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RUSSIAN ECONOMY AS THE HOSTAGE OF HIGH OIL PRICES[1]

Russian oil industry in 1992–2011

Oil industry forms the backbone of the Russian economy playing a major role in ensuring revenues of the government budget and the country's favorable trade balance. At the same time Russia is one of the largest oil producers and exporters.

Until 1992, Russian oil sector served as the foundation of the USSR oil industry. In the 1980-1990s Russia accounted for about 91% of the USSR oil production. Over the last several decades of the USSR existence the fast growth of oil production and the large-scale oil exports were used as a source of funds supporting the functioning and development of the inefficient socialist economy and raising the standard of living. In 1987, oil production in Russia reached its peak of 569.5 mln tons. In 1988, oil production remained at about the same level – 568.8 mln. tons. However, the following years saw a steep decline of oil production. In 1996, oil production dropped to 301.3 mln tons or 52.9% of the pre-crisis maximum level.

The key factors of the Russian oil production decline in the first half of the 1990s were:

- shrinking of the domestic demand due to the market-oriented transformation of the Russian economy;
- the decrease in the actual demand for Russian oil in the former USSR republics and in Eastern Europe caused by the economic slump in those countries and by the mutual trade prices approaching the world market prices;
- the institutional restructuring of the Russian economy as a whole and the oil industry, in particular.

In the second half of the 1990s the situation in the Russian oil industry stabilized and the first half of the2000s became a period of fast oil production growth.

In 2000-2004 oil production in Russia grew 1.5 times and the annual oil production growth rates in 2002-2004 reached 8.9-11%. The oil production growth was determined by

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the exports expansion and, in particular, by the building of the Baltic Pipeline System (BPS), by intensification of the green fields development, and by wider investment capabilities of the oil companies resulting from the growth of the world oil prices. Over the next few years the oil production growth rates dropped significantly. In 2006-2007, the annual oil production growth rate was a mere 2.1% while 2008 registered a scale down in oil production. These facts testify to exhaustion of the reserves of oil production growth in the country through intensification of the green field development and to the necessity of undertaking more vigorous steps in developing new oil areas.

In 2009, oil production growth resumed but remained relatively low. In 2011, oil production reached the all post-reform high of 511.4 mln tons (see Table 1). Putting several large fields on stream in the northern part of the European Russia and in Eastern Siberia as well as the changes in taxation reducing the overall tax burden on the oil industry, particularly in cases of more efficient operation of producing oil fields and developing new production provinces, had a positive effect on the oil production dynamics.

Table 1

Oil production and refining

in the Russian Federation in 1990-2011

	1990	**1992**	**1995**	**2000**	**2005**	**2010**	**2011**
Oil production including oil condensate, mln tons	516.2	399.3	306.8	323.2	470.0	505.1	511.4
Oil production growth against the previous year, %	-6.5	-13.6	-3.5	6.0	2.4	2.1	0.8

Source: Federal State Statistics Service, Ministry of Energy of the Russian Federation.

The slowdown in the oil production growth rates that started in the middle of 2000s can be attributed, first of all, to the objective deterioration of the conditions of production. A considerable part of producing fields had entered in the period of decline while new fields in most cases had worse geological and geographical parameters and demanded higher capital, operational and transportation costs.

The market reforms in Russia gave rise to formation of large vertically integrated oil companies incorporating oil production, refining and oil products sales enterprises. The key oil industry transformations happened in 1993-1995 when 11 vertically integrated oil companies and two regional oil companies («Tatneft» and «Bashneft») came into existence. Over the next years a number of small-sized oil companies were taken over by bigger ones and in the 2000-s assets of two large private companies were taken over by the state-run companies («Rosneft» acquired the «YUKOS» assets and «Gazprom» bought out «Sibneft»).

As a result the share of the state-run (owned by the federal government) companies in the overall oil production in Russia increased from 7.3% in 2003 to 31.1% in 2011.

The modern oil production structure in Russia is presented in Table 2. In 2011, the five largest Russian companies («Rosneft», «LUKOIL», «TNK-BP», «Surgutneftegaz» and «Gazprom») accounted for 74% of the total oil production in the country. The share of mid-sized companies («Tatneft», «Slavneft», «Bashneft» and «Russneft») was 14.4%. In 2011, the Product Sharing Agreements (PSA) operators produced 3% of the Russian oil. Presently, there are three effective Product Sharing Agreements with foreign oil companies. They were signed in 1990: two Agreements are being implemented onshore and offshore the Sakhalin Island («Sakhalin-1» and «Sakhalin-2»), and one more in the northern part of the European Russia (the Kharjaga Field in the Nenets Autonomous Okrug). The share of other smaller oil producers numbering over 100 amounted to 8%.

Table 2

Oil production structure in Russia in 2010-2011

	Oil production in 2010, mln tons	**Share in the total production, %**	**Oil production in 2011, mln tons**	**Share in the total production, %**
Russia, total	505.1	100.0	511.4	100.0
Rosneft	112.4	22.3	114.5	22.4
LUKOIL	90.1	17.8	85.3	16.7
TNK-BP	71.7	14.2	72.6	14.2
Surgutneftegaz	59.5	11.8	60.8	11.9
Gazprom (including Gazprom Neft)	43.3	8.6	44.8	8.8
Tatneft	26.1	5.2	26.2	5.1
Slavneft	18.4	3.6	18.2	3.6
Bashneft	14.1	2.8	15.1	3.0
Russneft	13.0	2.6	13.6	2.7
NOVATEK	3.8	0.8	4.1	0.8
PSA Operators	14.4	2.9	15.1	3.0
Other producers	38.2	7.6	41.1	8.0

Source: Ministry of Energy of the Russian Federation.

Oil is the main export commodity of Russia. In the Soviet Union, the peak of the Russian oil exports fell on 1988 when net oil and oil products exports amounted to 291.6 mln tons. However, it should be noted here that half of the Russian oil exports of that period was channeled to the former republics of the USSR at internal prices that were much lower than the world prices. In this way Russia in fact served as a donor to the economies of those countries. After the dissolution of the USSR, oil and oil products exports to the former republics of the USSR fell sharply. The fall stemmed from the contraction of the actual

demand in those countries accompanying the transformation-induced economic slump and by an increase in the imported energy prices.

As a consequence, the first half of the 1990s saw a significant reduction of the Russian oil exports. Nevertheless, as early as 1996 the oil and oil products exports started to grow and in 2000s surpassed the pre-reform level. In 2011, the net oil and oil products exports reached 370.7 mln tons and became 1.5 times higher than the 1990 level. Subsequently, the share of the net oil and oil products exports in oil production increased from 47.7% in 1990 to 72.5% in 2011 (Table 3). At the same time, the Russian oil exports geography changed radically: the share of the non-FSU counties sharply increased while the share of the FSU countries decreased significantly. In 2011, the non-FSU countries accounted for 89.1% of the Russian oil exports and the FSU countries - for 10.9%.

Table 3

Proportions of oil production, consumption and export

in 1990-2011

	1990	**1992**	**1995**	**2000**	**2005**	**2010**	**2011**
Crude oil, mln tons							
Production	516.2	399.3	306.8	323.2	470.0	505,1	511,4
Exports, total	220.3	137.7	122.3	144.5	252.5	250,4	244,6
Exports to non-FSU countries	99.7	66.2	96.2	127.6	214.4	223,9	214,4
Exports to FSU countries	120.6	71.5	26.1	16.9	38.0	26,5	30,2
Net exports	201.5	127.0	113.8	138.7	250.1	249,3	243,5
Domestic consumption	269.9	231.4	150.4	123.0	123.1	125,9	140,7
Net exports as % of production	39.0	31.8	37.1	42.9	53.2	49,4	47,6
Refined oil products, mln tons							
Exports, total	50.6	43.0	47.0	61.9	97.0	132,2	130,6
Exports to non-FSU countries	35.0	25.3	43.5	58.4	93.1	126,6	120,0
Exports to FSU countries	15.6	17.7	3.5	3.5	3.9	5,6	10,6
Net exports	44.8	40.9	42.6	61.5	96.8	129,9	127,2
Crude oil and refined oil products, mln tons							
Net exports of crude oil and refined oil products	246.3	167.9	156.4	200.2	346.9	379,2	370,7
Net exports of crude oil and refined oil products as % of oil production	47.7	42.0	51.0	61.9	73.8	75,1	72,5

Source: Federal State Statistics Service, Ministry of Energy of the Russian Federation, Federal Customs Service, author's estimates.

With a certain growth of the share of refined oil products, crude oil exports continued to prevail in the oil exports structure accounting for 65.7% of the total crude oil and refined oil products exports in 2011. Heating oil used in Europe as feedstock for further refining and diesel fuel formed the main part of the refined oil products exports. In 2011, the exports shares were: 89.7% for heating oil, 56.1% for diesel fuel, and 10.6% for motor gasoline.

At the same time, an analysis of the Russian oil exports long-term data demonstrates an increase of the refined oil products share. That share in the net crude oil and refined oil products exports grew from 18.2% in 1990 to 34.3 % in 2011.

The above data provide evidence of a significant strengthening of the exports-oriented trend in the Russian oil industry in comparison with the pre-reform period. However, one should have in mind that this is associated not only with the increase in the absolute exports volumes but also with a significant shrinking of the domestic demand due to the market-oriented transformation of the Russian economy.

The world oil prices increase in the 2000s brought about a significant growth of the oil industry exports revenues. In 2011, the total revenues from exporting crude oil and basic refined oil products (motor gasoline, diesel fuel, and heating oil) reached $US259.5 bln which is the record level for the entire post-reform period (Table 4). For comparison: the minimum level of oil exports revenues was registered amid the world oil prices drop in 1998 when the exports revenues went down to $US 14 bln while the price of the Russian Urals crude fell to $US 11.8 per barrell.

Table 4

Crude oil and refined oil products exports revenues in 1995-2011
$US bln

	1995	**1997**	**1998**	**1999**	**2000**	**2005**
Revenues from exports of crude oil and basic refined oil products	16.4	21.1	14.0	18.8	34.9	112.4
	2006	**2007**	**2008**	**2009**	**2010**	**2011**
Revenues from exports of crude oil and basic refined oil products	140.0	164.9	228.9	141.2	193.9	259.5

Source: estimates based on the data by Federal State Statistics Service.

In 2011, in response to the higher world oil and gas prices the share of fuel and energy commodities in the Russian exports reached 69.2%, including 34.7% of crude oil (Table 5).

Table 5

Value and ratio of energy resources exports in 2005-2011

	2005		2010		2011	
	$US bln	**%***	**$US bln.**	**%***	**$US bln**	**%***
Energy resources, total	154.7	64.1	267.7	67.5	357.2	69.2
Including crude oil	83.8	34.7	134.6	34.0	179.1	34.7
Natural gas	31.4	13.0	47.6	12.0	63.8	12.4

* % of the total Russian exports.

Source: Federal State Statistics Service.

Oil industry input into the country's economy

A number of approaches are being applied to make an assessment of the oil industry contribution to the GDP. Rosstat calculates value added by type of activity. Minerals extraction at the level of 10.7% of GDP (2011), including energy resources at 8.8% of GDP (including production of natural gas and coal). The following factors shall be taken into consideration to arrive at the overall estimate.

First, the Rosstat assessment is based on the standard approach to measuring value added in the basic price (i.e. net of taxes on products, export duties, excise taxes etc.). For the oil industry it would make sense to calculate added value in market prices that reflect the industry full contribution to the GDP. Second, the borderline between value added in production and transportation of crude oil, refined oil products and gas is rather arbitrary. The purchase price and the producer price ratio varies significantly from 2.2 times in 2000 to 0.9 times in 2008, and 1.3 times in 2011. In view of the above it would be appropriate to view the oil industry as an integration of such activities as oil production, refining and oil products transportation. Third, a part of value added is transferred from the oil sector through the transfer prices mechanism and formally registered in the trade and intermediation sector.

Assessment of the oil and gas industry contribution is based on the following components:

- crude oil production;
- domestic consumption of crude oil;
- crude oil exports;
- exports and domestic supplies of refined oil products.

The final sales value was determined for each component of value added. Exports supplies prices were used with regard to exports; the purchase price and the producer price were used with regard to the domestic market. Changes in the oil and gas sector share are very

sensitive to the pulsations of the price environment. The objective trends in changes in the oil and gas sector role can be identified through an evaluation of its characteristics under comparable conditions.

The evaluation results (see Table 6) demonstrate that when an evaluation is performed on the current price basis, against the background of favorable external and internal environment in the second half of the first XXI century decade, the share of the oil industry GDP was decreasing from 25.6% (in 2005) and reached its minimum of 18.8% as a result of the 2008-2009 crisis. Within the next two years the share of the oil industry GDP was, on average, at the 22.7% level, following the demand restoration and the price increase. At the same time, calculations at the constant price basis demonstrates that the minimum share of the oil industry in the Russian economy was registered in 2008, followed in 2009 by a sizable growth of the oil industry GDP share (in practical terms to the 2006 level). In 2010-2011 this indicator started going down again and by the end of 2011 reached its low for the entire evaluations period.

Table 6

Evaluation of the oil industry share in the Russian GDP

	Oil industry share in the GDP	**Proportion of crude oil and refined oil products exports to the GDP**	**Share of the oil industry taxes in the GDP**	**Oil industry share in the GDP in the 2005 prices.**
2005	25.6	15.6	–	25.6
2006	22.4	14.4	–	24.1
2007	22.8	12.8	–	23.1
2008	21.6	17.2	11.5	21.6
2009	18.8	11.6	8.2	23.7
2010	22.1	13.9	9.6	23.1
2011	23.3	15.5	11.5	22.2

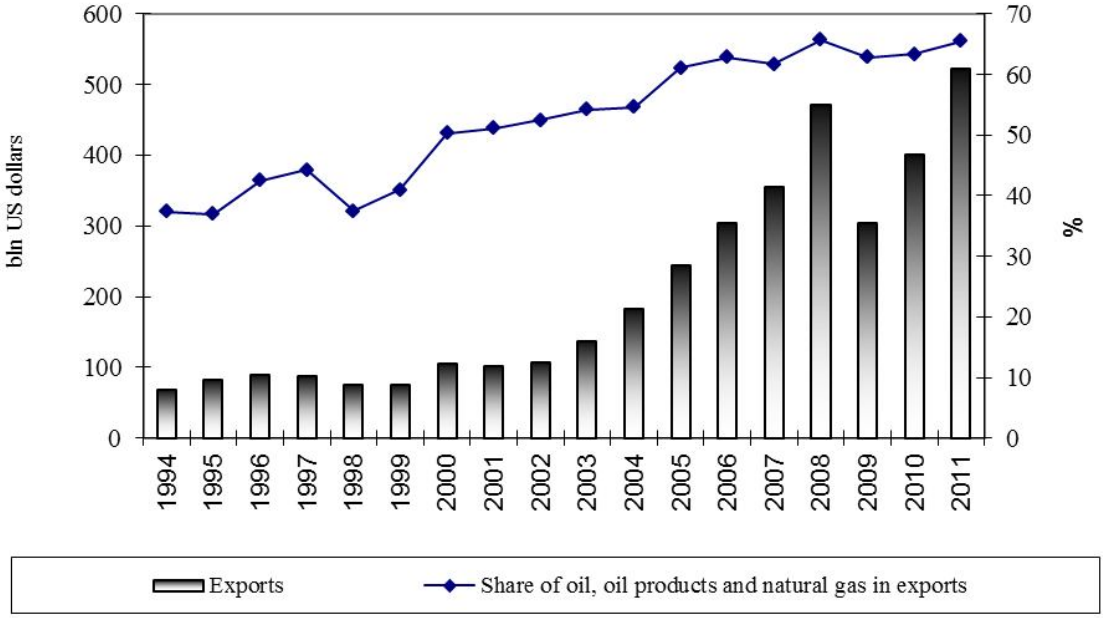
Source: authors' estimates based on Rossstat and Central Bank of Russia data

An important factor of an analysis of the oil industry contribution to the Russian Federation economy is comparing it to the oil industry share in the USSR economy during its last years. Unfortunately, evaluation of the oil industry contribution to the GDP of the Soviet period is extremely difficult to perform for lack of information on average crude oil and refined oil products prices. Besides, exports were dominated by supplies to the Warsaw Pact and the Council for Mutual Economic Assistance (CMEA) countries at prices different from the world prices. Our estimates show that in 1980–1990 the share of the oil industry in the GDP of the USSR was, on average, about 13.3%. While the share of the domestic crude oil and refined oil products market in the GDP roughly corresponded with an average value of a similar indicator for 2000-2011 and remained within the interval of 6-7% of the GDP the

share of exports revenues was much lower. An attempt to recalculate exports of crude oil and refined oil products at the average world prices of the time results in arriving at the oil industry GDP share of about 21%. In this manner, operating within the framework of the declared approach, we produced rather close estimates of a hypothetical contribution of the oil industry in the GDP of the USSR and the GDP of the Russian Federation in 2005-2011.

Effect of the energy price changes on the Russian balance of payments

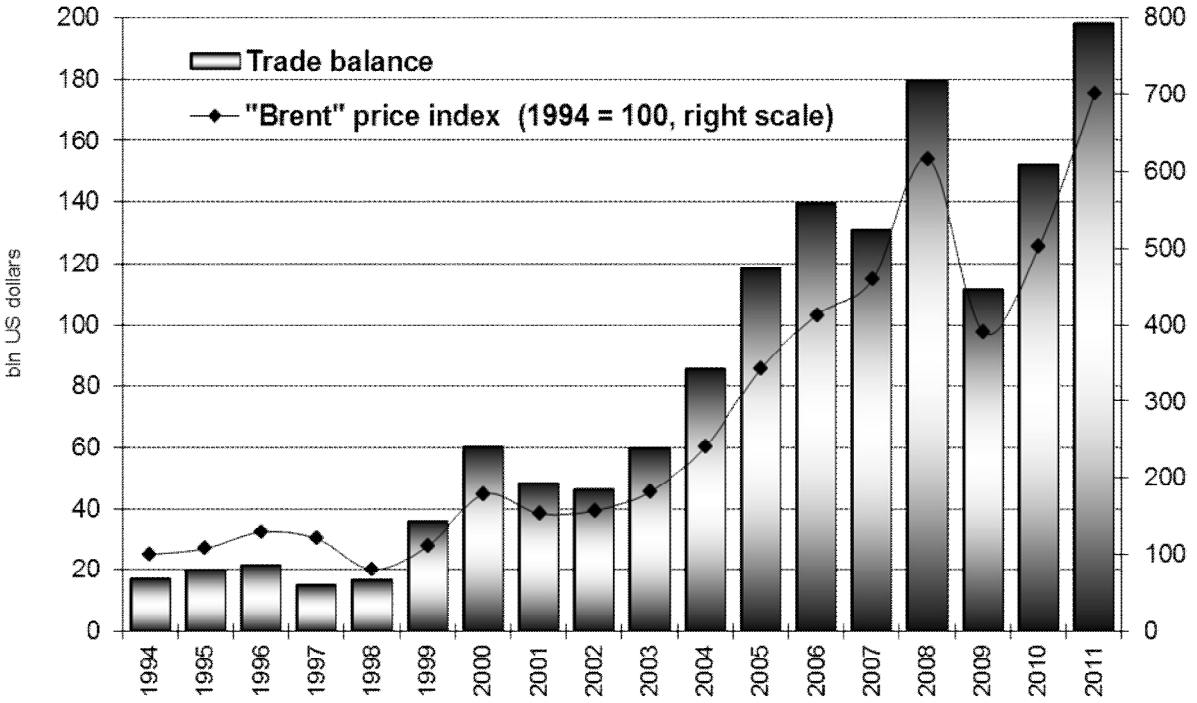
Changes in the trade balance that to a large extent are caused by movements of energy prices on the world market serve as the key factor defining the current account value. Fig. 1 shows that the share of crude oil, refined oil products and natural gas in the 1990-2011 exports was growing continuously. Contraction of the hydrocarbons share in exports happened only in the periods of falling prices.



Source: Central Bank of the Russian Federation.

Fig 1. Dynamics of the commodities exports and the Fuel and Energy Complex share in 1994 – 2011.

It should be noted here that the growth of prices for the main Russian exports items remains to be the key factor of retaining the surplus of the current account of the Russian balance of payments. Fig. 2 demonstrates that the average annual price of Brent crude increased almost seven times (in $US) from 1994 to 2011. A close relationship between the oil prices and the Russian trade balance is evident.



Source: Central Bank of the Russian Federation, International Financial Statistics.

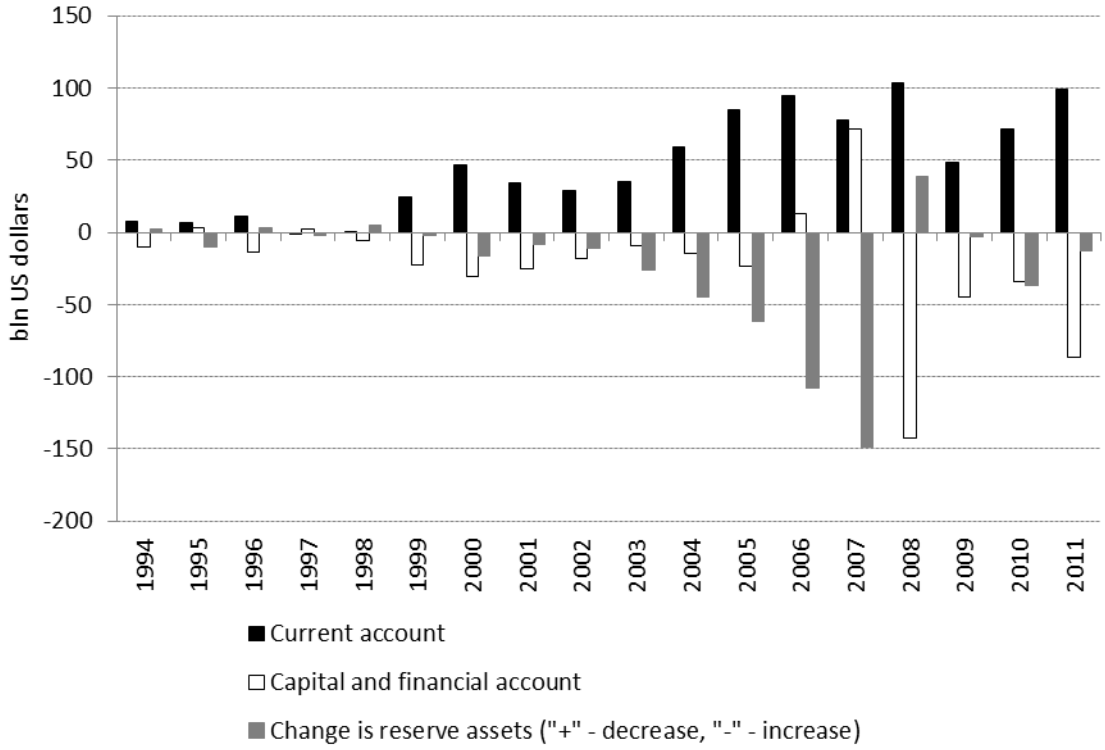
Fig 2. Russian trade balance and the world oil prices index in 1994–201.

Overall, the growth of prices for the Russian exports items results in an increase in the real effective ruble exchange rate and in earnings of the economic agents in the Russian Federation. Those factors are conducive to the Russian exports growth and, consequently, to the contraction of the size of the current account of the Russian balance of payments. Indeed, in 2011 Russian imports of goods grew almost 6.5 times against 1994. Imports were going down only in the periods of economic crisis in 1998 – 1999 and 2008 – 2009. Which means that changes in the ruble real effective exchange rate bring about growth of the current account of the balance of payment even under meaningful wavering of the trade conditions.

As to the effect of the energy prices evolution on the capital and financial accounts certain components of the financial account of oil prices do produce a material effect. One of the papers by the Institute for the Economy in Transition[2] demonstrates that an increase in the Brent crude price stimulates direct investment into Russia and from Russia into other countries. However, no firm correlation between the size of the capital and financial accounts was identified.

It will be noted that the dynamics of the capital and financial accounts is to a large extent influenced by the monetary policy of the Central Bank of the Russian Federation.

Under the established trade conditions it is the exchange policy of the monetary authorities that to a large extent defines the size of the capital and financial accounts. It will be recalled that in accordance with the methodology of forming the balance of payments the sum total of the capital and financial accounts and the current account should be zero.



Source: Central Bank of the Russian Federation.

Fig 3. Key components of the Russian Balance of Payments in 1994–201.

The sizable favorable current account was first formed in Russia after the major ruble devaluation in the aftermath of the 1998 crisis. At the same time the Central Bank of the Russian Federation started preventing any substantial ruble strengthening through accumulation of the international reserve assets. The growth of the international reserves of the Central Bank of the Russian Federation continued throughout the entire period of the 2008 energy prices increase. It is further noted that the net capital outflow from Russia gave way to the capital inflow in 2006–2007 following a significant inflow into Russia of investment and an increase in borrowings by the Russian companies abroad.

The 2008 crisis was followed by an oil prices increase. However, the exchange rate policy of the Central Bank of the Russian Federation shifted. Gradually, the Central Bank of the Russian Federation discontinued its money market interventions ensuring only smoothing

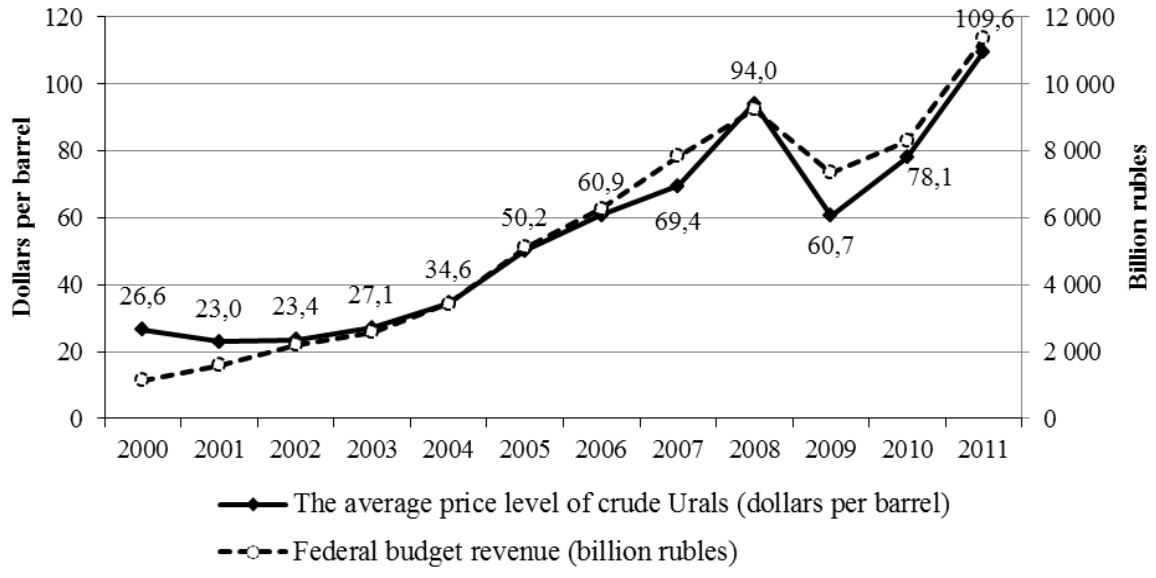
[2] See S. Drobyshevsky, P. Trunun (2006) Interaction of Capital Flows and the Key Macroeconomic Indicators in the Russian Federation. Proceedings of the Institute for the Economy in Transition, №94P.

of the volatility of the national currency exchange rate. As a result, the trade balance statistics show that the favorable current account increasingly corresponded with the unfavorable capital and financial accounts.

Thus, the dynamics of the indicators of the Russian balance of payments to a considerable degree depends on the world energy prices dynamics. The energy prices evolution directly affects the size of the Russian exports. At the same time, the effect of the trade conditions on the real ruble exchange rate and the pace of economic development in Russia stimulates a corresponding imports growth. A favorable change in the trade conditions normally makes Russia more attractive for foreign investors. However, the dynamics of the capital and financial accounts depends, first and foremost on the results of evaluation of global and country risks and the monetary policy of the Central Bank of the Russian Federation.

Oil and gas budget revenues and their use

Dependence of the Russian economy on oil and gas revenues is most evident through an analysis of the Russian budget revenues. The prices increase of the 2000s contributed to a greater dependence of public finances on market fluctuations and to a slow-down of the national economy modernization. Fig. 4 shows that throughout the 2000s a direct correlation was registered between the oil prices and the federal budget revenues.



Source: the Central Bank of the Russian Federation, Ministry of Finance of the Russian Federation.

Fig 4. The average annual price level of Urals crude (dollars per barrel) and the federal budget revenues (billion rubles)in 2000–2011.

In accordance with the classification of the Ministry of Finance of the Russian Federation the federal budget revenues are divided into the oil and gas revenues and non-oil

and gas revenues. Oil and gas revenues comprise revenues from the minerals (hydrocarbons) extraction tax, export duties on crude oil, natural gas, and refined oil products. Over the last few years the oil and gas revenues demonstrate a steady growth trend (from 7.6 % of the GDP in 2009 to 10.3 % of the GDP in 2011) (see Table 7). At the same time, 2011 saw parity between the non-oil and gas revenues and oil and gas revenues (10.5 % of the GDP and 10.3 % of the GDP).

Table 7

Russian federal budget revenues and expenditures in 2000–2011

(% of the GDP)

	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Expenditures (1)	14.2	14.8	18.9	17.8	15.8	16.3	15.9	18.1	18.2	24.7	22.4	20.0
Revenues (2)	15.5	17.8	20.3	19.5	20.1	23.7	23.3	23.6	22.3	18.8	18.4	20.8
Including non-oil and gas revenues (2.1)	11.7	13.1	15.1	14.1	13.5	13.6	12.7	14.6	11.8	11.2	9.9	10.5
Oil and gas revenues (2.2)	3.8	4.7	5.2	5.4	6.6	10.1	10.9	9.0	10.6	7.6	8.5	10.3
Russian federal budget surplus (3)=(2)–(1)	1.4	3	1.4	1.7	4.3	7.4	7.5	5.5	4.1	-5.9	-4.0	0.8
Non-oil and gas budget deficit (4)= (2.1)–(1)	-2.5	-1.7	-3.8	-3.7	-2.3	-2.7	-3.4	-3.5	-6.4	-13.5	-12.6	-9.6

Source: Ministry of Finance of the Russian Federation.

The existing correlation between the non-oil and gas revenues and the oil and gas revenues is negative for the Russian economy. The non-oil and gas revenues constitute a more stable type of revenues. To a large extent the 2009–2010 federal budget deficit was brought about by the dwindling world price quotations. To mitigate the situation, as far back as 2003 the Government of the Russian Federation made a decision on establishing the Stabilization Fund intended to accumulate excess profits from oil sales. At later stage it was divided into the Reserve Fund and the Fund of National Wellbeing.

The impact produced by the non-oil and gas revenues on the Russian economy can be understood if one looks at the share of the non-oil and gas revenues and oil and gas revenues in the structure of the enlarged government budget (Table 8). Overall, the oil and gas revenues of the federal budget in 2005–2011 accounted for at least 24.7 % of the tax revenues of the enlarged government budget.

Table 8

Russian federal budget revenues and expenditures in 2000–2011
(% of the enlarged government budget revenues)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Expenditures (1)	37.1	38.5	50.0	47.8	42.1	41.1	40.2	45.4	47.1	72.0	64.4	52.4
revenues (2)	40.5	46.3	53.7	52.4	53.6	59.7	58.9	59.2	57.7	54.8	52.8	54.5
Including non-oil and gas revenues: (2.1)	30.6	34.1	39.9	37.9	36.0	34.3	32.1	36.6	30.5	32.3	28.5	27.4
Oil and gas revenues (2.2)	9.9	12.2	13.8	14.5	17.6	25.4	27.6	22.6	27.4	22.1	24.4	27.1
Surplus (+) / deficit (-) of the Russian federal budget, % of GDP (3)=(2)–(1)	3.7	7.8	3.7	4.6	11.5	18.6	19.0	13.8	10.6	-17.2	-11.5	2.1
Non-oil and gas budget deficit (4)= (2.1)–(1)	-6.5	-4.4	-10.1	-9.9	-6.1	-6.8	-8.6	-8.8	-16.6	-39.3	-40.0	-25.4

Source: Federal Treasury, Rosstat, the Gaidar Institute estimates.

Establishing the first Russian sovereign fund – the Stabilization Fund of the Russian Federation – was associated with the idea of institutionalization of the federal budget surplus emerging in the form of a balance of the budgetary account with the Central Bank of the Russian Federation since 2000. In 2003, conscious of the time-sensitivity of the budget revenues against the background of the world market oil price increase and wishing to prevent a proportional growth of the budget expenditure obligations the Government of the Russian Federation proposed establishing a Stabilization Fund aimed to absorb excessive (against the theoretical value under a certain long-term oil price – the cut-off or the bench-mark price) revenues from oil production and exports.

The decision took a legal shape on 23 December, 2003 with the adoption of the Federal Law № 184-FZ «Concerning Introduction of Amendments to the Budgetary Code of the Russian Federation with Regard to Establishing the Stabilization Fund of the Russian Federation». Thus, the first Russian Stabilization Fund became operational from 1 January, 2004.

The Stabilization Fund of the Russian Federation was intended to ensure the state budget balance in cases where oil prices go down below the bench-mark price line. According to the official statement by the Ministry of Finance of the Russian Federation "The Fund contributes to stability of the country's economic development, serves as an instrument of tying up redundant liquidity, eases inflationary pressure, reduces the national economy dependence on unfavorable fluctuations of revenues from commodities exports"[3]. In this way, at its initial stage the Fund represented a classical example of a resource-based stabilization fund aimed to damp market-induced fluctuations of the Central Government budget revenues. The resources of the Fund could be used to close the federal budget deficit only when oil prices went below the bench-mark price[4]. However, when the accumulated resources of the Fund exceeded 500 bln rubles the excess monies could be spent for other purposes.

In view of the fact that as soon as 2005 the resources of the Fund exceeded the above level (1387.8 bln rubles) their significant part (887.8 bln rubles) could be spent for other purposes. As a result, the main part of the resources (72.4% of the accumulated surplus) was channeled to pay the foreign debt of the Russian Federation (643.1 bln rubles) and 3.4 % (30 bln rubles) – to close the deficit of the Pension Fund of the Russian Federation (see Table 9).

Table 9

Dynamics of the flow of financial resources

of the Russian Stabilization Fund in 2004–2007, bln rubles

Year	Revenues				Disbursement			End-of-year balance
	Total	Export duties	Minerals extraction tax (oil)	Crediting the federal budget balance	Repayment of the foreign debt	Funding development institutions	Closing the Russian Pension Fund deficit	
2004	522.3	240.8	175.5	106.0	–	–	–	522.3
2005	1387.8	663.4	507.3	217.1	643.1	–	30.0	1237.0
2006	1708.6	991.2	646.7	47.8	604.7	–	–	2346.9
2007	1895.9	918.9	674.7	156.7	33.7	300.0	–	3849.1

[3] http://www.minfin.ru/ru/stabfund/about/ – The official site of the Ministry of Finance of the Russian Federation.

[4] As of 1 January, 2004 the benchmark Urals crude blend was set at $US20 per barrel and as of 1 January, 2006 the cut-off price was increased to $US27 per barrel. In spite of the continuing increase in the oil prices no further increase in the cut-off price was initiated because of the risk of boosting inflation and the budget dependence on the tone of international markets.

Year	Revenues				Disbursement			- ye ar
TOTAL	5514.6	2814.8	2004.1	527.6	1281.5	300.0	30.0	

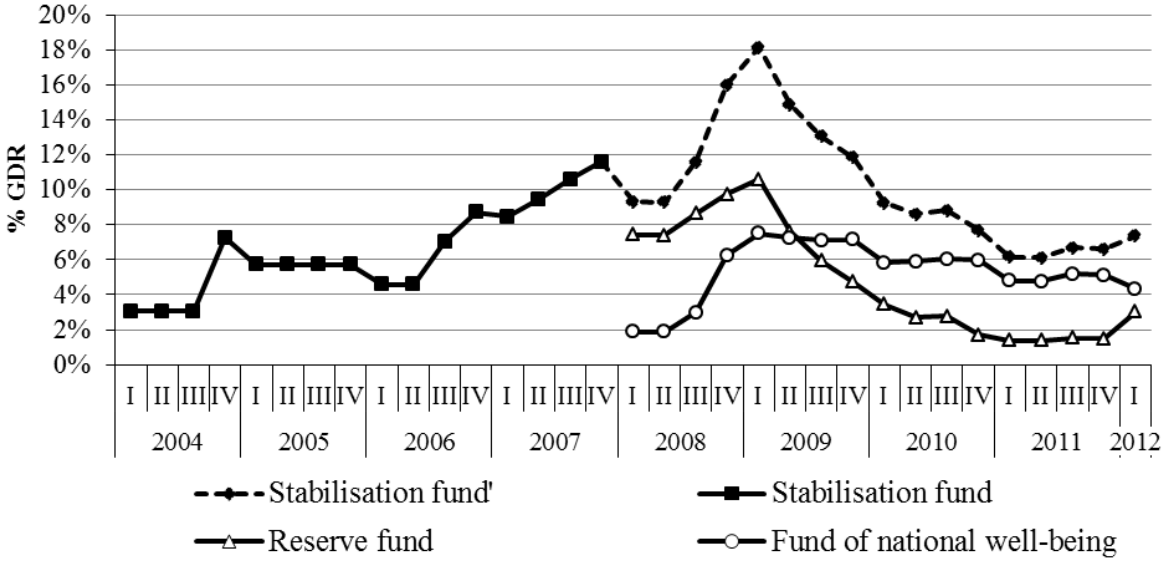
Source: Ministry of Finance of the Russian Federation.

In 2005 repayment of the foreign debt of the Russian Federation was performed in the following manner:

- 93.5 bln rubles (equivalent to $US 3.3 bln) – repayment of the debt to the International Monetary Fund;
- 430,1 bln rubles (equivalent to $US15 bln) – repayment of the debt to the Paris Club member countries;
- 123.8 bln rubles (equivalent to $US4.3 bln) – repayment of the debt to the Vnesheconombank for the credits extended to the Russian Ministry of Finance in 1998–1999 for repayment and servicing of the foreign national debt of the Russian Federation.

In 2006, 604.7 bln rubles were spent to repay the foreign debt and in 2007 – 33.7 bln rubles. Besides, in 2007, 300.0 bln rubles were channeled to finance development institutions («Rsnano» – 30 bln rubles, Vnesheconombank – 180 bln rubles, the Investment Fund – 90 bln rubles).

By the moment of splitting of the Fund (1 February, 2008) the total amount of resources stood at 3851.8 bln rubles ($US157.38 bln) which was equivalent approximately to 9.3 % of the annual GDP (see Fig. 5).



Source: Ministry of Finance of the Russian Federation.

Fig 5. The Stabilization Fund, the Reserve Fund, the Fund of National Welbeing in 2004-2011 and Q1 of 2012 года, % of GDP

From 1 January, 2008 the Stabilization Fund of the Russian Federation was split into two parts: the Reserve Fund (the initial size – 3069.0 bln rubles) and the Fund of National Wellbeing (782.8 bln rubles, hereinafter – the FNW).

The Reserve Fund, as the Stabilization Fund before it, forms part of the federal budget resources. It is intended to ensure performance by the Government of its expenditure obligations in case of diminishing oil and gas revenues of the federal budget. The regulatory value of the Reserve Fund was established at the level equal to 10% of the GDP[5]. Unlike the case of the Stabilization Fund of the Russian Federation the sources of forming the Reserve Fund in addition to the federal budget oil production and exports revenues include revenues from the minerals (hydrocarbons) extraction tax (natural gas and gas condensate) and export duties on natural gas.

Over the period of financial and economic crisis the Reserve Fund as one of the sovereign funds of the Russian Federation established its right to exist. The accumulated financial resources played a major role in mitigation of the crisis. In 2008 and 2009, the Central Government had to spend 4010.1 bln rubles to that end. As a result, from the moment of establishing the Reserve Fund (1 January, 2008) till 1 June, 2012 its resources dwindled significantly. The maximum size was registered on 1 March, 2009 – 4869.7 bln rubles - and the minimum on 1 August, 2011 – 734.9 bln rubles. As of 1 June, 2012 the resources amounted to 1953.9 bln rubles. (see Fig. 5)

In accordance with the Federal Law dated 30 September, 2010 № 245-FZ «Concerning Introduction of Amendments to the Budgetary Code of the Russian Federation and Certain Other Legislative Acts of the Russian Federation» from 1 January, 2010 to 1 February, 2014 revenues from managing the Reserve Fund shall not be credited to the Fund but channeled to finance the federal budget expenditures. Besides, there shall be no separate accounting for the federal budget oil and gas revenues. At the same time, the procedure of payments and transfers associated with the formation and spending of the federal budget oil and gas revenues, the oil and gas transfer, the resources of the Reserve Fund and the Fund of National Wellbeing was discontinued.

The Fund of National Welbeing (FNW) is the other sovereign fund established in the course of reforming the Stabilization Fund. It forms part of the federal budget resources subject to a separate accounting and management for the purpose of ensuring co-financing of

[5] From 1 January, 2010 to 1 January, 2014 no regulatory size of the Reserve Fund will be set and the oil and gas revenues of the federal budget will not be used to finance the oil and gas transfer and to form the Reserve Fund and the Fund of National Well-Being: instead they are channeled to support the federal budget expenditures.

the voluntary retirement savings of the Russian citizens and balancing (closing the deficit) the budget of the Pension Fund of the Russian Federation.

In view of its legal status that Fund is less exposed to fluctuations caused by external factors. As of 1 June, 2012 the Fund resources amounted to 2773.8 bln rubles. Their maximum size was registered on 1 March, 2009 as 2995.5 bln rubles and the minimum (within the period starting on 1 January, 2009) – as 2566.0 bln rubles (see Fig. 5).

In fact, the Reserve Fund has become a functional successor to the Stabilization Fund as it forms part of the federal budget resources subject to separate accounting and managing for the purpose of performing the oil and gas transfer in case of insufficiency of the oil and gas revenues for financing the said transfer. The Reserve Fund is formed by the federal budget oil and gas revenues in an amount exceeding the size of the oil and gas transfer approved for the corresponding financial year provided that the accumulated resources of the Fund do not exceed its regulatory value; and by the revenues from managing the Reserve Fund resources. In other words, it is a classical resource-based stabilization fund.

In its turn, the FNWB by its type is close to sovereign or resource-based funds of future generations and is formed by the federal budget oil and gas revenues in the amount exceeding the oil and gas transfer approved for the relevant financial year provided that the accumulated resources of the Reserve Fund do not reach (exceed) its regulatory value; and by the revenues from managing the FNWB resources.

Macroeconomic and fiscal effects of establishing sovereign funds: implications for economic policies

Three aspects could be sorted out from the point of view of macroeconomic effects and implications of establishing sovereign funds in the Russian Federation.

1. Intertemporal federal budget stabilization.

2. Support of the anti-inflationary policy of the Central Bank of the Russian Federation and the policy of limited growth of the ruble exchange rate.

3. Funding the anti-crisis measures in 2008–2009.

Fiscal policy. As was said earlier, the key purpose of establishing the Stabilization Fund of the Russian Federation was to institutionalize accumulation of the federal budget surplus under the favorable market conditions at the expense of the federal budget oil and gas revenues. Part of the oil and gas revenues is channeled to finance the federal budget operational expenditures and part can be saved. Correspondingly, by the end of Q1 2012, the aggregate amount of the Russian sovereign funds accounted for almost 8% of the GDP (see Fig 5).

In this way, in the period of favorable market situation the presence of the Stabilization Fund constituted a serious institutional constraint to the budgetary expenditures growth. At the same time even such a constraint was not all powerful and in 2007–2008 with the oil prices at their high there was a significant growth of the federal budget expenditures in real terms.

In their turn, in 2009-2010 the Reserve Fund resources became the primary source of financing the federal budget deficit accumulated as a result of contraction of the revenue part of the budget and the adoption of the anti-crisis measures package. However, the magnitude of the budgetary deficit in Russia (as, it must be said, is the case in many countries of the world) evidently goes beyond expectations. The size of the Stabilization Fund and later of the Reserve Fund was set proceeding from the necessity to finance the 3 % of the GDP deficit for maximum 3 coming years. However, in 2009 the Russian federal budget deficit rose to 5.9 % and in 2010 to 4.0 %. In 2009-2010 only, 4 trln rubles were required to finance the federal budget deficit. In spite of the fact that in 2011 the federal budget surplus amounted to 0.8 % of the GDP, in 2012, the growth of the budget expenditures (16.5 % planned growth against 2011, in nominal terms) and the current downward price movement can bring about a budget deficit.

In view of the fact that in the foreseeable future the Russian Government intends to maintain the federal budget deficit (gradually reducing it to 2.3 % of the GDP in 2014 under the minimum average annual oil price of $US97 per barrel), there is a risk of having the Fund of National Wellbeing involved in financing the deficit.

Monetary and exchange rate policies. The availability of sovereign funds and their role as part of the international reserves of the Central Bank of Russia produced an important effect on the Russian monetary and exchange rate policies.

As of 1 January, 2009 the total amount of money stock withdrawn from the economy and deposited into the funds' accounts with the Central Bank of the Russian Federation was about 120 % of the monetary base (high-powered money). To retain the money supply at that level in 2004-2008 would mean increasing the money supply growth rates approximately by 15–20 pp. a year. The inflationary result could be an increase in the annual average inflation growth rates from 11.35 % a year (which, by itself, is one of the highest world rates) to 13.5–14 % ,year on year.

At the same time, the entire amount of the international reserves of the funds approaches 35–40 % of the total Russian balance of payments surplus for 2006 – first half of 2008. Naturally, such an inflow of hard currency into the country induced a response on the

part of the Russian Ministry of Finance in the form of a demand on the domestic market which helped the Central Bank of the Russian Federation to keep the ruble exchange rate at a level not exceeding 23.5–24.0 rubles per dollar. Modeling of a situation where in 2006–2008 there would be no necessity to place the reserves of the funds in foreign exchange shows that in such a case the nominal ruble exchange rate could grow to 13–15 rubles per US dollar by August 2008. Correspondingly, by the start of the autumn 2008 crisis, the ruble real effective exchange rate relative to July 1998 would be not 116.5 % (the maximum value for ruble's real exchange rate before the 1998 crisis) but 180–200 % which would mean a full loss of competitive capability by the national producers and an abrupt slowdown of the economy growth even under high prices of oil and other Russian exports as early as 2007.

Financing the anti-crisis measures in 2008–2009. In 2008 – 2009 financing of the large-scale measures aimed to support the national economy without resorting to foreign loans became possible due to the financial reserves accumulated over the period of economic growth. The resources of the oil and gas funds were the main sources ensuring the federal budget balance in 2009. The idea of forming oil and gas funds lived up to expectations and shall give credit to the country's fiscal policy.

Table 10

Dynamics of forming and using the oil and gas funds in 2009

(bln rubles)

Indicator	End of 2008 balance*	Received in 2009.		Used in 2009 for:		End of 2009 balance.*
		Oil and gas revenues	Revenues from resource management	Ensuring the federal budget balance	Ensuring the oil and gas transfert	
Reserve Fund	4027.6 (9.8 % of GDP)	488.5	205.0	2964.8	179.4	1830.5 (4.7 % of GDP)
Fund of National Wellbeing	2584.5 (6.3 % of GDP)	–	92.5	–	–	2769.0 (7.1 % of GDP)
Total	6612.1 (16.0 % of GDP)	488.5	297.5	2964.8	179.4	4599.5 (11.8 % of GDP)

* The balance recomputed at the exchange rate of 1 January, 2009 and 1 January, 2010 году, correspondingly.

Source: Ministry of Finance of the Russian Federation, Federal Treasury.

Officially, the FNW resources were not used to finance the federal budget deficit and the anti-crisis measures. However, on 13 October, 2008 President of the Russian Federation

signed a package of legislative acts (later adopted by the State Duma and endorsed by the Council) aimed to stabilize the country's financial system under the crisis conditions: in particular, they included amendments giving way to deposit the FNW resources with the Vnesheconombank till 31 December, 2019 in the maximum total amount of 450 bln rubles at an annual interest rate of 7%.

In this way the changes touched only the admissible assets portfolio for placement of the FNW resources – it was supplemented with the Vnesheconombank ruble deposits. Further on, the Vnesgeconopmbank was in charge of using the resources for implementing the anti-crisis measures. In particular, 404 bln rubles were provided to 14 Russian commercial banks as subordinated credits, and 30 bln rubles – to the «Russian Development Bank» for the purpose of crediting small and middle-sized businesses.

Overall, looking at the Reserve Fund role as a source of financing the Russian federal budget deficit in 2009–2010, it is necessary to identify three aspects related to understanding of the "reserve" nature of the Fund resources:

First, using the Reserve Fund resources for closing the budget deficit is, in fact, money emission by the Bank of Russia, as in practical terms the operation means migration of the Central Bank resources on the liability side from the special account of the Government of the Russian Federation to the money base (through the Government current account). The operation could have been of a non-emission nature in case the Bank of Russia simultaneously was selling foreign exchange (which, nominally, is the Reserve Bank counterpart). However, after reaching the maximum low in January 2009, the international reserves of the Bank of Russia started a steady growth. Thus, from the point of view of the monetary policy the Fund is not a reserve but serves as a stand-alone channel for moneys inflow into the economy.

Second, the above described effect of money emission from the budget account is observed every time that the Government spends money within the framework of the Russian system of Treasury having budgetary accounts with the Bank of Russia, i.e. brought outside the money supply. Such fluctuations are observed throughout every year (for example, a sharp increase in money aggregates in December when the budget closes the outlay accounts or monthly money supply contractions on the last days of the month – at the time of tax payments), however, due to the established tax period – the budgetary year – consideration is given only to the resulting effect of the budget operations on money supply. If the period is extended to , say, five years then the use of the Reserve fund resources stops being emission

in its pure form, as the money accumulated by the Fund can be considered, within such a period as temporary withdrawn and re-injected into the economy.

Third, from the point of view of the fiscal and debt policies the Reserve Fund resources can be considered as the Russian Government reserve, as its availability makes it possible to finance the budget deficit without borrowings on the market and without increasing the sovereign. At the same time, experience of the EU and such countries as the USA, Japan, Great Britain, etc. it is the growth of the sovereign debt in the interest of financing the package of anti-crisis measures that becomes a key problem of the economic policy at the recovery stage. In this respect, the availability of the Reserve Fund can be viewed as a factor potentially permitting the country to avoid the debt burden growth and passing the current budget expenditures onto the new generation.

Impact on poverty alleviation, social policy and labor market

From the point of view of social effect and supporting the social standard of living in Russia the sovereign funds have so far produced a limited and for the most part indirect impact and it is rather difficult to differentiate between the impacts produced by each of the funds.

We believe that the most important impact on the social standard of living was produced by the anti-inflation consequences of the establishment of the Stabilization Fund (see above). The cumulative growth of incomes of people in real terms due to the low inflation in 2004–2008 is believed to be about 20 pp.

One more important result of the presence of the Reserve Fund is financing of the federal budget deficit in 2009, first and foremost of its social items, which helped achieve, under the conditions of grave crisis (the real GDP decline in 2009 – 7.9 %), the real income of the population growth of 2.3 % thus reducing the negative effect of the domestic demand contraction and ensuring the personal savings growth. As mention above, these expenditures were financed without increasing the government borrowings and, consequently, without the debt burden growth for the future generations.

Presently, the Fund of National Wellbeing plays a negligible role in resolving the social problems. Moreover, the FNB apparently is not successful in performing the role of a tool for resolving the deep-rooted problems of the Russian pension system.

The effect of the oil price increases on the economic growth in the Russian Federation

The effect produced by the international market conditions on the economic growth in developing countries, countries with economies in transition, is mixed and depends on the outlook, structure and specifics of the economy, and the development stage. High export

prices while strengthening the real exchange rate of national currencies produce a negative effect on the rates of economic development. However, it was characteristic of Russia in 2000-2007 to have a positive effect of the favorable market conditions on the economic growth, first of all, due to the growing demand stimulating utilization of the available capacities and widening of the production capabilities through investment. The mechanism of such effect has been described in terms of the economic growth theory, production function and the IS-LM model.

When analyzing the effect of the dynamics of exports prices for commodities and energy resources it is necessary to single out the positive effect of the positive international market trends as a result of the stimulative monetary and fiscal policies; investment growth due to the additional exports revenues (the «investment growth » mechanism), and the wealth effect. The negative effect of higher oil prices on the economic growth manifests itself in the «Dutch disease» and political and economic factors impeding the economic development.[6]

The suggested model of identification of the structural and conjunctural components of the economic growth in Russia is based on the study of the long-term and short-term effects of the international market environment on the country's economic growth rates.

The long-term effect of the market trends on output (the real GDP) has at its basis the amount of investment that depends on the amount of resources injected into the economy under this or that tone of the world energy market. The oil prices level defines the oil exports value, the total imports, including imports of resourcesв for investment, which predetermines accumulation of the physical capital, human capital and technologies in the economy and in this way the rates of the potential output (economic growth) in the long-term and short-term perspective. This implies that the investment growth mechanism presupposes that each price level corresponds to a certain rate of economic development: low prices go with low investment which determines the low rates of the GDP growth, high prices go with large investment and, consequently, high rates of the GDP growth. Thus, the rates of the GDP growth are constant under the predetermined oil prices level.

In other words, the oil price level determines production growth, i.e. under a predetermined oil price level there exists a certain constant (stationary) rate of the GDP growth and, correspondingly, the world oil prices growth entails quicker GDP growth. It

[6] The issue was examined in more detail by Kazakova M.V., Sinelnikov S.G., Kadochnikov P.A. (2009): Analysis of the Structural and Conjunctural Components of the Tax Burden in the Russian Ecomony. Proceedings of the Proceedings of the Institute for the Economy in Transition, №129P (the publication is available at www.iep.ru), and Kazakova M.V., Sinelnikov S.G: Conjucture of the World Energy Market and the Economic Growth Rates in Russia // Economic Policies, № 5, 2009.

should be noted that the said correlation is the correlation between the GDP growth rates and the price level: higher levels of prices mean higher growth rates due to larger investment.

Oil price fluctuations do not necessarily suggest that GDP takes a new long-term growth trajectory defined by the investment dynamics. Temporary deviations of the actual rate of production gains from the stationary one are determined by the actual demand fluctuations related partially to the short-term evolution of the oil price. The rest of the demand fluctuations can be the effect of other factors, such as the public and investor sentiment, monetary and fiscal policies, etc. The said deviations represent the short-term effect of the energy prices market trends on the GDP growth rate.

In the short-term, a transition to another level (i.e. growth) of prices and a change in the net exports can (by affecting the aggregate demand) cause a deviation from the constant rate of economic growth (in other words, bring about an increment in the constant growth rate): either an increase in the constant GDP growth rate under growing oil prices or a decrease under declining oil prices. In this particular case we are referring to the effect of the prices level on the output level. The world oil prices growth is accompanied by the exports growth and, consequently, the aggregate demand is growing which means that, subject to the existence of available capacity and labor, the GDP is growing. In other words, a relationship between the GDP and oil prices is evident.

For the purpose of decomposition of epy GDP expansion into structural and conjectural components by the method of least squares we have evaluated equation (1), describing a long-term relationship between the seasonally adjusted GDP expansion in real terms (series I(1)), the oil price in real terms (deflator – the ruble real effective exchange rate, REER) (series I(1)) and the growth of the autonomous investment into fixed capital (series I(0)):

$$\Delta Y_t = \alpha_0 + \alpha_1 P\_oil_t + \alpha_2 \Delta Inv\_A_t + \eta_t, \quad (1)$$

where ΔInv_A_t - autonomous investment growth at t moment,

P_oil_t - oil price level in real terms (in prices of Q1 1999, deflator – REER) at t moment.

In order to analyze the dependence of the economic growth rates on oil prices in short-term perspective and, correspondingly to extract the conjunctural component of the GDP expansion determined by the short-term oil price fluctuations we have also evaluated the dependence of the remainder (1), described above, on the oil prices in real terms:

$$\eta_t = \Delta Y_t - \alpha_0 - \alpha_1 P\_oil_t - \alpha_2 \Delta Inv\_A_t = \gamma_0 + \gamma_2 \Delta P\_oil_t + \vartheta_t \quad (2)$$

The following technique of the real GDP expansion decomposition into the structural and conjunctural components can be applied on the basis of the determined ratios in equation (1):

- *Structural GDP expansion* represents a theoretical value of the GDP expansion under the long-term average annual oil price $\overline{P\_oil_t}$ and the actual growth of autonomous investment ΔInv_A_t in equation (1):

$$\Delta\overline{Y}_t = -0.005 + 0.001\overline{P\_oil_t} + 0.07\Delta Inv\_A_t$$

- *Conjunctural GDP expansion* ($\Delta Y_t^{oil\_inv}$) is determined as a difference between the theoretical value of the GDP expansion under actual values of the variables in equation (1) ($\hat{\Delta}Y_t$) and the structural GDP expansion ($\overline{\Delta Y_t}$); in other words, this is a component of the GDP expansion resulting from deviations of the actual oil price from its long-term average annual level:

$\Delta Y_t^{oil\_inv} = \hat{\Delta}Y_t - \overline{\Delta Y_t}$, which is equivalent to $\Delta Y_t^{oil\_inv} = 0.001*(P\_oil_t - \overline{P\_oil_t})$

- *Conjunctural GDP expansion determined by oil price fluctuations in short term* ($\Delta Y_t^{oil\_SR}$), is extracted on the basis of equation assessment (2):

$\Delta Y_t^{oil\_SR} = \hat{\gamma}_2 * (\Delta P\_oil_t - \overline{\Delta P\_oil_t})$, where $\hat{\gamma}_2$ - ratio assessment in equation (2). However, as was shown, the equation describing the logic of the oil price effect on the GDP growth rates in short term is insignificant in the time period under review and the results of such decomposition cannot be used in the final decomposition.

- *The contribution of autonomous investment and other factors not taken into consideration in the model* (ΔY_t^{other}) is determined as a difference between the actual and the theoretical GDP expansion in real terms produced by the substitution of actual values of the explanatory variables into the determined co-integration ratio, i.e.:

$$\Delta Y_t^{other} = \Delta Y_t - \hat{\Delta}Y_t$$

It should be noted that interpretation of the produced values of the ratios of the equation (1) is applicable only to the real GDP measured in terms of expansion. Consequently, for the purpose of decomposition of the GDP growth rates into the structural and conjunctural components we undertook a transition from the GDP expansion to the GDP growth rates through arithmetic conversion. Besides, as demonstrated above the extraction of the structural and the conjunctural components of the economic growth rates in 2008-2009 is based on the produced coefficients of the co-integration ratio evaluated for the data sample not covering

the crisis period from 2008 till now in view of the cyclical fluctuations of the Russian economy. The main results of such decomposition based on the logic of the cointegration ratio describing relationship between the rates of economic development and oil prices in the long term are presented in Table 11.

Table 11

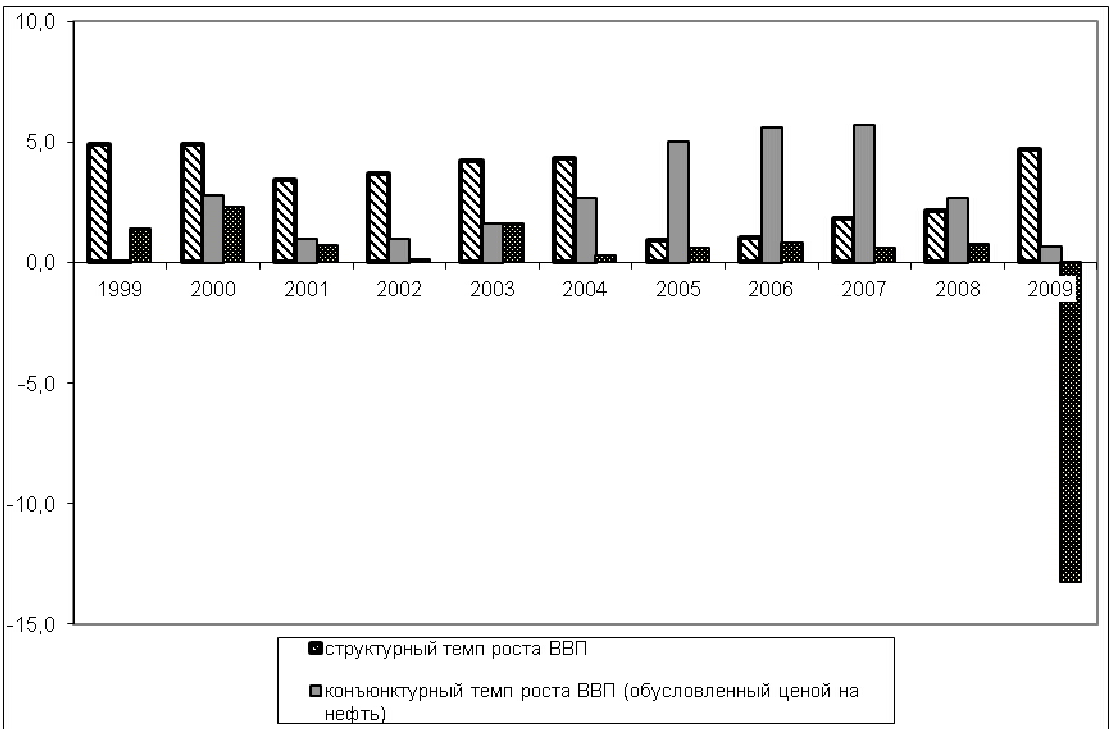
Results of decomposition of the GDP growth rates in real terms, 1999–2009 (%)

	General (actual) GDP growth rate	Structural GDP growth rate	Conjunctural GDP growth rate depending on oil price changes	Conjunctural GDP growth rate depending on other factors	For reference	
					Brent crude price in real terms $US/barrel in the 1999 prices	Nominal Brent crude price ($US/barrel)
1999	6.4	4.9	0.1	1.4	17.7	18.0
	100.0%	*76.1%*	*1.5%*	*22.4%*		
2000	10.0	4.9	2.8	2.3	25.6	28.2
	100.0%	*49.2%*	*28.2%*	*22.6%*		
2001	5.1	3.5	1.0	0.7	18.4	24.3
	100.0%	*67.6%*	*19.2%*	*13.1%*		
2002	4.7	3.7	1.0	0.1	18.3	25.0
	100.0%	*78.2%*	*20.4%*	*1.5%*		
2003	7.3	4.2	1.6	1.6	20.6	28.9
	100.0%	*57.4%*	*21.3%*	*21.3%*		
2004	7.2	4.3	2.7	0.23	25.0	37.8
	100.0%	*59.4%*	*36.8%*	*3.7%*		
2005	6.4	0.9	5.0	0.6	32.4	53.4
	100.0%	*13.4%*	*77.6%*	*9.0%*		
2006	7.4	1.0	5.6	0.8	35.6	64.3
	100.0%	*13.5%*	*75.2%*	*11.3%*		
2007	8.1	1.8	5.7	0.6	37.3	71.1
	100.0%	*22.4%*	*69.9%*	*7.7%*		
2008	5.6	2.2	2.7	0.8	47.7	97.0
	100.0%	*38.5%*	*47.8%*	*13.7%*		
2009	-7.9	4.7	0.7	-13.3	32.5	61.8
	100.0%	*-59.5%*	*-8.9%*	*168.4%*		

Note. The second line for each year shows in italics shares of the corresponding components of the GDP growth rate in the total actual GDP growth rate in real terms (%). No shares of each component were determined for the negative GDP growth rate in 2009.

Source: authors' estimates based on Rossstat and IMF data.

Fig. 6 shows the dynamics of the structural and conjunctural components of the GDP growth rates in 1999–2009.



Source: authors' estimates based on Rossstat data.

Fig. 6: Structural and conjunctural components of the GDP growth rates in 1999–2009 (%).

In 1999–2004, in accordance with the data shown in Table 11 and Fig. 6 the share of the structural component of the GDP growth was rather high. In 1999–2000 this could be accounted for the restorative economic growth in Russia. As was shown in (Gaidar, 2005, p. 400–403)[7], the concept of restorative growth developed in the 20s of the XX century suggests that the restorative growth is based on the earlier built production capacities and labor trained before the growth started.

Nevertheless/ a characteristic feature (distinguishing it from the traditional concept of restorative growth) of the Russian economy became the investment demand increase at the end of the restorative growth period in 2001–2002. Over 2000–2004, there was a trend where investments into fixed capital demonstrated an outstripping growth rate against the GDP dynamics and production output in the key industries. A considerable effect on the nature of investment activities was produced by the intensive growth of the economic earnings. That related, on the one hand, to the favorable changes in the world hydrocarbons and metals prices, and, on the other hand, to the import substitution processes aimed to fill in the domestic market niches with domestic goods.

Thus, because of the investment demand growth in 2001–2002, the restorative growth resources diminish and the role of the structural factors of the growth becomes less important

which in all probability explains a slight contraction of the structural component of the Russian GDP growth rates in 2001 that remained relatively stable till 2004 (see Fig. 6). At the same time, the positive value of the conjunctural component of the real GDP growth rates determined by the oil prices in 1999–2004, that was registered simultaneously with the drop of the real oil price from $US 25.6 per barrel in 2000 to $US 18.4 per barrel in 2001 results from the fact that over the entire period under review: from 1999 to 2009 the actual oil price in real terms was at a higher level than its long-term average annual value in contrast to 1995–1998 when the long-term average annual price was higher than the actual price.

Data from Table 11 show that starting from 2005 the role of the conjunctural factors of economic growth acquired a greater strength. First of all this refers to higher world energy prices. Thus, in 2005 the share of the conjunctural component of the GDP growth rates increased to 5.0% or 77.6% of the actual GDP expansion (i.e. increased two times against 2004) while the structural component of the GDP growth rates decreased.

Overall, as Table. 11 shows the period from 2005 to 2007 is characterized by high GDP growth rates. This fact demonstrates the mechanism of the world oil prices effect on the economic growth rates in the long-term perspective: higher oil prices suggest higher export earnings and correspondingly higher imports, including investment resources, which results in higher rates of economic development both in the short-term and long-term perspectives.

The simultaneous expansion of the domestic and international markets served as a factor of a sustainable economic development in Russia in 2005–2007. While the dynamics of the external demand was developing under the influence of a favorable situation on the world energy and primary resources markets the expansion of the domestic market was determined by the cumulative influence of the factors of an increase in business activities and the effective consumer demand. The increase in business activities was based on the outrunning growth of investment against the dynamics of final consumption and produced a significant effect on the character of the produced and used GDP. Thereby, an insignificant contraction in 2007 of the conjunctural share of the GDP growth rates determined by the oil prices can be explained by a gradual diminishing of the oil prices role in the Russian economic growth and strengthening of the role of the internal demand factors[8].

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[7] Gaidar E.T. Long Time. Russia in the World: Essays of Economic History (2005), M.: Delo.

[8] Note that as shown in Table 11 in 2005–2006 over 75% of the total actual GDP growth was ensured by the world oil prices. The result can be explained by the fact that since this paper does not make an assessment of the general model of economic growth in Russia, the oil price variable reflects the effect of all the other factors not accounted for in our specification in an explicit form.

The market transformations in Russia could not but strengthen its ties with the world making it an integral part of the world economy. In one or another way the world economy shocks affected Russian output in the Soviet times. Nowadays their effect inevitable becomes more pronounced. 2008 became the first year when Russia began to feel in full the world crisis effects. At the beginning of 2008 the trend of an accelerated economic growth (reaching its peak in 2007) persisted. After that a slowdown in the rates of economic growth started leading to a steep decline of a wide range of key macro-indicators.

Almost all the negative trends persisted in 2009 although expectations concerning the crisis consequences (the financial collapse, the fall of the oil price below the $US30 per barrel level, the uncontrollable devaluation of the Russian ruble, a deep decline in manufacturing output, mass unemployment and social instability) were not met, moreover, in 2009 certain positive trends of the Russian economy development emerged, including a considerable decline in inflation.

As Table 11 shows, in 2008 an increase of the structural component of the Russian economic growth rates to 2.2 pp. (against 1.8 pp. In 2007) was observed. At the same time the conjunctural component of the growth rates was noticeably contracting (from 5.7 pp. in 2007 to 2.7 pp. in 2008) although being slightly larger than the structural component which is likely to be explained by the remaining high average annual oil price level that however did not brought about high GDP growth rates in view of the negative effect of the crisis processes in the Russian economy described above.

Table 11 shows that in 2009 the increase in the structural component of the growth that happens under a long-term average annual oil price continued. Attention is drawn to a significant negative value of the component of the Russian GDP growth rates determined by other factors. We believe the result is logical in view of the negative expectations of the investors (foreign investors first of all) and the general public with regard to the crisis consequences for the Russian economy and the implementation of the Government anti-crisis measures. Not all of the measures were undertaken promptly and moreover some of them posed implicit threats to the economic agents' motivations to carry out a responsible policy and a real risk assessment.

The above results prove that the Russian economy to a high degree depends on the world markets tone as is evidenced by the high share of the conjunctural component of the Russian economic growth in the period of rising oil prices and by the low share – in the period of declining economic activities and falling oil prices. This relationship, as mentioned

above poses a serious threat to the economic development and requires government policy measures aimed to increasing stability of the Russian economic growth.

Analysis of the oil price change impact on economic freedom, governance quality and competitiveness factors in oil exporting countries

A study of the effect of conjunctural factors on the institutional characteristics of countries' development is an important and topical undertaking as it allows making an assessment of the degree of accountability for the political and economic reforms of the ruling party. In other words, it is important to differentiate between the objective and subjective factors of the country's institutional environment.

For the purpose of identification of the objective factors it would be useful to make comparison to other countries having similar characteristics. When verifying the hypothesis of a relationship between quality of a country's institutions and the conjunctural factors of primary commodity markets it would be appropriate to pay attention to a group of countries whose economies are extremely dependent on primary resources production and exports.

Such a study of relationship between the macroeconomic parameters of development of groups of countries exporting primary resources and the world market prices for such resources have been carried out by the IMF specialists[9]. However, the study did not touch upon the institutional aspects of development the economies and societies of those groups of countries. This paper undertakes make an assessment of the relationship between changes in oil prices and changes in the international indexes characterizing development of various institutions in a group of oil exporting countries.

Values of the indexes of economic freedom, regulatory efficiency and global competitiveness were taken as characteristics of the institutional environment. The maximum lengths of the data series is characteristic of the economic freedom index covering the period of 1995-2012. For this reason the focus of this paper is on an analysis of the relationship between oil price and the values of this indicator.

The conclusions drawn on the basis of the study under review helps us better understand the objective factors affecting efficiency of the economic and institutional reforms in Russia.

[9] Commodity Price Swings and Commodity Exporters // *IMF World Economic Outlook*. April 2012, pp. 125-169.

Characteristics of the relationship between the economic freedom index and the oil price in the group of oil exporting countries

The index of economic freedom is published by The Heritage Foundation since 1995. In 2012 it covered a group of 183 countries. The index comprises 10 indicators characterizing availability of various economic and institutional freedoms. Thus, for most of the countries the index series includes 18 point corresponding to the annual data.

Consider in more detail the coefficient of correlation[10] between the index of economic freedom and the oil price for the group of oil exporting countries (see Table 12). For this purpose we have to define average values for the index of economic freedom and for the sub-indexes for the group of exporting countries for each year of the0 1995-2012 period.

Table 12.

Correlation between components of the economic freedom index and the nominal average Brent crude price in 1995-2012 across the energy exporting countries

№	Indicator	Coefficient of correlation with oil price	t-statistics (16 points)	P-value
1	**Economic freedom index**	0.76	4.65	0.0003
2	Freedom of business sub-index	-0.61	-3.09	0.007
3	Freedom of trade sub-index	0.84	6.26	0.0000
4	Fiscal freedom sub-index	0.86	6.73	0.0000
5	Government spending sub-index	0.50	2.32	0.0341
6	Monetary freedom sub-index	0.61	3.06	0.0075
7	Investment freedom sub-index	-0.65	-3.45	0.0033
8	Financial freedom sub-index	0.23	0.96	0.3521
9	Property rights sub-index	-0.84	-6.10	0.0000
10	Freedom from corruption sub-index	-0.41	-1.78	0.0936
11	Labor freedom sub-index	0.13*	0.32	0.7581

Source: authors' estimates based on data from «2012 Index of Economic Freedom» (http://www.heritage.org/) and World Bank Indicators (crude oil, Brent, nominal $/bbl).

[10] Coefficient of correlation is a major characteristic of the presence of a statistical relationship between the two variables and testifies to synchronization of the fluctuations of the parameters under review.

* estimates on the basis of data for the 2005 – 2012 period.

As Table 12 shows, in 1995-2012, overall, there was a not uniquely defined relationship between the dynamics of the index of economic freedom and the commodities market tone in the group of energy exporting countries (see Annex 1). This is related to the fact that the statistical relationship between the dynamics of certain components of the indicator (sub-indexes) and changes in the Brent crude prices on the world markets are oppositely directed.

In 1995-2012, there was a positive correlation between the dynamics of oil prices and the sub-index of fiscal freedom (r = 0.86). Also, there was a positive relationship between the sub-index of government spending and the oil price (r = 0.50). The sub-index of monetary freedom was positively related to the oil price (r = 0,61).

At the same time, the sub-index of business freedom, on average, for the group of oil exporting countries negatively depended on its oil (r = -0,61). The sub-index of investment freedom also was characterized by a similar negative correlation with the world markets oil price (r = -0,65). The sub-index of property rights demonstrated a still more negative relationship with the oil price (r = -0,84). The index of freedom from corruption, on average for the group of countries under review had an inverse dynamics with respect to the oil price changes (-0,41), however, that effect to a large degree depended on the specific features of each individual country.

No stable relationship has been identified between the changes in the indexes of financial and labor freedoms on the one hand and the world oil price dynamics on the other. It may be suggested that the index of financial freedom is simultaneously under the positive and negative impacts of the changing oil price which explains why the final result is close to neutral. As to the index of labor freedom it can be noted that its calculation as part of the index of economic freedom started only in 2005 and the data available to date are not sufficient to detect stable relationships.

Annex two demonstrates clearly the dynamics of the index of economic freedom and the sub-indexes it comprises in comparison to the world oil price changes. The graphs within the Annex show not only data points but also approximations of linear relationships between the indexes and the oil price values and the confidence level for such relationships (determination coefficient R^2).

The greatest forecasting power is held by equations with maximum values of the coefficient of determination, i.e. dependence on the oil prices of the sub-indexes of freedom of trade (R^2=0.71), fiscal freedom (R^2=0.74) and property rights (R^2=0,70). This implies that

changes in the world oil prices account for over 70% changes in the average sub-indexes data in the group of oil exporting countries.

Throughout 1995-2012, there were periods of both an increase and decrease of the world oil prices. The oil price increases fell within 1995-1996, 1999-2000, 2002-2008, 2010-2011. The oil price decreases were registered in 1997-1998, 2008 and are predicted for 2012.

Thus, an average duration of the period of the oil price increase is 6.5 years and over those periods the oil price increased, on average, by about 6%. At the same time, an average duration of the period of the oil price decrease was 1 year and 3 months and the price fall, on average, was 15% of its value for the period as a whole.

On average, within the above periods of the downward trends on the world commodities markets the oil price fell 15% against the value for the period as a whole (see Annex3). In response to the changes in the oil prices the index of financial freedom demonstrated a controversial dynamics which was related to the multidirectional influence of the conjuctural factors on the indexes it incorporates.

The sub-index of business freedom was 0.5% lower in the periods of the oil price increase and 1.3% higher for the periods of its decrease. Which shows that this index is more sensitive to the oil price decrease than to its increase. Overall, the sub-index of freedom of trade deviated from its average value with the oil price changes (the sub-index of freedom of trade was 0.2% higher in the periods of the oil price increase and 0.6% higher in the periods of its decrease). The sub-index of fiscal freedom was more sensitive to the oil price decrease (in such periods it was, on average, almost 3% lower than for the period as a whole, while a price increase resulted in its growth by 1.1% only.

The sub-index of government spending was also more sensitive to the periods of the oil price decrease where it was lower, on average, almost by 5% against the average value for the period as a whole. In the periods of the upward market trends the sub-index of government spending was higher, on average, by about 2%. The sub-index of monetary freedom felt the most powerful negative influence on the part of the downward market shocks – in such periods it was, on average, almost 6% lower, than for the period as a whole. At the same time, in the periods of the oil price increase it was, on average, 2.2% higher against its average value in 1995-2012.

The sub-index of investment freedom was characterized by a mixed reaction to the changes in the market factors. As was shown above, the coefficient of correlation between this sub-index and the oil price demonstrates the presence of a negative relationship between them. However, a careful study of average deviations of the value of this sub-index over the

various market periods casts some doubt on the conclusion. At the time of the oil price increase its value was, on average, almost 1% higher, than for the period as a whole. With the oil price decrease the sub-index of investment freedom, deviated on average, by 2.5% to the lower side from its value for the entire period. The sub-index of financial freedom also, on average, demonstrated a direct dependence on the market tone. Its value was, on average, almost 1% higher in the periods of the oil price increase and almost 2% in the periods of its decrease against the value for the period as a whole.

The sub-index of property rights demonstrated an inverse dependence on the economic fluctuations. In the periods of the oil price increase it was going down, on average, by 1.4% and in the periods of the oil price decrease the sub-index was almost 4% higher against its value for the period as a whole.

The sub-index of freedom from corruption was also characterized by an inverse dependence on the oil price although not showing a high sensitivity to the changes in the market factors. In the periods of the oil price increase it was, on average, 0.3% lower and in the periods of oil price decrease – almost 1% higher against its average value for the period.

The sub-index of freedom of labor out of all the indicators under review turned out to be the most insensitive to the changes in the conjunctural factors both from the point of view of average deviations in the periods of different market tone and from the point of view of the coefficient of correlation. This can be related to a rather short period of its calculation (the sub-index came into use in 2005) which does not make it possible to determine precisely the relationship between its changes and the oil price dynamics.

It should be noted that in the periods of the oil price decrease the values of the indicators were undergoing a greater change than in the periods of its increase. This is related to the fact that an average decrease of the oil price was much more significant (-15% of the average for the period) than its average increase (about 6% of the average for the period).

The coefficient of arc elasticity can be viewed as a more precise characteristic of sensitivity of the index of economic freedom and its components to the oil price changes[11]. As extreme point of the interval corresponding to the minimum and maximum oil prices we can take 1998 ($US13 per barrel) and 2011 ($US111 per barrel). The table of sensitivity

[11] Coefficient of arc elasticity x estimated from y is defined according to the formula $E_{xy} = \frac{(x_2 - x_1)/x_{cp}}{(y_2 - y_1)/y_{cp}}$, where (x_1, y_1) and (x_2, y_2) - extreme points of the interval. The minimum and maximum oil prices and the corresponding values of the indexes are taken as the extreme points.

coefficients of the sub-indexes of economic freedom to the oil price changes produced using the arc elasticity formula is presented below.

Table 13.

Sensitivity of the economic freedom indexes to the oil price changes

№	Indexes	Change (%) of the index in response to the oil price increase by 1%
1	**Index of economic freedom**	0.05%
2	Sub-index of freedom of business	-0.04%
3	Sun-index of freedom of trade	0.14%
4	Sub-index of fiscal freedom	0.13%
5	Sub-index of government spending	0.02%
6	Sub-index of monetary freedom	0.18%
7	Sub-index of investment freedom	-0.07%
8	Sub-index of financial freedom	0.03%
9	Sub-index of property rights	-0.20%
10	Sub-index of freedom from corruption	0.01%
11	Sub-index of labor freedom	-0.04%

Source: authors' estimates based on the data from «2012 Index of Economic Freedom» (http://www.heritage.org/) and World Bank Indicators (crude oil, Brent, nominal $/bbl).
* - Data for the 2005 – 2012 period were taken as a basis for the calculations.

As Table 13 shows reaction of the components of the index of economic freedom to the oil price changes is mixed. The highest negative sensitivity to the oil price fluctuations was demonstrated by the sub-index of property rights – with the oil price increase by 1%, the value of the sub-index dropped by 0.2%. The highest positive sensitivity to the changes of the conjunctural factors was demonstrated by the sub-index of monetary freedom – the oil price increase by 1% entailed its increase by 0.18%.

Also a high sensitivity to the oil price fluctuations was demonstrated by the sub-indexes of fiscal freedom and trade freedom – the oil price increase by 1% entailed an increase in their values by 0.13%-0.14%.

However, it should be noted that in general such reactions are not elastic as they are not exceeding 1. This can be a result of the deferred cumulative effect of the oil price change on the institutional parameters which makes itself felt not only in the current period but also in the string of subsequent periods as well.

Characteristic of the relationship between the governance quality and the oil price in the group of oil exporting countries

The World Bank started calculations of the indicators of governance quality for over 200 countries in 1996. However, until 2002 assessments of governance quality were carried out once in 2 years and the latest assessments are dated 2010. Thus, the available data reflect observations made over 12 years – 1996, 1998, 2000, 2002-2010. Table 14 shows coefficients of correlation between the indicators of governance quality and the oil price for a group of oil exporting countries.

Average values for a group of oil exporting countries were used as values of the indicators of governance quality (the list of the countries presented in Annex 1).

Table 14.

Correlation between the indicators of governance quality and the nominal price of Brent crude, on average, for a group of oil exporting countries

№	Index	Coefficient of correlation with the oil price	t-statistics (8-10 points)	P-value
1	Voice and government accountability	-0.79	-4.21	0.0018
2	Political Stability and Absence of Violence	0.64	2.62	0.0257
3	Government effectiveness	0.29	0.94	0.3673
4	Regulatory quality	0.72	3.25	0.0087
5	Rule of law	-0.28	-0.93	0.3756
6	Control of corruption	-0.28	-0.94	0.3718

Source: authors' estimates based on the data from World Bank Worldwide Governance Indicators (www.govindicaters.org).

The highest coefficients of correlation were typical for the sub-indexes of voice and government accountability (r = -0,79), regulatory quality (r = 0,72), and political stability and absence of violenc (r = 0,64). A correlation analysis revealed a negative statistical relationship between the oil price and the level of voice and government accountability. At the same time, a positive statistical relationship is observed between the oil price and the level of political stability and regulatory quality.

The correlation analysis failed to identify a statistically important relationship between the oil price and such indicators as government effectiveness, rule of law and control of corruption. Which means there is a range of other factors defining values of such indicators in each country and producing a more pronounced effect on them that the oil price. Nevertheless

the analysis demonstrated that between the last two elements and the oil price there is a trend towards a negative statistical relationship.

The limited and discrete data do not permit an analysis of the percentage change in the indicators of governance quality in the periods of the oil price increases and decreases. However, there is a chance to evaluate the degree of their sensitivity to the changes on the world commodities markets. To achieve we calculate the coefficients of arc elasticity for the indicators of governance quality by the oil price (see Table 15). In doing so we take into consideration only the indicators having a statistically significant coefficient of correlation with the oil price. This is necessary to ensure that the calculated sensitivity values were determined by the ol price changes and not by some other factors.

Table 15.

Sensitivity of indexes of governance quality

to the oil price changes

№	Index	Change (%) of the index in response to the oil price increase by 1%
1	Voice and Accountability	-0.03%
2	Political Stability and Absence of Violence	0.07%
3	Regulatory Quality	0.12%

Source: authors' estimates based on the data from World Bank Worldwide Governance Indicators (www.govindicaters.org).

Calculations of the coefficients of elasticity demonstrated that on average in the period under review the oil price increase by 1% in the group of oil exporting countries was accompanied by a 0.03% decrease in voice and government accountability, a 0.07% increase in political stability, while the most pronounce increase of 0.12% was registered in regulatory quality. When making an evaluation of the total effect of the oil price change on governance quality one shall take into account that in 1998-2008 the oil price on the world markets increased practically by 670%.

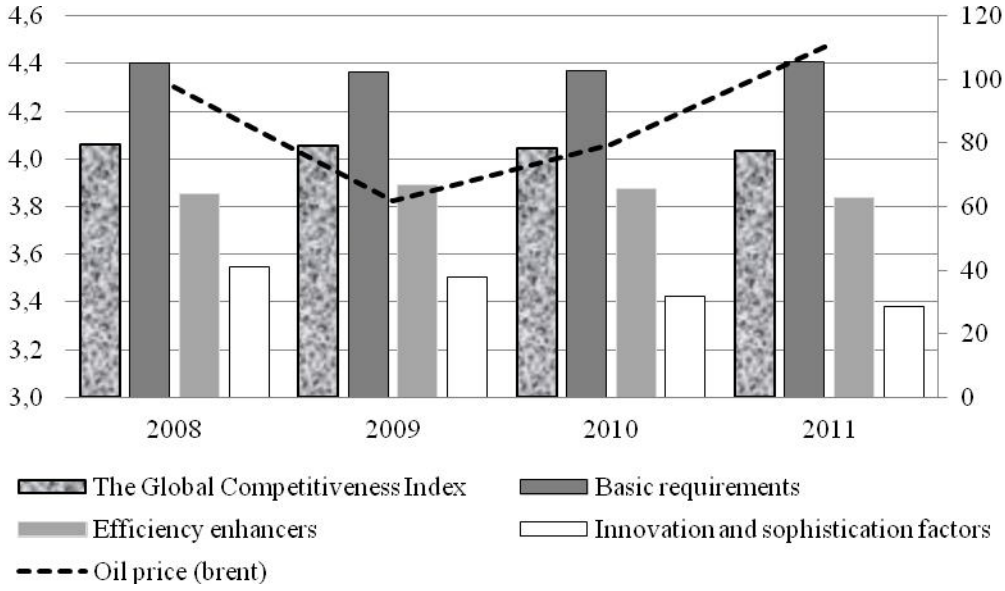
The study of the changes in the indicators of governance quality demonstrated that the oil price increase leads to a decrease in voice and government accountability. While receiving ever increasing oil exports revenues (resulting from nothing else but the favorable world market situation) the government has an opportunity to carry out a policy that does not depend on the taxpayer sentiments and wishes. The increase of the governance quality and political stability with the oil price increase can be explained by the emerging opportunities for the government to resolve conflicts through allocating more funds for the corresponding

problem areas.

Characteristic of the relationship between the factors of global competitiveness and the oil prices in the oil exporting countries

Calculations of the global competitiveness index for a large group of oil exporting countries started in 2004 under the methodology developed by Xavier Sala-i-Martin and Elsa V. Artadi. However, available and comparable are only the data for 2008-2011. A four year period is apparently not sufficient for carrying out a correlation analysis. That is why in this case we have made an attempt to perform a graphical analysis for the whole group of oil-exporting countries.

An analysis of the index under review will help better understand the structure of the factors of competitiveness for oil exporting countries. Three key factors can be identified within the framework of the global competitiveness index – basic requirements, efficiency enhancers, innovations and sophistication. As Graph 7 shows, it is typical for the oil exporting countries in general that the basic requirements prevail, including the macroeconomic situation in the country, prevail.



Source: developed by the authors on the basis of the data from: The Global Competitiveness Report (2011-2012, 2010-2011, 2009-2010. 2008-2009), pp. 16-17.

Graph 7. Factors of competitiveness of oil exporting countries

Factors of growth of competitiveness were significantly falling behind them by the level of their influence on competitiveness of the oil exporting countries. The role of those factors was diminishing in the periods of the oil price increase and going up in the periods of the oil price decrease. In 2009-2010, when the oil price fell, an average sub-index of the factors of growth of competitiveness for the group under review increased to 3.88-3.89. At the time of

high world oil prices average values of this sub-index were lower coming to 3.84-3.85 in 2008 and 201.

The weakest positions for the group of the countries were registered for the innovation and sophistication factors. In the period of the oil price growth in 2010-2011 an average value of the sub-index declined to 3.38 in 2011 against 3.51 in 2009 when the oil price was about 40%. Lower.

Thus, a high oil price makes it possible for the oil exporting countries to keep the basic competitiveness factors at an acceptable level while producing a negative effect on their positions with relation to the sub-indexes of efficiency enhancing and innovation.

Characteristic of Russia's development and its dependence on the oil price

Let us consider the changes in Russia's relative positions with regard to the above indexes depending on the evolution of the world markets. Preliminary, it shall be noted that in accordance with the IMF in 2011 Russia ranked № 22 among the world countries by the share of the oil exports revenue in the total exports (about 29%). Annex 4 contains diagrams characterizing the changes in the index of economic freedom in Russia and in the sub-indexes it comprises depending on the oil price on the world markets. The linear approximation of the hypothetical dependence demonstrated in each of the graphs makes it possible to determine the vector of the influence of the oil price change on the economic and institutional parameters of the country's development.

In Russia the most significant positive dependence on the oil price change was characteristic of the sub-indexes of freedom of trade ($R^2 = 0.26$) and the monetary freedom ($R^2 = 0.43$). The most significant negative relationship was registered between the oil price and the sub-indexes of investment freedom ($R^2 = 0.75$) and property right ($R^2 = 0,61$).

Table 16 shows the coefficients of correlation between the indicators of government quality in Russia and the oil price. Let us compare the results produced with the average values for the group of oil-exporting countries. In Russia, as in this group of countries taken as a whole, no statistically significant correlation was observed between the oil price and such parameters of functioning of government authorities as rule of law and control of corruption (the coefficient of correlation for the last indicator, unlike the group-average value, had a negative sign).

Table 16.

Correlation between the indicators of government quality in Russia and the nominal price of Brent crude

№	Indicator	Coefficient of	t-statistics (8-10	P-value

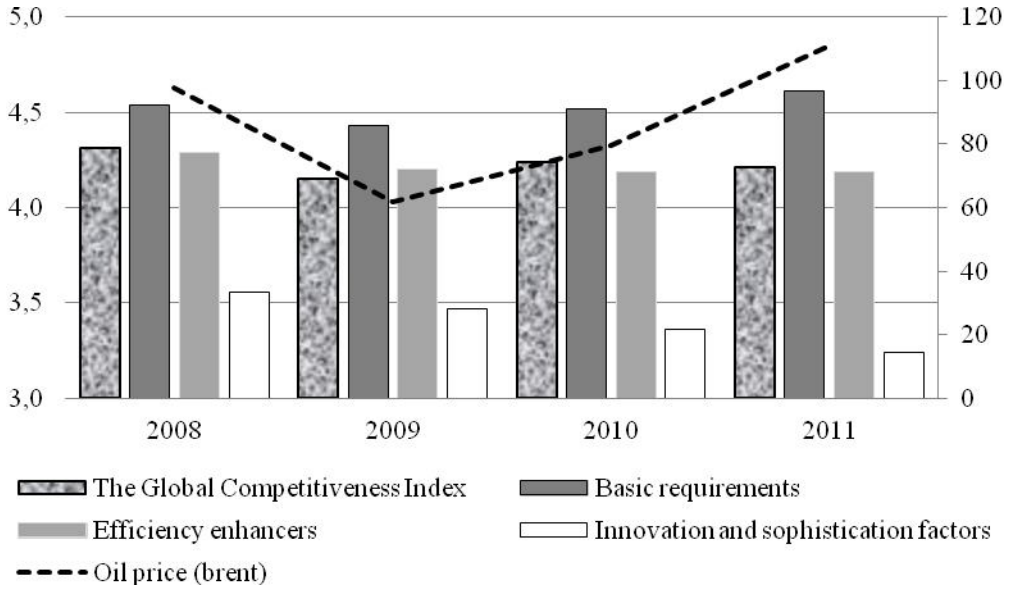
		correlation with the oil price	points)	
1	Voice and government accountability	-0.85	-3.30	0.0003
2	Political Stability and Absence of Violence	0.65	2.69	0.0225
3	Government effectiveness	0.53	1.97	0.0772
4	Regulatory quality	-0.19	-0.61	0.5561
5	Rule of law	0.07	0.21	0.8403
6	Control of corruption	-0.34	-1.15	0.2773

Sources: authors' estimates based on the data by World Bank: Worldwide Governance Indicators (www.govindicaters.org).

In Russia, the negative relationship between the oil price and the index of voice and government accountability happened to be pronounced most strongly. The correlation coefficient for the country was -0.85, while for the group of oil exporting countries taken as a whole it was -0.79. Correlation between the index of political stability and the oil price in Russia happened to be the same as in the group of the oil exporting countries taken as a whole.

The statistical relationship between the government effectiveness and the oil price in Russia is positive, significant and rather close contrary to the situation in the group of oil exporting countries taken as a whole. By contrast, the regulatory quality in Russia was characterized by a negligible negative relationship with the oil price while on average for the group of the oil exporting countries it was positively and statistically significantly related to it.

In Russia, as in the other oil exporting countries role of the major factors of competitiveness was played by the basic requirements determined by the macroeconomic parameters of development. Fig. 8 shows that the dynamics of the major factors of Russia's competitiveness fully coincides with fluctuations of the world oil prices.



Source: authors' estimates based on the data from: The Global Competitiveness Report (2011-2012, 2010-2011, 2009-2010. 2008-2009), pp. 16-17.

Fig 8. Russia's factors of competitiveness and the oil price dynamics

The factors belonging to the efficiency enhancers block are second in importance for the country's competitiveness. They were relatively stable in the 2008-2011 period and Russia was characterized by a higher point in comparison to the average level of the oil exporting countries. For the most part, this is due to the fact that when determining this parameter (and in this respect Russia ranked the 8th among the countries covered by the competitiveness survey) the size of the domestic market is taken into consideration.

Russia fared worse than the group of the oil exporting countries taken as a whole when it comes to the innovation and sophistication factors. The contribution of this sub-index into competitiveness of the country was going down throughout the period of the oil price increase reaching 3.24 in 2011, while on average for the group it was 3.38. Overall, the competitiveness of the Russian economy in the same year was higher than the average competitiveness of the oil exporting countries (4.21 against 4.04). For the most part, that was due to a higher values of the indicators of the basic requirements and efficiency enhancers for Russia's economy against the other oil exporting countries.

Thus, Russia enjoys a potential to enhance competitiveness of its economy through its efficiency growth. Lowering of the government accountability with increasing of the oil price can be a hurdle to that. The political stability cannot be viewed as a pure benefit as it can cause an economic stagnation and slowdown with the necessary reforms. In particular, recently, the contribution of innovation and sophistication factors in ensuring the country's competitiveness has diminished significantly and turned out to be lower than the average level for the oil exporting countries. Shrinking of the investment freedom and property rights that

happened in Russia in the period of oil prices boom resulted in contraction of demand for innovation in the country.

At same time, Russia enjoys a considerable potential for enhancing competitiveness of the national economy on the basis of the potentially wide domestic market and monetary freedom existing in the periods of the world oil prices increase.

In summary, we have reviewed the positions of the oil exporting countries with regard to three international ratings – economic freedom, governance quality and global competitiveness. The statistical analysis that we have performed opened the way to arriving at the following results.

First, the oil price increase produces a mixed effect of the index of economic freedom. This is related to the fact that it comprises both the components by their nature positively depending on additional financial inputs into the country's economy (fiscal freedom, trade freedom, monetary freedom, government spending) and the components negatively affected by an inflow into the country of unsecured amounts of the resource rent (business freedom, investment freedom, property rights and freedom from corruption). Practically all the sub – indexes of economic freedom negatively dependent on the oil price dynamics serve as characteristics of the economic institutions existing in the country.

The statistical relationship between the oil price and governance quality is a controversial also. In the periods of the oil price increase in the oil exporting countries voice and government accountability were diminishing. At the same time, political stability was growing, violence diminishing, and regulatory quality improving. No statistically significant effect of the oil price increase on rule of law, control of corruption and government effectiveness for the group of the oil exporting countries has been observed. To a greater degree this relationship is due to the individual features of specific countries.

The structure of the global competitiveness index in the oil exporting countries reflects their strengths and weaknesses. With the oil price increase, the role of the innovation and sophistication factors in securing competitiveness of this group of countries was noticeably diminishing alongside with a decline in efficiency of their economies.

Such are the key trends in the economic and political development, characteristic, on average, of the group of the oil exporting countries. Let us dwell on the distinctive effect the oil price produces on the quality of institutional environment in Russia.

In the periods of the oil price increase in Russia the indicators of freedom of trade and monetary freedom were displaying the most significant rise. At the same time the indicators of investment freedom and property rights were displaying the most marked setback. As in

the group of oil-exporting countries taken as a whole, in Russia no statistically significant effect of the oil price on rule of law and control of corruption has been observed.

It will be noted that the basic factors of Russia's competitiveness to a considerable degree depend on fluctuations of the world oil prices. Over the last four years the contribution of the innovation and sophistication factors into securing the country's competiveness has diminished significantly and dropped below the average level of the oil exporting nations. However, Russia still enjoys a higher economic growth potential than the rest of the oil exporting nations due to the size of its domestic market.

* * *

The analysis performed in the course of the study has demonstrated that Russia, as other countries delivering large amounts of oil to the world market, encounters the problem of barriers to political and economic changes. In the political field it manifests itself as a decrease in the value of the index of voice and government accountability along with an increase in the value of the index of political stability. In the economic field it makes itself felt in the form of the diminishing role of innovation and sophistication in the country's economic development. The observed patterns are, in general, but in Russia they become more prominent.

Quite a few researchers have proposed measures aimed to reverse the negative trends in Russia's economy[12]. Predominantly, they go no further than limiting the resource rent flow into the country's economy in order to support the macroeconomic stability and to stimulate foreign investment that can serve as a channel for transferring new technologies and institutional business practices characteristic of the developed nations. We believe pursuing a policy of diversification of the economy and exports is most important for reversing the above negative trends in Russia's development.

Annex 1

The energy exporting countries are understood to be the countries where the share of net oil exports in the total exports exceeds 10% The list of such countries is given below in descending order of the oil exports share.

№	Country	Net exports share in the total exports, %
1	Iraq	93.5
2	Libya	88.9

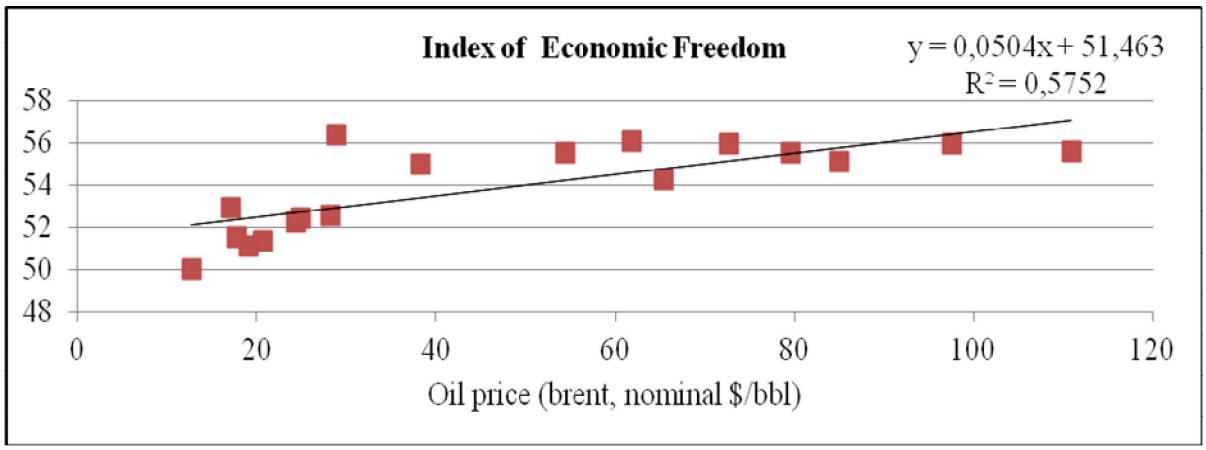
[12] In particular, mention may be made of the paper by Guriev S., Plekhanov A., Sonin K.: Economic Mechanism of Resource-based Model of Development // Voprosy Ekonomiki, 2010. № 3. p. 4-23.

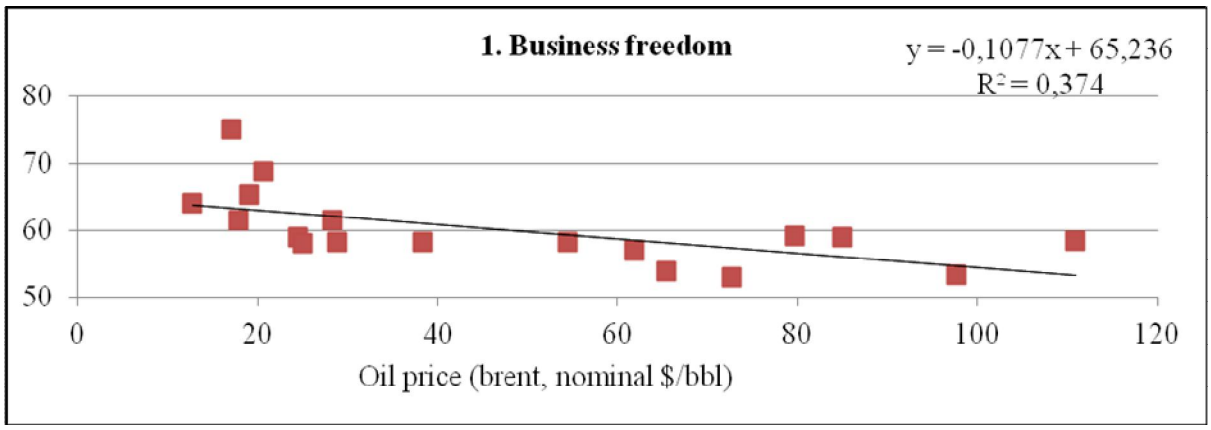
3	Oman	86.4
4	Iran	85.0
5	Saudi Arabia	84.0
6	Yemen	79.4
7	Nigeria	79.1
8	United Arab Emirates	69.9
9	Chad	68.2
10	Angola	68.0
11	Kuwait	67.7
12	Venezuela	57.3
13	Republic of Congo	56.2
14	Algiers	53.7
15	Syria	51.0
16	Azerbaijan	45.2
17	Kazakhstan	42.8
18	Sudan	39.0
19	Cameroon	33.0
20	Egypt	30.2
21	Ecuador	29.6
22	Russia	28.7
23	Indonesia	24.3
24	Papua New Guinea	19.9
25	Mexico	16.1
26	Vietnam	16.1
27	Tunisia	14.5
28	Democratic Republic of Congo	14.3
29	Columbia	12.0
	Average	*50.1*

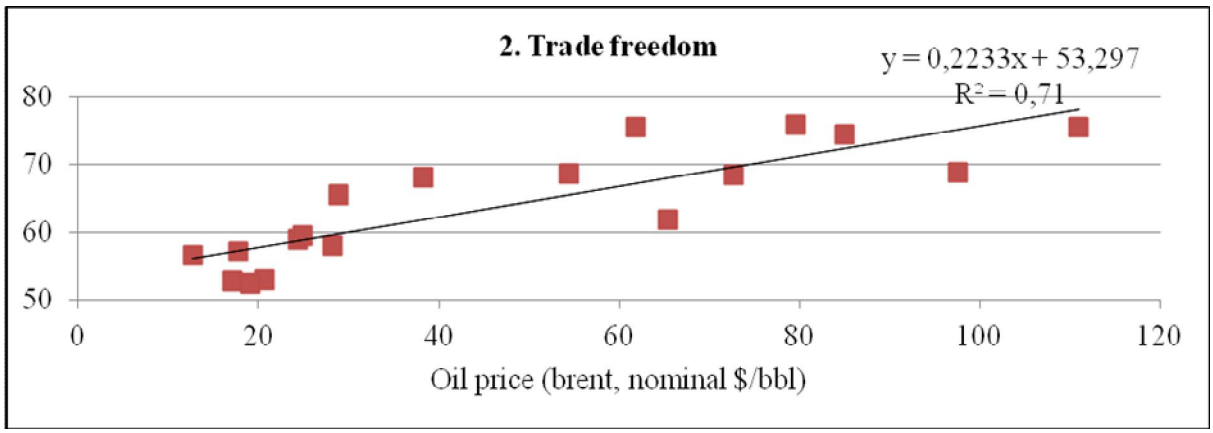
Source: World Economic Outlook April 2012. – International Monetary Fund, pp. 153-154.

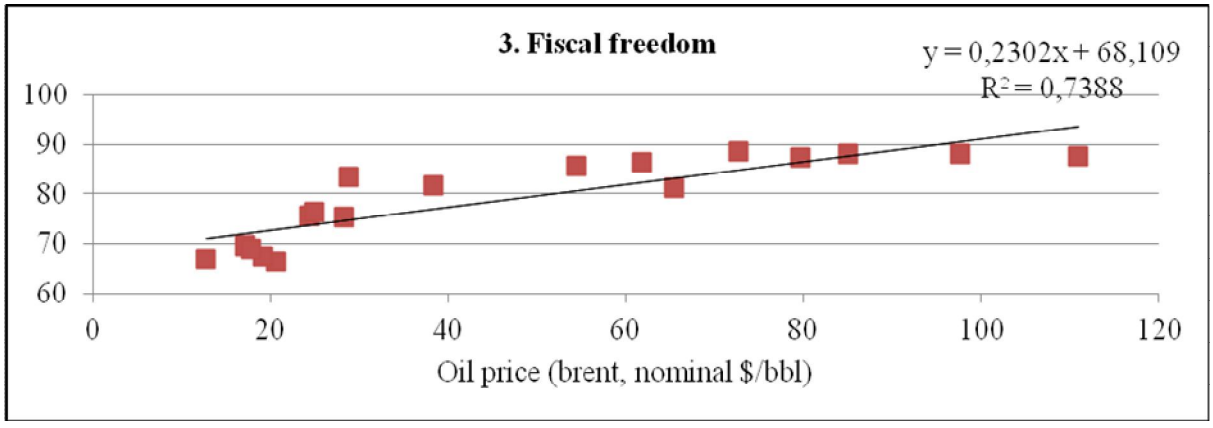
Annex 2.

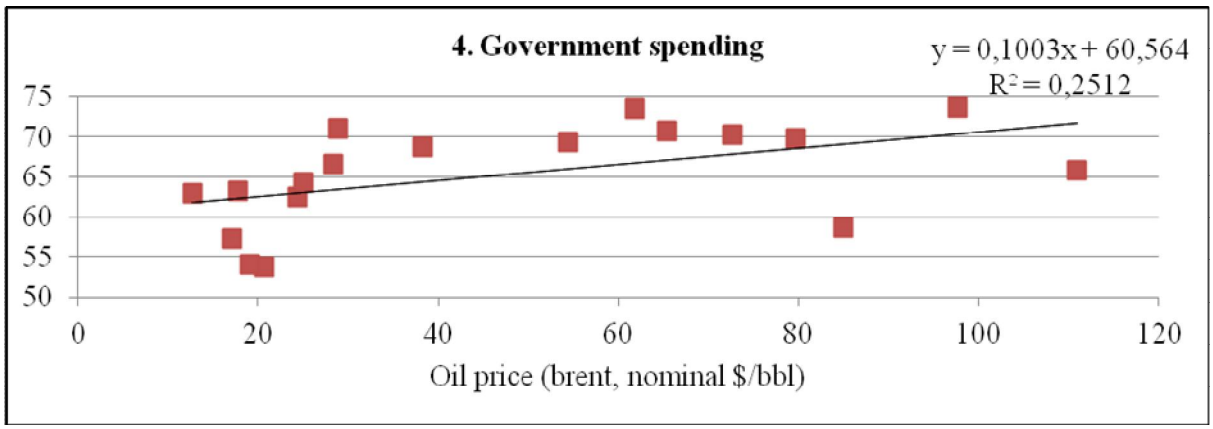
Diagram of relationship between the average values of the index of economic freedom and its components for the group of oil exporting countries and the world market oil prices.

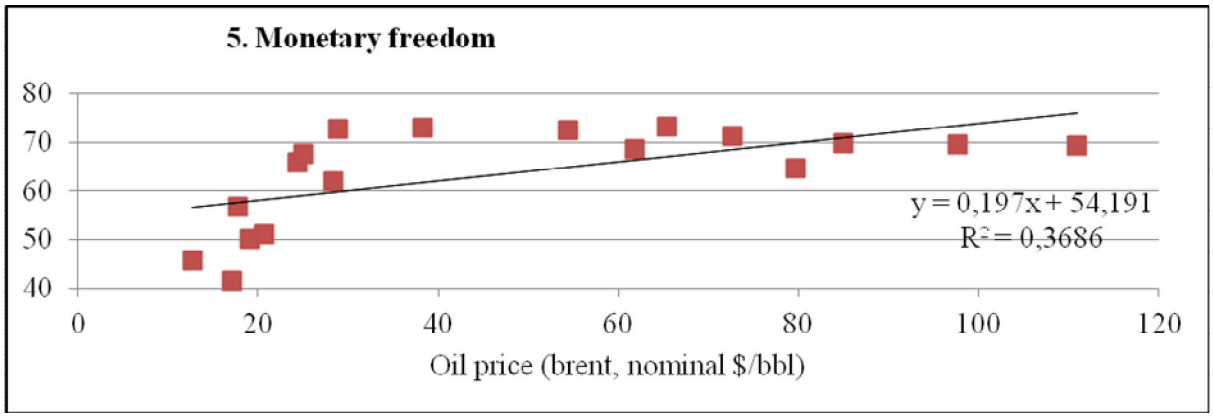

Index of Economic Freedom
y = 0,0504x + 51,463
R² = 0,5752
58
56
54
52
50
48
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)

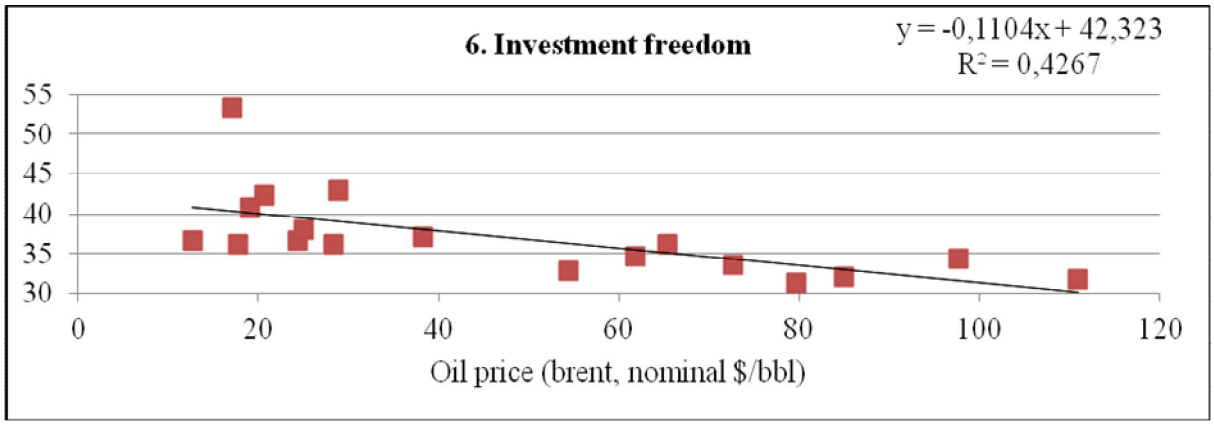

1. Business freedom
y = -0,1077x + 65,236
R² = 0,374
80
70
60
50
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)

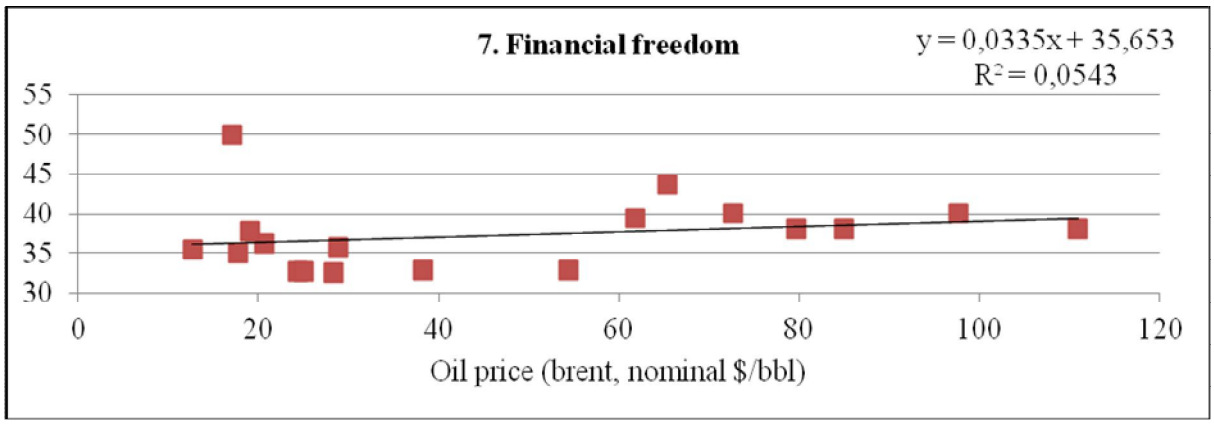

2. Trade freedom
y = 0,2233x + 53,297
R² = 0,71
80
70
60
50
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)

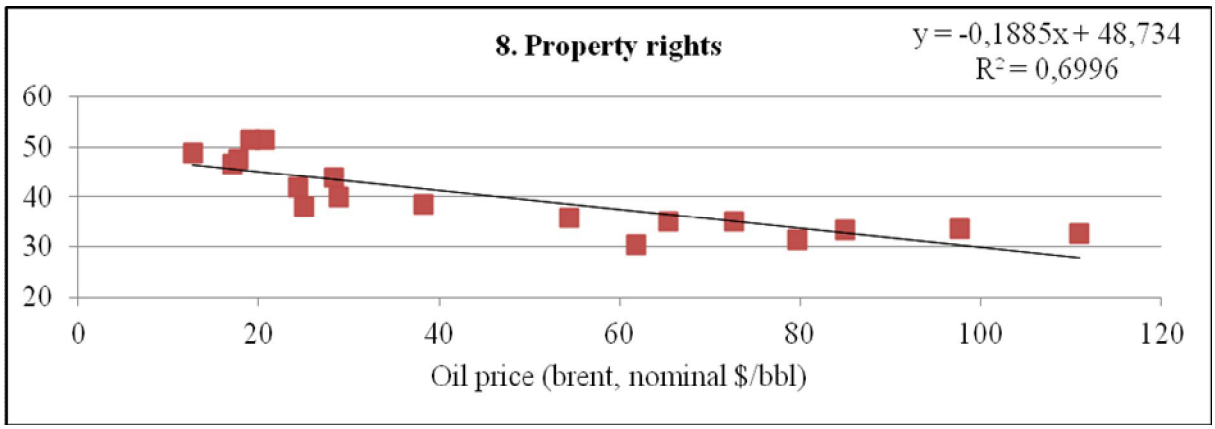

3. Fiscal freedom
y = 0,2302x + 68,109
R² = 0,7388
100
90
80
70
60
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)

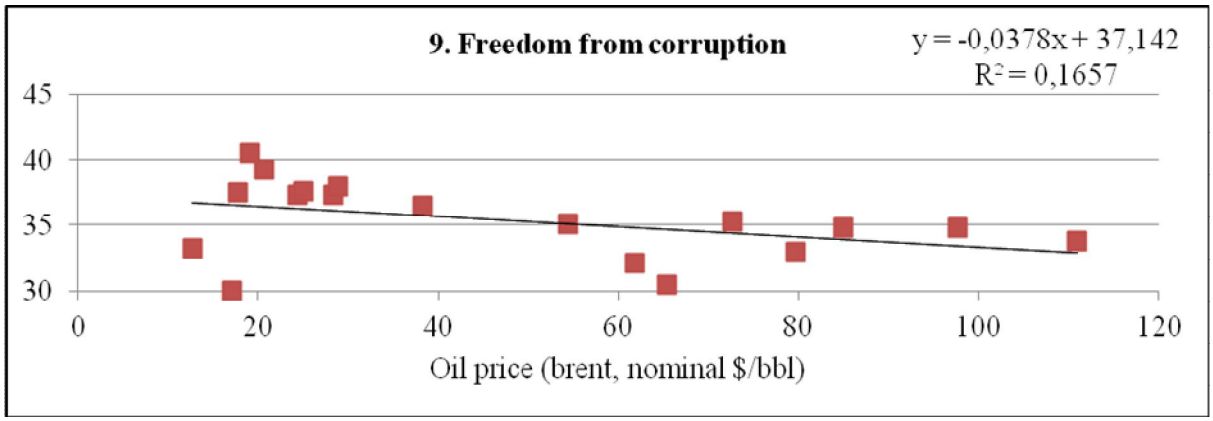

4. Government spending
y = 0,1003x + 60,564
R² = 0,2512
75
70
65
60
55
50
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)

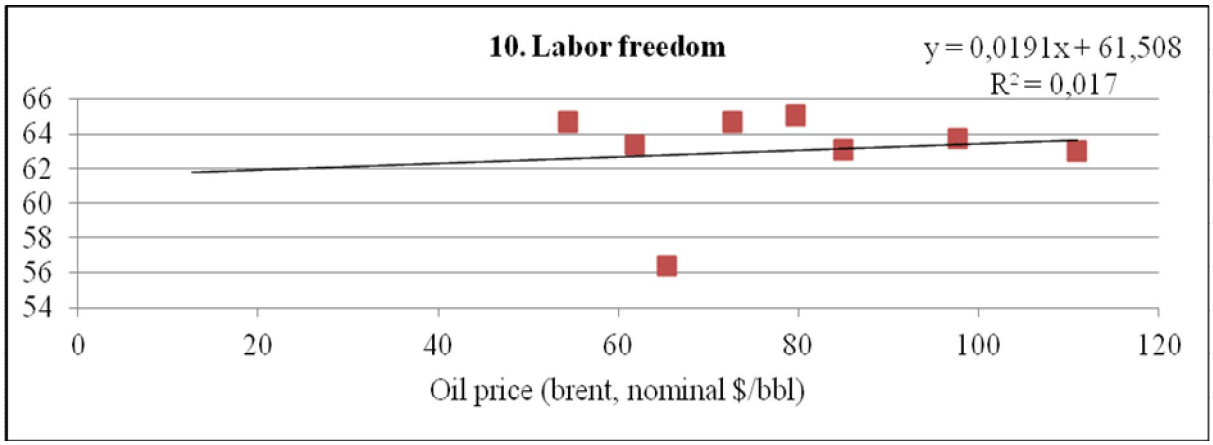

5. Monetary freedom
80
70
60
50
40
y = 0,197x + 54,191
R² = 0,3686
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)


6. Investment freedom
y = -0,1104x + 42,323
R² = 0,4267
55
50
45
40
35
30
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)


7. Financial freedom
y = 0,0335x + 35,653
R² = 0,0543
55
50
45
40
35
30
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)

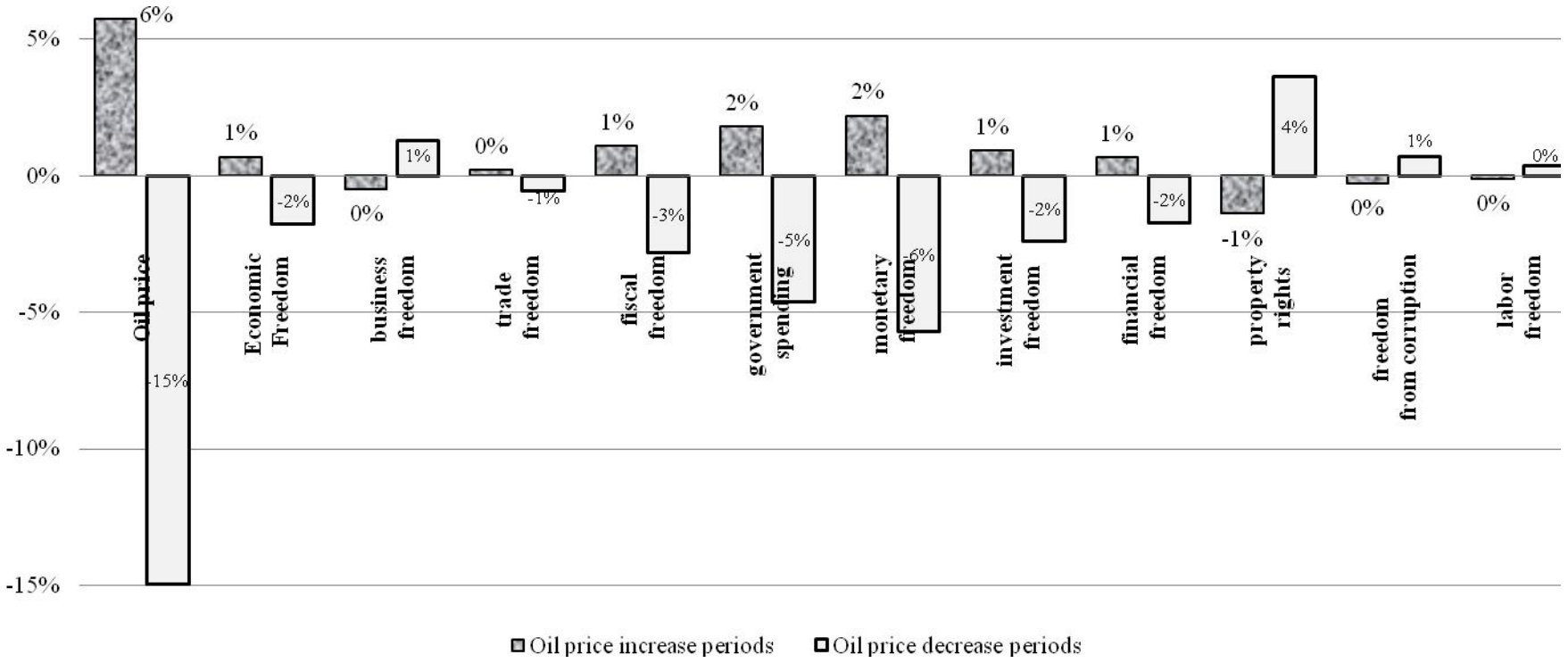

8. Property rights
y = -0,1885x + 48,734
R² = 0,6996
60
50
40
30
20
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)


9. Freedom from corruption
y = -0,0378x + 37,142
R² = 0,1657
45
40
35
30
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)


10. Labor freedom
y = 0,0191x + 61,508
R² = 0,017
66
64
62
60
58
56
54
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)

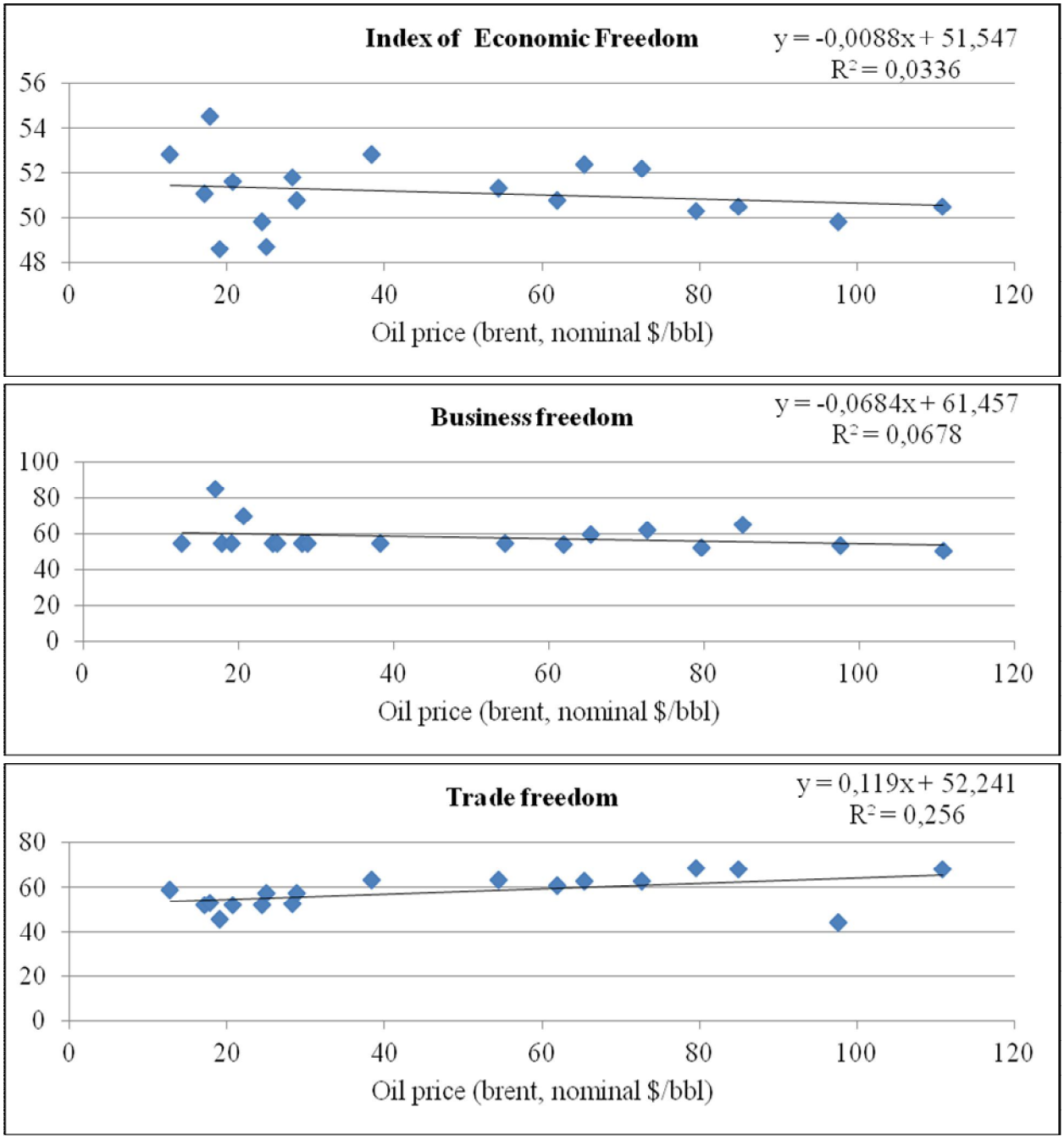
Annex 3.

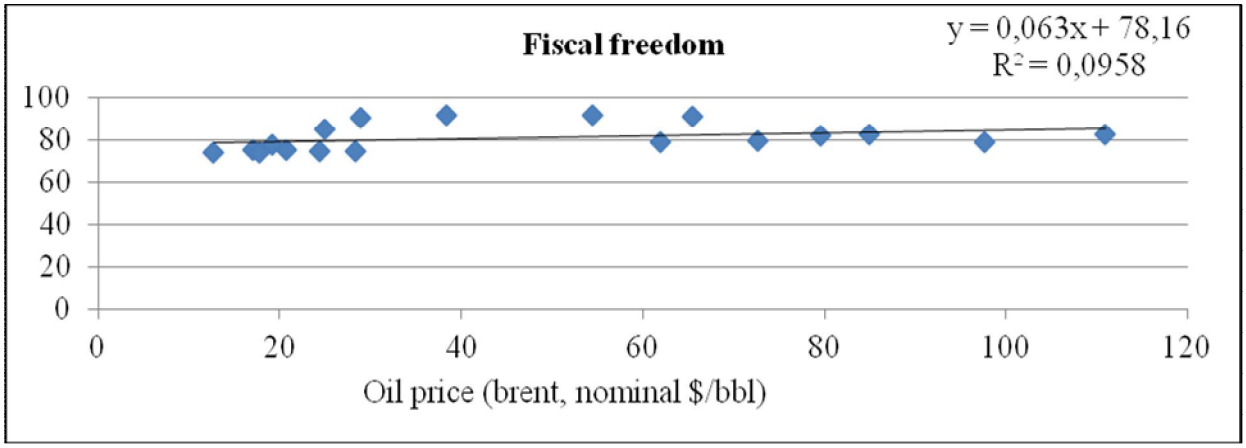
Percentage of deviation of the oil price and the indexes of economic freedom from their average values in the course of oil price increase and oil price decrease periods on the world markets in 1995-2012.

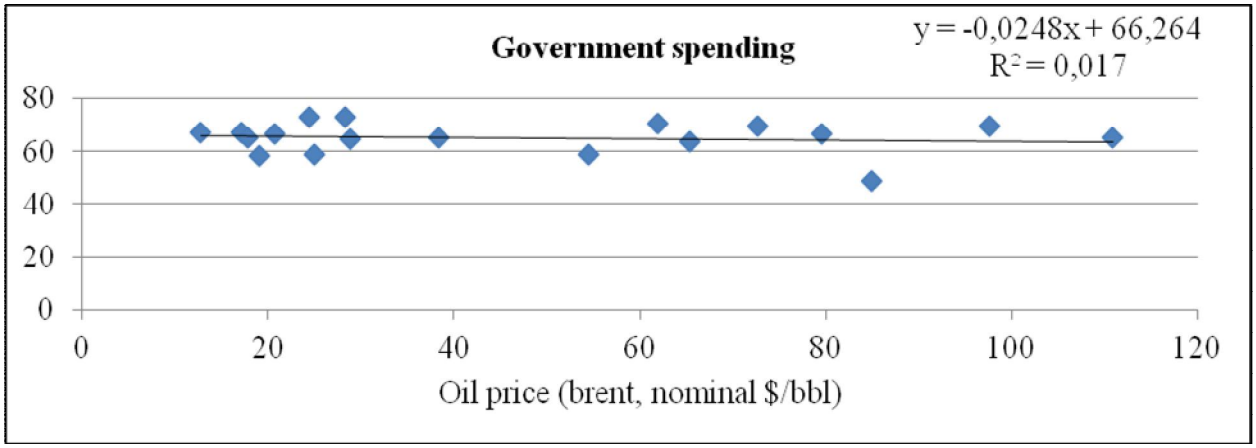


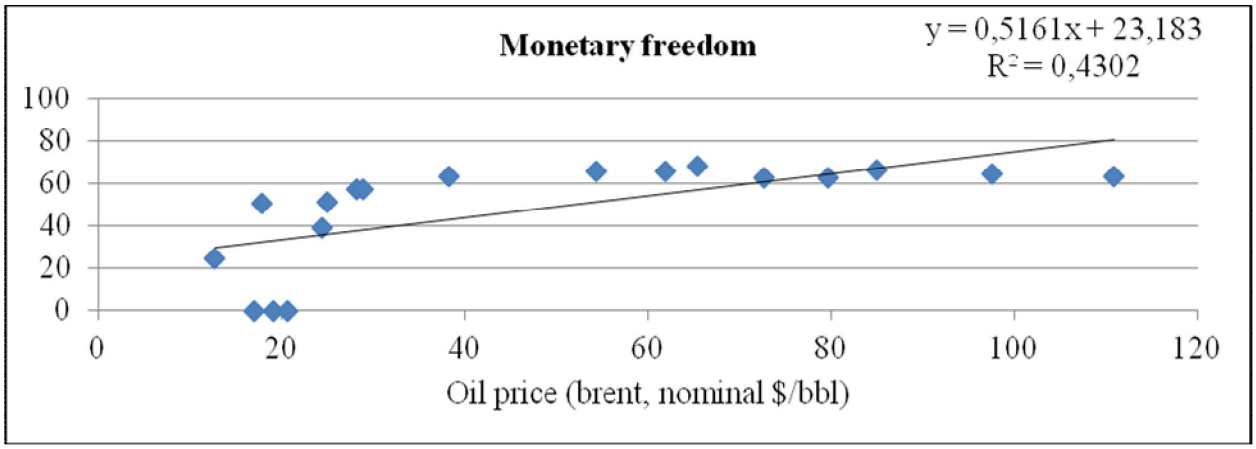
Annex 4.

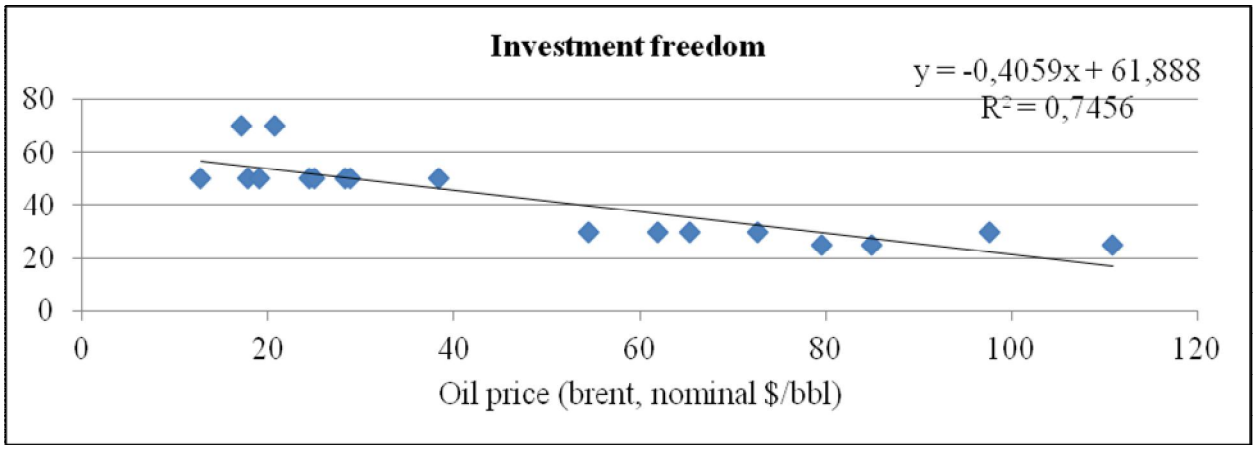
Changes in the index of economic freedom and its components in Russia depending on the world market oil prices

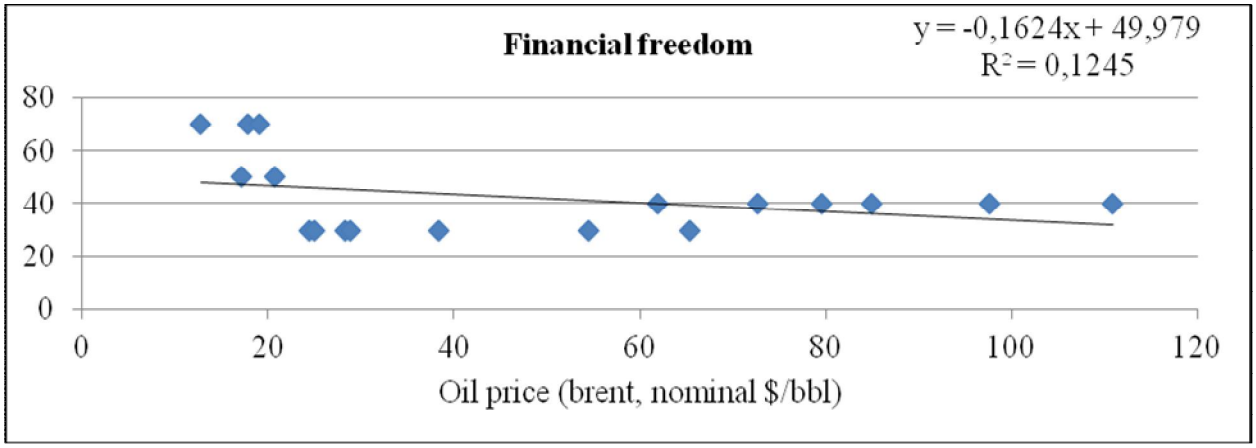


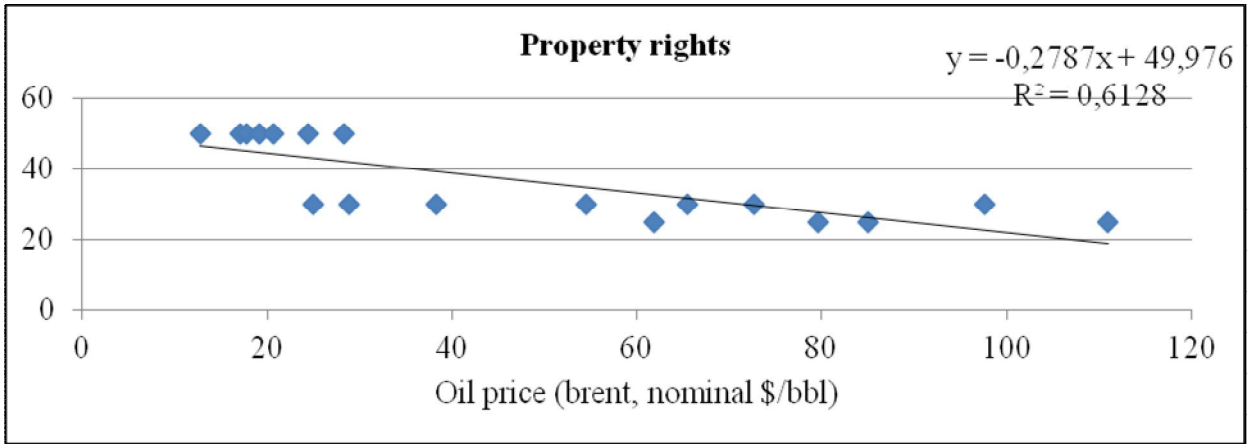

Fiscal freedom
y = 0,063x + 78,16
R² = 0,0958
100
80
60
40
20
0
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)

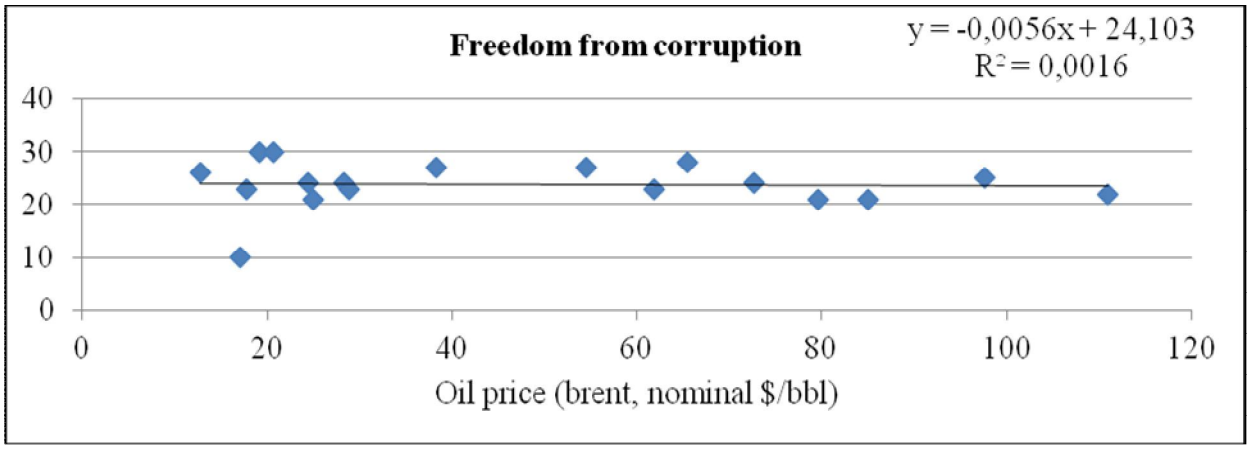

Government spending
y = -0,0248x + 66,264
R² = 0,017
80
60
40
20
0
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)

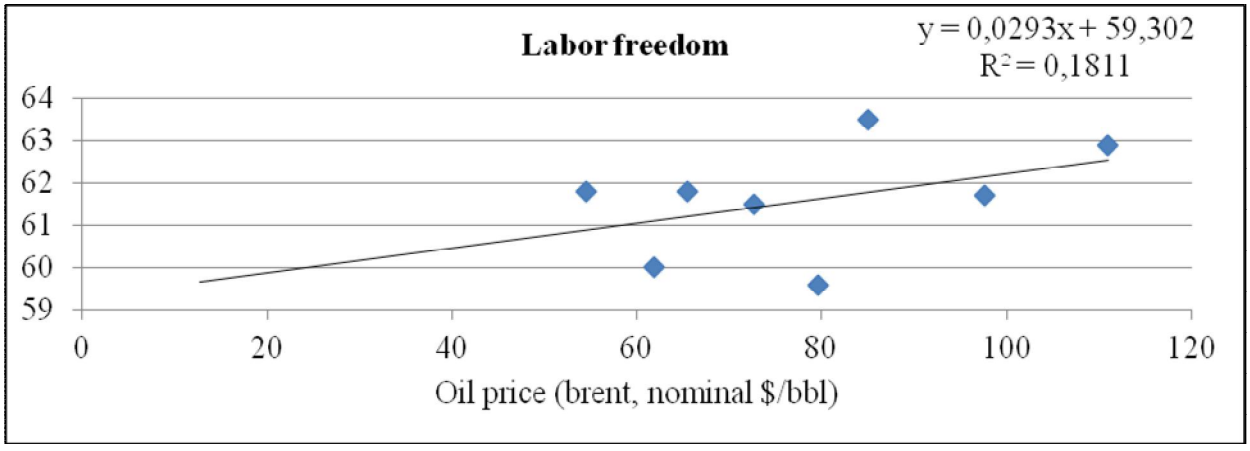

Monetary freedom
y = 0,5161x + 23,183
R² = 0,4302
100
80
60
40
20
0
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)


Investment freedom
y = -0,4059x + 61,888
R² = 0,7456
80
60
40
20
0
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)


Financial freedom
y = -0,1624x + 49,979
R² = 0,1245
80
60
40
20
0
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)


Property rights
y = -0,2787x + 49,976
R² = 0,6128
60
40
20
0
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)


Freedom from corruption
y = -0,0056x + 24,103
R² = 0,0016
40
30
20
10
0
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)


Labor freedom
y = 0,0293x + 59,302
R² = 0,1811
64
63
62
61
60
59
0
20
40
60
80
100
120
Oil price (brent, nominal $/bbl)