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Impact of low oil prices on oil exporting countries

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Abstract
The report describes the importance of oil for oil exporting countries and analyses the potential economic effects that current low oil prices may have in their economy and political stability. Firstly, the report describes the main drivers that have led to the present low oil prices. Secondly, descriptive statistics are employed to show the exposure of the main oil exporting countries to the oil price, where GDP and government revenue is found to be closely correlated to the oil price. In general, several Sub-Saharan African and North African countries show high risk due to the high exposure of their economy and of their government revenue combined with limited reserves per capita. Secondly, the macro-economic effects of a 60% fall in the price of oil is analysed with the GEM-E3 model, which is an stylized representation of the oil market change over the last two years. The results show that such an oil price drop has different effects across oil exporting countries, unsurprisingly strongly correlated with export dependence to oil. For instance, a 60% fall in the price of oil could lead to a reduction of the GDP of Sub-Saharan Africa by around 8.5%. The final section discusses the migration patterns from the studied countries, as a proxy of what might happen be they destabilised because of a lasting low oil price.

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Executive summary

This report describes the importance of oil for oil exporting countries. It assesses the economic consequences of the current low oil price level on the main oil exporting economies.

Historically, in a context of unevenly distributed global reserves and very different structure of extraction costs, varying expectations on the dynamics of demand and supply have led to a high volatile price pattern.

The oil price experienced a sustained rally upwards from the 30$/bl level of 2004 to a maximum of about 140$/bl reached on the verge of the 2007 crisis, mainly boosted by the growing demand from fast-growing economies in Asia and beyond. After a sharp decline in 2008, prices went up to a relatively stable price range between 100 and 120 $/bl for about 3.5 years (January 2011-June 2014). The oil price plummeted again from mid-2014 onwards and reached a minimum level of 26 $/bl in January 2016. Since then, prices have been slowly going up to an average of about 35$.

The main drivers that have led to the present low oil prices include the weakening of demand growth from some large Asian importers, the availability of new resources (conventional or not), the strategic behaviour of some large-reserve / low cost producers, the appreciation of the US Dollar, and the anticipation of emerging technologies seen as possible substitutes of oil in the transport sector.

Most oil exporters from Middle-East and Africa have marginal production costs lower than current oil price. Hence, their production level could be largely maintained if the price is not to decrease further. However, this is not the case of other producers, especially those producing large quantities of unconventional oil (for instance Canada or USA), which may see their production levels being reduced in the future.

Descriptive statistics show the exposure of oil-exporting countries to the changes in oil price and oil exports: GDP and government revenues (per capita) in most Middle-East and Africa producers are found to be linked to oil price evolution, with the elasticity of government revenues to oil price being close to 1 for a number of countries.

- Most Gulf countries have a very high share of fossil fuel related sectors in the economy (50-65%) and show high elasticity of both GDP and Government revenues to oil price. This indicates a high specialisation towards oil, and a low degree of diversification of the economy towards other industries or the service sector. However, countries like United Arab Emirates have started to diversify their economy over the last decade (UAE now only depends for about 20% directly on fossil fuels). As most Gulf countries have high oil reserves per capita combined with very sizeable Sovereign Wealth Funds (SWF) compared to the size of their economy they may relatively well weather the current oil price slump on the short and mid-term.

- Iran has a slightly more diversified economy compared to the other countries of the region, but it is still highly dependent on the fossil fuel sector (30% of GDP, high elasticity of Government revenue to oil price) and its SWF and reserves per capita are limited. This makes the country vulnerable for shocks on the oil market, as was shown by the Iran oil embargo (applied in 2012-2015).

- In North-Africa, Libya has relatively high reserves per capita, while those of (more populated) Algeria are very low. Their economies are still highly dependent on the fossil fuels sectors (about 30% from the oil & gas sector, high elasticity of GDP and Government revenue to oil price) and their SWFs are limited. This makes these countries vulnerable for a long period of low oil prices.

- In Sub-Saharan Africa, Nigeria, Angola and the smaller producers depend for about 20-30% on the fossil fuel sector and show a very high elasticity to oil price for their GDP (most countries) and their Government revenues (all countries). Their SWFs are virtually non-existent while the reserves per capita are very low. This makes these countries very vulnerable for lower periods of low oil prices.

The macro-economic GEM-E3 model analyses a 60% price fall, which is a stylized representation of the oil market change over the last two years. The results show that such an oil price drop has different effects across oil exporting countries, unsurprisingly strongly correlated with export dependence to oil. For instance, a 60% fall in the price of oil could lead to a reduction of the GDP of Sub-Saharan Africa by around 8.5%. Russia's negative impact would lie around 4.4% and in Central Asia and Caucasus to 15.2%. Traditional oil producers would also have a substantial negative impact (-14.5% for Saudi Arabia and about -8.6% for Kuwait and the UAE), softened in their case by the substantial size of their reserves per capita, relative low exploitation costs, and large SWFs.

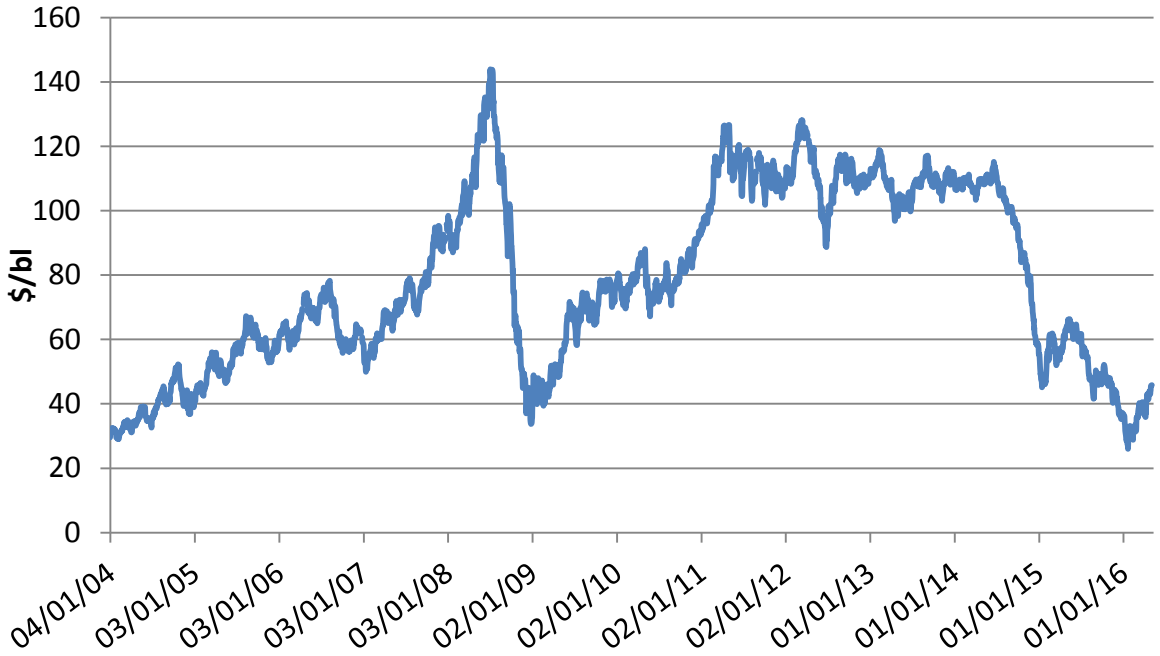
This analysis attempts to assess possible migratory flows due to potential political and economic instabilities in oil exporting countries. Out of 54 million migrants living in the EU, 20 million is internal migration between EU countries, while only 10% come from oil-exporting countries. Among these: Iran, Iraq, Angola, Nigeria and above all Algeria have the highest presence in Europe. Historical and cultural bonds between EU Member States and countries of origin matter. Portugal has a large community from Angola; most Nigerians settled in the UK; and France has a large Algerian community. This may be a proxy of which EU Member State may receive most of the migration if emigration picks up in one of the oil-exporting countries.

1 Recent Evolution of Crude Oil Price

This first chapter in this report describes the main drivers for the steep drop in oil prices.

Between June 2014 and March 2016, the monthly average price of Brent crude oil fell from 112 $/bl to 32 $/bl (Figure 1). A sharp decline took place between June 2014 and January 2015 (-60%). In the first half of 2015, the price of oil stabilized around 60 $/bl. However, from mid-May 2015 on, the price of oil continued falling and, in January 20th 2016, reached 26 $/bl. Since then the price has slightly increased to reach 38 $/bl on 28 March 2016, for an average price of 33 $/bl over January – March 2016.

Figure 1: Daily oil price 2004-2016 (Brent, current US$)



Source: EIA[1], latest data point: 2nd April 2016

There is no consensus in the literature on the fundamentals of this oil price fall (see e.g. Baumeister and Kilian, 2016; Bloomberg Business, 2016a; Baffes et al 2015; Husain et al, 2015; Pflüger, 2015; Arezki and Blanchard, 2014); however most studies find that the oil price decline was driven by a combination of several factors, the most important being:

1. Global oil production: Unexpected changes in oil production are generally important in explaining oil price fluctuations. The development of US shale oil production increased global oil production and, thus, could have pushed down the oil price. According to EIA database, US field production of crude oil increased by 67% from 2011 to 2015, making the US the largest producer in the world surpassing Saudi Arabia and Russia. Likewise, higher than expected production in Iraq, Libya and Saudi Arabia may have affected oil prices since 2014. In particular, Saudi Arabia announced it was abandoning its role of "swing producer" for the oil market in November 2014, , maintaining output 20% above 20110 level, a production increase not seen since the early 1990s. This change of policy

[1] http://www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm

from Saudi Arabia may be motivated by its ambition to maintain market share which may guarantee present revenues, given its favourable extraction costs profile compared to other important producers (in particular, the US).

2. Global oil consumption: a decline in (expected) oil consumption can also explain the drop in oil prices. Some authors argue that since mid-2014 economic growth has been weaker than expected in Europe and Asia, which, combined with policy measures aiming at spurring energy efficiency, led to lower-than-expected demand having pushed down the price of oil[2].

3. Crude oil inventories: the relative dynamics of supply and demand over the past 2 years translated into stocks changes unusually positive in 2014-2015 (almost 1 Mbl/d in 2014 and 2 Mbl/d in 2015, see IEA 2016b), sending a strong signal of abundantly supplied oil market.

4. US dollar exchange rate: The US dollar is the main currency for the global oil trade, therefore, it is argued that fluctuations in the exchange rate may lead to oil price fluctuations. The appreciation of the US dollar makes crude oil more expensive for the rest of the world, reducing oil demand and leading to lower oil prices expressed in (more expensive) US dollars.

What about future evolution of the oil price? Current prices are too low for some producers which will have to decrease output (Figure 2), reducing the current oversupply[3]. Subsequently, unless the demand for oil decreases, lower production would then lead to higher prices. However the adjustment time lag is uncertain and may take a few years, even if the observed evolution of the market shows that it is already adapting: US production has recently declined (EIA 2016b) and the IEA (2016b) estimates that non-OPEC production would contract by 2% in 2016. The oil market is not expected to be rebalanced until 2017 (IEA, 2016a).

In the meantime, the effect of the present level of oil prices is affecting high-cost producing countries. Within Europe, the North Sea, with the break-even price for many fields around $60, is a vulnerable zone. Last January, BP announced a 4000 job reduction over 2016. Further to its merger with BG in February, Shell also plans to cut 2800 jobs during this year. Profits and dividends are contracting also.

Overseas, the situation is similar: according to Wood Mackenzie oil consultant, 68 oil projects with a combined investment cost of $380bn have been dumped over the last year at global level. The situation is particularly severe for the expensive US oil shale operating companies where an increasing number of company are going bankrupt (69

[2] Lower oil consumption can also result from a surge of cost-effective alternatives to conventional technologies, especially in the transportation sector where most oil is consumed. However, wide-scale substitution of oil by other fuels in vehicles has not yet materialised: in 2015 liquid biofuel represented around 2% of world liquid fuel consumption (IEA, 2016b), while electrical vehicles represented only 0.5% of total sales (US DOE (2016), OICA (2016)) and an even lower share of total vehicles in circulation.

[3] In recent months, investments in the oil sector are declining, in particular in relatively high cost production areas such as US shale oil, Canadian oil sands, deepwater and the Arctic. According to EIA, US mining and exploration investment declined 35% in 2015[3] (EIA, 2016d). Likewise, IEA (2016a) reports that global oil exploration and production capital expenditures fell by 24% in 2015 and estimates a decline of 17% in 2016. Some even fear an oil shock as the historic decline in investment may put at peril future supply (Bloomberg Business, 2016b)

North American producers between the beginning of 2015 and April 2016, according to Haynes and Boone (2016)), while analysts have warned half of US shale drillers could be put out of business if prices go below the 30$/bl.

In terms of demand, about 50% of global oil production fuels 98% of the global transport sectors. The immediate effect of low price is an additional disposable income that can propel consumption of other goods, services and investments. Undoubtedly, it could lead also to an increased oil consumption and deteriorate the attractiveness of energy saving technologies. Despite the slow-down of the Chinese economy in recent years, the IMF (WEO, 2015) foresees that population and economic growth will push up oil demand growth in non-OECD countries. The record sales of (large) vehicles in the USA in 2015 also indicate that consumption might also increase in OECD, or at least stabilise as compared to the decrease observed since 2005. On the longer term the implementation of more efficient technologies and the substitution of petroleum products may affect the oil market even though, views on when and how are very diverse. For instance estimates of the future deployment of electric vehicles range from 1% of total energy consumption in transport by 2035 (BP, 2016) to more optimistic prospects (Whitmore, 2016) like 35% of new light duty vehicle sales by 2040 (Bloomberg New Energy Finance, 2016a). Labat et al. (2015) estimate that in a scenario that would keep global warming below 2°C, in line with the objective of the UN climate Paris Agreement of 2015[4], electricity would account for 16% of total energy consumption in road transport by 2050 (EC JRC, 2015).

The high uncertainty on both oil production and oil demand makes difficult the assessment of future oil price. Futures markets can be useful to predict oil prices in the short-term, but they are not necessarily good at predicting in the long-term (Levi, 2015). In the short-term, EIA (2016c) estimates that Brent crude oil will average 34 $/bl in 2016 and 40 $/bl in 2017, slightly below the price in futures markets. Baffes et al (2015) state that oil prices are likely to remain low over the medium term, they could range between 60 $/bl and 70 $/bl. In the long-term projections show that Brent crude oil would range between 100 $/bl and 150 $/bl in 2030 (expressed in $2014, see IEA 2015 and EIA 2015) depending on the strength of international climate policies.

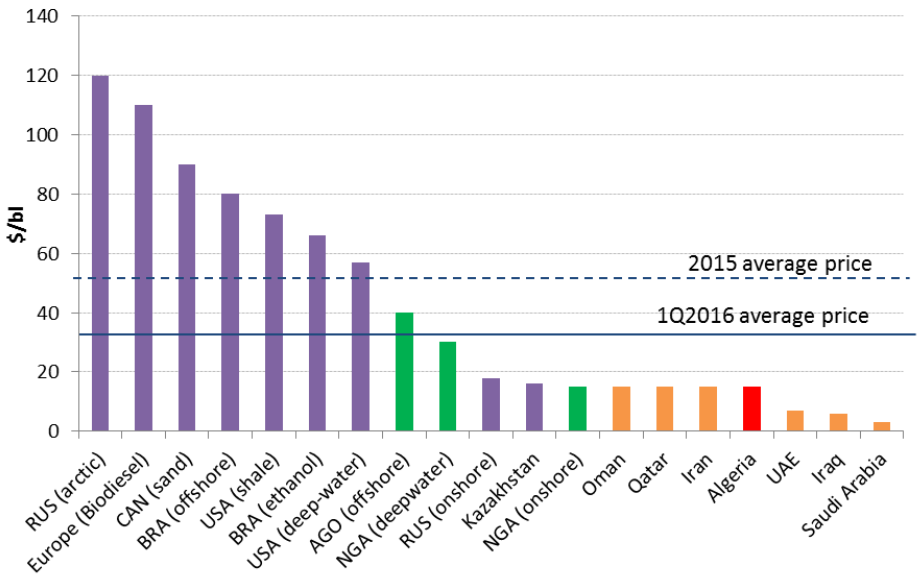
[4] UNFCCC: https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf

2 Vulnerability of oil exporters to low oil price

This section analyses the impact of the observed price decrease on oil exporting countries. In section 2.1, descriptive statistics are employed to determine the main oil exporting countries and identify their exposition to the oil market. Section 2.2 briefly sets out the specifics of the oil price scenario studied. The economic impact of a lower oil price is reported in section 2.3.

Most oil exporters from Middle-East and Africa have marginal production costs lower than current oil price (Figure 2), meaning that their production level should only be marginally affected if the price is not decreasing further, particularly if many investments may have been mortgaged already . This is not the case of other producers, especially those producing large quantities of unconventional oil (for instance Canada or USA), which may see their production being reduced[5]. As a consequence, it is assumed that, for the countries of interest in this report, production will remain relatively unchanged and the analysis should focus on the impact of oil price change alone.

Figure 2. Marginal production costs (2014) vs. Brent price



Source: Knoema.com (2016), EIA

2.1 Oil exporting countries

We identify in Table 1 the world's contributors to globally traded oil (i.e. not including oil production that is consumed domestically). Four regions are differentiated: North Africa, Sub-Saharan Africa, Middle-East and "Other" producers from CIS, Americas and Europe (Norway). Countries are ranked by their importance in the oil market within each region. In 2014, the 28 listed countries made up 100% of the world net exports of crude oil while their total production represented 70% of global oil production (BP, 2015). The share these countries represent in all exports is also illustrated in Table 1.

[5] Actually the US crude oil production has already slightly reduced since April 2015 (see EIA 2016b).

Table 1: Oil exporting countries (2014)

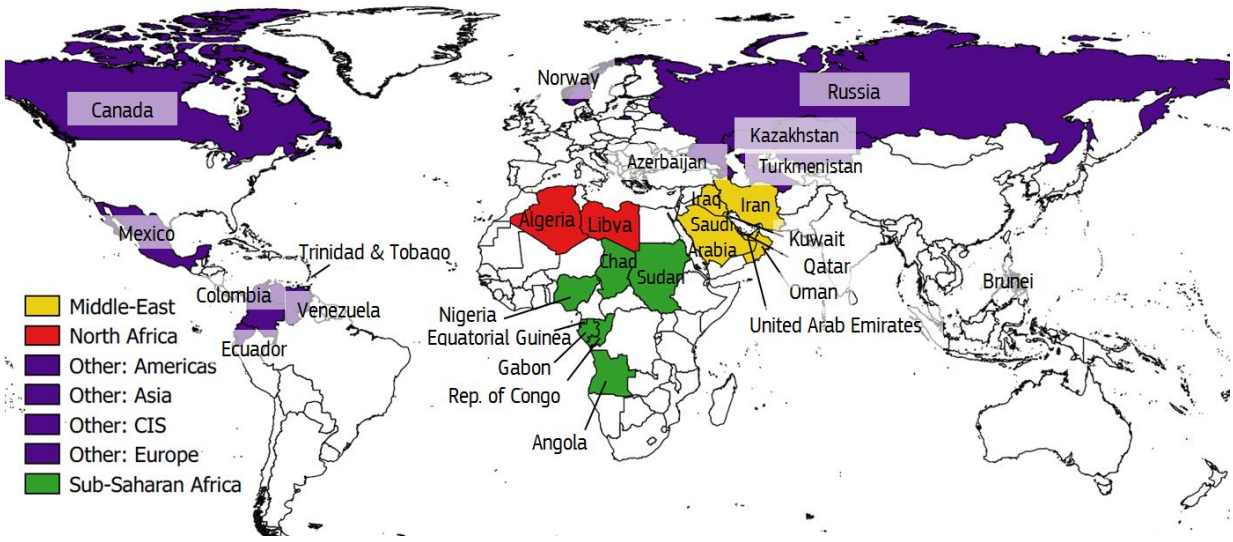
Country	ISO3 code	Region	% of net exports	% of production	Reserves (Gbl)	Population (M)
Saudi Arabia	SAU	Middle-East	19.0%	13.0%	267	31
United Arab Emirates	ARE	Middle-East	6.5%	4.2%	98	9
Kuwait	KWT	Middle-East	6.0%	3.5%	102	4
Iraq	IRQ	Middle-East	5.7%	3.7%	150	35
Qatar	QAT	Middle-East	3.8%	2.2%	26	2
Iran	IRN	Middle-East	3.6%	4.1%	158	78
Oman	OMN	Middle-East	1.9%	1.1%	5	4
Algeria	DZA	North Africa	2.6%	1.7%	12	39
Libya	LBY	North Africa	0.5%	0.6%	48	6
Nigeria	NGA	Sub-Saharan Africa	4.9%	2.7%	37	177
Angola	AGO	Sub-Saharan Africa	3.6%	1.9%	13	24
Equatorial Guinea	GNQ	Sub-Saharan Africa	0.6%	0.3%	1	1
Republic of Congo	COG	Sub-Saharan Africa	0.6%	0.3%	2	5
Gabon	GAB	Sub-Saharan Africa	0.5%	0.3%	2	2
Sudan*	SDN	Sub-Saharan Africa	0.3%	0.2%	5	51
Chad	TCD	Sub-Saharan Africa	0.2%	0.1%	2	14
Russia	RUS	Other: CIS	17.4%	12.2%	103	143
Kazakhstan	KAZ	Other: CIS	3.3%	1.9%	30	17
Azerbaijan	AZE	Other: CIS	1.7%	1.0%	7	10
Turkmenistan**	TKM	Other: CIS	0.2%	0.3%	1	5
Brunei**	BRN	Other: Asia	0.3%	0.1%	1	0.4
Venezuela	VEN	Other: Americas	4.3%	3.1%	298	31
Canada	CAN	Other: Americas	4.4%	4.8%	173	36
Mexico	MEX	Other: Americas	1.9%	3.1%	11	125
Colombia**	COL	Other: Americas	1.6%	1.1%	2	48
Ecuador**	ECU	Other: Americas	0.7%	0.6%	8	16
Trinidad & Tobago**	TTO	Other: Americas	0.2%	0.1%	1	1
Norway	NOR	Other: Europe	3.8%	2.1%	7	5

**: includes both Sudan and South Sudan*

***: not included in the following graphs for the sake of clarity*

Source: Oil production and consumption: BP Statistical Report (2015), Enerdata (2016); population: UN (2015a)

Figure 3. Map of oil exporting countries (2014)

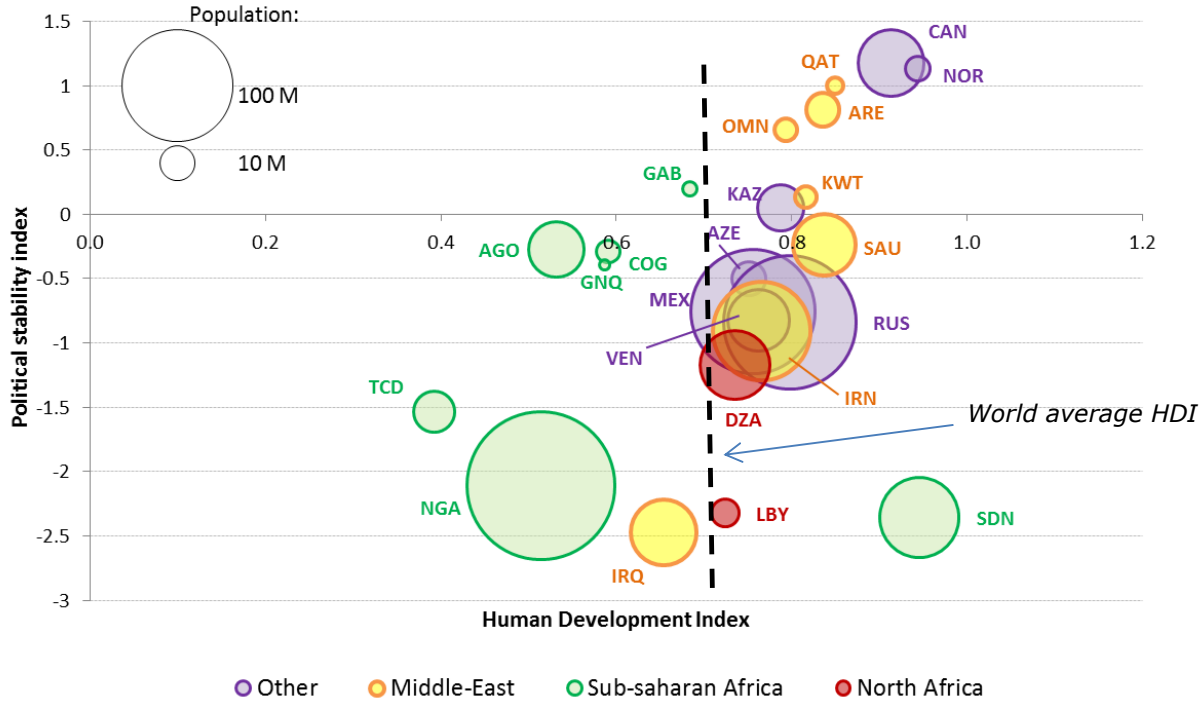


The following 5 countries are not considered in the rest of the report: Turkmenistan, Brunei, Colombia, Ecuador and Trinidad & Tobago. This is justified by their relatively small production volumes, the relatively small size of their economies and population, as well as their limited potential to provoke regional socio-economic instability, potentially affecting to the EU.

The analysis on the risks for oil exporters considers Norway (NOR) as the reference country since it has the highest income per capita[6], the highest Human Development Index and, with Canada, the highest political stability of all oil exporters, as shown in Figure 4, which plots the Political Stability Index[7] (WB (2016)) of oil exporters as a function of their Human Development Index[8] (HDI, see UNDP (2015)). The size of the bubbles is a measure of the population.

[6] GDP per capita being calculate from IMF (2015) for income and UN (2015) for population.
[7] The *political stability indicator* is defined by the World Bank as: "Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism" and is calculated using a range of variables and sources. It constitutes one of the six dimension used to establish the Worldwide Governance Indicators – see http://info.worldbank.org/governance/wgi/index.aspx#doc
[8] According to the UNDP: " 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. The HDI is the geometric mean of normalized indices for each of the three dimensions" - see http://hdr.undp.org/en/content/human-development-index-hdi

Figure 4: Political Stability and Human Development Index for oil exporting countries (2014)



Source: HDI is from UNDP (2015), political stability indicator is from World Bank (2016)

Most Sub-Saharan producers present a low, or very low, political stability, with the exception of Gabon (GAB), a small producer with a small population. Nigeria (NGA), in particular, appears as a large (highest and fast growing population, with close to 180 M inhabitants in 2014) and a socio-economically fragile country.

In addition, some important North African and Middle Eastern exporters also display a low political stability: Algeria (DZA), Iran (IRN), in addition to Iraq (IRQ) or Libya (LBY) currently undergoing violent conflicts. Other important exporters, like Saudi Arabia (SAU) and the other Gulf Cooperation Council (GCC) countries[9] are perceived to have a higher stability.

Norway (NOR) and Canada (CAN) appear very stable, while other non-OECD exporters present a contrasted situation, with Mexico (MEX), Russia (RUS) and other CIS[10] countries scoring in-between Iran and Saudi Arabia.

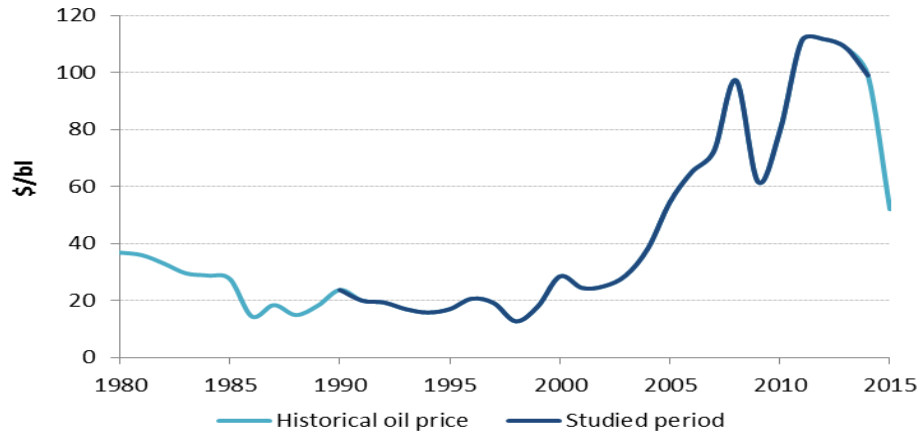
2.2 Historical analysis of the exposure to the global oil market

This section identifies the exporting countries listed in Table 1 that are most vulnerable to economic and social upheaval due to a long period of low oil prices[11].

[9] The Gulf Cooperation Council (GCC) gathers the following countries: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.
[10] CIS: Commonwealth of Independent States (former Soviet Republics except Baltic States)
[11] Throughout this study the focus is on oil; in particular the role of natural gas has not been considered here.

Figure 5 describes the oil price evolution since 1980 up to 2015. The following analysis focuses on 1990-2014 for reasons of data availability: GDP (WB, 2016) and oil production (BP, 2015) are only available by 2014. An extension to 2015 would certainly yield interesting results given the price trajectory in 2014/2015.

Figure 5. Historical yearly oil price 1980-2015



Source: BP (2015), EIA[12]

To understand the role of oil in the economy and political stability the analysis below shows:

1. **Size of oil exports**[13] (2014):
   - compared to the **GDP** (Figure 7), which gives an overview of the exposure of the entire economy to the market;
   - compared to the **Government Revenue** (Figure 9), used as a proxy to evaluate the potential importance of the oil sector for the State budget, even though it does not show explicitly the direct government revenue from the oil sector[14];

2. **Oil price sensitivity** (1990-2014):
   - of the **GDP per capita** (Figure 8)
   - of the **Government Revenue per capita** (Figure 10).

At world level, the relation between GDP and oil price goes both ways:

- the evolution of economic activity (GDP) leads to changes in oil consumption that affect the oil price depending on the oil supply ability to adjust to demand (see for example Ghalayini, 2011);
- the evolution of the oil price can also affect world GDP growth, especially negatively when the oil price increases (Jiménez-Rodríguez, 2005).

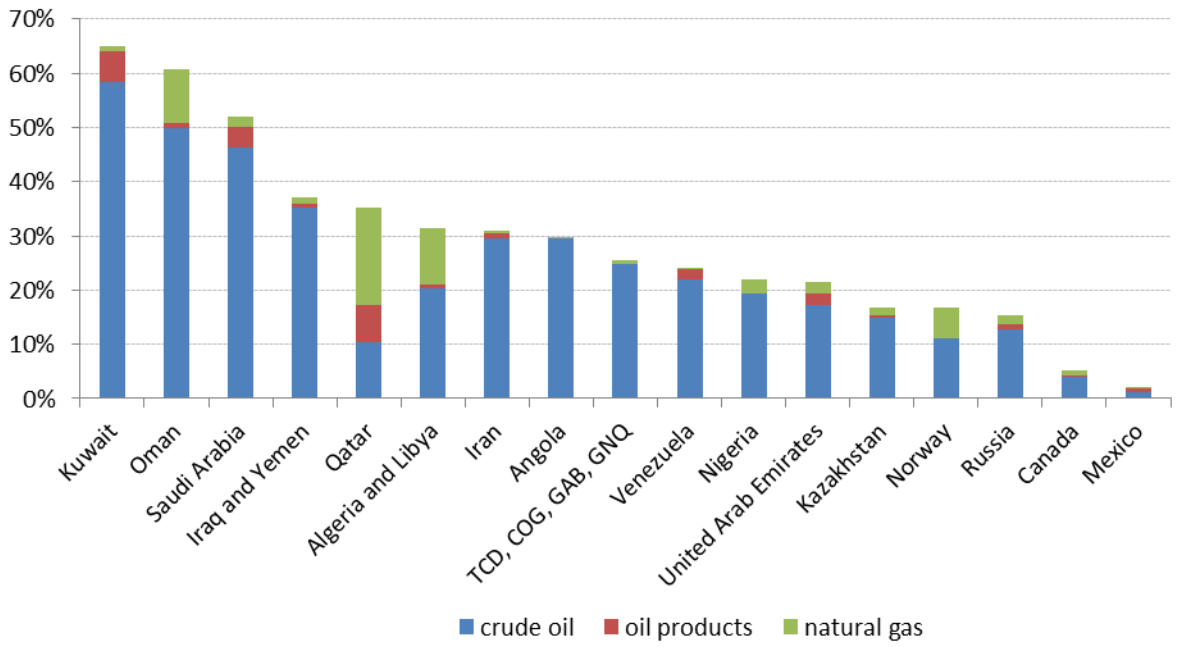
[12] http://www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm
[13] Oil exports are estimated by multiplying the yearly exports in volume (Mbl/d) by the yearly oil price ($/bl)
[14] Government revenues from oil can be collected directly (e.g. National Oil Companies) or indirectly (e.g. royalties, profit-sharing agreements with International Oil Companies, export taxes).

However, at the level of oil exporting countries the relation is, to a large extent, one-way given their relative small share of world oil demand as well as of world GDP (respectively around 20% and 10% during 1990-2014 – see Annex 1): oil exports generate revenues that translate into economic activity (GDP) and income for the State (Berument et al., 2010, IMF, 2014).

2.2.1 Role of oil and gas in the Value Added structure

Figure 6 shows the importance of the oil (crude oil and oil products) and gas sectors in the exporters' economy in 2011 – all related directly or indirectly to the oil price. All producers in the Middle-East and North Africa show Value Added shares above 30% (up to 60% for Oman and Kuwait), except United Araba Emirates (20%). Sub-Saharan countries are between 20% (Nigeria) and 30% (Angola).

Figure 6. Share of VA related to fossil fuels (2011)



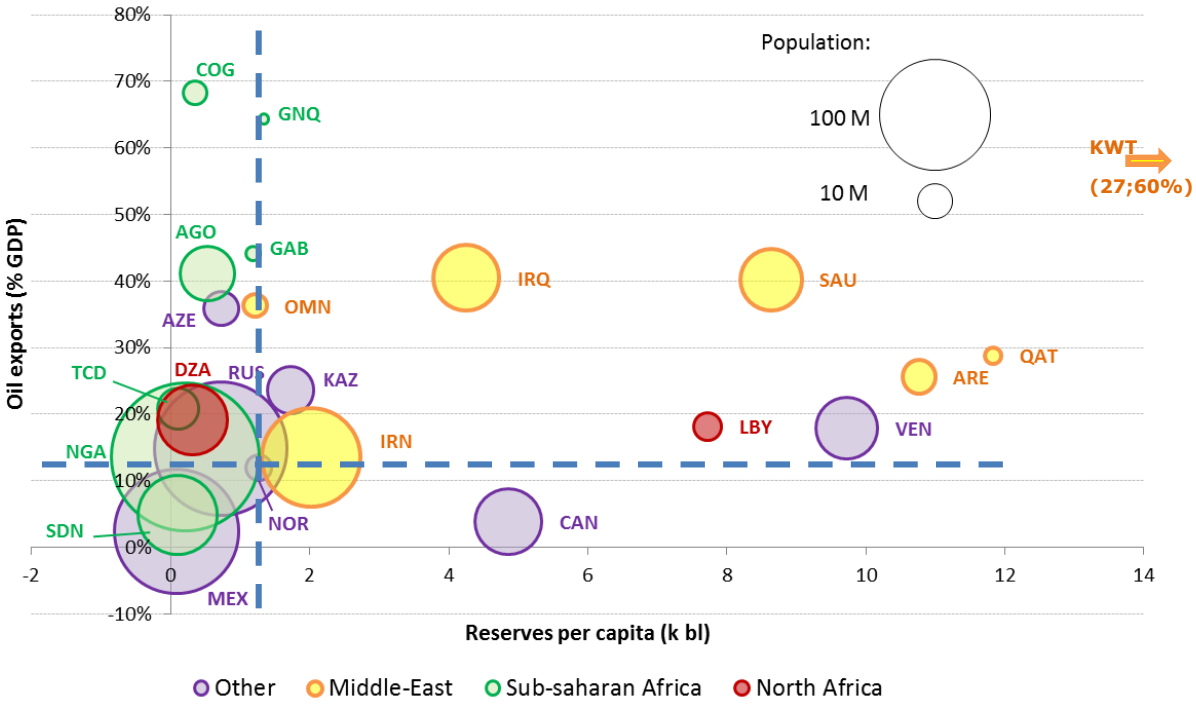
Note: TCD: Chad, COG: Republic of Congo, GAB: Gabon, GNQ: Equatorial Guinea.
Source: GTAP 9 (Narayanan et al. 2015).

2.2.2 Exposure of the economy to the oil market

Figure 7 shows the ratio between oil exports and GDP (Y-axis) along the proven reserves[15] per capita (X-axis), which gives the perspective of the country with regards to the role of oil in the economy in a foreseeable future, which connects to the long-term political stability of the country. The bubble size is proportional to the population, which indicates the country's relative importance (including for regional and global stability if the country's situation deteriorates). The analysis is based on 2014 information.

[15] These are current proven reserves, not estimated resources – the latter refers to a longer term perspective, is (even) more uncertain, and would actually not change much the positioning of countries (using BGR 2014 energy resources estimate).

Figure 7. Exposure of economy: oil exports vs. GDP (2014)



Note: The dotted lines are centred on Norway (NOR). Oil exports are calculated as the product of oil exports in volume [production – consumption] by the oil price (Brent, in current $) and divided by GDP (in current $ MER).

Source: oil reserves and production are from BP (2015), oil consumption is from Enerdata (2016), GDP is from World Bank (2015) and population is from UN (2015a).
Kuwait (KWT) is not shown because it has very high reserves per capita (27 kbl, oil exports ~ 60% GDP).

Four groups of countries are identified from Figure 7 (relative to Norway (NOR)):

- *Upper left: high exposure of the economy and limited reserves per capita.* This is especially true for Congo (COG) and Chad (TCD), two small countries, but also for Algeria (DZA) and Angola (AGO), two larger countries. Gabon (GAB) and Equatorial Guinea (GNQ), two very small countries, appear also fairly exposed with only slightly higher reserves per capita. Russia (RUS) and Nigeria (NGA) both present a slightly higher economic exposition than Norway (NOR), with smaller reserves per capita.

- *Upper right: high exposure of the economy but high reserves that can act as a long-term buffer for the economy.* This group gathers most of the Middle-East exporters. Oil exports are in particular very high compared to GDP for Iraq (IRQ) and Saudi Arabia (SAU), even though their high reserves per capita may give some longer-term resilience to oil price changes. The conflict in Libya (LBY), a country with very high reserves per capita that shows in this category, is to a very large extent independent from the oil market[16].

[16] The current situation of Libya follows an external action: the repression of social unrest in 2010-2011 triggered a civil conflict followed by a NATO military intervention that ended the country's ruling system in 2011. Since then the country is torn by a conflict between various factions.

- *Lower left: limited reserves but limited exposure of the economy.* This group actually gathers only Mexico (MEX) and Sudan (SDN), two large countries where oil exports are small, making their economy fairly independent from the oil market.

- *Lower right: high reserves, low exposure of the economy.* This is the group with the expected highest economic stability with respect to oil price: small oil exports compared to GDP and high reserves per capita: Norway (NOR), Canada (CAN), and to a lesser extent Iran (IRN). Venezuela (VEN)[17] also appears in this more "favourable" group with respect to exposure and resource availability, although this country is now facing a severe economic crisis – it underlines the fact that, whatever the specific exposure to a the oil market, national political and economic decisions are ultimately what shapes countries' stability.

Figure 8 gives the elasticity of GDP per capita to the oil price over 1990-2014 as a function of the importance of oil exports compared to GDP (in 2014).

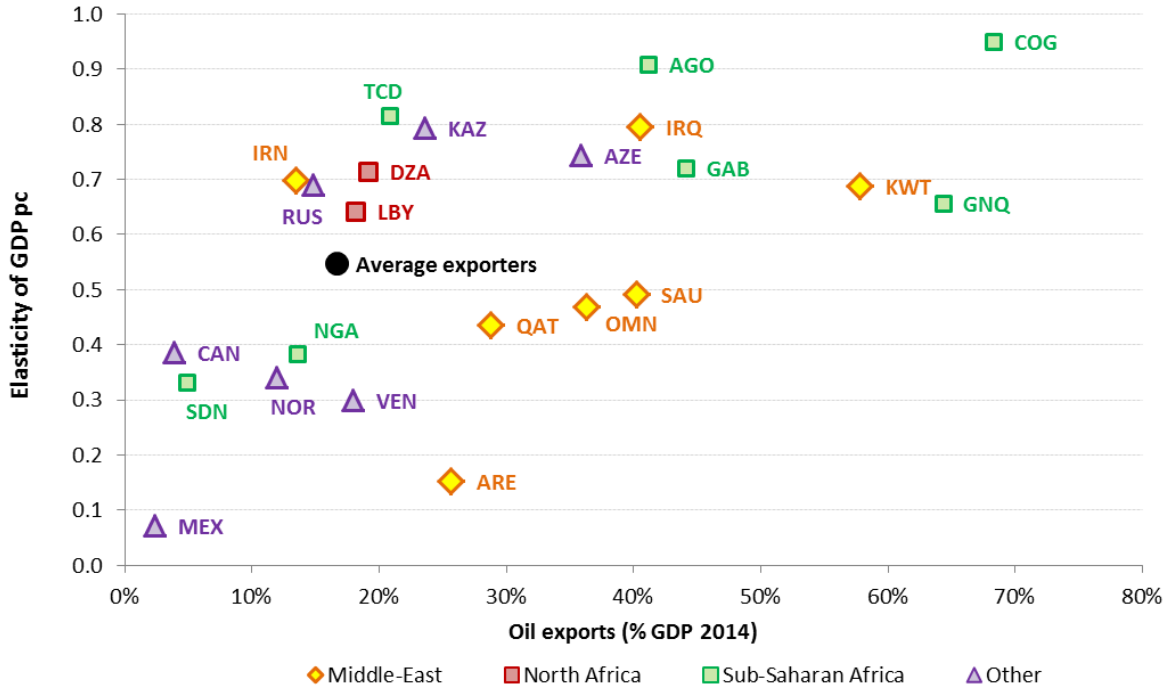
The elasticity tends to increase with the importance of oil exports compared to GDP:

- The reactivity of GDP per capita to oil price appears high (above the average over all exporters of 0.55) for five Sub-Saharan African exporters, North Africa exporters and three Middle-East countries including Iraq (IRQ) and Iran (IRN). Some of them show a very high value, close to 1: Congo (COG), Angola (AGO), Chad (TCD) and Iraq (IRQ).
- The other Gulf Cooperation Council exporters (0.4-0.5), Nigeria (NGA, 0.4) and Sudan (SDN, 0.3) display a lower reactivity of GDP to oil price, in the order of magnitude of other exporters like Canada (CAN), Norway (NOR) and Venezuela (VEN) (all below 0.4).
- The low elasticity of United Arab Emirates (ARE) may be explained by a more diversified economy, with Dubai developing its services sector beyond the oil and gas industry (see Figure 6 above and IMF 2014).
- The low elasticity of Mexico may be explained by the very small value of oil exports compared to GDP.

However the role of oil cannot be completely discarded since the anterior political stability of the country was partly imposed through repression financed by oil revenues rather than the result of a peaceful consent of the population. The argument may also apply to other oil producing countries.

[17] It should be noted that Venezuela's reserves include non-conventional oil, which is costlier to produce than conventional oil and more difficult to transform into export; considering only conventional reserves, Venezuela would get closer to the Iran (IRN), with reserves per capita of 2.5 kbl (instead of the 9.7 kbl shown here).

Figure 8. Elasticity of GDP per capita to oil price (1990-2014[18, 19])



Note: Elasticities correspond to the estimated values of β in the regression: $ln\left(\frac{GDP_t}{cap_t}\right) = \alpha + \beta * ln(oil\ price_t) + \gamma * time\ trend_t$. GDP per capita and oil price are expressed in current $. The regression gives R^2 within [84% - 99%], except for LBY (68%) – details are provided in Annex 2.

Source: oil price is from BP (2015), oil exports are from BP (2015) and Enerdata (2016), GDP from World Bank (2016) and population from UN (2015a).

2.2.3 Exposure of Government revenue to the oil market

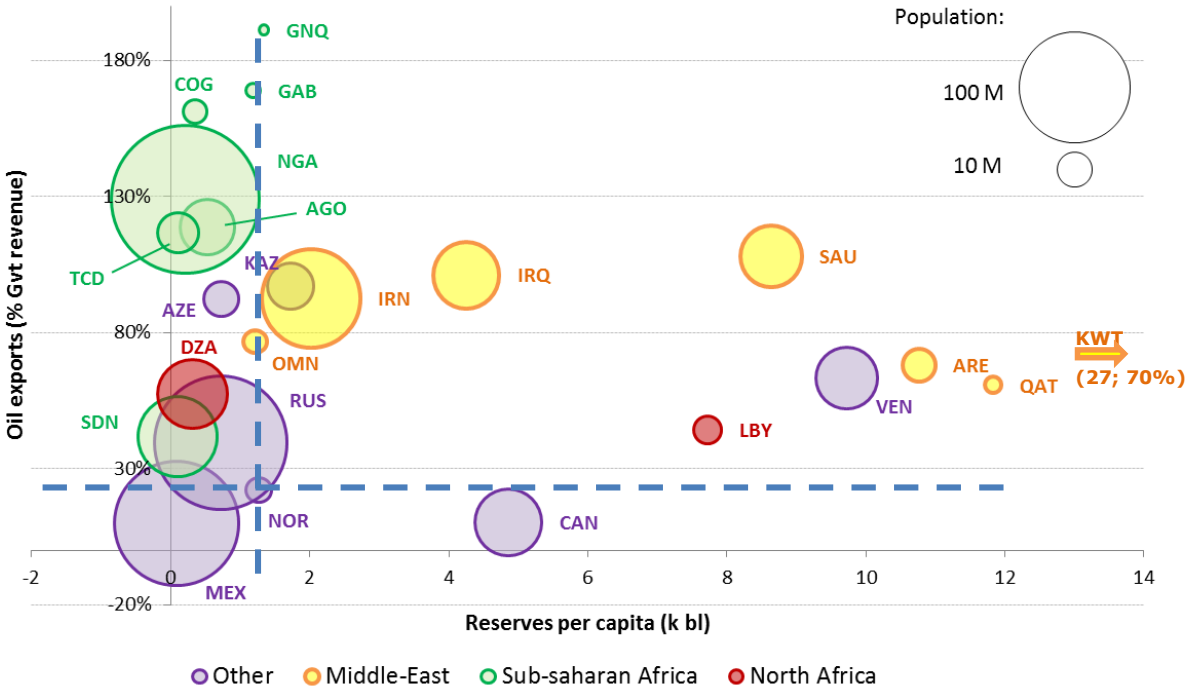
This section analyses the impact of oil market on the Government revenue, which can be considered as a better indicator than GDP in terms of short-term political stability since it connects to the capacity of the State to deliver basic public needs like health, infrastructure or security.

Figure 9 shows the ratio between oil exports and Government revenues (y-axis) along the proven reserves[15] per capita (X-axis), which gives the perspective of the country with regards to the role of oil in the long term. The size of the bubble is proportional to the population, which indicates the country's relative importance (including for cross-border impacts if the country's stability deteriorates). The analysis is based on 2014 information.

[18] Except for Angola (AGO, 1996-2014), Azerbaijan (AZE, 1994-2014), Chad (TCD, 2003-2014), Equatorial Guinea (GNQ, 1992-2014), Iraq (IRQ, 2004-2014), Kazakhstan (KAZ, 1994-2014), Kuwait (KWT, 1993-2014), Libya (LBY, 1990-2010), Mexico (MEX, 1995-2014), Nigeria (NGA, 2000-2014), Russia (RUS, 1998-2014), Sudan (SDN, 1999-2010).

[19] Corrected periods are due to status as oil exporter (AGO, TCD, GNQ), missing economic data (AZE, KAZ, NGA, RUS), violent conflicts (IRQ, KWT, LBY, SDN) or economic crisis (MEX).

Figure 9. Exposure of State: oil exports vs. State budget (2014)



Note: The dotted lines are centred on Norway (NOR). Oil exports are calculated as the product of oil exports in volume [production – consumption] by the oil price (Brent, in current $) and divided by the Government revenue (in current $ MER).

Source: oil reserves and production are from BP Statistical Report 2015, oil consumption is from Enerdata (2016), Government revenue is from IMF (2015) and population is from UN (2015a).Kuwait (KWT) is not shown because it has very high reserves per capita (27 kbl, oil exports ~ 70% government revenue).

Figure 9 presents similarities with Figure 7: the relative positioning of the Gulf Cooperation Council countries and North African exporters; but also striking differences: in particular the positioning Nigeria (NGA) and Iran (IRN) where resources for the Government appear potentially much more exposed to the oil market than when looking only at GDP.

Compared to Norway (NOR), we can describe the following four groups:

- *Upper left: high exposure of the State and limited reserves per capita.* All Sub-Saharan African countries fall into this category, in particular Nigeria (NGA), the largest of all exporters, where oil exports are larger than the Government revenues. To a lesser extent oil exports appear relatively high for Algeria (DZA) and Russia (RUS) comparatively to their Government revenue.

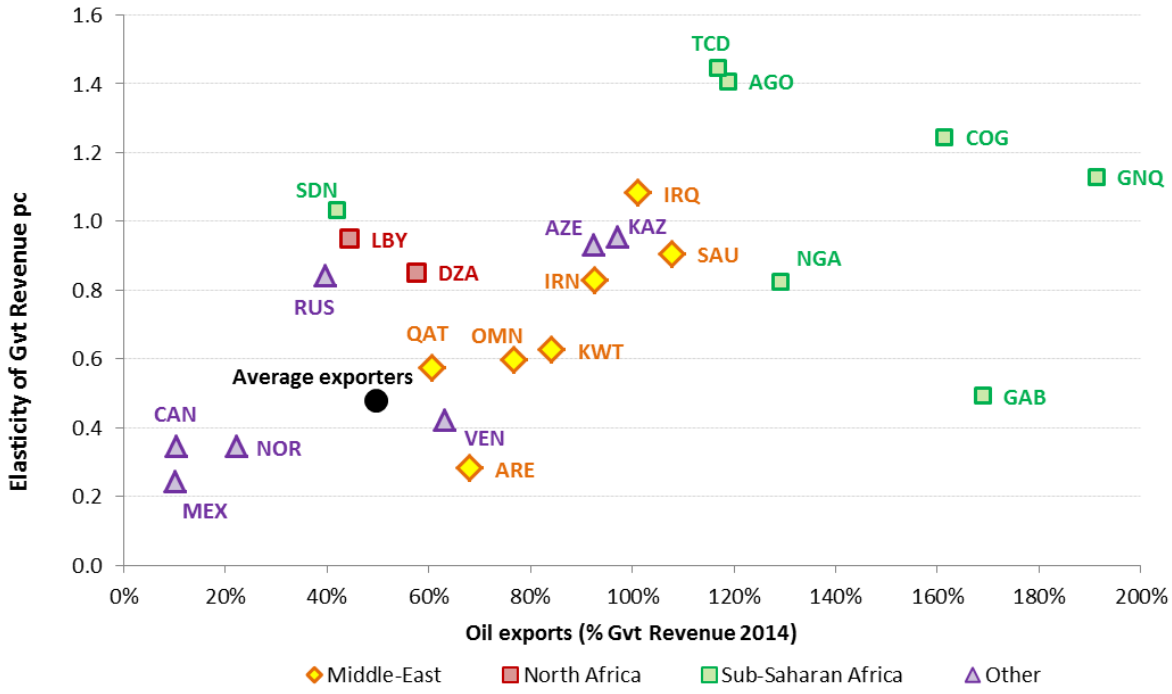
- *Upper right: high exposure of the State but large reserves per capita.* All Middle East exporters fall in this category, where the economy depends on oil but that have large reserves per capita which might act as a long term stabiliser if properly used.

- *Lower left: low reserves but low exposure*. In this category we find only Mexico (MEX), which is little exposed but which should not rely upon future oil production to finance its State budget.

- *Lower right: high reserves, low exposure of the State*. Canada (CAN) appears as the least exposed to political instability because of oil price changes, due to both oil exports being as small as 20% of government revenue and to high reserves per capita.

In addition to this 2014 snapshot, Figure 10 gives the elasticity of government revenue per capita to the oil price over 1990-2014 as a function of the importance of oil exports compared to government revenue: as with GDP, the elasticity tends to increase with the size of oil exports.

Figure 10. Elasticity of Government Revenue per capita to oil price (1990-2014[20, 21])



Note: Elasticities correspond to the estimated values of β in the regression: $ln\left(\frac{Gvt\ revenue_t}{cap_t}\right) = \alpha + \beta * ln(oil\ price_t) + \gamma * time\ trend_t$. Government revenue per capita and oil price are expressed in current $. The regression gives R2 within [85% - 99%], except for ARE (45%) – details are provided in Annex 2

Source: oil price: BP (2015),oil exports: BP (2015) and Enerdata (2016), Government revenue: IMF (2015), population: UN (2015a).

- Most Sub-Saharan Africa exporters, North Africa exporters and large Middle-East countries show a very high elasticity, close to 1 or above: this confirms the very high dependency of their State budget to oil price. As an illustration, Angola (AGO, with an elasticity of government revenue above 1)) has sent on April 6th

[20] Except for Angola (AGO, 1996-2014), Azerbaijan (AZE, 1994-2014), Chad (TCD, 2003-2014), Equatorial Guinea (GNQ, 1992-2014), Iraq (IRQ, 2004-2014), Kazakhstan (KAZ, 1994-2014), Kuwait (KWT, 1993-2014), Libya (LBY, 1990-2010), Mexico (MEX, 1995-2014), Nigeria (NGA, 2000-2014), Russia (RUS, 1998-2014), Sudan (SDN, 1999-2010).

[21] Corrected periods are due to status as oil exporter (AGO, TCD, GNQ), missing economic data (AZE, KAZ, NGA, RUS), violent conflicts (IRQ, KWT, LBY, SDN) or economic crisis (MEX).

2016[22] a formal letter to the IMF for support to deal with the impact of low oil price on the fiscal revenues of the State.

- Smaller Gulf Cooperation Council exporters and Gabon (GAB) show a lower ratio (around 0.6), which remains higher than for other exporters (0.2 to 0.4).

- As with GDP, the singular behaviour of United Arab Emirates (ARE) may be explained by its diversification towards a service economy, which helps proving alternative revenues to its Government - see Figure 6 on the share of oil-related sectors in the economy and IMF (2014) for a discussion on Dubai and the United Arab Emirates.

2.2.4 Oil-related Sovereign Wealth Funds

To complete the analysis on the capacity of States to cope with a low oil price, Table 2 gives the oil-related Sovereign Wealth Funds (SWF) set up by the countries that may be used as a buffer capacity with a quicker response time than putting into production oil reserves[23]:

- Sub-Saharan African oil exporters show no SWF (Congo, Gabon, Sudan, Chad) or low values of their fund (Nigeria, Angola);

- North African oil exporters have more substantial funds, with Algeria at 23% of total GDP (70% of Government revenues) and Libya at 160% of GDP;

- All Middle East exporters have SWF: while Iraq is very low and Oman and Iran have limited funds with respect to GDP (still 100% of Government revenues in the case of Iran), other exporters have important funds ranging from 85% of GDP for Saudi Arabia (twice the size of the Government revenues) to more than 300% of GDP (Kuwait, United Arab Emirates). In the current context, Saudi Arabia[24] actually announced in April 2016 its intention to expand its second largest sovereign wealth fund, the Public Investment Fund (PIF), to nearly 2 tn$ by 2030 (which would add up to a total of 2.5 tn$ if the other funds remain at the same level as of today).

22 Statement by IMF Deputy Managing Director Min Zhu on Angola (April 6 2016), http://www.imf.org/external/np/sec/pr/2016/pr16155.htm Last access 08/04/2016

[23] The use of the capital of these funds can be subject to heated political debates, like in the case of Norway and its GPF.

[24] The expansion of the Saudi Arabia Public Investment Fund would include the partial privatization of the national oil company Aramco, as part of its Saudi Vision 2030: http://vision2030.gov.sa/en/node/6

Table 2. Oil-related Sovereign Wealth Funds (2014)

Country	ISO3 code	Region	Value (bn$)	per capita (k$)	% GDP	% Gvt revenue
United Arab Emirates	ARE	Middle-East	1214	134	304%	805%
Saudi Arabia	SAU	Middle-East	792	26	106%	284%
Kuwait	KWT	Middle-East	592	158	362%	527%
Qatar	QAT	Middle-East	256	118	122%	257%
Iran	IRN	Middle-East	62	1	15%	100%
Oman	OMN	Middle-East	40	9	49%	103%
Iraq	IRQ	Middle-East	1	0	0%	1%
Libya	LBY	North Africa	66	11	160%	392%
Algeria	DZA	North Africa	50	1	23%	70%
Angola	AGO	Sub-Saharan Africa	5	0	4%	10%
Nigeria	NGA	Sub-Saharan Africa	1	0	0%	2%
Russia	RUS	Other: CIS	139	1	7%	20%
Kazakhstan	KAZ	Other: CIS	79	5	36%	149%
Azerbaijan	AZE	Other: CIS	37	4	50%	128%
Canada	CAN	Other: Americas	18	0	1%	3%
Mexico	MEX	Other: Americas	6	0	0%	2%
Venezuela	VEN	Other: Americas	1	0	0%	1%
Norway	NOR	Other: Europe	848	165	170%	316%

Note: oil exporters without any SWF are not shown in the table: Republic of Congo, Gabon, Sudan, Chad.
Source: Oil-related SWFs from Wikipedia[25], population from UN (2015a), GDP from World Bank (2016), Government revenue from IMF (2015). SWFs taken into account: ARE (ADIA, ICD, ADIC, IPIC, MDC, EIA, RIA); SAU (SAMA, PIF); KWT (KIA); QAT (QIA); IRN (NDF); OMN (OIF); IRQ (DFI); LBY (LIA); DZA (RRF); AGO (FSDEA); NGA (BDIC, NSIA); RUS (RNWF, RRF, RDIF); KAZ (S-K JSC, KNF, NIC); AZE (SOFAZ); CAN (AHSTF); MEX (ORSFM, FMP); VEN (FEM); NOR (GPF)

2.3 Political stability and the oil market

To summarize the results by comparing the exposure to oil market with the political stability analysis (see Figure 4):

- Sub-Saharan Africa
  - Nigeria is a large, unstable and highly exposed exporter, with a small SWF: it appears like the most vulnerable to a lasting low oil price;
  - Sudan[26] does not look that exposed but is highly unstable (due to recent conflicts): a lasting low oil price could worsen the situation by further limiting the State capacity to provide basic services;
  - other sub-Saharan countries appear also highly exposed, and without any back-up in the form of SWF, even if less unstable; of these, Angola is the largest in terms of population (and, as mentioned above, has already requested support from IMF – see Footnote 22).

[25] https://en.wikipedia.org/wiki/Sovereign_wealth_fund
[26] In this analysis we considered Sudan and South Sudan together

- North Africa
    - Algeria, a fairly large country with 40 million inhabitants, is very sensitive to oil price changes, has low reserves per capita, a limited SWF and a low political stability index: it appears vulnerable to a lasting period of low oil price, especially in the current situation of rising extremism in the region and conflicts at its eastern border (Libya) as well as on the South (Niger, Mali);
    - Libya is already undergoing a conflict: a long period of relatively low oil price could either worsen the situation by cutting the remaining capacity to provide basic services to the population, or conversely reduce the factions' capacity to finance the war.

- Middle-East
    - The geopolitical situation in this region is already very difficult, with sectarian conflicts in Iraq, Syria and Yemen;
    - most exporting countries of the region are highly sensitive to the oil price, which makes then vulnerable to abrupt changes in the oil market, even if their high reserves and important SWF can help maintaining some political stability by allowing them to get access to financial resources before the oil price gets higher; in addition Gulf Cooperation Council countries, and especially Saudi Arabia and United Arab Emirates, are showing willingness to diversify fiscal revenues by reforming their domestic energy prices and cutting energy-related subsidies[27] so as to make them more resilient, and improve energy efficiency indicators;
    - United Arab Emirates looks the least vulnerable of all: it is much less sensitive to oil price[28], thanks to economic and fiscal diversification, have the highest SWF (in total value as well as relative to population, GDP and Government revenues) and displays a relatively high political stability.

- Others
    - Former CIS producers have also a high sensitivity to oil price (comparable to sub-Saharan African countries), even they benefit from relatively large SWF, and relatively low political stability (comparable to large Middle-East countries) – this should be taken into consideration given their role as oil and gas transit countries and their proximity to Middle-East and Turkey;
    - European and North America producers do not look exposed to lasting low oil price even if their upstream sector will be affected; they may actually benefit from cheaper energy (see Vrontisi et al. 2015 for an analysis of the EU).

[27] Oil & Gas Journal, 01/11/2016, http://www.ogj.com/articles/2016/01/saudi-arabia-uae-lead-gcc-subsidy-reform.html

[28] The country could be indirectly affected by a lasting low oil price through its financial exposure to other oil exporting countries.

3 Macroeconomic impacts on oil exporters

3.1 Scenario definition

This section presents the two scenarios analysed in Section 3.2. The type of analysis presented here is based on a comparative statics approach, which means that a scenario is compared to a Baseline for a given year (2015), and that it is not a projection or forecasting. A low oil price scenario has been developed, which is *ceteris paribus* in nature i.e. the change in oil price is the only difference between the scenario and the Baseline, while ignoring other likely shocks or events.

"Baseline": The "business-as-usual" development. Oil prices remain around US$ 100 per barrel in 2015.

"60% Scenario": This is the central scenario and assumes an oil price of US$ 40 per barrel in 2015, which is 60% lower as compared to the baseline in dollar terms.

The macro-economic effects of the low oil price scenarios are analysed using the global GEM-E3 model (see Box 1).

Box 1: GEM-E3 model

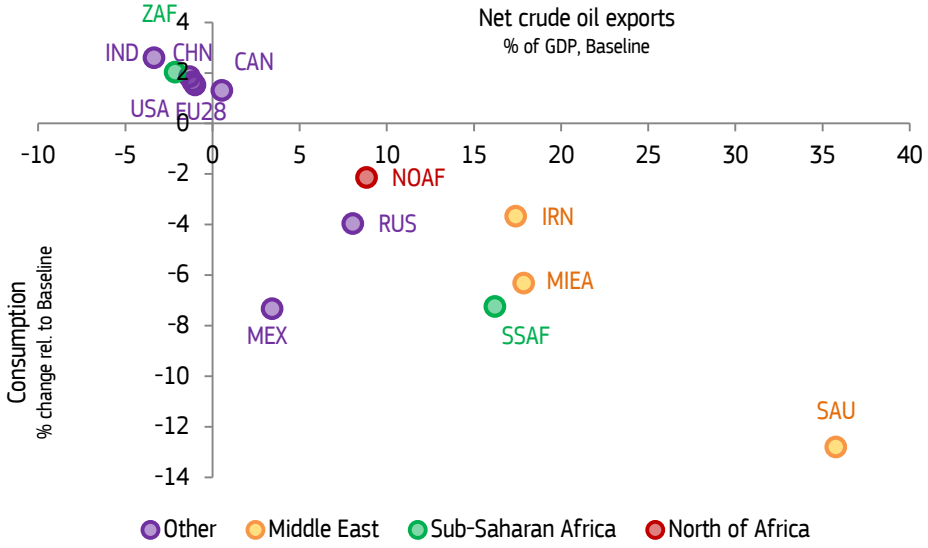
The macro-economic impacts of the oil price scenarios are analysed with the GEM-E3 model (www.gem-e3.net). It is a multi-region computable general equilibrium model that covers the interactions between the economy, the energy system and the environment. GEM-E3 covers the entire economy and can be used to evaluate consistently the distributional effects of policies on the national accounts, investment, consumption, public finance, foreign trade and employment for the various economic sectors and agents across the countries. The model includes all 28 Member States of the European Union and all major non-European countries. The whole economy is represented in 21 economic sectors. The countries are linked through endogenous bilateral trade. The GEM-E3 results are of comparative static nature, and reflect the annual impact of imposing the lower oil price during a full year with the economy fully adapting to the new situation. In other words, the lagged impacts of oil price changes are observed to be spread over a couple of years, whereas in the GEM-E3 model they are assumed to happen immediately in the same year. Further, this methodology also assumes that the EU economy is in equilibrium. The model is calibrated using the GTAP 8[29] database. The GEM-E3 model has been used to analyse the macro- economic effects of the climate, energy and air quality policies to support DG CLIMA, DG ENER, and DG ENV (e.g. SWD(2015) 17, SWD(2014) 15, SWD(2013)531, SWD(2013) 132). Ciscar et al. (2004) and Maisonnave et al. (2012) use earlier versions of the GEM-E3 model to simulate the impact of high oil prices (the latter focussing on the cross-relation with climate policies). Kitous et al. (2013) analyse a number of scenarios of the 2012 Iran crisis and the boycott imposed by the Western world.

[29] https://www.gtap.agecon.purdue.edu/

3.2 Modelling results: the role of oil in oil producer countries

This section presents the macro-economic impact of the 60% Scenario with the GEM-E3 model. Both consumption and Gross Domestic Product (GDP) are presented as a percentage difference from the Baseline. The global consumption and GDP increases in the world are around 1%. As expected, the economic impact on oil importing countries is positive, while oil exporting countries are negatively affected by lower oil prices.

Figure 11: The impact of the low oil price on consumption vs export dependence



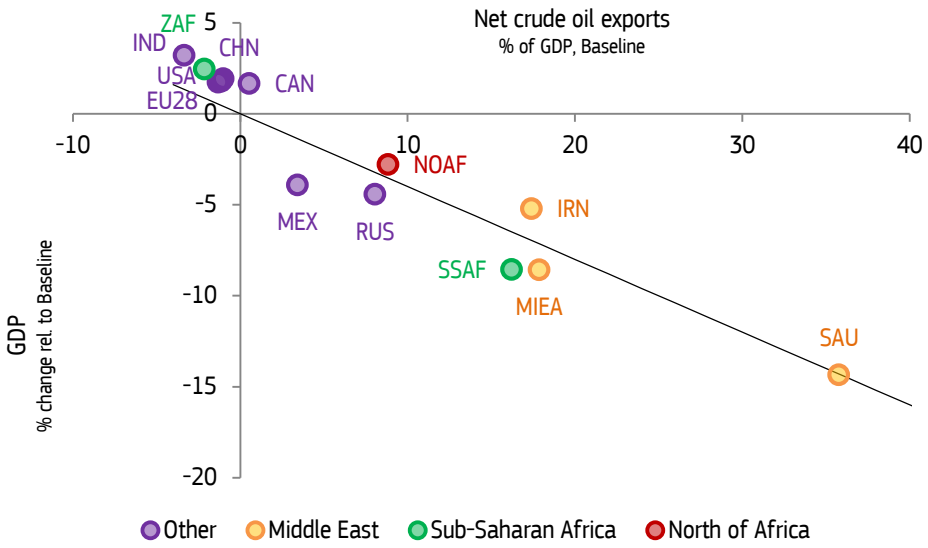
Source: JRC, GEM-E3 model

Table 3: Impact of a 60% oil price drop on private consumption

Consumption			
% change with Baseline, 2015			
World	0.96	Mexico (MEX)	-7.33
European Union (EU28)	1.52	Argentina	0.95
USA	1.65	North Africa (NOAF)	-2.14
Russia (RUS)	-3.97	New Zealand	1.82
Canada (CAN)	1.30	Saudi Arabia (SAU)	-12.81
Japan	1.36	Iran (IRN)	-3.68
Australia	1.33	South Africa (ZAF)	2.02
China (CHN)	1.85	Rest of Middle East (MIEA)	-6.32
India (IND)	2.59	Sub-Sahara Africa (SSAF)	-7.25
Indonesia	2.88	Rest of Central and S. America	0.87
Brazil	2.05	Central Asia and Caucasus	-5.88
Republic of Korea	2.61	South-East Asia	2.58
Rest of Europe and Turkey	0.57	Rest of Asia and Pacific	3.02

Source: JRC, GEM-E3 model

Figure 12: The impact of the low oil price on GDP vs export dependence



Source: JRC, GEM-E3 model

Table 4: Impact of a 60% oil price drop on real GDP

Value of GDP *% change with Baseline, 2015*			
World	1.11	Mexico (MEX)	-3.92
European Union (EU28)	1.92	Argentina	1.16
USA	1.79	North Africa (NOAF)	-2.79
Russia (RUS)	-4.43	New Zealand	2.42
Canada (CAN)	1.67	Saudi Arabia (SAU)	-14.34
Japan	1.56	Iran (IRN)	-5.21
Australia	1.60	South Africa	2.45
China (CHN)	1.73	Rest of Middle East (MIEA)	-8.58
India (IND)	3.21	Sub-Sahara Africa (SSAF)	-8.56
Indonesia	3.24	Rest of Central and S. America	0.90
Brazil	2.65	Central Asia and Caucasus	-15.20
Republic of Korea	3.25	South-East Asia	2.95
Rest of Europe and Turkey	0.48	Rest of Asia and Pacific	3.32

Source: JRC, GEM-E3 model

Table 3 shows that an oil price drop leads to different impacts across countries[30]. Consumption decline in oil exporting countries would range from 2.1% to 12.8%. The fall

[30] The analysis does not take into account the possible use of SWFs. The analysis only looks at the low oil prices and its impacts in 2015, and not beyond.

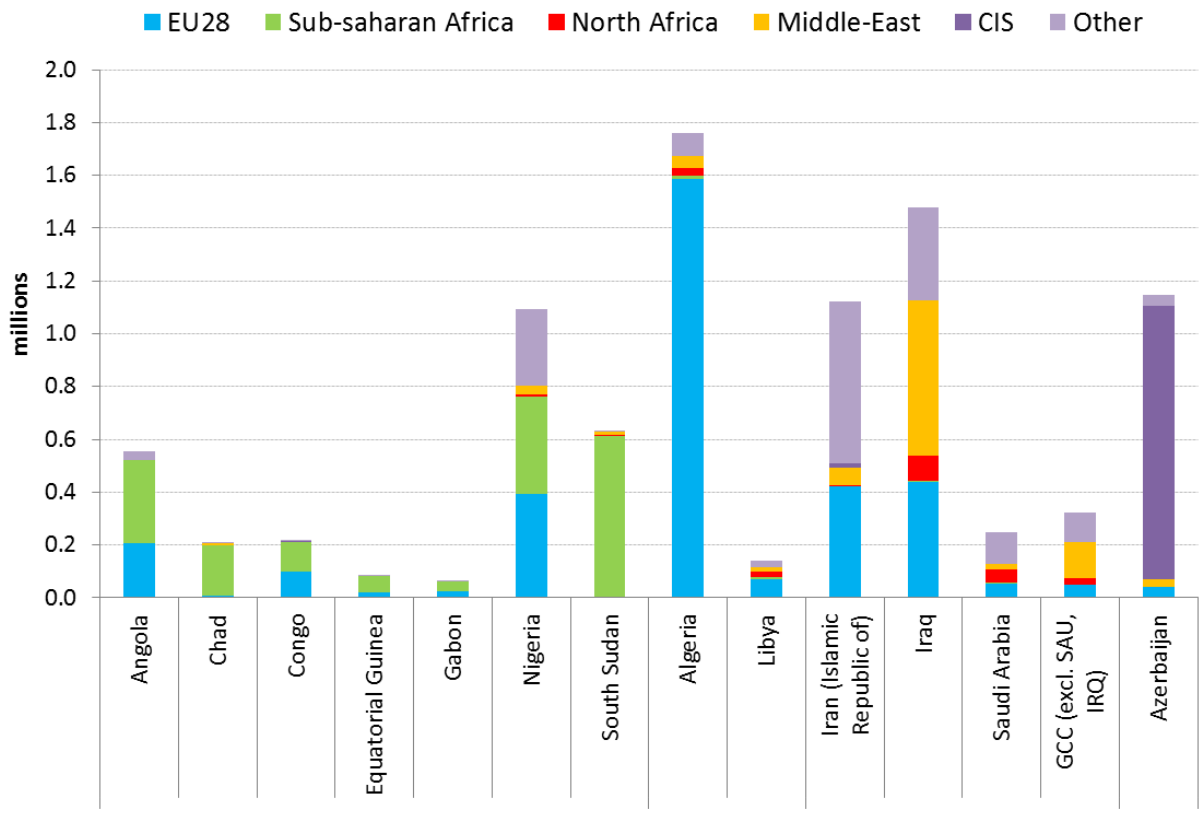
in the price of oil results in a steep decline in consumption in Middle East countries, particularly Saudi Arabia. In Sub-Saharan Africa, a 60% reduction in the price of oil would lead consumption to fall by 7.25%. Given that Sub-Saharan Africa is analysed as a whole, the impact on oil exporting countries is expected to be even higher. The effect on North African countries is lower than that on the rest of oil exporting countries (a 2.1% contraction) due to their relatively low consumption level and their economic structure not excessively depending on oil exports. In general terms, consumption impact differences could be partly explained by the lower/higher economic dependence on oil. Figure 11 shows the relation between consumption variations and oil exports. According to the results, the effect of oil prices on consumption is strongly correlated with export dependence. Thereby, countries where the share of oil in total exports is very high are more vulnerable to lower oil prices, as expected.

Similarly, Figure 12 shows that the sharp decline in oil prices affects the GDP of oil exporting countries in a heterogeneous manner. A 60% reduction in the price of oil results in a 15.2% decline of the GDP in Central Asia and Caucasus, while the GDP of North Africa would decline by 2.8%. The GDP of Middle East and Sub-Saharan African countries would decline by around 8.5%. The impact of the low oil price on GDP is strongly correlated with import dependence (Figure 12). For instance, Saudi Arabia where crude oil exports represent 35% of the GDP, a 60% fall in the price of oil leads GDP to decline by 14.3%. On the other hand, Mexican crude oil exports represent 3.4% of the GDP and therefore, the decline of the GDP would be much lower (3.9%).

4 Migration from oil exporting countries

An economic or political instability induced by low oil export prices is not assumed to be the only exploratory factor driving migrations, but may be an important driver in certain cases. This section tries to give first insights on the migratory patterns that might follow economic or political turmoil in oil-exporting countries.

Figure 13: Foreign residents originating from oil-exporting countries (mid-2015)



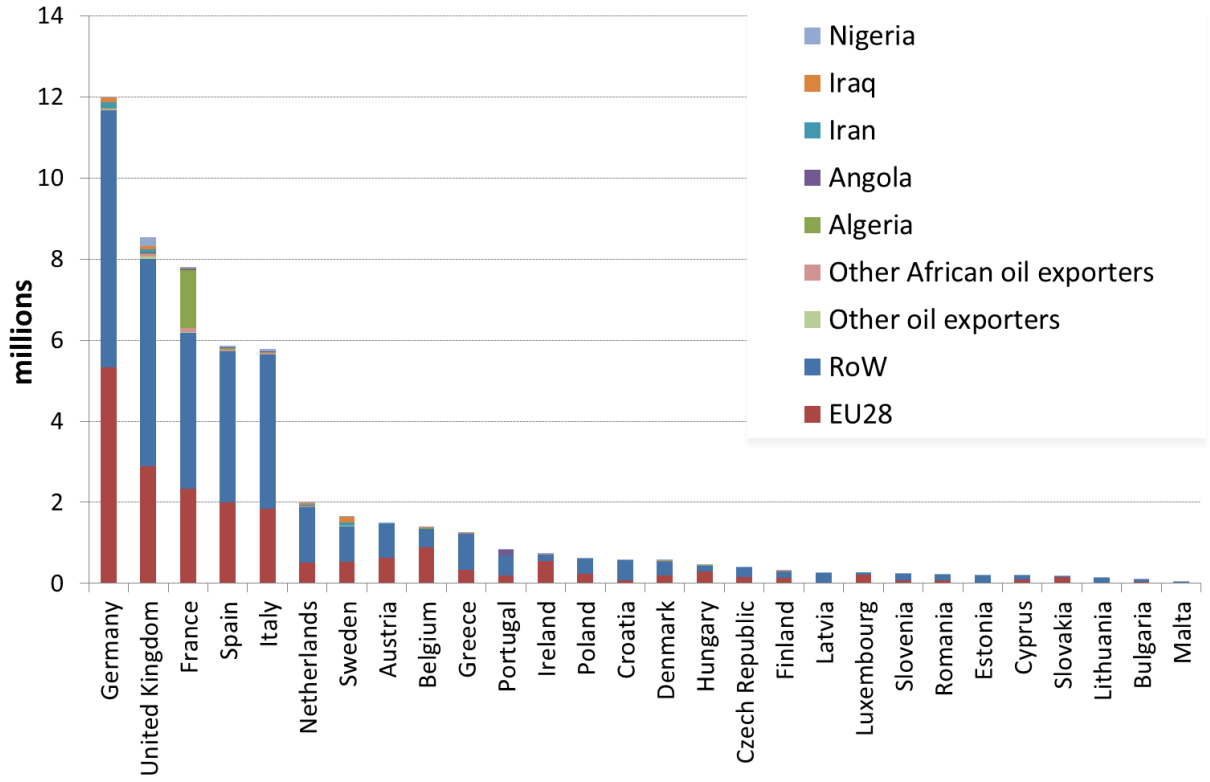
Note: The figures are the foreign residents and do not picture migration flows in a certain time period. They do not (fully) account for 2nd-or more generation immigrants which (also) hold the nationality of the destination country.
Source: UN (2015b).

Figure 13 shows the destination of the residents from oil-exporting countries living abroad. A first observation is that a large share of emigrants settles in neighbouring countries, especially in Sub-Saharan Africa and Middle-East (most of the emigrants from North Africa reside in Europe). The oil-exporting countries with the highest presence in EU28 are Iran, Iraq, Angola, Nigeria and Algeria, which has most residents in Europe, both in relative and absolute terms.

Out of 54 million migrants living in EU, 20 million is the internal migration between EU countries. People from the 14 oil-exporting states discussed in this section constitute

only 10% of the non-EU migration. Figure 14[31] shows that historical and cultural bonds between EU Member states and countries of origin matter. Portugal has a large community from Angola; most Nigerians settled in the UK; and France has a large Algerian community. This may be a proxy as to which EU Member State would receive most of the immigration if emigration picks up in one of the oil-exporting countries.

Figure 14: Origin of foreign residents in the EU28 (mid 2015)



Source: UN (2015b).

Finally, Table 5 shows that on average around one third of the total migrants from oil exporting countries reside in EU28. The countries with the highest relative presence in EU28 are Algeria, Republic of Congo, Gabon, Equatorial Guinea, Libya and Iraq. The high presence of the last two countries is likely linked to the internal armed conflicts they are undergoing. Nigeria has a surprisingly low presence in EU28, given the size of its population - however, any economic and political instability may bring significant numbers of people on the move.

[31] With 12 million, Germany has the largest number of foreign residents. However, this figure includes more than 3 million people from Russia, Kazakhstan, and other former Soviet republics, many of which are 'ethnic Germans'.

Table 5: Total population and its foreign residents of oil-exporting countries

	Share abroad	Share in EU	Total pop. (million)		Share abroad	Share in EU	Total pop. (million)
Algeria	4.4%	4.0%	39.9	**GCC***	2.0%	0.3%	21.2
Angola	2.5%	0.9%	22.1	**Iraq**	4.3%	1.3%	34.3
Azerbaijan	11.8%	0.4%	9.7	**Iran**	1.4%	0.5%	78.5
Chad	1.6%	0.1%	13.2	**Libya**	2.2%	1.1%	6.3
Rep. Congo	4.8%	2.1%	4.6	**Nigeria**	0.6%	0.2%	178.5
Eq. Guinea	10.1%	2.5%	0.8	**Saudi Arabia**	0.9%	0.2%	29.4
Gabon	3.7%	1.3%	1.7	**South Sudan**	5.6%	0.0%	11.4

Note: GCC oil exporting countries excluding Iraq and Saudi Arabia: Kuwait, Oman, Qatar, United Arab Emirates.

Source: UN (2015b).

5 Conclusions and Caveats

Between June 2014 and March 2016, the monthly average price of Brent crude oil fell around 65%. Although there is no consensus in the literature on the fundamentals of this oil price fall most studies find that the oil price decline was driven by a combination of several factors: (i) the unexpected increase in oil production due to the surge in US shale oil production and the increase of Saudi Arabia production, (ii) as well as the weaker than expected economic growth in Europe and Asia, (iii) that both materialized into increasing stocks, and (iv) the appreciation of the US dollar which made crude oil more expensive for the rest of the world.

Given the importance of oil revenues for several oil exporting countries, this report analyses the effects of oil price on their economy. Firstly, descriptive statistics are employed to show the exposure of the main oil exporting countries to the oil market, where GDP and Government revenue is found to be closely correlated to the oil price. In general, several Sub-Saharan African and North African countries show high exposure of the economy to the oil market. Combined with limited Sovereign Wealth Funds and reserves per capita, this high dependency of Government budget to oil price make these countries very vulnerable.

Secondly, the macro-economic effects of a fall in the price of oil is analysed with the GEM-E3 model. Two scenarios are compared: (i) a "Baseline" scenario in which the price of oil is US$ 100 per barrel and (ii) "60% scenario" in which the price of oil is US$ 40 per barrel. The results show that an oil price drop has different effects on oil exporting countries, and is strongly correlated with import dependence. Thus, countries where the share of oil in total exports is very high are more vulnerable to lower oil prices. A 60% fall in the price of oil could lead the GDP of Sub-Saharan Africa to decline by around 8.5%.

The economic analysis is in comparative static terms, i.e. compared to a Baseline and the results are not projections. The low oil price scenario is ceteris paribus in nature, i.e. the change in oil price is the only difference between the scenario and the Baseline. Indeed, the analysis does not take into account any policy reactions that may happen because of this major price shift. Crude oil producers (de facto Saudi Arabia, the historical swing producer) may decide to tighten the oil supply in order to bring the price to higher levels. Other governments may decide to increase or decrease public spending, or their tax rates. Another caveat is that the methodology does not allow for the appreciation or depreciation of currencies, changes in inflation or interest rate decisions by the central banks.

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List of abbreviations and definitions

Countries and regions

AGO	Angola	KWT	Kuwait
ARE	United Arab Emirates	LBY	Libya
AZE	Azerbaijan	MEX	Mexico
BRN	Brunei	MIEA	Middle East
CAN	Canada	NGA	Nigeria
CHN	China	NOAF	North Africa
CIS	Commonwealth of Independent States	NOR	Norway
COG	Republic of Congo	OMN	Oman
COL	Colombia	QAT	Qatar
DZA	Algeria	RUS	Russia
ECU	Ecuador	SAU	Saudi Arabia
EU28	European Union (28)	SDN	Sudan
GAB	Gabon	SSAF	Sub-Saharan Africa
GCC	Gulf Cooperation Council	TCD	Chad
GNQ	Equatorial Guinea	TKM	Turkmenistan
IND	India	TTO	Trinidad & Tobago
IRN	Iran	USA	USA
IRQ	Iraq	VEN	Venezuela
KAZ	Kazakhstan	ZAF	South Africa

Units

bl:	barrel of oil	
Gbl:	giga barrels of oil,	1 000 000 000 bl
kbl:	kilo barrels of oil,	1 000 bl
bn$:	billion US$,	1 000 000 000 $
k$:	kilo US$,	1 000 $
tn$:	trillion US$,	1 000 000 000 000 $
M:	million	

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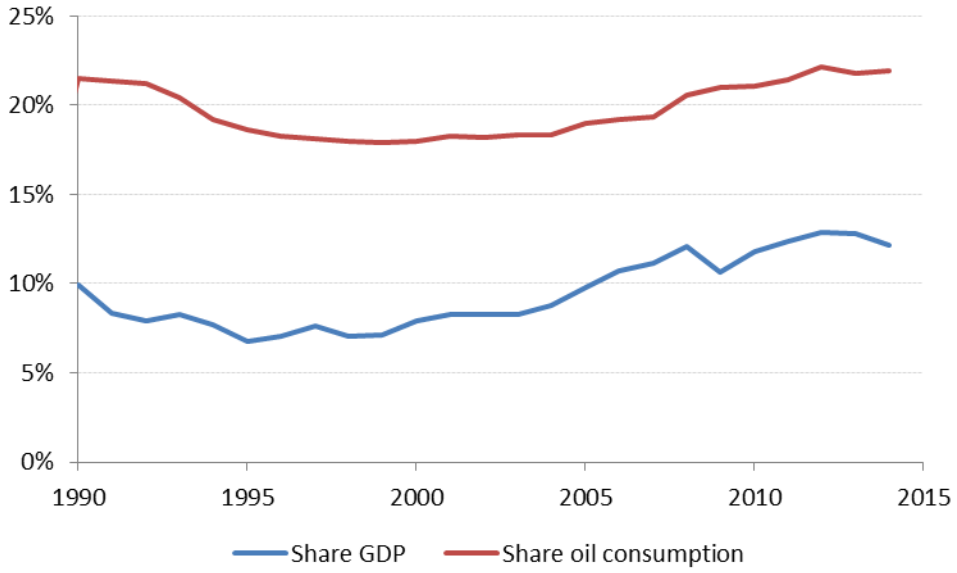
Annex 1. Share of net oil exporters in oil consumption and GDP

Figure 15 gives the share of the oil exporting countries considered in this report (see Table 1) in the World oil consumption and GDP.

Figure 15. Share of oil producers in world oil consumption and GDP (1990-2014)



Source: GDP from WB (2015) and oil consumption from BP (2015) and Enerdata (2106).

Annex 2. Regression of GDP and Government revenue to oil price

Table 6 gives the regression coefficients from the elasticity calculation shown in Figure 8 and Figure 10.

Table 6. Regression of GDP and Government revenue (per capita) to oil price

Country	ISO3 code	Region	GDP per capita vs. oil price			Gvt Revenue per capita vs. oil price		
			Elast.	R2	Period	Elast.	R2	Period
Saudi Arabia	SAU	Middle-East	0.5	97%	1990-2014	0.9	98%	1990-2014
United Arab Emirates	ARE	Middle-East	0.2	84%	1990-2014	0.3	45%	1990-2014
Kuwait	KWT	Middle-East	0.7	96%	1993-2014	0.6	96%	1993-2014
Iraq	IRQ	Middle-East	0.8	98%	2004-2014	1.1	98%	2004-2014
Qatar	QAT	Middle-East	0.4	99%	1990-2014	0.6	98%	1990-2014
Iran	IRN	Middle-East	0.7	93%	1990-2014	0.8	91%	1990-2014
Oman	OMN	Middle-East	0.5	98%	1990-2014	0.6	98%	1990-2014
Algeria	DZA	North Africa	0.7	96%	1990-2014	0.9	99%	1990-2014
Libya	LBY	North Africa	0.6	68%	1990-2010	1.0	94%	1990-2010
Nigeria	NGA	Sub-Saharan Africa	0.4	98%	2000-2014	0.8	85%	2000-2014
Angola	AGO	Sub-Saharan Africa	0.9	97%	1996-2014	1.4	99%	1996-2014
Equatorial Guinea	GNQ	Sub-Saharan Africa	0.7	94%	1992-2014	1.1	92%	1992-2014
Republic of Congo	COG	Sub-Saharan Africa	0.9	97%	1990-2014	1.2	99%	1990-2014
Gabon	GAB	Sub-Saharan Africa	0.7	93%	1990-2014	0.5	93%	1990-2014
Sudan*	SDN	Sub-Saharan Africa	0.3	99%	1999-2010	1.0	97%	1999-2010
Chad	TCD	Sub-Saharan Africa	0.8	92%	2003-2014	1.4	96%	2003-2014
Russia	RUS	Other: CIS	0.7	96%	1998-2014	0.8	96%	1998-2014
Kazakhstan	KAZ	Other: CIS	0.8	95%	1994-2014	1.0	96%	1994-2014
Azerbaijan	AZE	Other: CIS	0.7	96%	1994-2014	0.9	96%	1994-2014
Venezuela	VEN	Other: Americas	0.3	91%	1990-2014	0.4	93%	1990-2014
Canada	CAN	Other: Americas	0.4	99%	1990-2014	0.3	98%	1990-2014
Mexico	MEX	Other: Americas	0.1	88%	1995-2014	0.2	95%	1995-2014
Norway	NOR	Other: Europe	0.3	98%	1990-2014	0.3	98%	1990-2014
Average exporters			0.5	98%	1990-2014	0.5	99%	1990-2014

Note: trend-corrected linear regression analysis

Source: oil price is from BP (2015), oil exports are from BP (2015) and Enerdata (2016), GDP from World Bank (2016), Government revenue from IMF (2015), and population from UN (2015a).

Annex 3. Country factsheets of selected countries

This section presents the facts sheets for a total of 18 important oil producing countries in the vicinity of the EU. The country list includes 11 African countries, 4 Middle Eastern countries and 3 other countries.

African countries

- Algeria
- Angola
- Cameroon
- Chad
- Republic of Congo
- Gabon
- Equatorial Guinea
- Libya
- Nigeria
- South Sudan
- Sudan

Middle East

- Iran
- Iraq
- Saudi Arabia
- United Arab Emirates

Other countries

- Canada
- Norway
- Russia

The country fact sheets represent general basic indicators, oil production figures, and trade statistics. The economic shock induced by low oil export prices is not assumed to be the only exploratory factor driving demographic migratory pressure, but may be a very important driver in certain cases. These facts are complemented with figures describing the size of its diaspora in neigbouring countries, Europe and the rest of the world, as well as their main countries of destination. The latter are a proxy to see which countries are likely to be affected first by migration inflow in case of political and economic instability.

Data used in this chapter comes from different sources: World Trade Organisation, International Monetary Fund and United Nations. Presented economic forecasts are based on IMF World Economic Outlook (October 2015). The forecasts were made in the second half of 2015 and (amongst other things) assume that the oil price will stay on the low level until at least 2017. Also it has been assumed that nuclear agreement with Iran will lead to increase in production and export of Iranian oil in the future.

Algeria

Oil production in the economy

Algeria had produced in 2014 1525 thousand bpd, which is significantly lower than in the peak of its production ten years ago (when production had reached almost 2000 bpd). Oil (and other fuels) is almost only product the country exports. On the other hand, Algerian economy is not so much dependent on trade (like other African oil exporting countries).

Table 7: Algeria basic Indicators

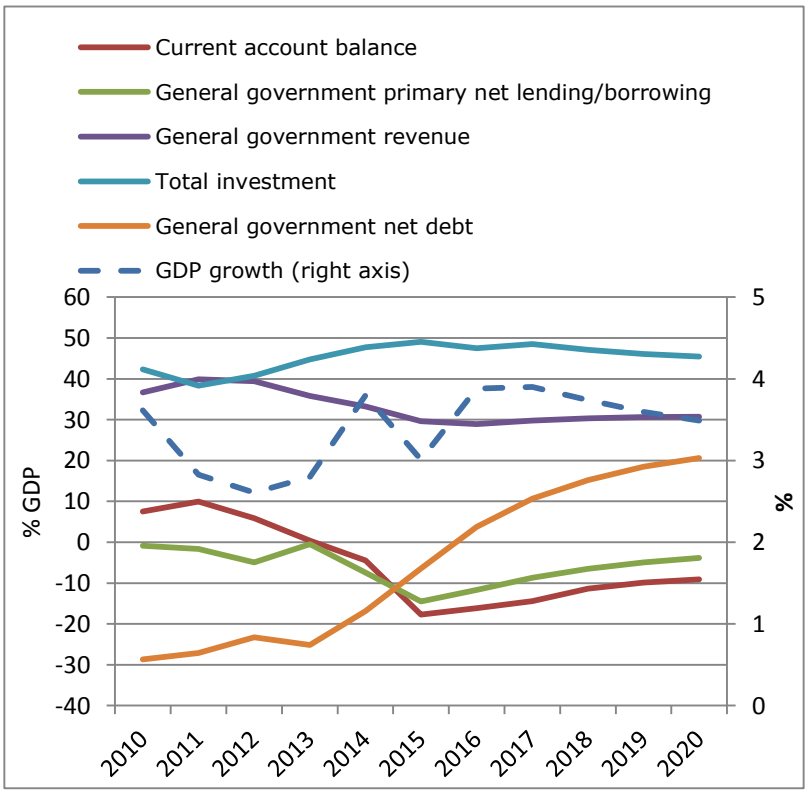
Population (thousands, 2014)	39 929
GDP (million current US$, 2014)	214 063
GDP (million current PPP US$, 2014)	551 596
Current account balance (million US$, 2013)	869
Trade per capita (US$, 2012-2014)	3 478
Trade to GDP ratio (2012-2014)	65.1
Merchandise *exports*, f.o.b. (million US$, 2014)	62 956
Merchandise *imports*, c.i.f. (million US$, 2014)	58 330
Share in world total exports in 2014 (%)	0.33
Breakdown in economy's total exports (shares in total export)	
By main commodity group:	
Agricultural products	0.5
Fuels and mining products	97.6
Manufactures	1.9

Source: WTO database

Perspectives

Lower oil prices have had an important effect on the fiscal and current account balances. Government revenue declined in 10 percentage points of GDP from 2012 to 2015. The deterioration in the fiscal balance has wiped out government net savings. Current account balance has changed from 10% surplus in 2011 to 17% deficit in 2015. GDP is expected to increase around 4% in 2016.

Figure 16: Algeria macroeconomic indicators (% GDP)

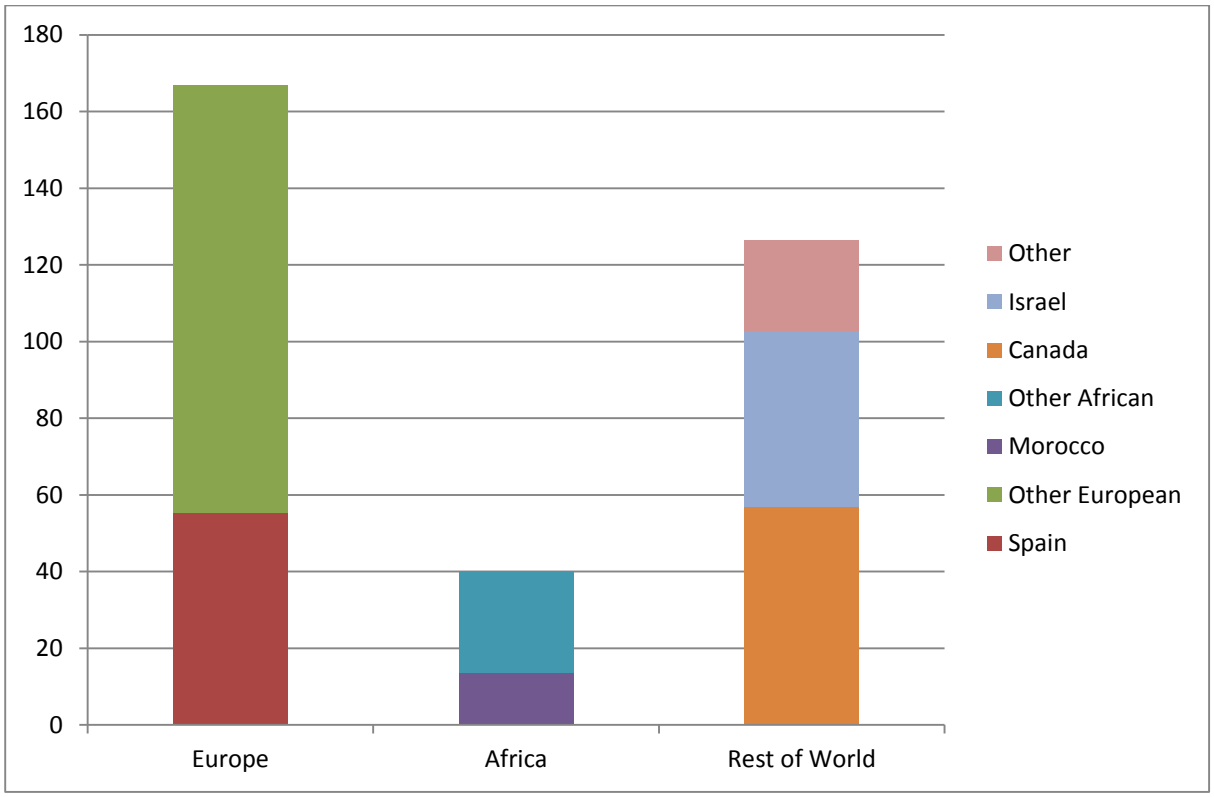


Source: IMF. World Economic Outlook database.

Migration stock

According to UN data [32], the total number of migrants from Algeria amount to 1.7 m people, out of which 81% (1.4 m) live in one country – France[33]. Other European countries with Algerian diaspora are: Spain, UK and Germany. Number of Algerians living in other African countries is surprisingly small – little more than 40 thousand people (most of which lives in Algeria`s neighbours – Morocco and Tunisia). Other important countries of residence of Algerians are Canada and Israel.

Figure 17: Total migrant stock for Algeria at mid-year of 2015 by major area and country of destination (thousands of people) (excl. France)



Source: UN Department of Economic and Social Affairs

[32] United Nations Department of Economic and Social Affairs.
[33] Due to large share of migration to France in total migration from Algeria, France was not shown on the graph.

Libya

Oil production in the economy

Libya used to be one of the main producers of oil in Africa, but in the last few years production dropped drastically (from around 1820 thousand bpd in 2007 to little less than 500 thousand bpd in 2014). Almost all of this production is exported (and country export consists mainly of oil and gas).

Table 8: Libya basic Indicators

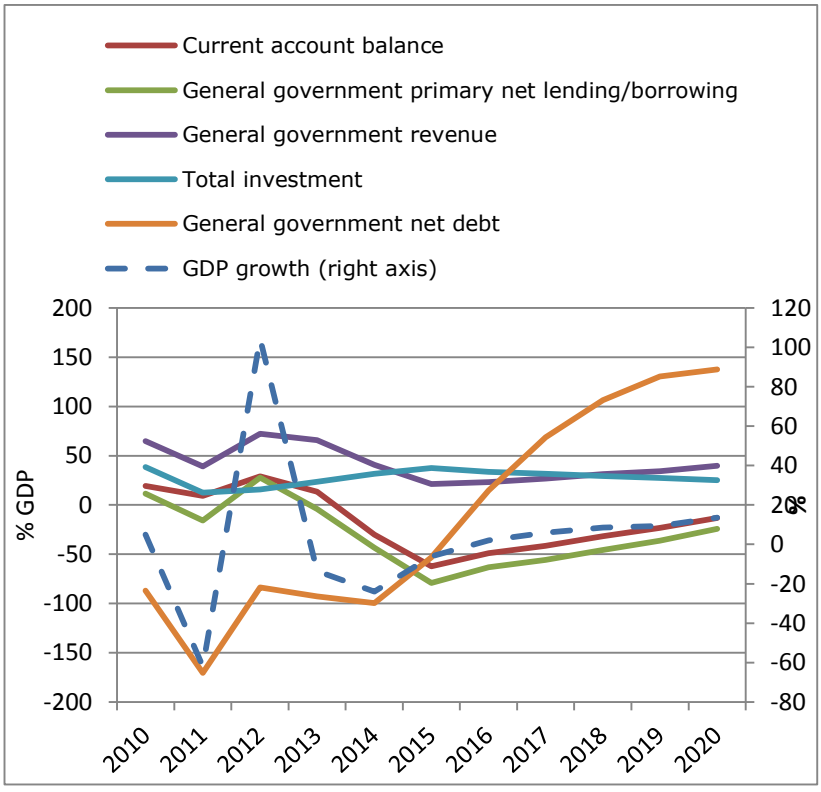
Population (thousands, 2014)	6 253
GDP (million current US$, 2014)	41 119
GDP (million current PPP US$, 2014)	97 582
Current account balance (million US$, 2013)	- 108
Trade per capita (US$, 2011-2013)	11 622
Trade to GDP ratio (2011-2013)	117.8
Merchandise *exports*, f.o.b. (million US$, 2014)	21 000
Merchandise *imports*, c.i.f. (million US$, 2014)	19 000
Share in world total exports in 2014 (%)	0.11
Breakdown in economy's total exports (shares in total export)	
By main commodity group:	
Agricultural products	0.0
Fuels and mining products	96.9
Manufactures	3.1

Source: WTO database

Perspectives

Not only lower oil prices but also the civil war in 2011 has affected its economy in recent years. Both fiscal and current account balance are much deteriorated. Although the economy is expected to recover in the coming years, government savings are declining, and debt will sharply increase.

Figure 18: Libya macroeconomic indicators (% GDP)

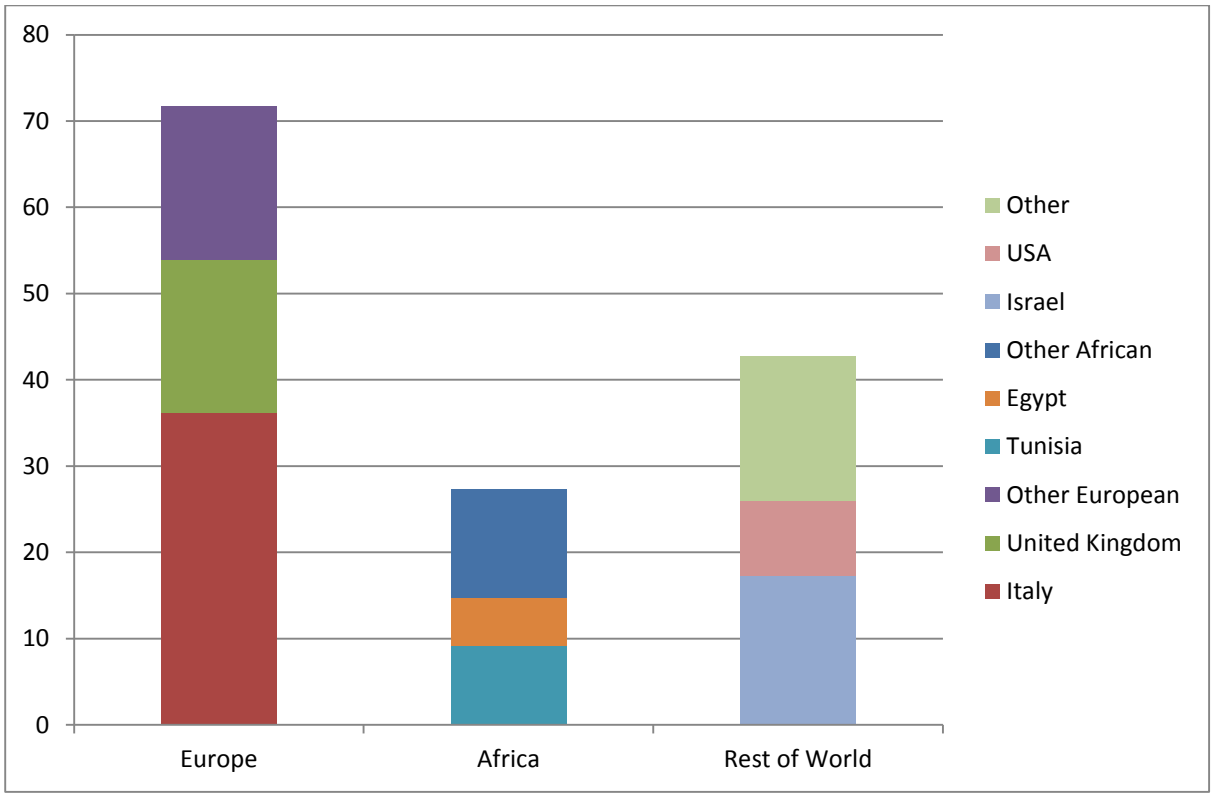


Source: IMF. World Economic Outlook database.

Migration stock

Europe is the most important destination of migration from Libya – and Italy and United Kingdom are the two main countries where Libyans live. In Africa, Libyans live in other Maghreb countries and also in Egypt. There is also significant population living in Israel, USA and Canada.

Figure 19: Total migrant stock for Libya at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

Angola

Oil production in the economy

Angola is one of the biggest African oil exporters and oil constitutes almost all of its export. In 2014 production of oil reached 1.7 million barrels per day, slightly lower than its peak in 2008. As domestic consumption of oil is still very low, the majority of extraction is exported.

Table 9: Angola basic Indicators

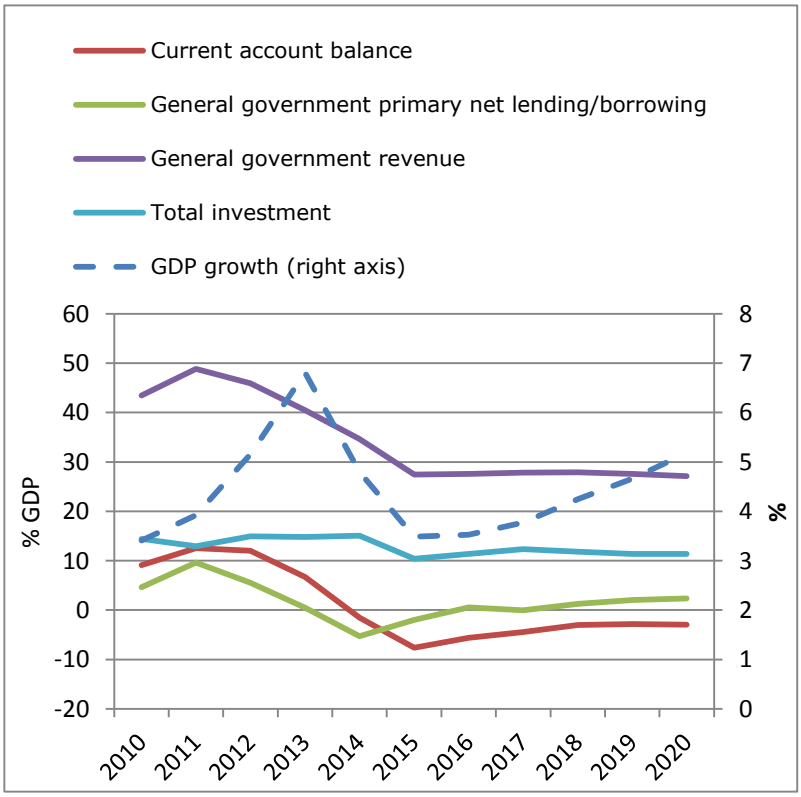
Population (thousands, 2014)	22 137
GDP (million current US$, 2014)	131 401
GDP (million current PPP US$, 2014)	175 103
Current account balance (million US$, 2013)	8 348
Trade per capita (US$, 2011-2013)	5 516
Trade to GDP ratio (2011-2013)	100.3
Merchandise *exports*, f.o.b. (million US$, 2014)	62 400
Merchandise *imports*, f.o.b. (million US$, 2014)	28 320
Share in world total exports in 2014 (%)	0.33
Breakdown in economy's total exports (shares in total export)	
By main commodity group:	
Agricultural products	0.0
Fuels and mining products	97.1
Manufactures	2.3

Source: WTO database

Perspectives

Current account balance in Angola has changed from 10% surplus in 2010-2012 to 7.5% deficit in 2015, with expectations to move toward balance in coming years. As oil revenues are an important source of income for government, the drop in oil prices has an impact on its budget (although revenues - in relation to GDP - had started to fall even before the oil price slump). Angola is expected also to see sharp decrease in investment to GDP ratio (from around 15% in 2010-2015) to little more than 10% in 2016-2020 due to lower investments in its dominant economic sector oil.

Figure 20: Angola macroeconomic indicators (% GDP)

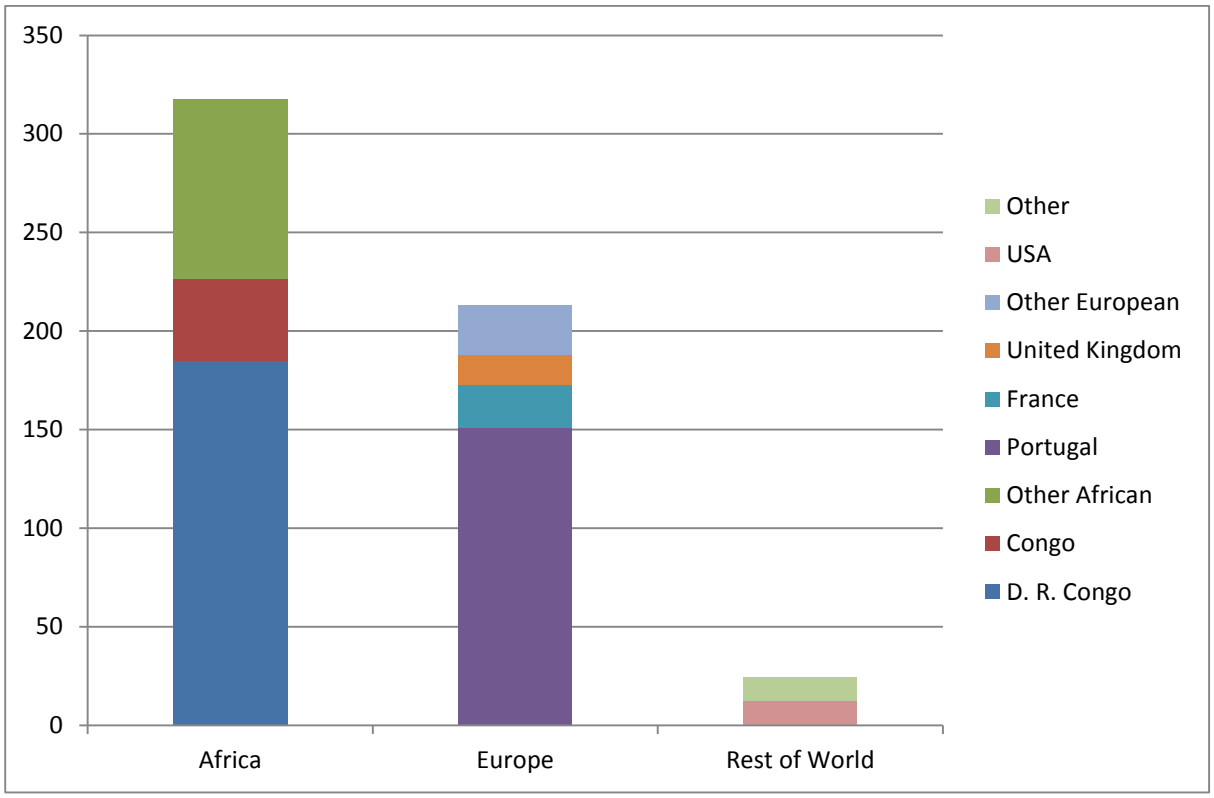


Source: IMF. World Economic Outlook database.

Migration stock

At mid-year of 2015, over half million (556 thousand) of Angolans lived abroad, out of which 317000 in Africa (mainly in Democratic Republic of Congo). Europe was second largest destination of migration, with the majority of population living in Portugal. Next major countries are: France, United Kingdom, Switzerland and the Netherlands. Outside Africa and Europe live relatively few Angolans – mainly in USA and Brazil.

Figure 21: Total migrant stock for Angola at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

Cameroon

Oil production in the economy

Although Cameroon is considered to be oil producing country, the extraction of oil is low compared to other countries. Almost all oil production is exported and the share of this commodity in total export exceeds 50%.

Table 10: Cameroon basic Indicators

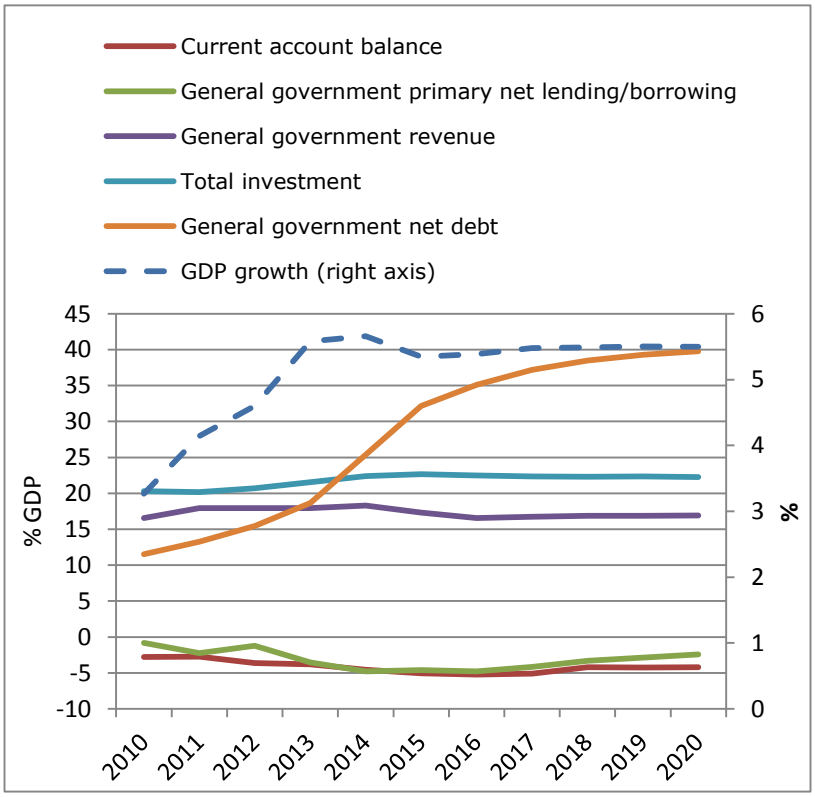
Population (thousands, 2014)	22 819
GDP (million current US$, 2014)	32 549
GDP (million current PPP US$, 2014)	67 660
Current account balance (million US$, 2013)	- 1 128
Trade per capita (US$, 2011-2013)	734
Trade to GDP ratio (2011-2013)	57.8
Merchandise *exports*, f.o.b. (million US$, 2014)	4 853
Merchandise *imports*, c.i.f. (million US$, 2014)	6 982
Share in world total exports in 2014 (%)	0.03
Breakdown in economy's total exports (shares in total export)	
By main commodity group:	
Agricultural products	33.8
Fuels and mining products	57.9
Manufactures	8.3

Source: WTO database

Perspectives

Cameroon, which is a relatively minor oil producer, has been hardly affected by lower oil prices. Government revenue declined in 1 percentage point of GDP from 2014 to 2015. Permanent fiscal deficits are making government net debt to increase sharply. In the coming years, GDP is expected to grow by 5%.

Figure 22: Cameroon macroeconomic indicators (% GDP)

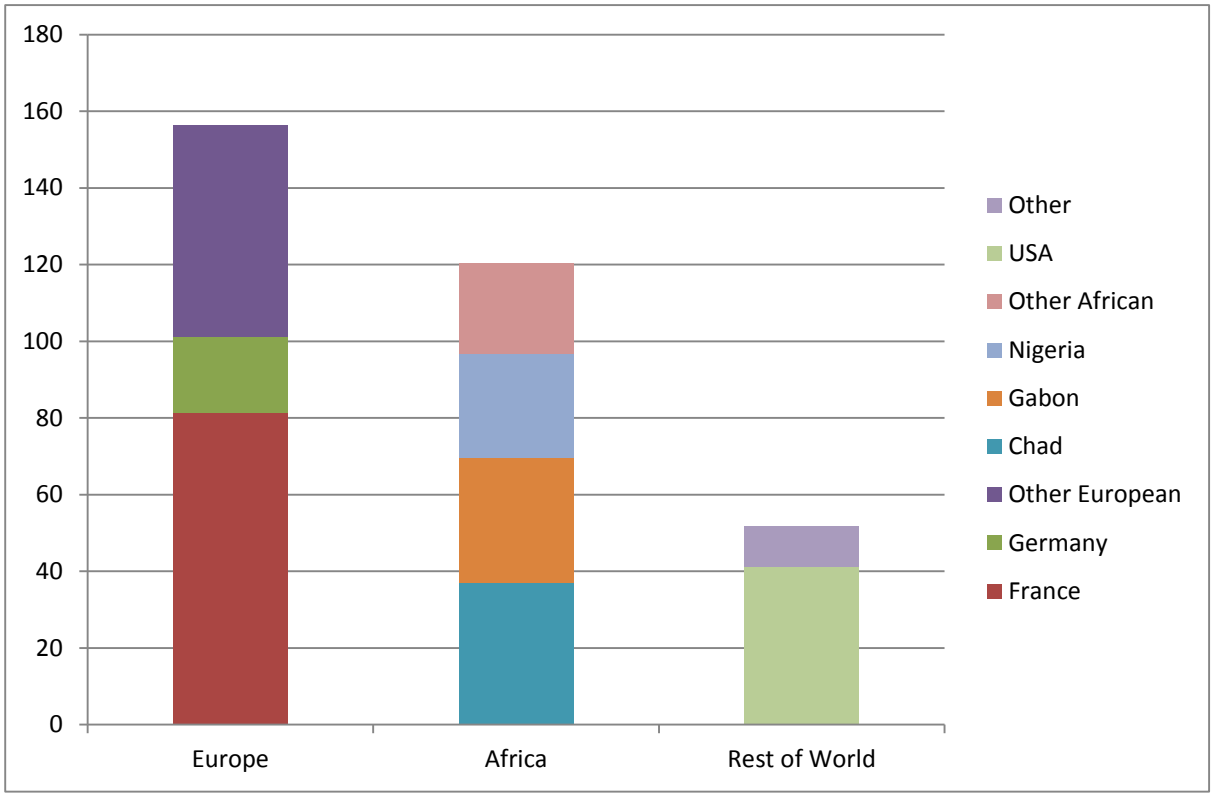


Source: IMF. World Economic Outlook database.

Migration stock

The main destination of migration from Cameroon is Europe, where in the mid-year 2015 lived almost 160 thousand people (and half of them in France). Other major host countries in Europe are: Germany, Belgium and Italy. In other African countries lived 120 000 Cameroonians, mainly in Chad, Gabon and Nigeria. USA and Canada are practically the only countries where people from Cameroon live outside Europe and Africa.

Figure 23: Total migrant stock for Cameroon at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

Chad

Oil production in the economy

Despite being oil producer and exporter, Chad is rather poor compared to other African countries. Extraction of oil is not very high, with average early production not exceeding 100 thousand bpd. Practically all this volume is exported.

Table 11: Chad basic Indicators

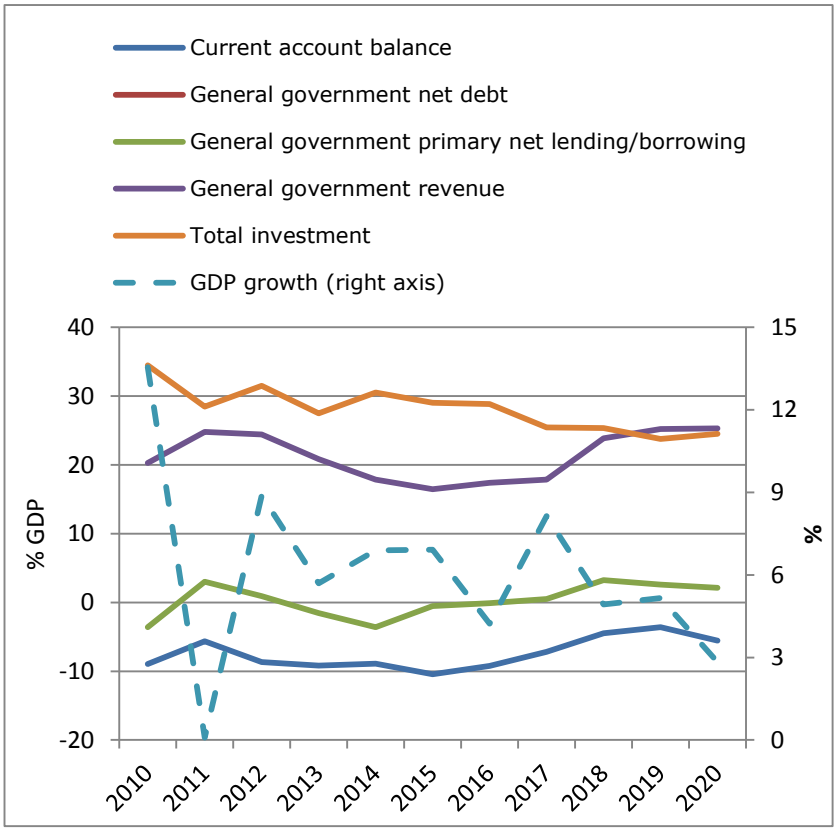
Population (thousands, 2014)	13 211
GDP (million current US$, 2014)	13 922
GDP (million current PPP US$, 2014)	29 648
Current account balance (million US$, 2013)	...
Trade per capita (US$, 2011-2013)	855
Trade to GDP ratio (2011-2013)	85.2
Merchandise *exports*, f.o.b. (million US$, 2014)	3 600
Merchandise *imports*, c.i.f. (million US$, 2014)	4 300

Source: WTO database

Perspectives

Government revenues (in relation to GDP) have declined in 8 percentage points since 2012. However, 2012 levels are expected to regain by 2017. This will help to reduce the deterioration in the fiscal balance. Current account balance has been also affected by lower oil prices and is expected to be negative in the coming years.

Figure 24: Chad macroeconomic indicators (% GDP)

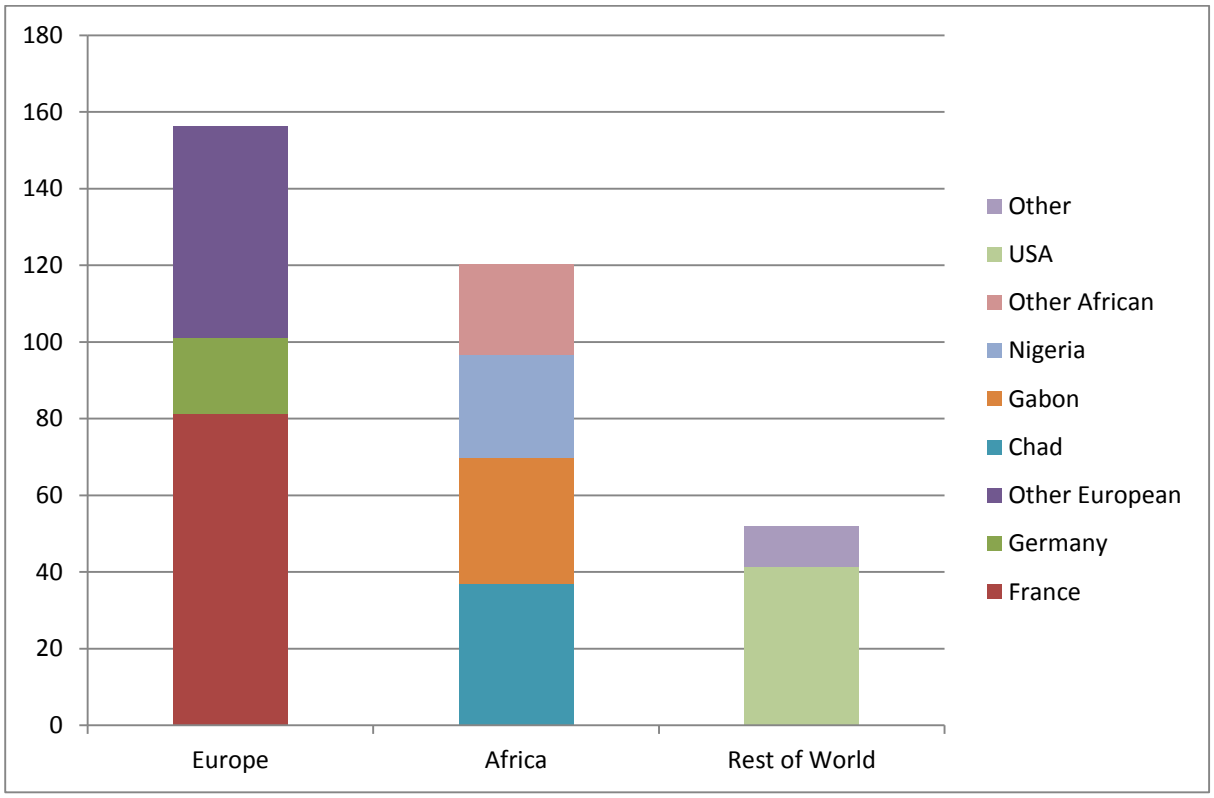


Source: IMF. World Economic Outlook database.

Migration stock

Over 200 thousand of Chad citizens live abroad. Majority of them resides in the neighbouring countries: Sudan, Cameroon and Nigeria. Outside Africa, some Chadians live in France and also in United Arab Emirates.

Figure 25: Total migrant stock for Cameroon at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

Republic of Congo

Oil production in the economy

Republic of Congo is producing yearly almost 300 thousand bpd (281 thousand bpd in 2014), with stable level of production over the years. Over 90% of this production is exported. However - unlike for other oil exporting countries - export of oil is not so important in the country`s economy.

Table 12: Republic of Congo basic indicators

Population (thousands, 2014)	4 559
GDP (million current US$, 2014)	14 135
GDP (million current PPP US$, 2014)	28 215
Current account balance (million US$, 2007)	- 2 181
Trade per capita (US$, 2011-2013)	4 740
Trade to GDP ratio (2011-2013)	146.2
Merchandise *exports*, f.o.b. (million US$, 2014)	8 263
Merchandise *imports*, f.o.b. (million US$, 2014)	6 200
Share in world total exports in 2014 (%)	0.04
Breakdown in economy's total exports (shares in total export)	
By main commodity group:	
Agricultural products	1.5
Fuels and mining products	50.4
Manufactures	22.5

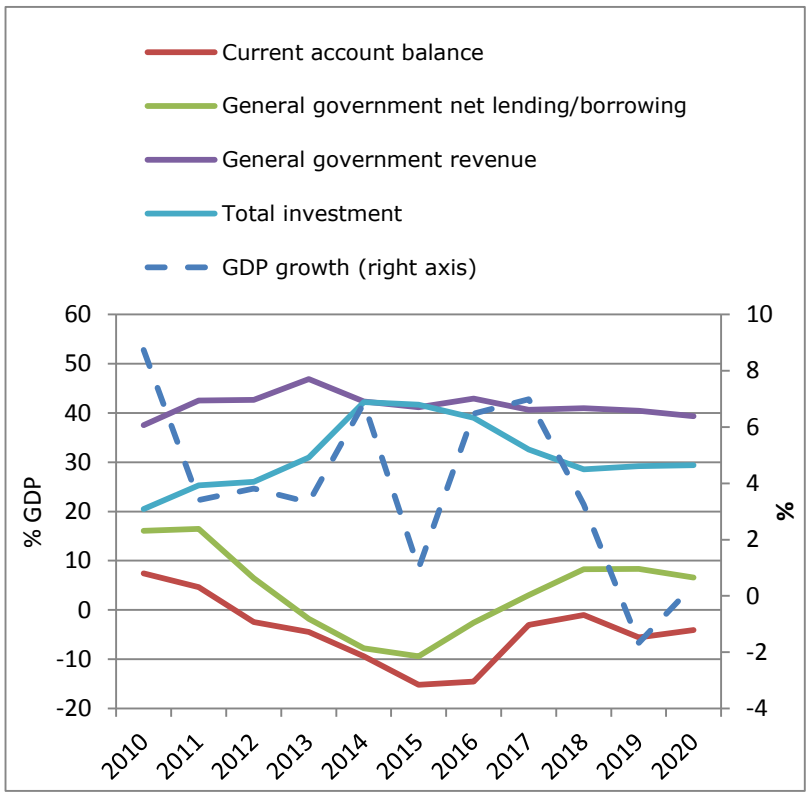
Source: WTO database

Perspectives

Current account balance of Republic of Congo has been decreasing since 2010, and eventually changed from surplus into deficit. In the next few years however, improvement of balance is expected.

Economy of country is expected to grow in the coming years, but the rate of growth might be declining in the end of decade.

Figure 26: Republic of Congo macroeconomic indicators (% GDP)

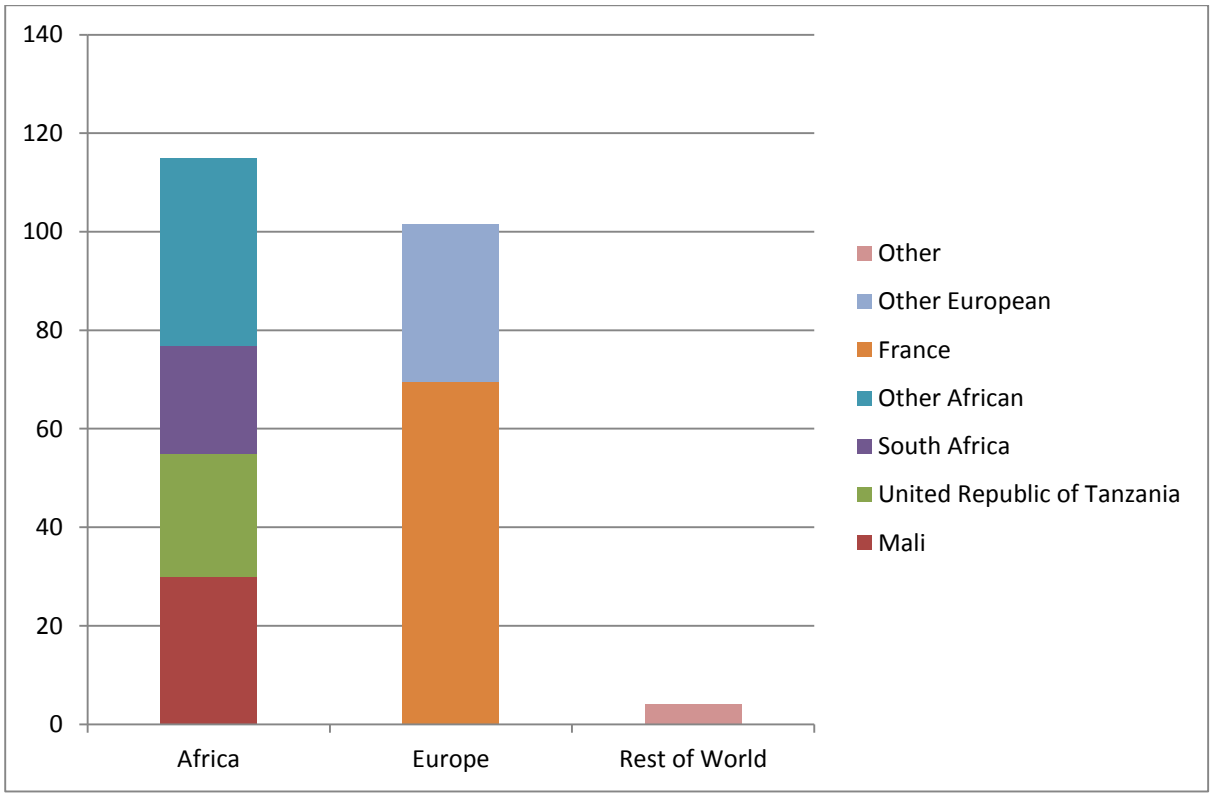


Source: IMF. World Economic Outlook database.

Migration stock

Total number of migrants from Republic of Congo reaches 220 thousand people (nearly 5% of its population). Half of them live in other African countries: Mali, Tanzania and South Africa being the most important. Out of 100 thousand Congo migrants living in Europe, France is a home for 70 thousand.

Figure 27: Total migrant stock for Republic of Congo at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

Gabon

Oil production in the economy

Gabon is relatively rich country in Africa. Oil production in Gabon in the last decade was on the stable level of around 200-250 thousand bpd (236 thousand bpd in 2014). The country has high trade to GDP ratio and also high share of fuels in total export. These suggest that Gabon economy might be vulnerable to oil market fluctuations.

Table 13: Gabon Basic Indicators

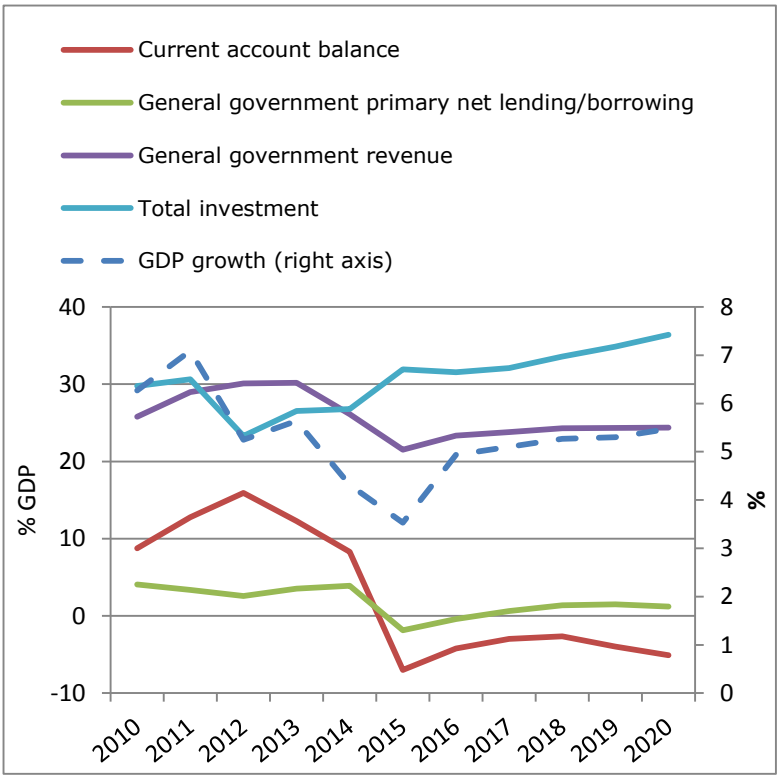
Population (thousands, 2014)	1 711
GDP (million current US$, 2014)	17 228
GDP (million current PPP US$, 2014)	32 130
Current account balance (million US$, 2005)	1 983
Trade per capita (US$, 2011-2013)	8 922
Trade to GDP ratio (2011-2013)	82.9
Merchandise *exports*, f.o.b. (million US$, 2014)	8 926
Merchandise *imports*, c.i.f. (million US$, 2014)	2 993
Share in world total exports in 2014 (%)	0.05
Breakdown in economy's total exports (shares in total export)	
By main commodity group:	
Agricultural products	7.3
Fuels and mining products	89.1
Manufactures	3.1

Source: WTO database

Perspectives

Lower oil prices have had an important effect on the fiscal and current account balances. Government revenue declined in 9 percentage points of GDP from 2013 to 2015. In the same period, current account balance has deteriorated in 20 percentage points of GDP. GDP growth rate has decline from 7% in 2011 to 3.5% in 2015. From 2016, an improvement of the economy is expected.

Figure 28: Gabon macroeconomic indicators (% GDP)

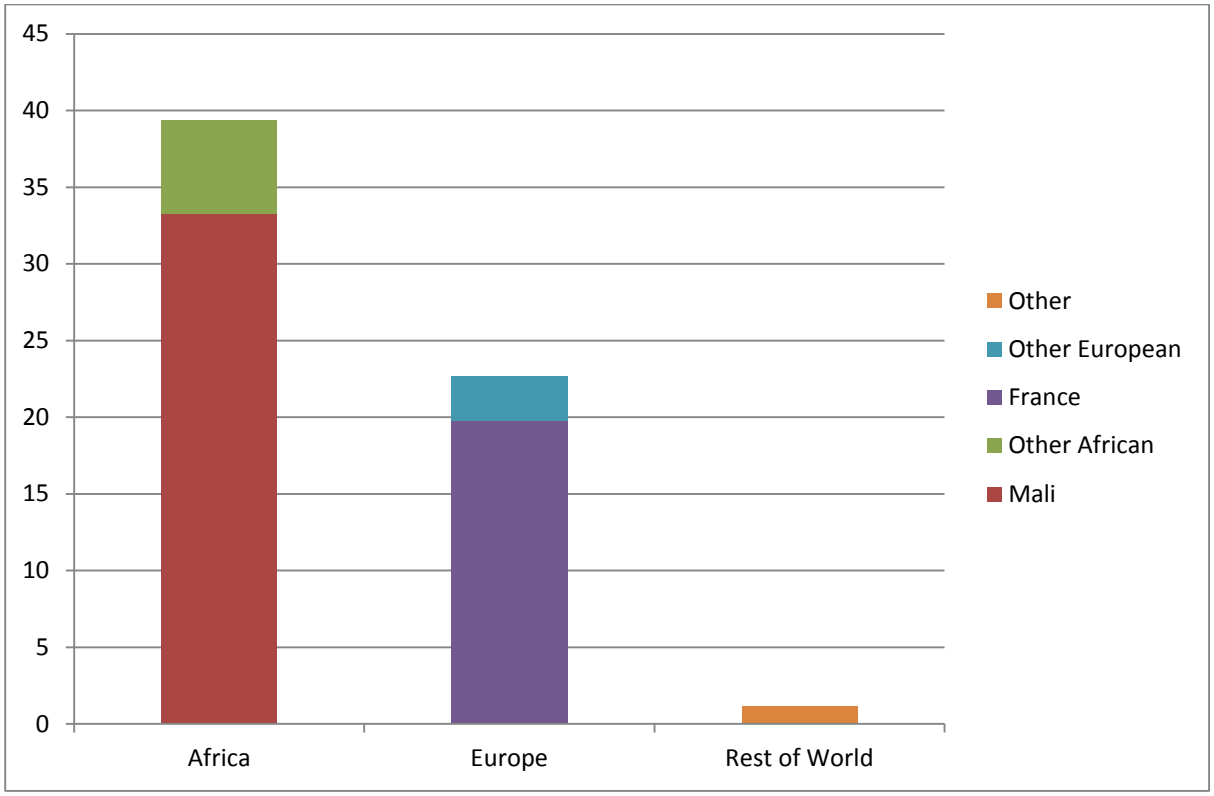


Source: IMF. World Economic Outlook database.

Migration stock

Gabon is small country and therefore migration is very small – only 64 thousand people. Most of them live in Mali in Africa and in France in Europe.

Figure 29: Total migrant stock for Gabon at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

Equatorial Guinea

Oil production in the economy

Equatorial Guinea (due to production and export of oil) is one of the richest countries in Africa. In 2014 it produced 281 thousand bpd. Trade to GDP ratio exceeds 100%, and export is almost as large as total GDP.

Table 14: Equatorial Guinea basic Indicators

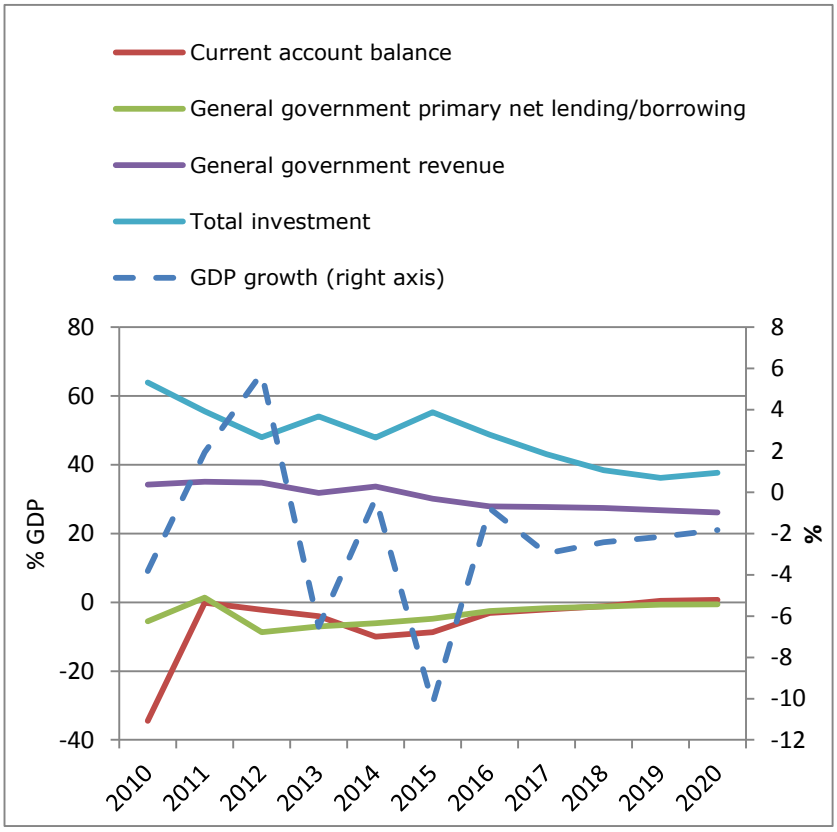
Population (thousands, 2014)	778
GDP (million current US$, 2014)	14 308
GDP (million current PPP US$, 2014)	25 105
Current account balance (million US$, 2014)	...
Trade per capita (US$, 2011-2013)	36 473
Trade to GDP ratio (2011-2013)	168.7
Merchandise *exports*, f.o.b. (million US$, 2014)	12 600
Merchandise *imports*, c.i.f. (million US$, 2014)	6 500

Source: WTO database

Perspectives

Government revenues have declined in 5 percentage points of GDP since 2011 and will go on reducing in the coming years. The adjustment of fiscal policies could help to reduce fiscal deficit. Current account balance may also reduce its deficit in the coming years. GDP declined by 10% in 2015 and positive growth rates are expected in the coming years.

Figure 30: Equatorial Guinea macroeconomic indicators (% GDP)

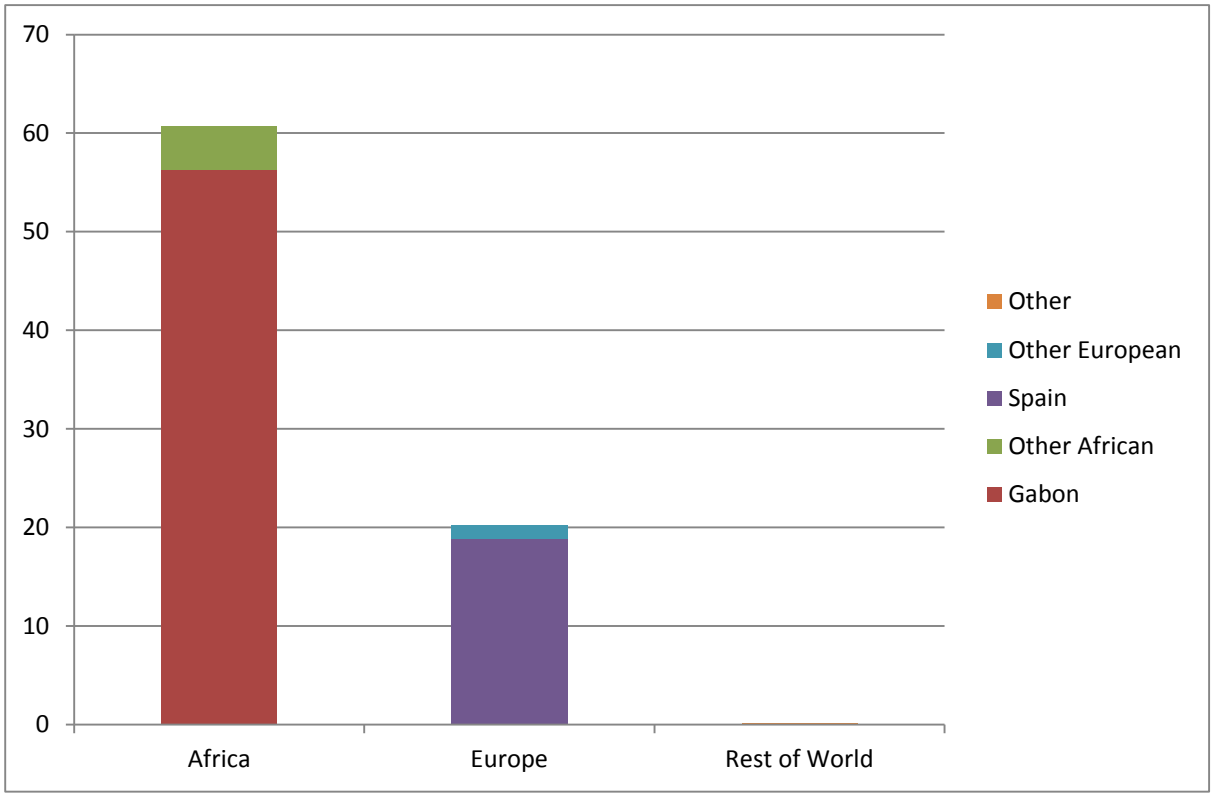


Source: IMF. World Economic Outlook database.

Migration stock

Equatorial Guinea has relatively high migration which exceeds 10% of total population. Most of the migrants live in the neighbour country – Gabon. In Europe there is a considerable population living in Spain (around 20 thousand).

Figure 31: Total migrant stock for Equatorial Guinea at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

Nigeria

Oil production in the economy

Nigeria is the largest economy in Africa, and because of its size, trade to GDP ratio is relatively small (33%). Despite the size of Nigerian economy, export is heavily dependent on the oil and other fuels.

Table 15: Nigeria basic Indicators

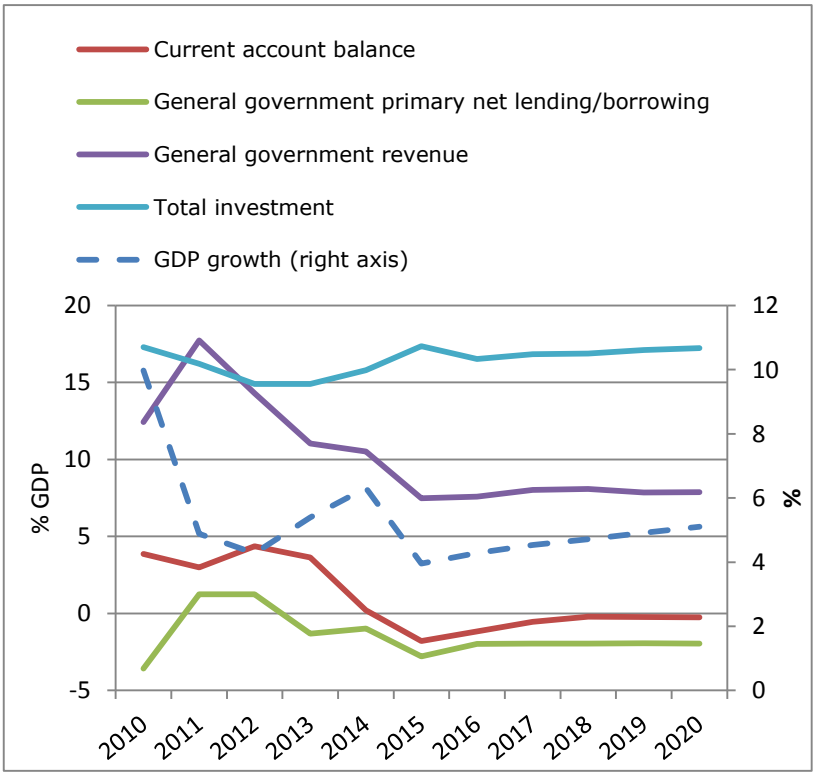
Population (thousands, 2014)	178 517
GDP (million current US$, 2014)	568 508
GDP (million current PPP US$, 2014)	1 049 102
Current account balance (million US$, 2012)	20 353
Trade per capita (US$, 2012-2014)	978
Trade to GDP ratio (2012-2014)	33.0
Merchandise *exports*, f.o.b. (million US$, 2014)	97 000
Merchandise *imports*, c.i.f. (million US$, 2014)	60 000
Share in world total exports in 2014 (%)	0.51
Breakdown in economy's total exports (shares in total export)	
By main commodity group:	
Agricultural products	8.3
Fuels and mining products	79.9
Manufactures	3.4

Source: WTO database

Perspectives

Government revenue has declined in 10 percentage points since 2011. In 2015 the deficit of the fiscal balance was around 3% of the GDP and improvements are not expected. Current account balance has also deteriorated in recent years. GDP growth rates above 4% are expected in the coming years.

Figure 32: Nigeria macroeconomic indicators (% GDP)

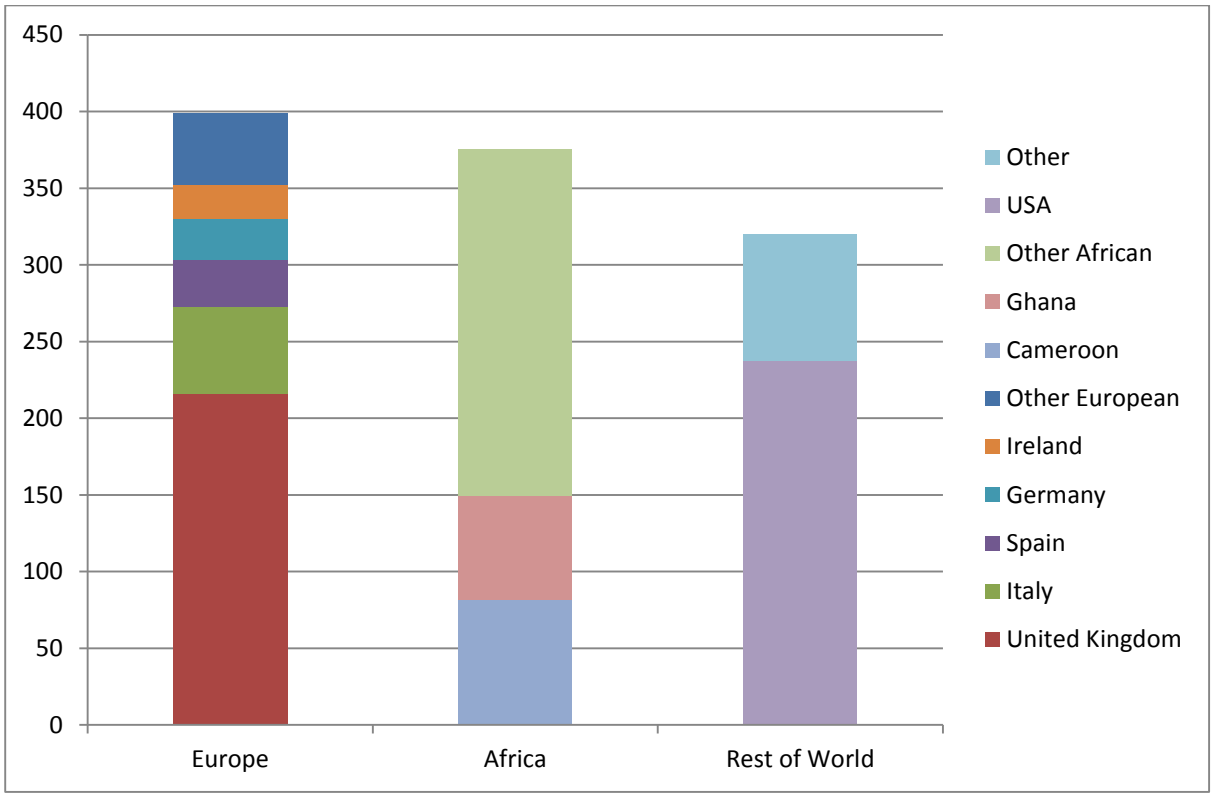


Source: IMF. World Economic Outlook database.

Migration stock

Nigeria is the most populous country in Africa, so it should not be surprise that has also significant number of citizens living abroad. The most important direction of migration is USA, where currently live quarter million of Nigerians. In Europe live 400 thousand Nigerians. The most important countries of residence are United Kingdom (216 thousand) and Italy (56 thousand). Nevertheless Africa is also region, where many Nigerians reside, Cameroon and Ghana being the most important countries.

Figure 33: Total migrant stock for Nigeria at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

South Sudan[34]

Table 16: South Sudan basic Indicators

Population (thousands, 2014)	11 384
GDP (million current US$, 2014)	14 304

Source: IMF database

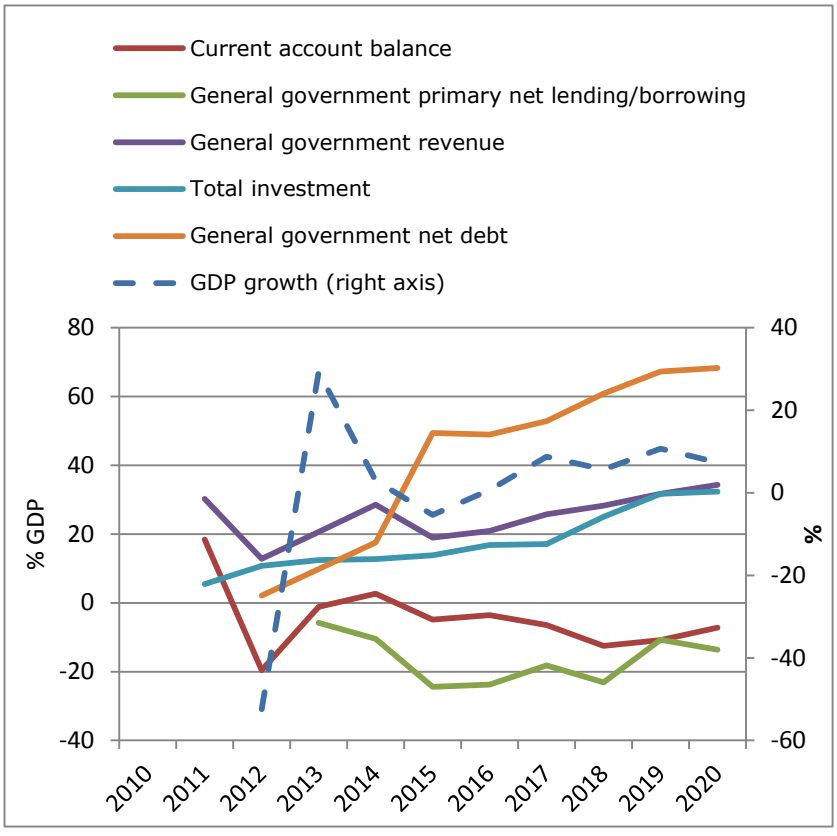
Oil production in the economy

Oil production and export is important sector in the economy of South Sudan. In 2014 country had produced 159 thousand bpd, and the number is increasing every year. Despite being oil producer, country is still one of the poorest in Africa.

Perspectives

In the coming years, South Sudanese economy is expected to notice solid growth exceeding 5% per year. This should lead to increase in the government revenue (in relation to GDP). Nevertheless permanently high budget deficit is going to drastically inflate government debt by the end of this decade.

Figure 34: South Sudan macroeconomic indicators (% GDP)



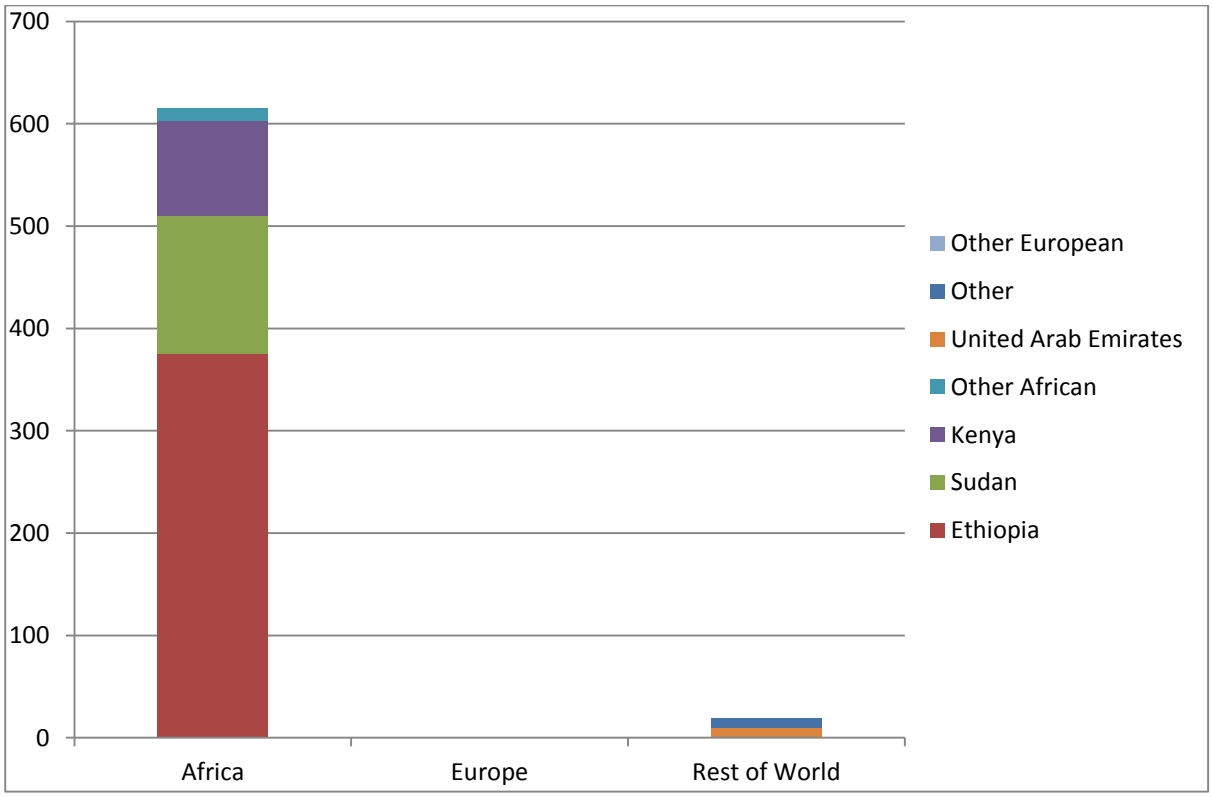
Source: IMF. World Economic Outlook database.

[34] Due to scarcity of data about South Sudan, table with basic indicators is incomplete (and also based on different source than for other countries).

Migration stock

South Sudan has large diaspora of citizens living outside country. Most of them reside in neighbour countries: Ethiopia, Sudan and Kenya. Outside Africa lives relatively small number of people. Migration to Europe is very small – less than one thousand. Almost all of them live in Norway.

Figure 35: Total migrant stock for South Sudan at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

Sudan

Oil production in the economy

Sudan had extracted 109 thousand bpd in 2014. After secession of South Sudan, role of oil in Sudanese economy has dropped and now oil export constitutes less than one third of total export.

Table 17: Sudan basic Indicators

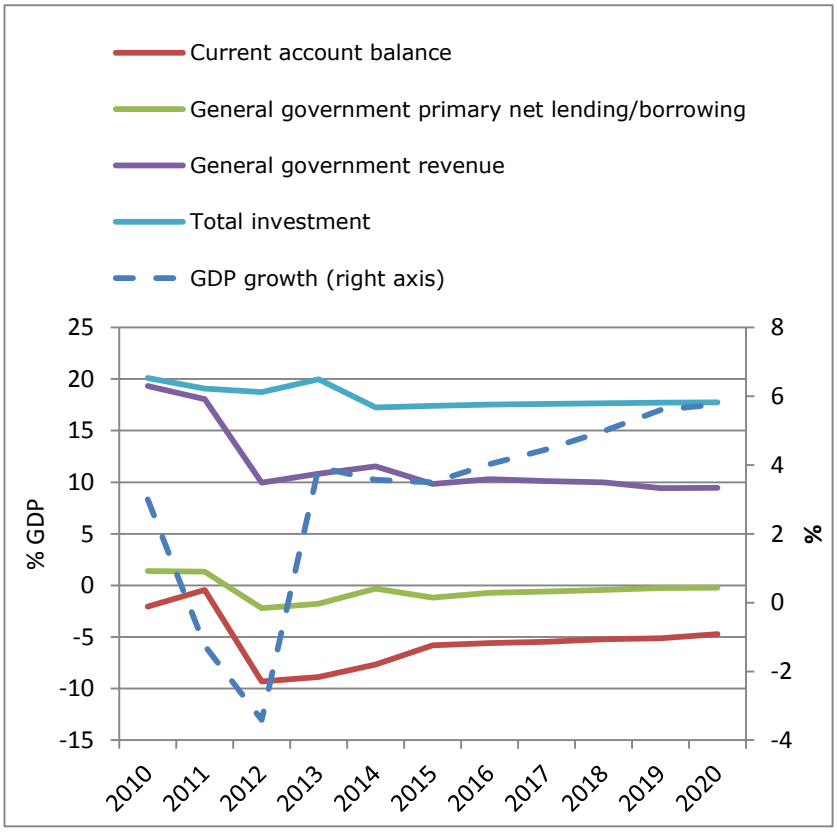
Population (thousands, 2014)	38 764
GDP (million current US$, 2014)	73 815
GDP (million current PPP US$, 2014)	160 111
Current account balance (million US$, 2014)	- 4 849
Trade per capita (US$, 2012-2014)	419
Trade to GDP ratio (2012-2014)	23.5
Merchandise *exports*, f.o.b. (million US$, 2014)	4 350
Merchandise *imports*, c.i.f. (million US$, 2014)	9 211
Share in world total exports in 2014 (%)	0.02
Breakdown in economy's total exports	
By main commodity group:	
Agricultural products	19.9
Fuels and mining products	29.0
Manufactures	3.0

Source: WTO database

Perspectives

After secession of South Sudan in 2011, economy of Sudan experienced drastic drop of its performance - GDP, current account balance and government revenue were deteriorated. After that, however economy recovered and it seems that it is going towards balanced growth in the coming years.

Figure 36: Sudan macroeconomic indicators (% GDP)

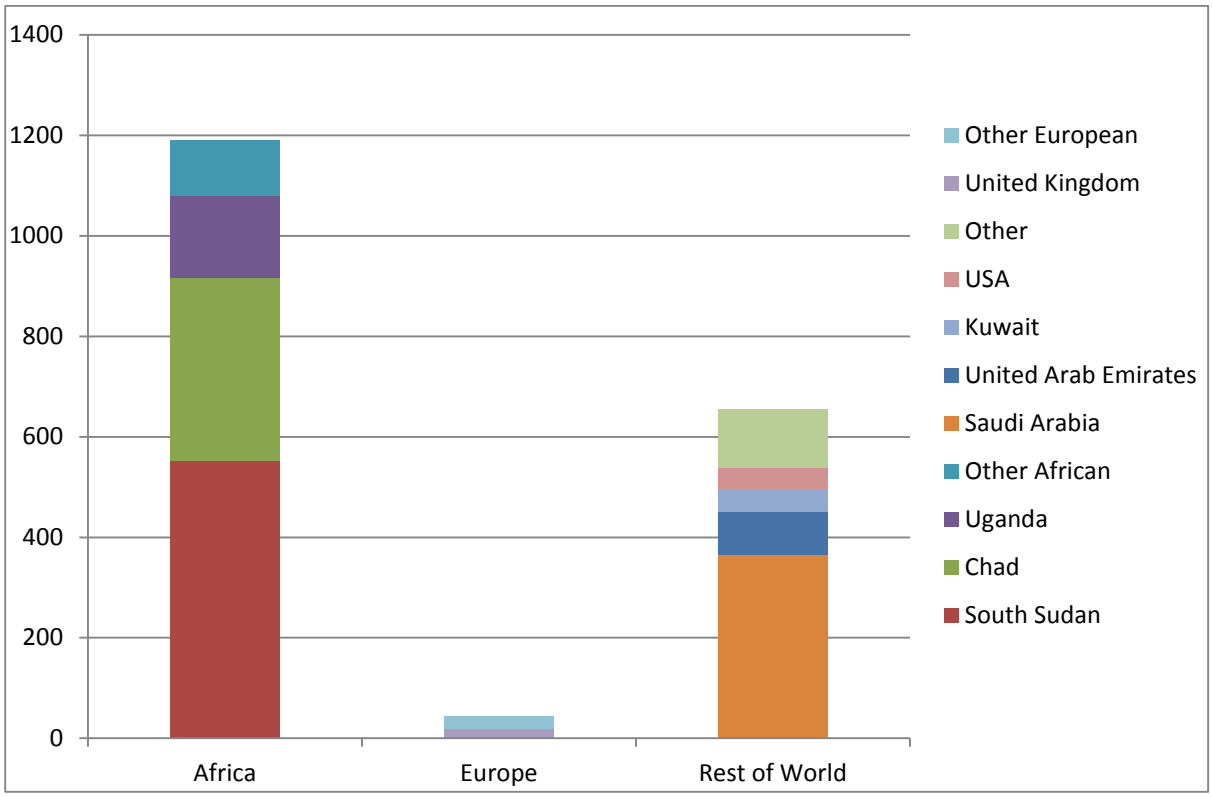


Source: IMF. World Economic Outlook database.

Migration stock

Sudan has huge population of migrants reaching nearly 2 m people. Other African countries (South Sudan, Chad and Uganda) as well as oil exporting Middle East countries (Saudi Arabia, United Arab Emirates and Kuwait) are the most important directions of migration from Sudan. In Europe live relatively few Sudanese people – mainly in United Kingdom.

Figure 37: Total migrant stock for Sudan at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

Iran

Oil production in the economy

Production of oil in Iran was significant 3.6 m bpd in 2014. In 2014, the ratio of oil export to the total oil production, the trade to GDP ratio and the share of fossil fuels in total export are all relatively low, as compared to other oil producers. Nevertheless the aggregation of fuels and mining products still account for 62% of total exports.

Table 18: Iran basic Indicators

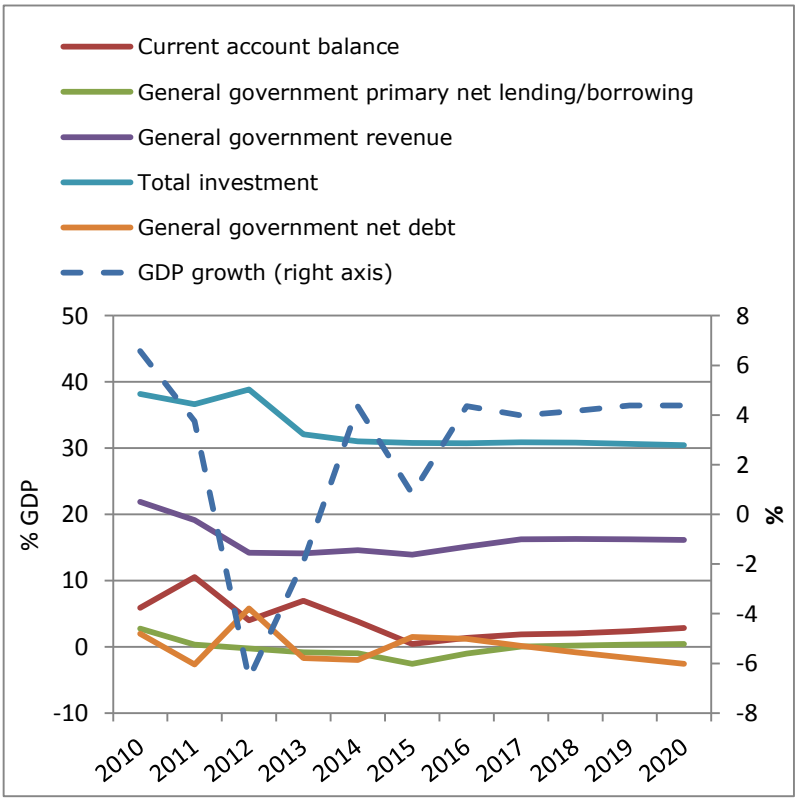
Population (thousands, 2014)	78 470
GDP (million current US$, 2014)	415 339
GDP (million current PPP US$, 2014)	1 280 896
Current account balance (million US$, 2014)	...
Trade per capita (US$, 2012-2014)	2 320
Trade to GDP ratio (2012-2014)	36.7
Merchandise *exports*, f.o.b. (million US$, 2014)	88 800
Merchandise *imports*, c.i.f. (million US$, 2014)	51 000
Share in world total exports in 2014 (%)	0.47
Breakdown in economy's total exports (shares in total export)	
By main commodity group:	
Agricultural products	6.7
Fuels and mining products	62.3
Manufactures	20.1

Source: WTO database

Perspectives

Although export of oil do not constitute so high share of Iranian economy as for some other Middle East oil exporters, the country is very dependent on oil revenues. Not only lower oil prices but also the oil embargo in 2012 has affected its economy in recent years. Nevertheless the lifting of the Iran embargo is expected to counteract the negative impact of the low oil price and the GDP is expected to grow by 4% in the coming years. An improvement of both fiscal and current account balances was also expected.

Figure 38: Iran macroeconomic indicators (% GDP)

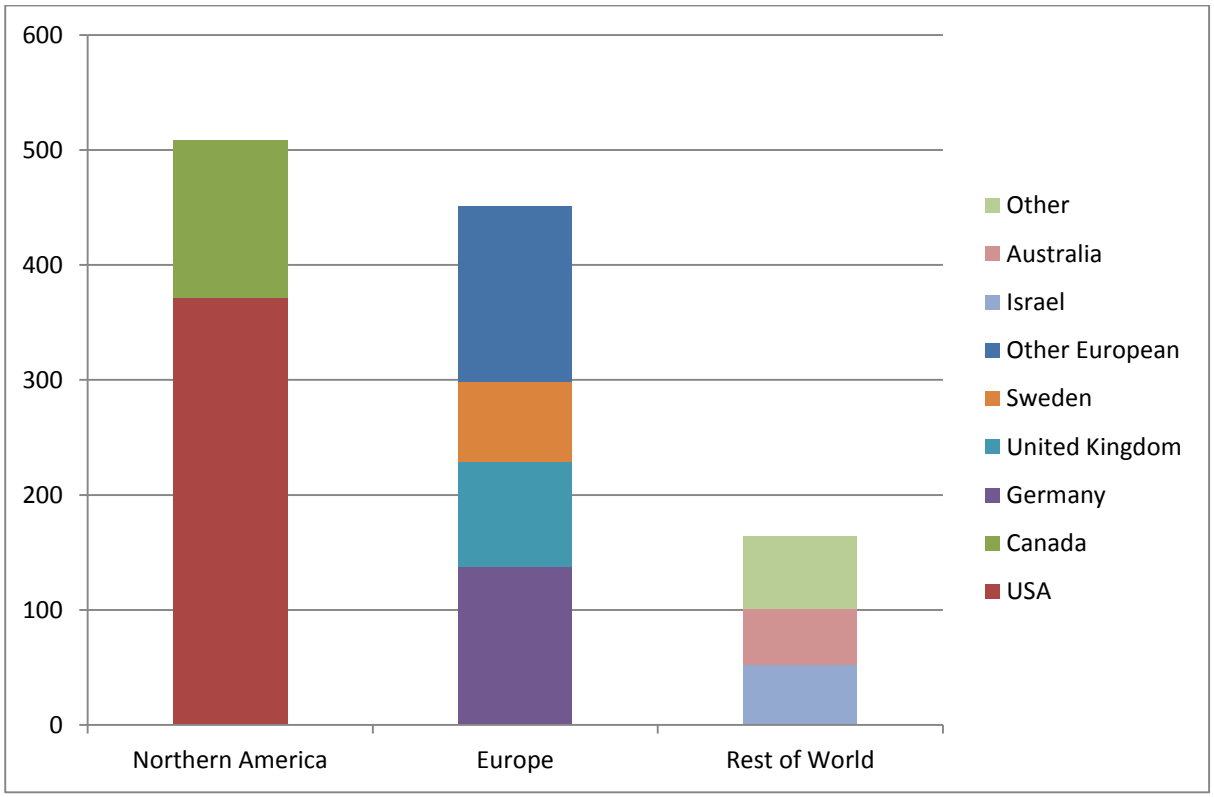


Source: IMF. World Economic Outlook database.

Migration Stock

There are over one million of Iranians living outside his country. Huge diaspora live in Northern America (USA and Canada) and also in the following European countries: Germany, United Kingdom and Sweden. Moreover many Iranians live in Israel and Australia (around 50 thousand in each country).

Figure 39: Total migrant stock for Iran at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

Iraq

Oil production in the economy

Production of oil in Iraq is comparable to the one in Iran. In 2014 production amounted to 3.3 m bpd. But the oil production is much more important for Iraq than Iran. Firstly it is because export to production is much higher and secondly oil is practically only product Iraq exports.

Table 19: Iraq basic Indicators

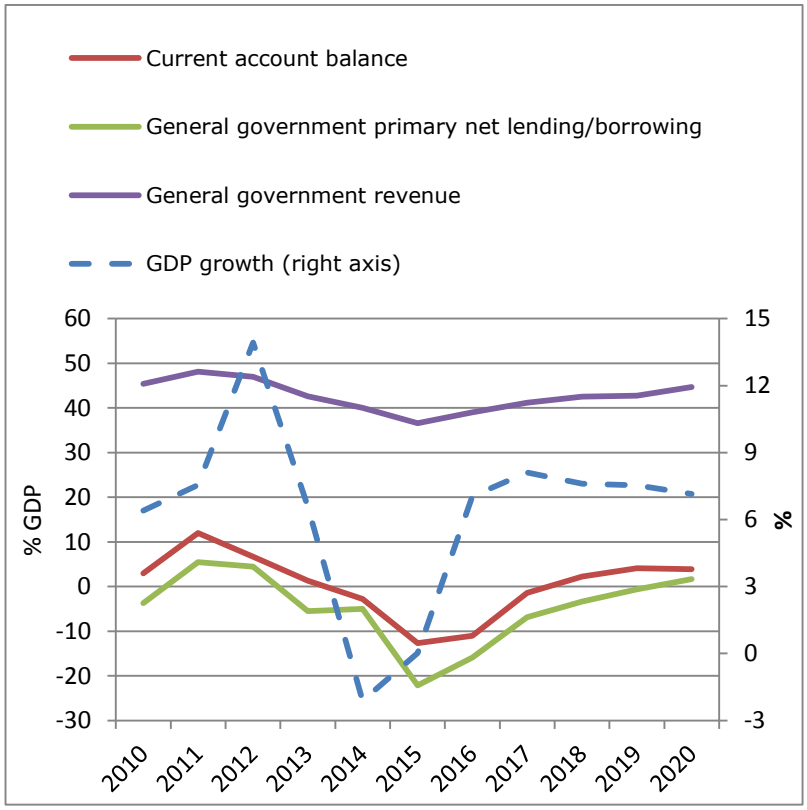
Population (thousands, 2014)	34 278
GDP (million current US$, 2014)	220 506
GDP (million current PPP US$, 2014)	503 687
Current account balance (million US$, 2012)	29 541
Trade per capita (US$, 2011-2013)	4 604
Trade to GDP ratio (2011-2013)	70.7
Merchandise *exports*, f.o.b. (million US$, 2014)	84 630
Merchandise *imports*, c.i.f. (million US$, 2014)	59 000
Share in world total exports in 2014 (%)	0.45
Breakdown in economy's total exports (shares in total export)	
By main commodity group:	
Agricultural products	0.0
Fuels and mining products	99.6
Manufactures	0.2

Source: WTO database

Perspectives

Government revenues have declined in 12 percentage points from 2011 to 2015. Consequently, fiscal balance has deteriorated in 27 percentage points. Similarly, current account balance has changed from a 12% surplus in 2011 to a 13% deficit in 2015. GDP growth rates declined sharply. In 2016, the economy is expected to recover and GDP could grow by 7% in the coming years.

Figure 40: Iraq macroeconomic indicators (% GDP)

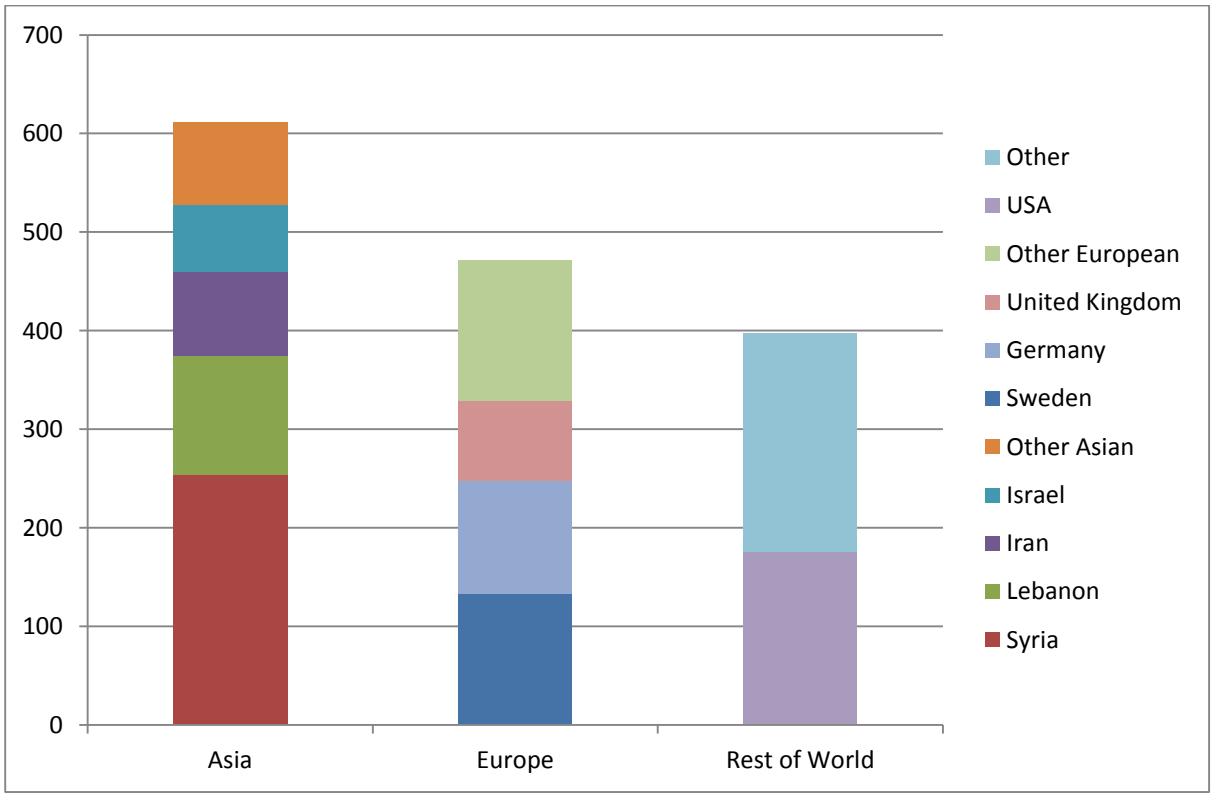


Source: IMF. World Economic Outlook database.

Migration Stock

Nearly 1.5 m Iraqis live in countries all over the world. In Asia the largest communities live in Syria, Lebanon, Iran and Israel. There are significant number of residents living in Europe, mainly in Sweden, Germany and United Kingdom. Over 200 thousand live in North America (USA and Canada). Other important countries are Libya and Australia.

Figure 41: Total migrant stock for Iraq at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

Saudi Arabia

Oil production in the economy

Saudi Arabia in 2014 was the second largest oil producer (after USA). With high ratio of trade to GDP and high share of oil export in total export, country`s economy seems to be heavily dependent on the oil.

Table 20: Saudi Arabia Basic Indicators

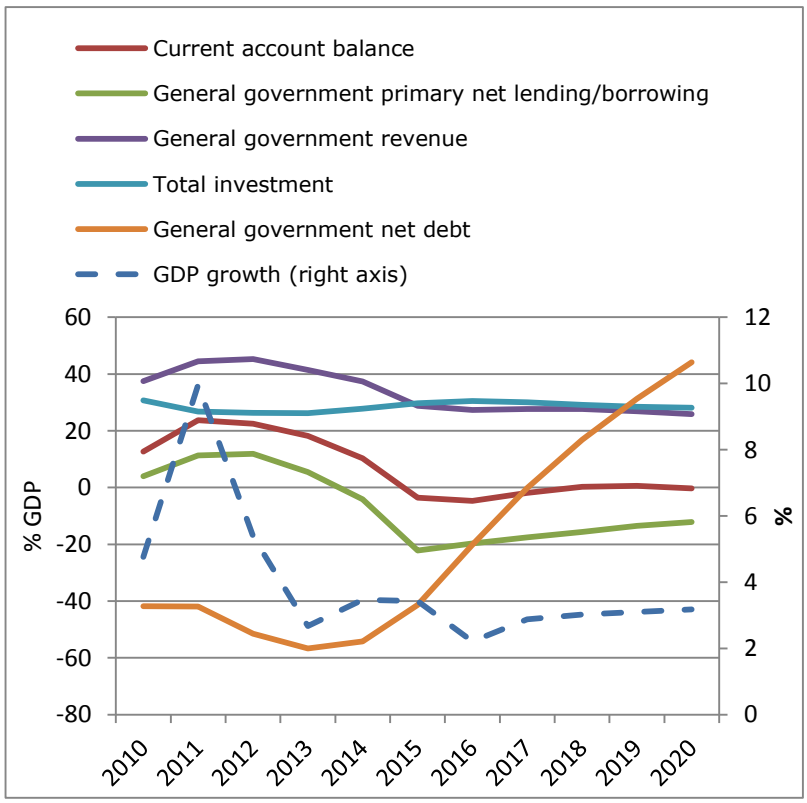
Population (thousands, 2014)	29 369
GDP (million current US$, 2014)	746 249
GDP (million current PPP US$, 2014)	1 603 764
Current account balance (million US$, 2014)	76 916
Trade per capita (US$, 2012-2014)	20 286
Trade to GDP ratio (2012-2014)	78.9
Merchandise *exports*, f.o.b. (million US$, 2014)	353 836
Merchandise *imports*, c.i.f. (million US$, 2014)	163 000
Share in world total exports in 2014 (%)	1.86
Breakdown in economy's total exports (shares in total export)	
By main commodity group:	
Agricultural products	1.0
Fuels and mining products	81.0
Manufactures	12.8

Source: WTO database

Perspectives

The economy of Saudi Arabia is very dependent on oil revenues. Lower oil prices have had an important effect on the fiscal and current account balances. Government revenue declined in 16 percentage points of GDP from 2012 to 2015. In the same period, current account balance deteriorated in 25 percentage points of GDP. Although the economy is expected to recover in the coming years, government savings will vanish by 2017, and debt will sharply increase.

Figure 42: Saudi Arabia macroeconomic indicators (% GDP)

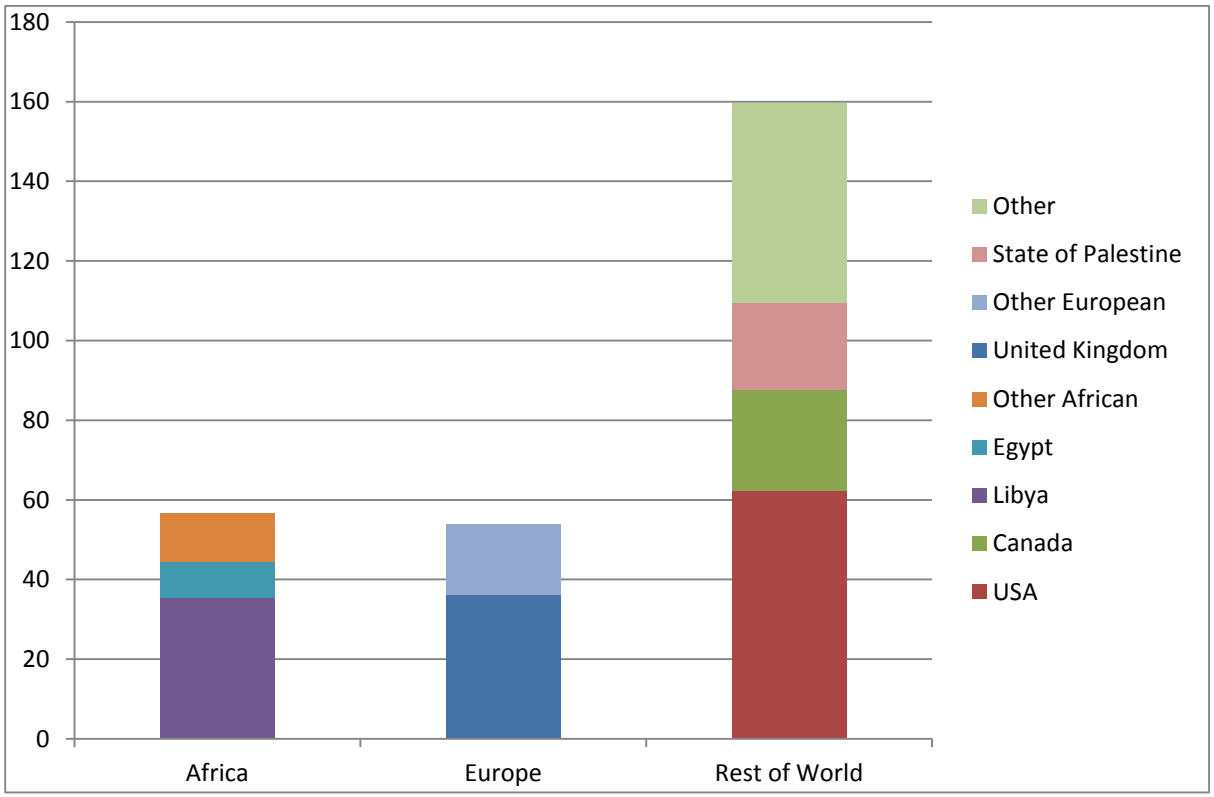


Source: IMF. World Economic Outlook database.

Migration Stock

Saudi Arabians live in many regions all over the world. Single one the most important country is USA, where live 60 thousand of them. Other important countries of residence are: United Kingdom, Libya, Canada and the State of Palestine.

Figure 43: Total migrant stock for Saudi Arabia at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

United Arab Emirates

Oil production in the economy

United Arab Emirates is second largest oil producer in the Middle East (after Saudi Arabia) and the extraction of oil in the 2014 reached 3.7 m bpd. Although being such a large producer, UAE economy is not so much dependent on oil as in the other Persian Gulf countries.

Table 21: United Arab Emirates basic indicators

Population (thousands, 2014)	9 446
GDP (million current US$, 2014)	401 647
GDP (million current PPP US$, 2014)	599 769
Current account balance (million US$, 2014)	...
Trade per capita (US$, 2012-2014)	73 002
Trade to GDP ratio (2012-2014)	173.8
Merchandise *exports*, f.o.b. (million US$, 2014)	360 000
Merchandise *imports*, c.i.f. (million US$, 2014)	262 000
Share in world total exports in 2014(%)	1.89
Breakdown in economy's total exports (shares in total export)	
By main commodity group:	
Agricultural products	2.2
Fuels and mining products	31.0
Manufactures	23.6

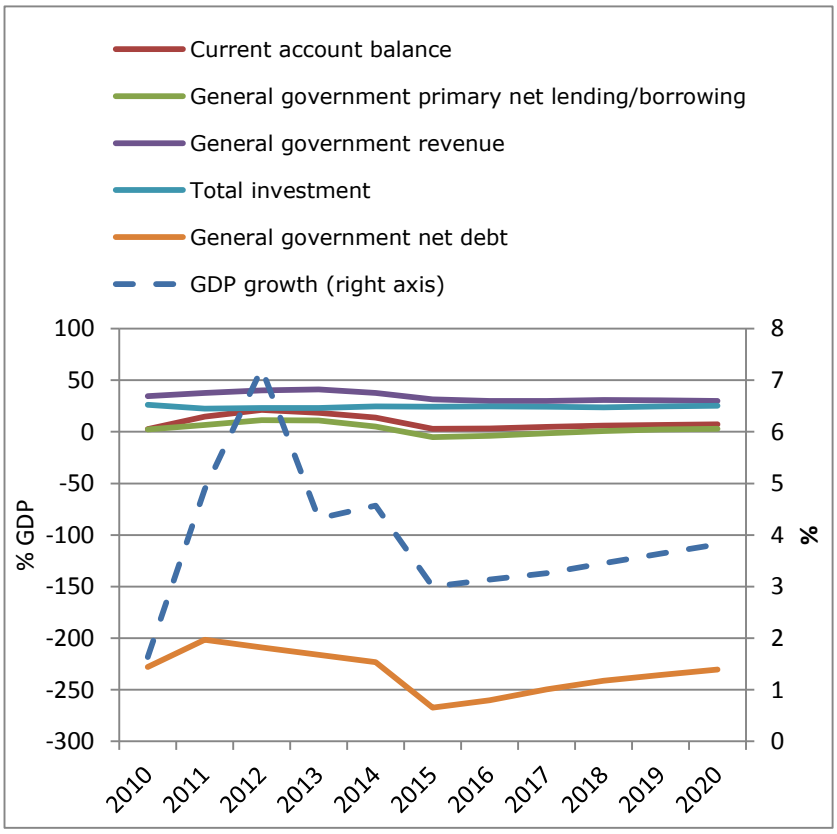
Source: WTO database

Perspectives

Decline in the oil price has deteriorated economic performance of country. Large current account surplus has gone down almost to zero. General government revenue to GDP ratio has decreased from 40% in 2013 to 30% in 2015 (and is expected to stay on this level in the next few years).

GDP growth has also decreased, but still country is expected to grow at rate of 3% per year.

Figure 44: United Arab Emirates macroeconomic indicators (% GDP)

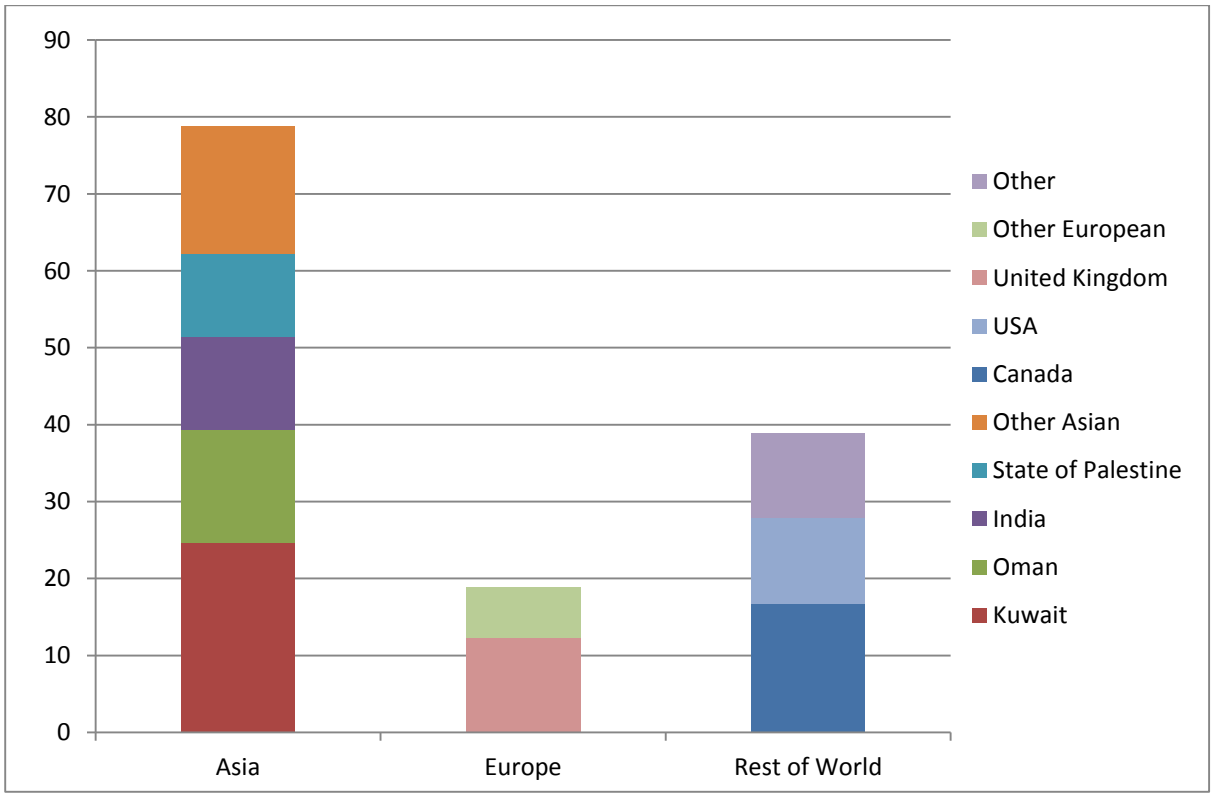


Source: IMF. World Economic Outlook database.

Migration Stock

Migration from United Arab Emirates reaches 137 thousand people, with majority of this population living in other Asian countries: Kuwait, Oman, India and State of Palestine. In Europe live less than 20 thousand UAE citizens –most of them in United Kingdom. There is also relatively large diaspora living in North America: Canada and USA.

Figure 45: Total migrant stock for United Arab Emirates at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

Other countries

Canada

Oil production in the economy

Canada is one of the largest oil producers, constantly increasing volume of production. In the last 20 years production almost doubled from around 2.3 m bpd in 1994 to nearly 4.3 m bpd in 2014. Being developed country, oil export does not play the most important role in Canada`s trade (only one third of its export are fuels).

Table 22: Canada basic Indicators

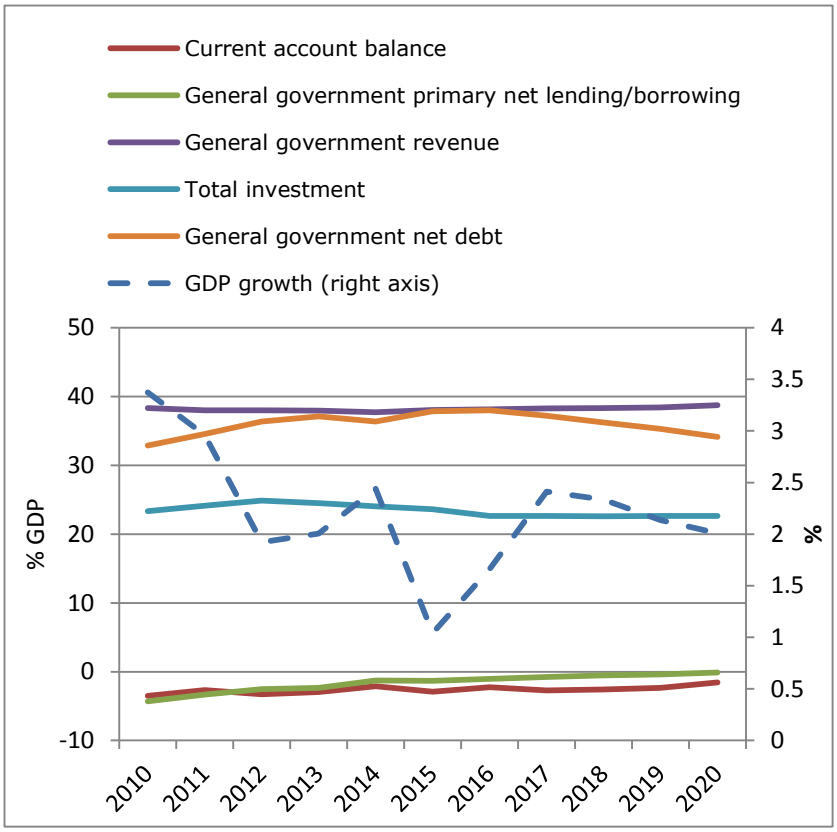
Population (thousands, 2014)	35 540
GDP (million current US$, 2014)	1 786 655
GDP (million current PPP US$, 2014)	1 566 925
Current account balance (million US$, 2014)	...
Trade per capita (US$, 2012-2014)	32 451
Trade to GDP ratio (2012-2014)	62.7
Merchandise *exports*, f.o.b. (million US$, 2014)	474 709
Merchandise *imports*, f.o.b. (million US$, 2014)	475 000
Share in world total exports in 2014 (%)	2.50
Breakdown in economy's total exports (shares in total export)	
By main commodity group:	
Agricultural products	14.3
Fuels and mining products	33.8
Manufactures	44.7

Source: WTO database

Perspectives

Canada, whose economy is more diversified, has been hardly affected by lower oil prices. Government revenues reduce slightly in 2014. The higher revenues in the coming years will help to reduce government fiscal deficit.

Figure 46: Canada macroeconomic indicators (% GDP)

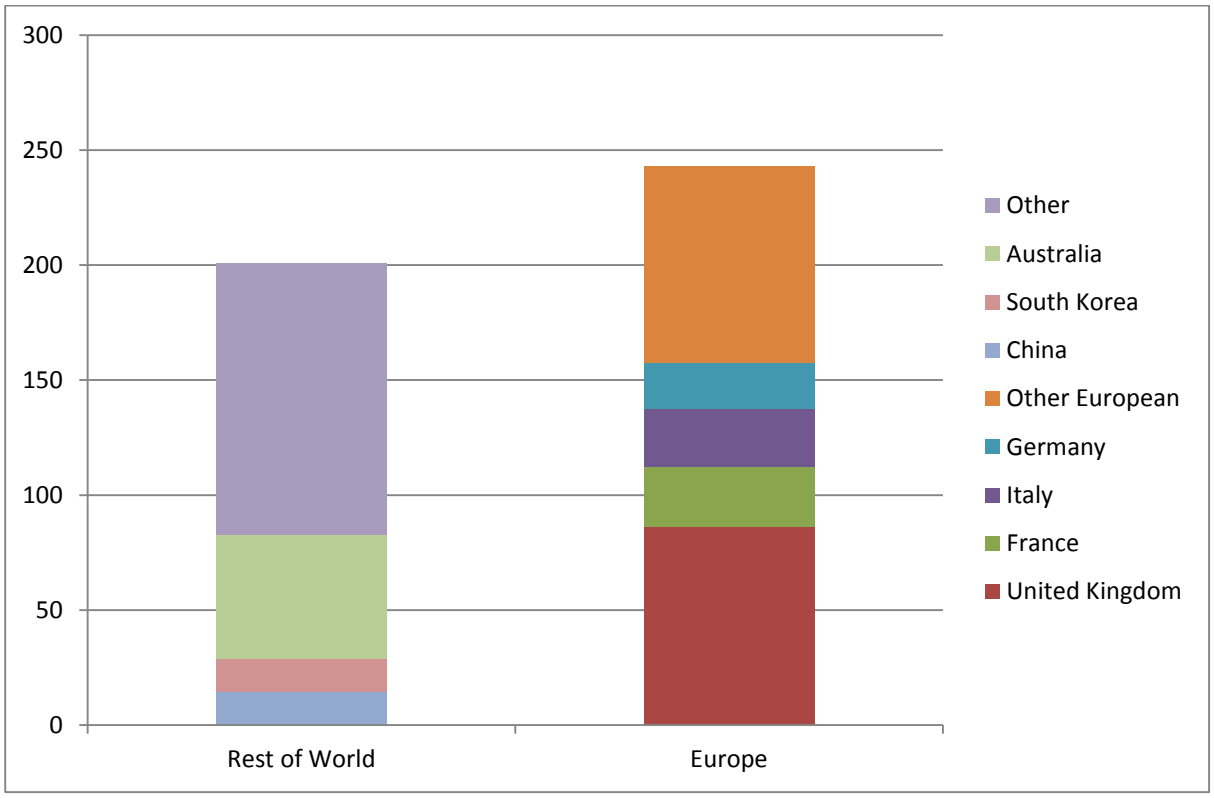


Source: IMF. World Economic Outlook database.

Migration Stock

Canada has relatively high (compared to the total population) number (1.2 m) of citizens living abroad. Most of them live in the USA, United Kingdom and Australia.

Figure 47: Total migrant stock for Canada at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

Norway

Oil production in the economy

Norway is the largest European oil producer (after Russia) with production 1.9 m bpd in 2014.

Table 23: Norway basic Indicators

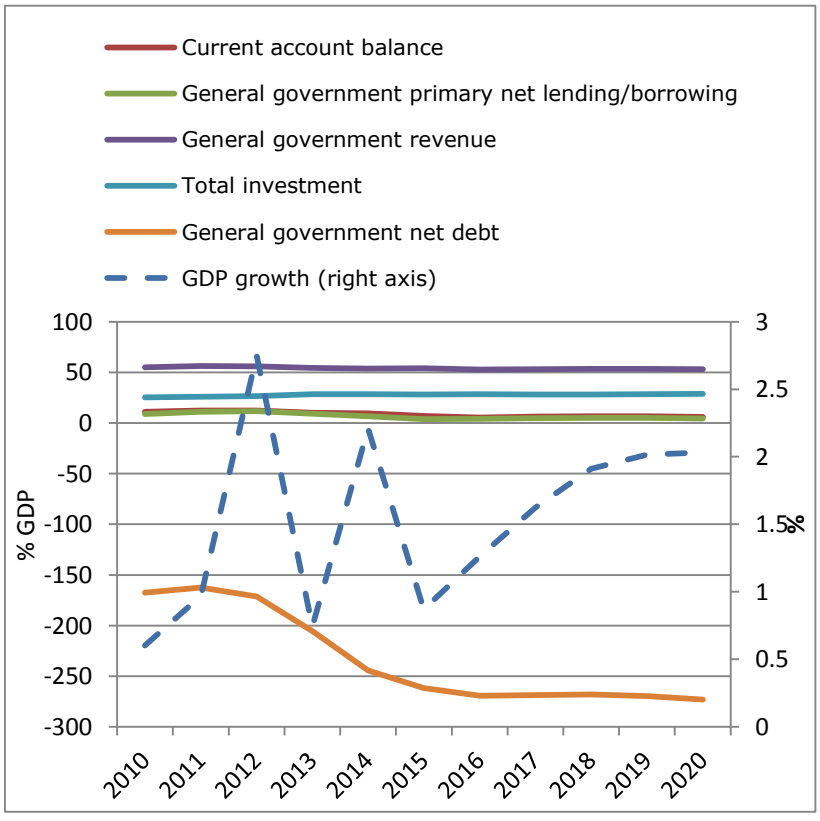
Population (thousands, 2014)	5 136
GDP (million current US$, 2014)	500 103
GDP (million current PPP US$, 2014)	333 322
Current account balance (million US$, 2014)	47 163
Trade per capita (US$, 2012-2014)	68 266
Trade to GDP ratio (2012-2014)	67.9
Merchandise *exports*, f.o.b. (million US$, 2014)	143 893
Merchandise *imports*, c.i.f. (million US$, 2014)	89 185
Share in world total exports in 2014 (%)	0.76
Breakdown in economy's total exports (shares in total export)	
By main commodity group:	
Agricultural products	8.8
Fuels and mining products	69.3
Manufactures	17.5

Source: WTO database

Perspectives

Although fiscal balance has been affected by lower oil prices, government savings are still increasing. Current account balance deteriorated in 5 percentage points from 2012 to 2015, but still is positive.

Figure 48: Norway macroeconomic indicators (% GDP)

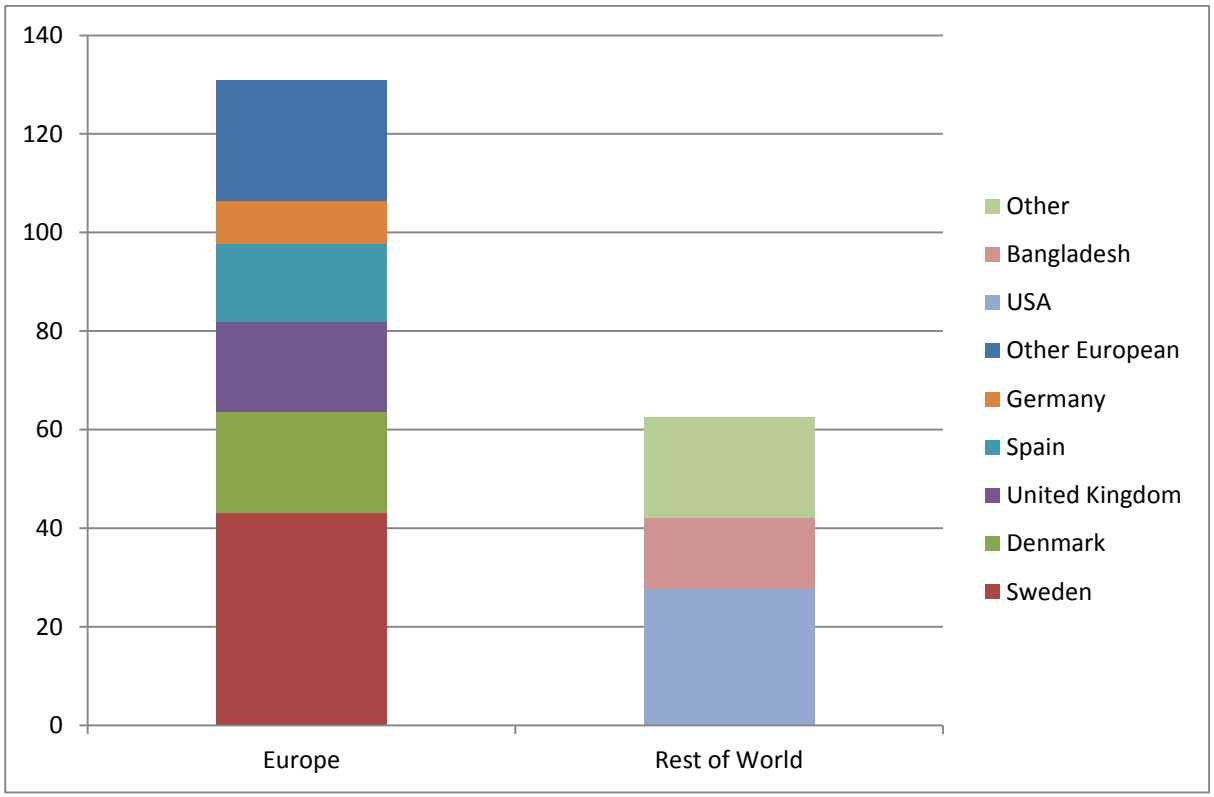


Source: IMF. World Economic Outlook database.

Migration Stock

Almost 200 thousand Norwegians live in other countries – mainly in Europe, in countries like Sweden, Denmark, United Kingdom and Spain. There is a community of Norwegians living in USA and Canada. In Bangladesh live nearly 15 thousand.

Figure 49: Total migrant stock for Norway at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

Russia

Oil production in the economy

Russia is one of the most important world oil producers with the production exceeding 10 m bpd. Half of this number is being exported. As Russia is large economy, the share of trade in GDP in not very high - 52.1%. Export of fuels (oil, gas and coal) is quite important part of Russian export.

Table 24: Russia basic Indicators

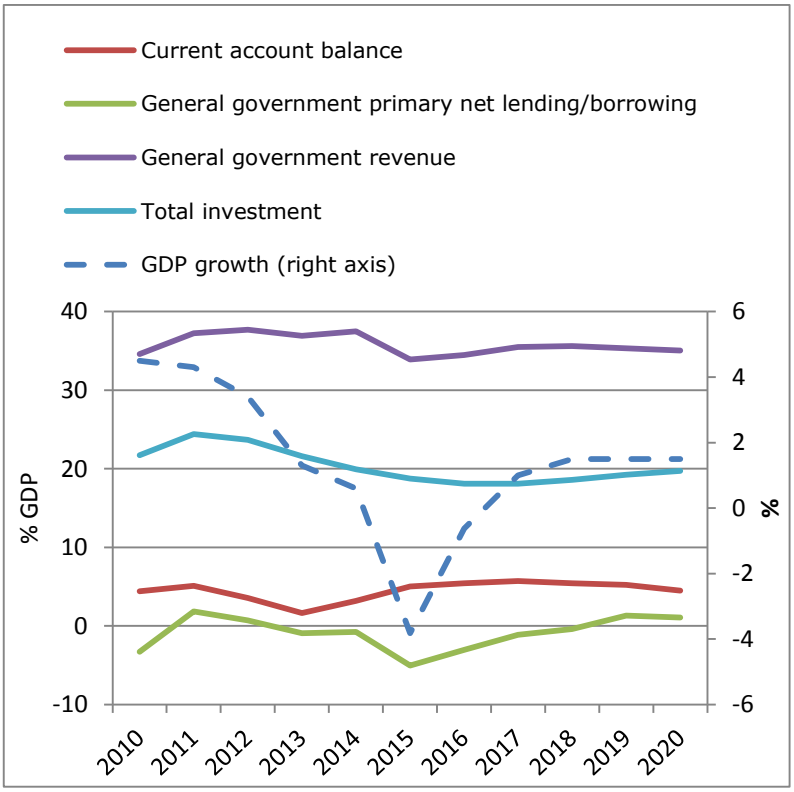
Population (thousands, 2014)	143 820
GDP (million current US$, 2014)	1 860 598
GDP (million current PPP US$, 2014)	3 745 157
Current account balance (million US$, 2014)	58 431
Trade per capita (US$, 2012-2014)	7 207
Trade to GDP ratio (2012-2014)	52.1
Merchandise *exports*, f.o.b. (million US$, 2014)	497 764
Merchandise *imports*, f.o.b. (million US$, 2014)	308 027
Share in world total exports in 2014 (%)	2.62
Breakdown in economy's total exports (shares in total export)	
By main commodity group:	
Agricultural products	6.2
Fuels and mining products	70.3
Manufactures	20.8

Source: WTO database

Perspectives

GDP growth rates have sharply declined in recent years. In 2015, GDP declined by 4%. From 2014 to 2015 government revenue decreased in 3.5 percentage points of GDP, deteriorating fiscal balance. On the other hand, current account balance has improved in recent years.

Figure 50: Russia macroeconomic indicators (% GDP)

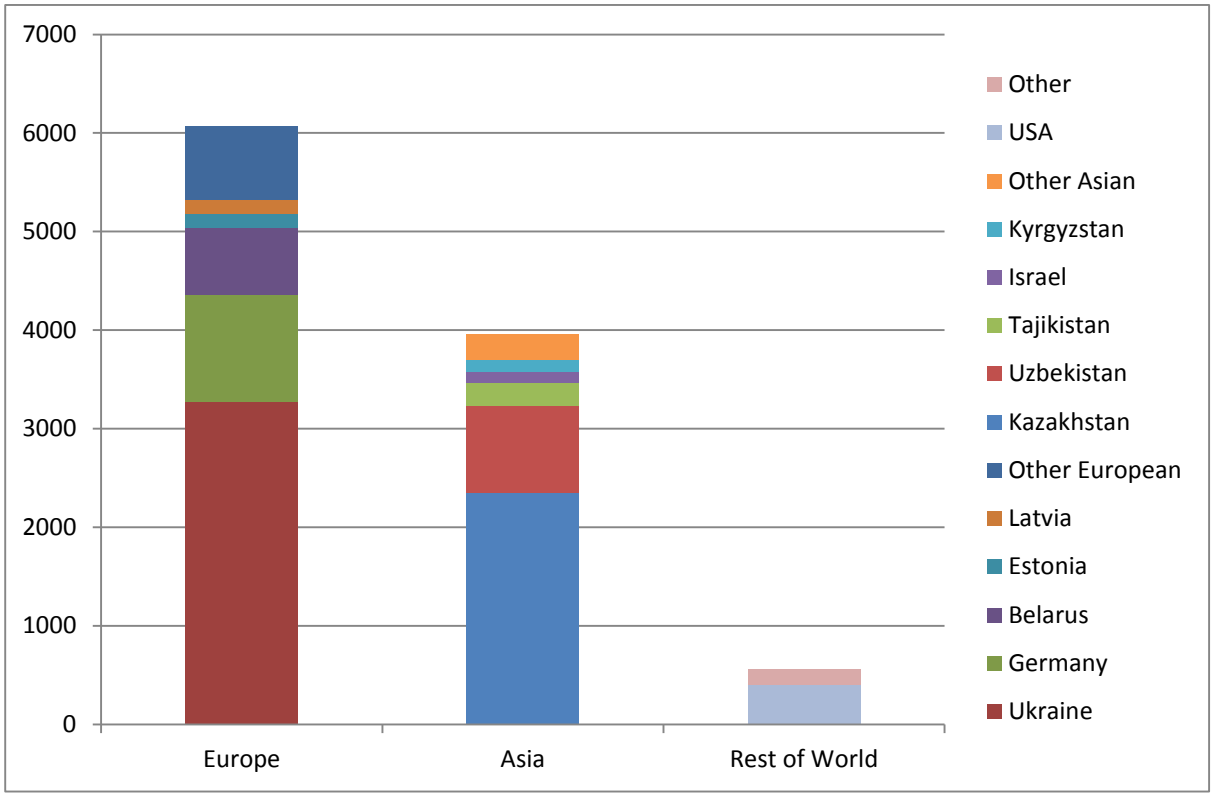


Source: IMF. World Economic Outlook database.

Migration Stock

Russia is a country with one of the largest community of migrants (in absolute numbers). Out of over 10 m people living outside Russia, 6 m live in European countries. The most important ones are: Ukraine, Germany and Belarus. In the former USSR republics live 3.7 m Russians, Kazakhstan and Uzbekistan having the largest Russian communities. Half million live in USA and Canada and 100 thousand in Israel.

Figure 51: Total migrant stock for Russia at mid-year of 2015 by major area and country of destination (thousands of people)



Source: UN Department of Economic and Social Affairs

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