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## One Third of Commodity Exporters Pushed into Recession by Oil Price Shock

How economies adapt to commodity price shock and US Fed policy change

- **Collapsing oil prices pushed into recession a third of commodity exporters – 7 out of 19.** The mishap befell the states whose exports lost in value over 55-60%. However, Russia was the only one among the unlucky seven to see its exports shed less than 55%, as by the time the price shock struck its economic growth was already very low.
- **Fixing the exchange rate may serve as shock protection but it cannot prevent recession.** Of all the countries that opted for such a solution two – Qatar and Kuwait – have already confronted a real GDP decline. It is hardly possible to insulate a local economy from the commodity price shock for a long time. While Qatar and Saudi Arabia may have enough reserves to afford forex interventions for seven and five years respectively, Russia would empty its vaults in just a year and a half, if it also decides to fix its exchange rate.
- **In floating exchange rate countries, the scale of negative consequences depended on the economic environment before the shock,** while the lifetime of these consequences depends on flexibility of the labor market, the speed of public spending adjustment to the changed revenues, and lending dynamics. Of all the natural-resource-exporting countries, only Australia managed to maintain pre-crisis growth rates.
- **Inflation targeting never helped prevent price outbreaks,** but fostered maintaining financial stability in the banking system and shaping interest rate expectations. The Bank of Russia quite successfully coped with this task while opting for a strict fiscal policy.
- **Of the BRICS, Brazil, Russia and South Africa, along with a sharp export value reduction, suffer from excessive capital flows.** This is related to changes in expectations regarding monetary policies in developed countries. In Russia, the forced reduction in foreign liabilities is also associated with financial sanctions. China and India are more insulated from capital flows, as they have a smaller proportion of volatile portfolio investments in their external financing and boast a higher real growth.

## Russia had a strong, but not the strongest commodity price shock

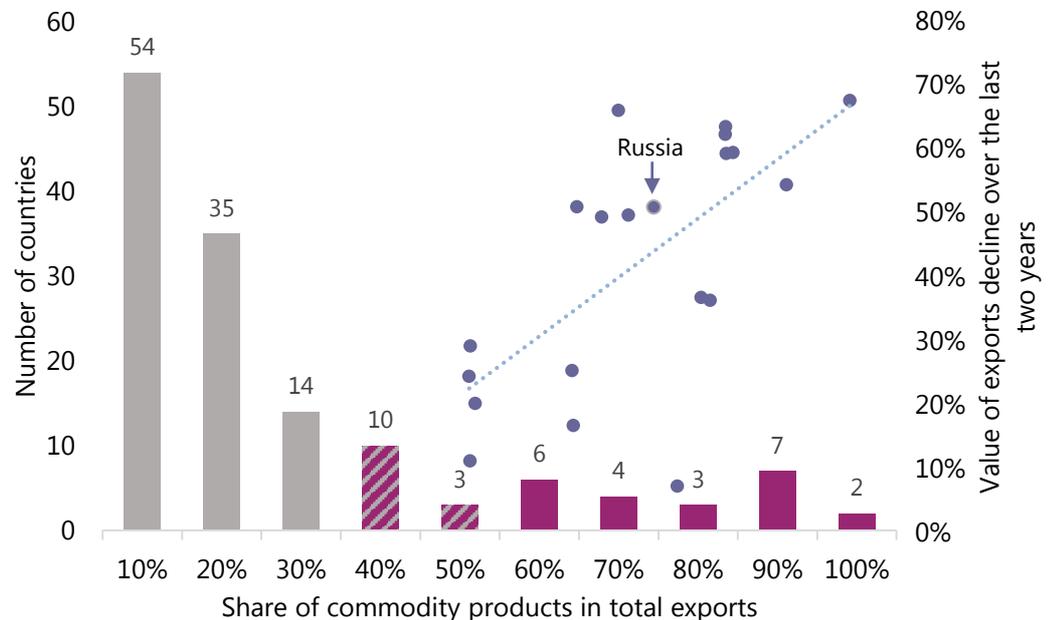
Raw material prices almost halved late in 2014 as a result of reassessment of emerging market prospects, quantitative easing completion, and increased shale oil production in the United States.

*The shock is manifested through a drop in the value of exports*

The vast majority of countries boast quite diversified exports and were less affected by plummeting commodity prices. But those whose export structure is dominated by raw materials<sup>1</sup> had to face considerable difficulties.

Russia is no exception among them, but it was hardly a champion in terms of value of exports decline – a dozen other countries performed much worse (Azerbaijan, Iraq, Kazakhstan, Qatar, Kuwait, Nigeria, etc.). A comparable shock was experienced by Algeria, Bolivia, Colombia, and Norway<sup>2</sup>.

**Figure 1. Commodities make up over half of total exports only in 15% of countries worldwide**



Source: World Bank, UN Comtrade, countries' balances of payments, ACRA estimates

<sup>1</sup> The share of natural resources in these countries' exports is shown in Figure 6.

<sup>2</sup> A full list of countries covered by this research is given in section "Calculation method and source data" (page 10).

Table 1. Some initial country specifics could help predict their economic responses to the commodity price shock

Initial specifics					Outcome									Description
Share of non-tradable goods and services, %		International reserves	Share of natural resources in exports, %		Devaluation, %			Inflation surge, %			Government deficit growth, %			
>55	<55		>55	<55	>37	>25	<25	>5	<5	<2	>10	<10	<2	
High	Low	Low	Medium	Low	Low	Low	Low	Low	Low	Low	Low	Low	<b>Australia, Canada, Norway, Chile, and South Africa.</b> A relatively small share of natural resources in exports ensured a minor decline in the latter's value. A moderate national currency weakening coupled with a weak exchange rate transition effect on domestic prices (due to a large share of non-tradable, i. e. locally produced and consumed goods and services) resulted only in a limited inflation and government deficit growth.	
Low	High	High	Low or absent	Low	High	High	Low	Low	High	High	High	High	<b>Qatar, Kuwait, UAE, Oman, Saudi Arabia.</b> To resist the pressure that the decline in the value of exports puts on the exchange rate, a country may use international reserves for interventions on the local foreign exchange market. The said countries have fixed their exchange rate and saw a dramatic budget deficit increase due to revenues being pegged to the cost of raw materials in national currencies. A small proportion of non-tradable goods could contribute to a strong exchange rate transition effect on prices, but the absence of devaluation has prevented a surge in inflation.	
Low	Low	High	High	High	High	High	High	High	Medium	Medium	Medium	Medium	<b>Algeria, Azerbaijan, Bolivia, Kazakhstan, Colombia, Mongolia, Nigeria, Russia.</b> A strong devaluation was provoked by a high dependence of these countries on exports of raw materials. A small proportion of non-tradable goods and services provided for a pronounced transition effect, triggering a surge in inflation. However, the government deficit showed no dramatic hike <sup>3</sup> , thanks to a compensating impact of the floating exchange rate on commodity budget revenues.	
Low	Low	Low	Medium	Medium	Medium	Medium	Medium	Medium	Low	Low	Low	Low	<b>Indonesia.</b> A low share of natural resources in the exports structure accounted for a weak shock from the decline in export value, which led to a modest deficit growth, moderate devaluation, but caused a surge in inflation due to a pronounced transition effect.	

Source: ACRA

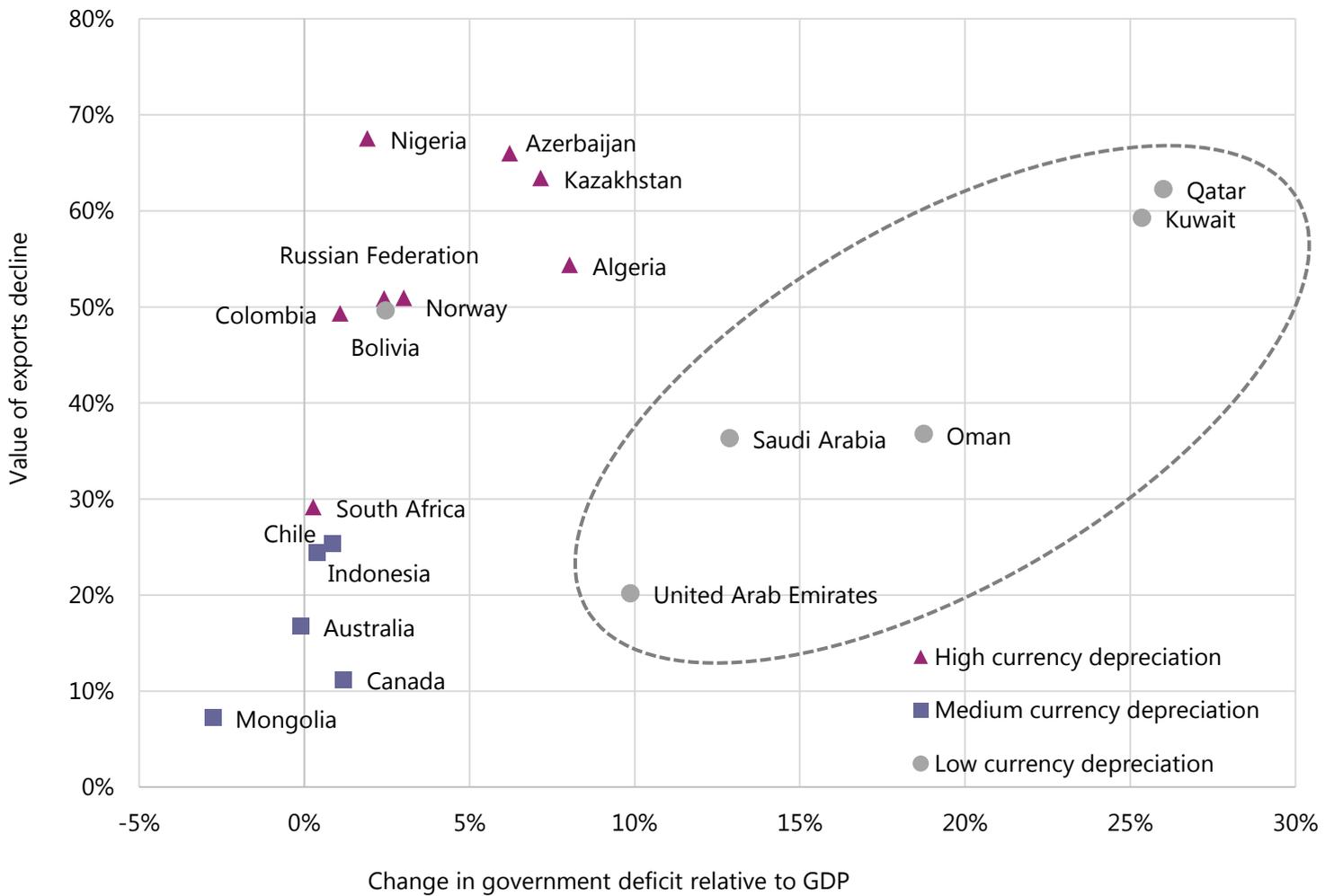
<sup>3</sup> In Colombia, the government deficit climbed less than 2% due to an income tax rate increase for wealthy individuals, abolition of certain tax privileges for fuel companies, prolongation for another 4 years of the financial transactions tax, and tax evasion fight (according to Colombia's Finance Ministry, tax arrears declined by USD 1.5 bln).

**Curbing price fall effects endlessly via currency reserves is impossible**

*In an environment of falling raw material prices, the purpose of a fixed or managed exchange rate policy is to protect the domestic market from inflation and lower real incomes. To prevent a sharp devaluation, foreign exchange reserves are spent.*

Around 30% of countries dependent on raw material exports either retain a stiff peg of their currencies to the USD (for example, Bolivia, Qatar, Kuwait, UAE, and Oman), or resort to a more lenient managed exchange rate regime. In both cases they have to spend their foreign exchange reserves. If low commodity prices persist, Qatar may carry on with this policy for hardly more than seven years, while Saudi Arabia could count on five years at best. In fact, devaluation (or introduction of import rationing measures) aimed at improving trade balances in these countries is likely to take place before their reserves run out. At least that is what has already happened in Kazakhstan and Azerbaijan, after almost a year-long bet on the fixed exchange rate (although both countries still boast a large balance of foreign currency in their reserves).

**Figure 2. The government deficit size is determined by the exports shock depth and the exchange rate policy<sup>4</sup>**



Source: World Bank, IMF, UN Comtrade, countries' balances of payments, ACRA estimates

<sup>4</sup> For South Africa the actual shock was more painful, as the main blow to the economy came from the forced capital outflow, and not from the fall in the value of exports. In Bolivia, the public sector deficit exceeds the budget deficit, as some companies are not included into the budget.

In theory, the problem of reserves spending can be mitigated either by a steady growth of inflows to the financial account of the balance of payments, or by a climb in interest or dividend income from foreign assets. In April 2016, Saudi Arabia unveiled a plan to create a world's largest sovereign investment fund, which is slated to produce some USD 2 trillion in investment returns and thus compensate in future about half of the "dropout" in oil and gas revenues, ensuring foreign currency inflow in the form of payments on foreign assets. The main source of financing for this fund should be an IPO of the country's largest oil company, Saudi Aramco, while the major and most likely obstacles to implementation of this plan are likely to be the slowing global economic growth and the difficulty of ensuring a necessary risk-return ratio for investments of such large volume.

*Ceteris paribus, the stronger is the national currency, the lower are commodity revenues*

A side effect of fixing the exchange rate in raw material exporting countries is a dramatic increase in government deficit (see Figure 2). The problem is that not only exports, but also budget revenues in these countries heavily depend on the sale of commodities, whose production and exports tax rates are often linked to their dollar price (although all payments are made in the national currency). Therefore, ceteris paribus, the stronger is the national currency, the lower are export revenues. As the countries in question suffered no devaluation after the price shock, their commodity revenues declined proportionately to the drop in the value of raw material exports. To prevent a recession fueled by a sharp government spending cut, these countries are forced to finance their budget deficits (see Figure 2), while the states with the floating exchange rate regime are largely spared from this problem. For example, in Russia, the 50% drop in dollar oil prices resulted in MET and oil export duty revenues sliding just 18.7%, as the ruble price fell just 16.6% due to ruble weakening. In the end, the deficit increase ran only into 3% of GDP.

*Government's budget reserves are not directly related to Bank of Russia's international reserves*

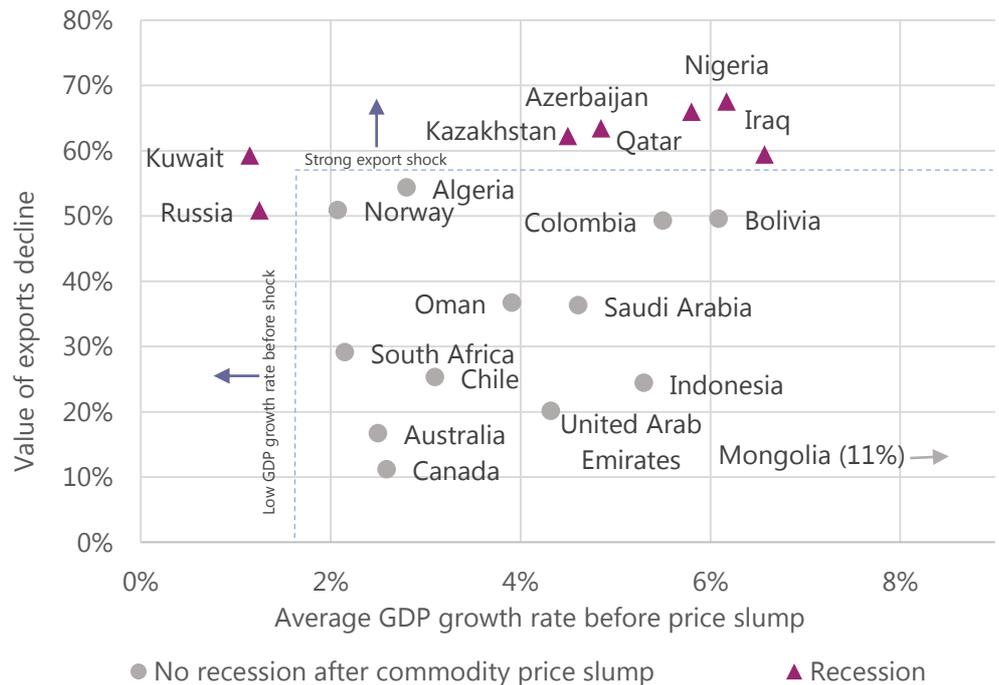
In 2014, at the outbreak of the commodity price shock, Russia smoothed ruble weakening. As in the countries opting for managed or fixed exchange rate regimes, its international reserves shed 30%, diving from USD 510 bln early in 2014 to the current USD 360 bln on the back of currency interventions, which totaled USD 103 bln, or 73% of reserves contraction. Since February 2015 when the ruble was switched to a free floating mode, the reserves dynamics has been determined by the reciprocal revaluation of world currencies, foreign currency refinancing of the banking system, and the gold price. Currently, Russia's reserves are growing, having gained USD 26 bln since the beginning of 2016. Contrary to a popular misconception, spending the Reserve Fund and the National Welfare Fund by the Russian Government to finance the budget deficit in the coming years will not directly affect the international reserves. The Funds are de facto Bank of Russia's ruble debt to the Ministry of Finance (although pegged to the ruble exchange rate), while the reserves are Bank of Russia's currency assets in relation to the outside world. Utilization of the budget reserve is similar to ruble issuance, so it does not require selling the reserve currency held by the Central Bank or investing it in illiquid assets.

## Recession probability depended on economy dynamics before the shock and on the strength of the shock

*Recession is a negative growth in real GDP for two consecutive quarters, or an entire year, if quarterly figures are unavailable*

Recession befell those countries that either saw low average GDP growth before the 2014 price slump, or suffered from the most pronounced drop in the value of exports after it (see Figure 3). Thus, in Russia and Kuwait, the GDP growth rates were under 2% before the shock, while in Azerbaijan, Kazakhstan, Iraq and Nigeria the value of exports shed over 55-60%. In other commodity-dependent countries, real annual GDP growth after the second half of 2014 never fell below zero, only its slowdown was observed.

**Figure 3. Countries that either showed a low GDP growth before the price shock, or experienced the largest drop in the value of exports were unable to avoid a recession**



Source: Bloomberg, national statistics agencies and central banks, ACRA estimates

*See the ACRA research issued September 12, 2016, and titled ["Russian Economy: No Knock Out to Recession Yet"](#)*

It is worth noting that countries that experienced a recession after the commodity price shock also showed the highest inflation surge across the selection. This is not surprising as the main way of adapting to the new balance of payments structure was the transfer of exchange rate into domestic prices. Following the adjustment of flexible pricing parameters, the second wave of economic adjustment started to dominate manifesting itself as a self-sustaining, but decaying spiral-shaped reduction in domestic demand. For instance, Russia saw its inflation return to pre-crisis levels, although real incomes are still on the downside. The duration of the second wave mainly depends on how fast nominal balances of economic agents will adjust to the new income level. In many countries, the key "inertia" factors are lack of flexibility pertaining to either government spending or the labor market.

At this point, only countries with the fixed exchange rate regime (except Qatar and Kuwait), Algeria, and Australia show no economic growth slowdown compared to the period preceding the raw material price fall.

*Algeria may face a recession two years after the price shock*

The fixed exchange rate adepts have so far managed to protect themselves from the balance of payments shock by spending international reserves. Algeria initially took a similar stance by actively smoothing the exchange rate, except that by

second quarter of 2016 the latter was brought close to the equilibrium level. The recession and internal adaptation are expected to start in the country only this year. The Central Bank of Algeria plans to cut the volume of import permits granted to commercial banks by 15%, which will lead to a surge in domestic prices and other consequences typical for countries that have let their exchange rates float freely (see Table 1).

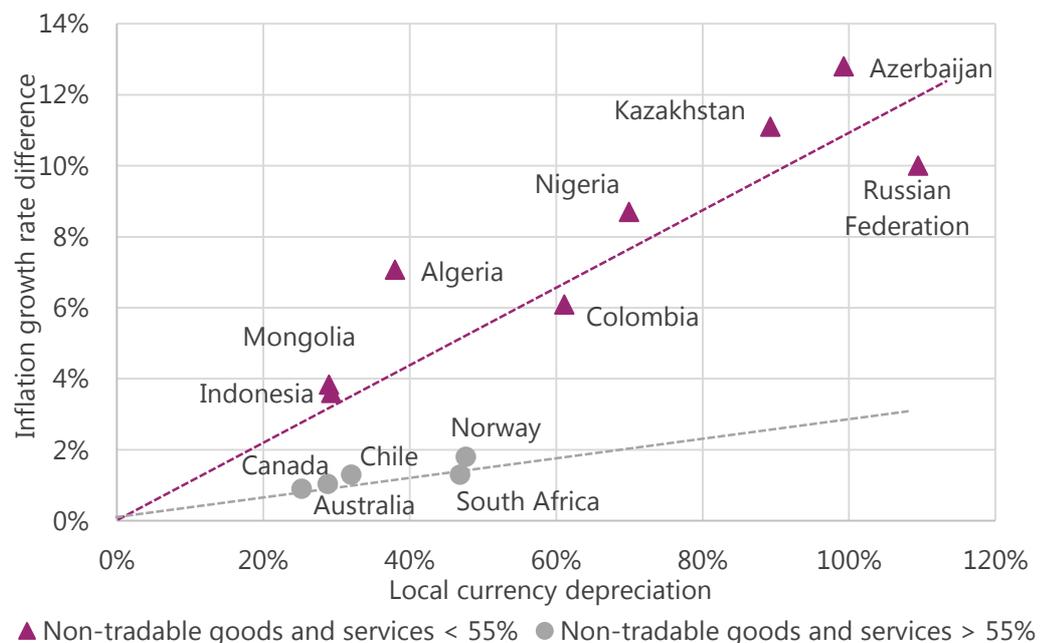
*Australia is a paragon of sustainability and adaptability to the shift in commodity prices*

Australia will probably be the only natural resource exporter to survive the commodity price slump without significant consequences for its economic growth. Despite a relatively large share of raw materials in exports (53%), the latter's total value avoided a dramatic fall thanks to active trade with growing Asian markets. Import adjustment after devaluation here was fueled mainly by a compression in the services segment in nominal terms (tourism shrank 6%, transportation lost 5%, business services shed 9%), while the goods market was almost unaffected. Due to a large share of non-tradable goods and services, the exchange rate transfer effect on domestic prices was minimal (+1.3 pps) after the national currency weakened by 32%. In the end, real incomes not only did not fall, but, on the contrary, increased due to active growth in the services sector (1.9 pps of 3.2 pps of economic uptick), supported by among other things by lending. The latter's fast growth could cause some financial stability deterioration, as housing prices relative to private incomes are much above the long-term trend, which may signify a bubble in the property market caused by volatile investment demand and demand from non-residents.

## Inflation targeting de facto did not help to protect against the price surge

The central banks of Russia, Azerbaijan, Kazakhstan, Nigeria and Colombia conduct inflation targeting, but this practice had little effect on the extent of the price surge in these countries. In fact, inflation acceleration depended on exports diversity (which in turn determined the size of the shock) and the proportion of non-tradable goods and services in the consumer basket and in intermediate production. In the countries where the latter figure is small, the transition effect of the exchange rate into domestic prices was more pronounced and, therefore, inflation ballooned stronger (Russia, Azerbaijan, Kazakhstan, Algeria, Nigeria, Colombia, Mongolia, and Indonesia). In such countries, the national currency weakening by 10% paved the way for an average 1 pps inflation increase, while in the countries where services and non-tradable goods had a greater share in consumer spending (over 55%), inflation gained on average only 0.3 pps.

**Figure 4. In countries with a prevailing share of non-tradable goods and services in the consumer basket and intermediate production, domestic prices are less sensitive to exchange rate fluctuations**



Source: Bloomberg, ACRA estimates

In view of an inevitable import price shock (an offer-driven inflation surge) central banks of countries with a floating exchange rate regime aimed at and could only deal with medium- and long-term consequences (in fact, they fought with demand-driven inflation). Targeting tools were used to keeping up short-term financial stability in the banking system and to form expectations regarding the dynamics of interest rates and inflation for 2-3 years. One of the main success factors of such a policy is prevention of redundant stimuli for short-term saving in a foreign currency amid growing fears the national one's weakening. The Russian Central Bank succeeded more in this field than the regulators in Kazakhstan and Azerbaijan.

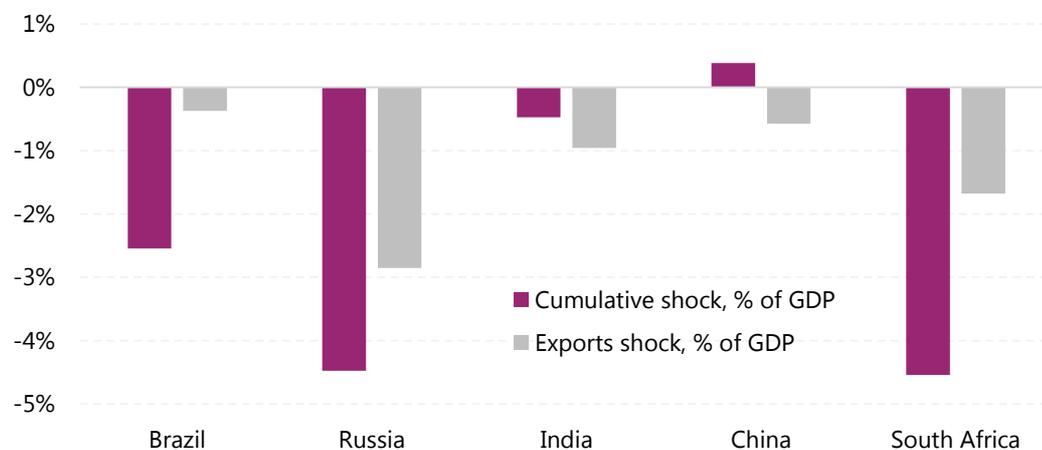
## BRICS differentiation is growing – different degrees of financial openness, different growth prospects

Along with a dramatic fall in commodity prices, most of the developing countries had to undergo a forced reduction of their foreign financial liabilities. The capital outflow was caused not only by a revision of growth prospects of these countries, but also by the quantitative easing completion in the US late in 2014. The resulting expectations of rising dollar interest rates made assets denominated in this currency relatively more attractive.

Among the BRICS countries, the financial side of the shock dominated in Brazil and South Africa, while China and India were relatively more insulated from capital outflows, as they had a smaller proportion of volatile portfolio investments in external financing and enjoyed higher real growth. Russia faced difficulties with foreign liabilities refinancing as early as mid-2014 due to financial sanctions imposed by the US and EU. It also showed sustainability of intragroup cross-border financing and, therefore, also suffered less.

By mid-2016, on the back of lower-than-expected global rates and growing economic uncertainty in developed countries, financial flows reversed. The BRICS stock markets are now growing on average much faster than the markets in developed countries. But the most stable inflow in the medium term should be shown by China and India, whose economic growth, though slowing down, still significantly outperforms the global average (see Table 2).

**Figure 5. Forced capital outflows were a bigger problem for Brazil and South Africa in 2014-2016 than the declining value of exports<sup>5</sup>**



Source: Bloomberg, national central banks, ACRA estimates

**Table 2. China and India show a more sustainable growth**

	2004-2008	2009	2010-2014	2015	2Q16
<b>Brazil</b>	4.8%	-0.1%	3.3%	-3.8%	-3.8%
<b>Russia</b>	7.1%	-7.8%	2.9%	-3.7%	-0.6%
<b>India</b>	8%	8.5%	7.2%	7.3%	7.1%
<b>China</b>	11.6%	9.4%	8.6%	6.9%	6.7%
<b>South Africa</b>	4.8%	-1.5%	2.5%	1.3%	0.6%

Source: Bloomberg, national central banks, ACRA estimates

<sup>5</sup> Cumulative shock is the exports shock and a decline in foreign liabilities (1Q16 vs 1Q14).

### Calculation method and source data

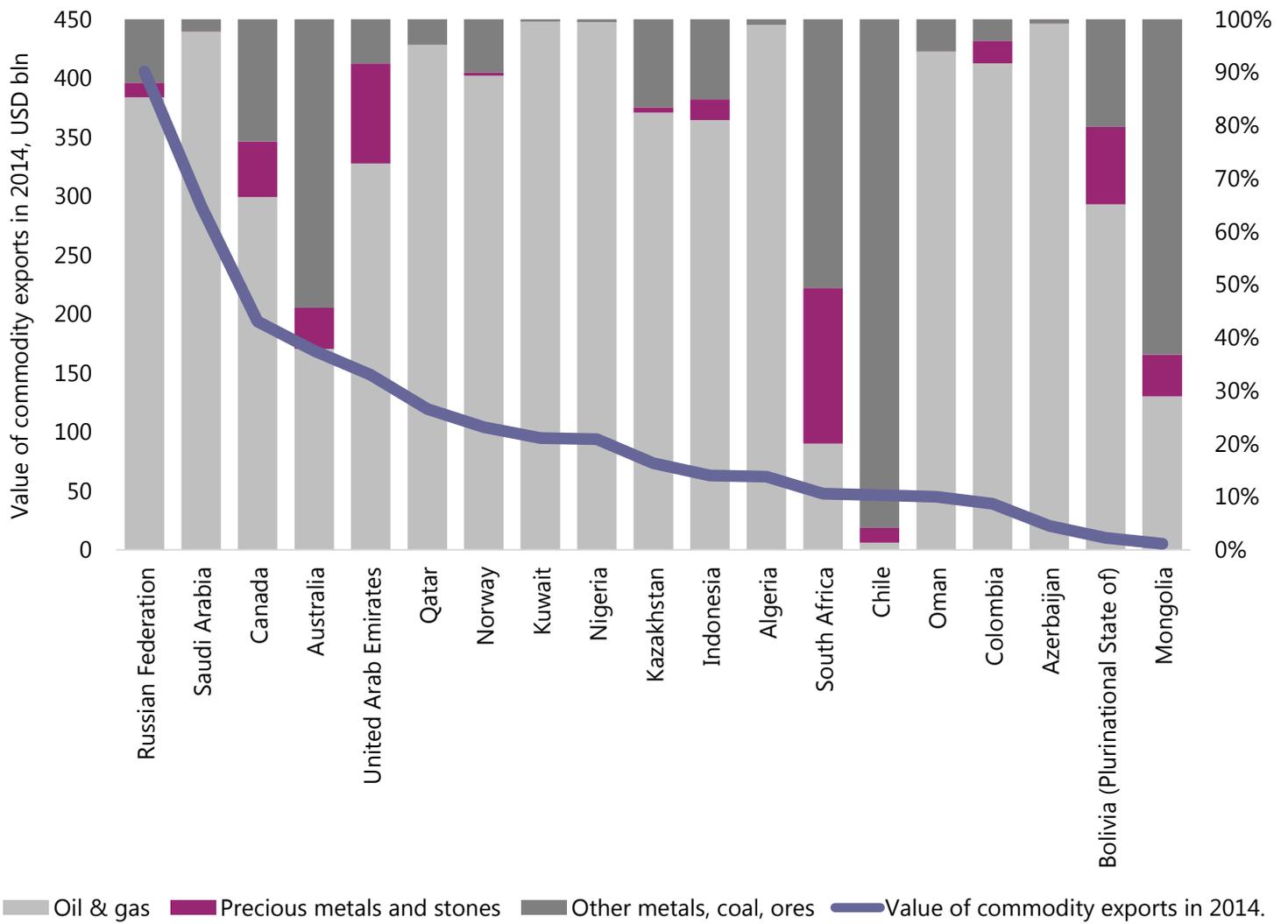
In addition to the BRICS, this research piece examines other countries, whose significant proportion of exports is formed by raw materials, i. e. Australia, Algeria, Azerbaijan, Bolivia, Indonesia, Kazakhstan, Canada, Qatar, Colombia, Kuwait, Mongolia, Nigeria, Norway, UAE, Oman, Saudi Arabia and Chile. Venezuela, despite its interesting and expository manifestations of shock, is excluded from the selection because its macroeconomic data is incomplete and in some cases may not be sufficiently reliable.

**Table 3. Calculated indicators used in this research**

Ratio	Calculation method	Data source	Note
Share of commodities in total exports	A percentage that the value of commodity exports had in total exports in 2013.	UN Comtrade, countries' balances of payments	Venezuela was not included in the selection, as UN Comtrade contained no data on its exports of natural resources.
Value of exports decline over the last two years	A percentage change in the dollar value of exports of goods, 1Q16 vs 1Q14.	Countries' balances of payments	No quarterly data are available for Canada, UAE and Oman, so annual figures were used for these countries. For Algeria, Iraq and Kuwait, 1Q13 and 1Q15 data were used, for Chile, 2Q14 and 2Q16 data were taken.
Change in government deficit relative to GDP	A difference between the government deficit in 2015 and 2014, pps of GDP.	IMF	No data are available for Iraq. The actual budget deficit in Qatar exceeds the IMF figure, as the fiscal year in this country ends on March 31. The actual deficit value was used in this research.
Average quarterly real GDP growth in a country before the commodity price slump	An average for 2Q13-2Q14, y-o-y.	Bloomberg	No data are available for Qatar, so a 2013 average was taken instead from the World Bank's database.
National currency weakening vs the USD	A difference between the maximum figure for 2Q14-1Q16 and the 1Q14 value.	Bloomberg	
Difference in inflation rates	A difference between the maximum value of inflation for 2Q14-2Q16 and its minimum quarterly value for 2014, pps.	Bloomberg	No data are available for Iraq.

Source: ACRA

Figure 6. Breakdown of raw material exports for selected countries



Source: World Bank, national statistics agencies, ACRA estimates

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