leakage rate of up to half.<sup>25</sup> In Madagascar, there is no consolidated register of urban transport companies, and the management of the transport subsidy is not supported by effective control measures. One of the objectives of the subsidy was to incentivize improved services to consumers, which did not materialize. While this mitigating measure contributes to alleviating the concerns of the urban lower-middle classes, the poor are still left behind.

 **Table 3: Use of and spending on public transport, by quintile (urban)**

Quintiles	Utilization of public transport	Expenditures on public transport by urban households
5 - richest	25.2	91.4%
4	15.8	6.9%
3	10.5	1.2%
2	9.3	0.3%
1 - poorest	3.5	0.0%

Source: ENSOMD, 2012; World Bank staff calculations

22 Jain, A., Agrawal, S., & Ganesan, K. (2018). 'Lessons from the World's Largest Subsidy Benefit Transfer Scheme. In H. Van Asselt (Author) & J. Skovgaard (Ed.), The Politics of Fossil Fuel Subsidies and their Reform. Cambridge: Cambridge University Press.

23 Moerenhout, T. (2018). 'Reforming Egypt's Fossil Fuel Subsidies in the Context of a Changing Social Contract'. In H. Van Asselt (Author) & J. Skovgaard (Ed.), The Politics of Fossil Fuel Subsidies and their Reform. Cambridge: Cambridge University Press.

24 Boussemame, H. (2017) 'A Phased Approach to Energy Subsidy Reform: Morocco Experience'. Practitioner exchange series. Energy Sector Management Assistance Program. Available from: <https://www.esmap.org/node/140726>.

25 Gwilliam, K., Kojima, M. and Johnson, T. (2004) 'Reducing Air Pollution from Urban Transport,' World Bank, Washington DC : World Bank

**21. In Madagascar, a strategy to cushion the effects of price rises on the poor could consider expanding the social safety nets already in place.**

For instance, the Intervention Fund for Development (Vatsy Fiovota) program has been shown to significantly decrease the food poverty ratio among beneficiaries by about 5 points but only has limited coverage of 3 percent of the vulnerable population. Rolling out this program further could help to meet the needs of the poorest. To more directly address the impacts of kerosene and food price increases for poor urban households, a group that accounts for 10 percent of extremely poor households in the country, a cash transfer program targeted to poor urban households could be considered for a limited time. However, the implementation of a social safety net program in urban areas is associated with operational challenges, such as effective targeting and monitoring the uptake of any associated conditionalities. Furthermore, any temporary cash transfer programs should be accompanied by the gradual removal of the public transport subsidy, combined

with measures to improve the efficiency of the urban transit system.

**22. Another way to cushion the effects of higher petroleum prices is to lower the fixed cost drivers of the reference calculated price.**<sup>27</sup>

In 2016 and 2017 an independent industry analysis was conducted on the *reference calculated price* using an approach of benchmarking costs in Madagascar with countries that share similar characteristics.<sup>28</sup> Information on actual operating costs were not available at the time, but could be used in the future to update the assessment. The industry analysis was used as a basis for a first round of negotiations between the government and petroleum companies, and resulted in the reference calculated price being reduced by 4 percent, an amount which could be further lowered. Thus, there is the possibility for the consumers to pay a lower price for fuel without the state having to pay for a regressive fuel subsidy. A summary of the recommendations is included in Box 3.

**Box 3: How cost drivers in the calculated reference price can be reduced**

Based on the independent industry assessment, key cost drivers could be reduced as follows. These recommendations should not be considered exhaustive, but are rather a basis for further discussion.

**a. Reference border price.** Currently, petroleum companies procure fuel to Madagascar as part of a group shipment where each company procures from a supplier which has links to a parent company. Recommendations for lowering the reference border price include the following:

- Purchasing and freight costs could be optimized by grouping orders from a single supplier.
- Freight costs could be based on actual cost components instead of a notional aggregate amount.
- There could be a joint tender for fuel, whereby fuel exporters to Madagascar would have to compete to offer the best price, as is practiced in Kenya and Mozambique.

**b. Transportation and storage margins.** The costs charged for unloading products in the Toamasina terminal (GRT) and the Petroleum Logistics (LPSA) are high in Madagascar compared with the benchmark countries. Costs are set by the

<sup>26</sup> Ministère de la Population, de la Protection Sociale et de la Promotion de la Femme, Fonds d'Intervention pour le Développement, Office National de Nutrition, World Bank, UNICEF (2018). 'FIAVOTA program positive impact on beneficiary households: key results after 15 months of implementation'.

<sup>27</sup> At the request of the government, the World Bank through the support of the Energy Sector Management Assistance Program financed an independent industry analysis. A firm specialized in the downstream petroleum sector was recruited on a competitive basis to undertake the study. The firm selected has substantial international experience in analyzing the reference price structure in numerous countries.

<sup>28</sup> The comparator countries include: Reunion Island (island with a level of consumption similar to Madagascar), Kenya (challenging logistics since the main consumption zone, Nairobi, is located about 500km from the coast), Kenya, Tanzania, Senegal, Ivory Coast (refinery – in place or previously operating) and Mali, Guinea Conakry, Togo, Mauritania, Burkina Faso (similar levels of governance).

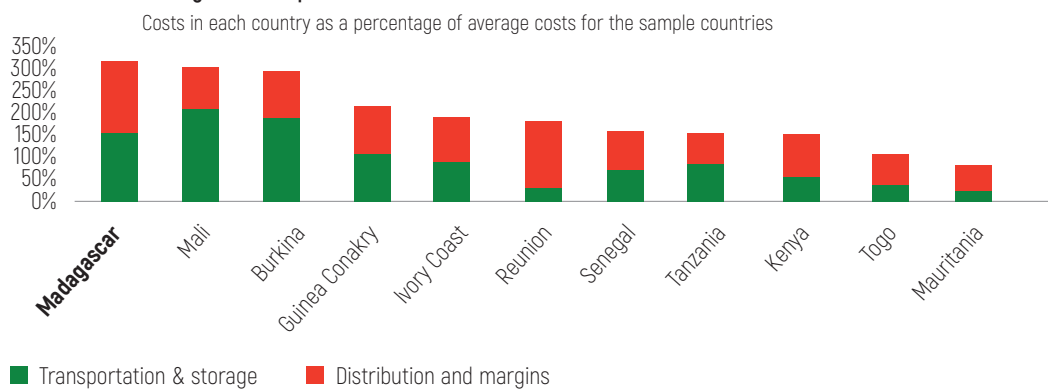
regulatory agency, based on the submission of information by petroleum companies. Recommendations for lowering the costs of transportation and storage include the following:

- Reduce barriers to entry in the transportation of petroleum products, such as high costs of licenses. Consider alternative forms of more competitively priced transport, such as rail transport.
- Undertake an audit of GRT and LPSA's costs so that cost drivers can be disaggregated. Publishing the results of these audits could also aid monitoring by consumer groups.

**c. Distribution and margins.** Petroleum companies in Madagascar have higher margins than all the other countries in the benchmarking study. Recommendations for lowering costs include:

- Use actual costs, supported by financial audits. If information on audited costs is not forthcoming, establish a margin in line with the other benchmark countries.

**Figure 34: The combined costs of transportation and storage and distribution and margins are the highest in Madagascar compared with benchmark countries**



Source: Beicip-Franlab Industry Assessment

**d. Taxes and fees:** Taxes on petroleum products in Madagascar are amongst the lowest in the benchmark countries. The recommendation for taxes is:

- To closely monitor taxes and fees since this could be used as the variable parameter of a price smoothing plan. Any fiscal costs associated with taxes / fees and price smoothing should be availed to the public to facilitate an informed debate on fuel pricing.

**23. The factors behind the cost drivers in Madagascar allude to challenges related to market concentration along the entire supply chain in the petroleum sector.** Such a situation lends itself to private operators being able to exert their market dominance. Madagascar's petroleum sector has an Herfindahl-Hirschman index (HHI) of 0.27, indicating a high level of concentration. A market with an HHI above 0.18 is generally considered concentrated, while less than 0.1 is viewed as contestable. While the objectives of Law No. 2004-003 include facilitation of new market entry, in practice there has been limited penetration by new actors. One of the barriers to entry in the distribution chain is a requirement for any new firms to have a minimum coverage in all eight petroleum zones, including in geographical areas where markets are small and there is limited profitability.

**24. Excessive market concentration is one of the constraints to price competition.** Price ceilings enable an assessment of the level of competition by monitoring the degree of divergence from the ceiling for each fuel—the larger the divergence, the greater the level of competition in the market. In 2008 one company lowered prices compared to competitors but faced logistical challenges in re-stocking. Since the price administration period in 2010, all petroleum companies have charged identical prices throughout the country, with no attempt to use pricing to alter their respective market shares. The petroleum and logistics companies operating in Madagascar jointly control the supply chain, and their market dominance places them in a favorable position when negotiating any changes to the petroleum sector which may contravene their interests. Therefore, petroleum companies behave

in an organized way to fix prices, indicating a significant implementation gap between the market liberalization principles foreseen in Law No. 2004-003 of 24 June 2004 and current practice.

**25. Addressing issues surrounding excessive market concentration with a view to lowering prices would require strengthening the role of the regulatory agency.**

Madagascar currently lacks a strong and independent regulator who can work to improve market conditions, including full implementation of the law. The regulatory and supervisory body of the petroleum sector, the National Office of Hydrocarbons (OMH) cannot fully exercise its mission of regulating the activities of the downstream petroleum sector. Today the OMH receives most of its technical and financial information from the *Groupeement Pétrolier de Madagascar* (GPM), instead of establishing individual links with each operator. This current information flow could put into question the quality and impartiality of the information received by the OMH. To date, the law and regulations do not explicitly require operators to provide key data that would enable the calculation of actual costs for the price structure (time charter contract, cost accounting for operators, storage and transportation costs), limiting the effectiveness of the regulator's decision-making capacity. As a shareholder in petroleum companies, the government sits on the Board and should have access to financial and other strategic information, which is not currently the case.

## Conclusion

**28. The government's efforts to continue reforming fuel pricing should be commended with a view to ensuring the affordability of fuel and reliability of supply, without the state having to bear the cost.** Reforming fuel pricing is a challenging task worldwide. Madagascar's efforts to eliminate the regressive universal fuel subsidy and undertake a first round of negotiations of the reference calculated price of fuel are laudable. However, the recent experience with the state accumulating liabilities to petroleum companies indicates that there is scope for making further progress.

**29. As the government considers policy options for fuel pricing, the option of the automatic price adjustment**

**26. Granting the automatic legal right to the regulatory agency to access critical industry data would be an important aspect of strengthening the agency.**

As long as the government remains involved in price regulation, which will be for the foreseeable future in the absence of effective competition in the market, legal assurance of the regulatory agency's right to regular, timely, and automatic access to key industry financial and operational data is essential for performing one of the agency's core functions. In this way, price ceilings can be set more appropriately, reflecting costs as well as providing incentives to improve efficiency and passing the efficiency gains on to consumers in the form of lower prices.

**27. The government has shareholdings in petroleum companies which compromises the independence of the regulatory body.**

It is unusual for a fuel-importing country to maintain shareholdings in petroleum companies, particularly since Madagascar has already committed to a liberalized petroleum sector. While the government has argued that the shareholdings enable the state to develop the strategy for the petroleum sector and to be present in the boards of petroleum companies, in practice it appears that the state has very little influence instead of making full use of its right of scrutiny over the companies. Rather, the impartiality of the regulatory agency could be promoted by divesting its shareholdings to support the implementation of Law No. 2004-003 with the objective of improving market conditions.

**mechanism, would offer the possibility for the state not having to pay for subsidizing fuel, but should be supported by complementary reforms.**

Specifically, temporary measures could be considered for mitigating the effects of high and volatile fuel prices on the poor, who spend a higher share of their budget on kerosene. The government could work with petroleum companies to further reduce the fixed cost drivers of fuel, which would significantly lower the price for consumers. Over the medium to long term, efforts could also be undertaken to promote competition in the petroleum sector with a view to reducing prices, which must be supported by an effective regulatory agency.

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