Analysis of Russian Federation budget revenues from the implementation of export duties "60-66-90" scheme

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Abstract. Innovative development of the national economy provides qualitative transformation of the refining sector. In order to promote the depth of oil refining and the relative increase the refining share in oil extraction the Government of Russian Federation has changed the mechanism for calculating export duty on crude oil, light and dark oil. This research work addresses the nature of financial implications for the budget system in connection with these changes. Different effects are observed for oil extractors and oil refiners. Conclusions are reasoned by calculations.

1. Introduction

Government Resolution № 716 of August 26, 2011 [1] established a new scheme of export duties collection, which, in accordance with the rates of export duties on light and dark oil products, calculated from the rate of export duty on oil, was called "60-66-90" (oil, oil products, petrol).

The key provisions of this mechanism are the following:
– changing the coefficient reflecting marginal rate of export duty, from 0.65 to 0.60 (table 1) in the calculation formula for the oil export duty rate;
– unifying light and dark oil products duties at the rate of 0.66 of crude oil duties;
– fixing the export duty on petrol at the rate of 0.9 of oil export duty.

The table below reflects the dynamics of change in formulas for oil export duty calculation in the period from 2002 to 2013.

| World price of “Urals” oil | 2002 – 31.07.2004 | 1.08.2004 – 30.09.2011 | 1.10.2011 – 31.12.2013 |
|-----------------------------|------------------|------------------------|------------------------|
| Dollar/t Dollar/barrel      | Oil export duties, dollar/t |
| Less than 109.5             | Less than 15     | 0                      | 0                      |
| 109.5 to 146                | 15 to 20         | 0.35x(P–109.5)         | 0.35x(P–109.5)         |
| 146 to 182.5                | 20 to 25         | 12.78 + 0.45x(P–146)   | 12.78 + 0.45x(P–146)   |
| More than 182.5             | More than 25     | 25.53 + 0.4x(P–182.5)  | 29.2 + 0.65x(P–182.5)  |
| P – world price of “Urals” oil, dollar/t | 29.2 + 0.60x(P–182.5) | 182.5 | 182.5 |

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Note that the period from 1999 to 2013 can be divided into several stages of state customs policy implementation which are described below.

1. 1999 to 2003. - differentiation of oil and oil products export duties, which included the establishment of fuel oil duty at the rate of 50%, and light oil duty at the rate of 80-120% of oil duty rate depending on the brand.

2. 2003-2005. - alignment of oil and oil products export duties at the rate of 90%.

3. 2005-2011. - differentiation of oil and oil products export duties, which included the establishment of heavy oil duty at a rate of 40%, and light oil duty at the rate of 72% of the crude oil duty rate.

4. 2011 - 2013. - export duties calculated according to the scheme "60-66-90" as described above.

The transition to the fourth stage was due to the fact that no significant positive changes in refinery sector were observed which could be explained as follows:

a) quantitative increase in oil extraction and refining was not accompanied by an increase in relative indicators, in particular, the share of oil refining in its extraction has remained almost at the same level: 53.6% in 2000 and 53.1% in 2013;

b) the depth of oil refining has not changed: 71% in 2000 and 71.4% in 2013. It is important to note that the depth of oil refining in advanced economies reaches 90-95% due primarily to various methods of oil recycling, while in Russia primary refining based on direct distillation of crude oil (catalytic cracking) dominates [5].

Thus, the main goal of innovations in 2011 was a complex influence on the extracting and refining sectors by promoting:

a) extraction of hydrocarbons on the fields with falling production rates, primarily in Western Siberia - the main national oil-extracting region;

b) the growth of oil recycling, and consequently, enhancing the modernization of refineries [6, 7, 8].

In addition, changes in the state export policy were reasoned by the following socio-economic factors:

1. Growth in production and exports of gas oil and fuel oil (end-products of primary oil refining). At the same time periodic petrol deficit in some country’s regions occurred as a result of simultaneous decrease in production caused by the closure of several plants for modernization and increase in petrol exports. Note that oil, vacuum gas oil and straight-run petrol are used primarily as raw materials for foreign refineries;

2. Decline in the share of mini refineries, which focused only on primary processing;

3. Compliance with the terms of the World Trade Organization (WTO), which limits the rate of oil products export duties at the rate of 90% of maximum oil duties;

4. Maintenance of high average refining margins (the difference between the cost of oil barrel and a basket of oil products produced from it), which made the increasing of the refining depth economically unfeasible;

5. Inconsistency of motor fuels to European standards, primarily on environmental safety.

2. Calculation of the financial implications for the Russian Federation budget system from the implementation of export duties "60-66-90" scheme

Certainly, the introduction of incentives entails certain positive or negative financial consequences for the country's budget system, and the main objective of this research is to determine them. The authors examined financial implications for the Russian Federation budget system from the implementation of export duties "60-66-90" scheme.

Calculations were carried out taking into account the fact that the export and export duty rates are stable (table 2, figure 1).
Table 2. Export duty rates for light and dark oil products in the Russian Federation, 2010-2013 [1, 4].

| Light oil products | 2010 to 30.09.2011 | 1.10.2011 - present |
|--------------------|--------------------|----------------------|
| 0.67 x D_c.o.      | 0.66 x D_c.o.      |

| Dark oil products  | 2010 to 30.09.2011 | 1.10.2011 - present |
|--------------------|--------------------|----------------------|
| 0.467 x D_c.o.     | 0.66 x D_c.o.      |

D_c.o. – export duties for crude oil.

Figure 1. Oil export duties calculated by the old formula (before “60-66-90”), new formula (after “60-66-90”) and oil prices (Table 2) [9].

Having calculated the difference in revenues from oil exports, obtained after the implementation of levying export duties “60-66-90” scheme, and the revenues that would have gone to the state budget without the implementation of new calculating mechanism, following results were received. Budget revenues declined by a substantial amount – 13359.8 million dollars, that is the estimated amount of losses for the country’s budget system from reforming customs policy during 2012-2013 (table 3).

Table 3. Calculations of the Russian Federation budget revenues from crude oil export duties.

| Oil price | Oil export duties, US$/tn | Export | Revenues from oil duties, million US$ |
|-----------|---------------------------|--------|--------------------------------------|
| 4 quarter of 2010 | US$/bbl  | 79.14 | 577.72 | Before | After | Δ | million tn | Before | After | Δ |
| 1 quarter of 2011 | 92.48 | 675.10 | 349.39 | 349.39 | 0.00 | 59.10 | 20649.10 | 20649.10 | 0.00 |
| 2 quarter of 2011 | 106.23 | 775.48 | 414.64 | 414.64 | 0.00 | 62.60 | 25956.24 | 25956.24 | 0.00 |
| 3 quarter of 2011 | 104.33 | 761.61 | 405.62 | 405.62 | 0.00 | 57.50 | 23323.20 | 23323.20 | 0.00 |
| 4 quarter of 2011 | 103.54 | 755.84 | 401.87 | 373.21 | -28.67 | 65.30 | 26242.26 | 24370.30 | -1871.96 |
Calculations of Russian Federation budget revenues from the change of light oil (gasoline, diesel) and heavy oil (fuel oil) products export duties are presented in table 4.

**Table 4.** Calculations of oil products export duties and total export revenues in Russian Federation budget, 2012-2013.

| Year               | 2012   | 2013   | Total 2012-2013 |
|--------------------|--------|--------|-----------------|
| **Oil price, dollar/tn** |        |        |                 |
| Before             | 753.05 | 732.8  |                 |
| After              | 400.06 | 386.9  |                 |
| **Oil export duties, dollar/tn** |        |        |                 |
| After              | 371.53 | 359.4  |                 |
| Δ                  | -28.53 | -27.50 |                 |
| Petrol             | 3.20   | 4.33   |                 |
| **Export, million tnr** |        |        |                 |
| Diesel             | 36.74  | 42.1   |                 |
| Fuel oil           | 44.70  | 64.4   |                 |
| Petrol before      | 360.05 | 348.21 |                 |
| Petrol after       | 334.38 | 323.46 |                 |
| Δ Petrol           | -25.67 | -24.75 |                 |
| Diesel before      | 268.04 | 259.22 |                 |
| **Oil products export duties, dollar/tn** |        |        |                 |
| Diesel after       | 245.21 | 237.20 |                 |
| Δ Diesel           | -22.83 | -22.02 |                 |
| Fuel oil before    | 186.83 | 180.68 |                 |
| Fuel oil after     | 245.21 | 237.20 |                 |
| Δ Fuel oil         | 58.38  | 56.52  |                 |
| Petrol before      | 1152.17| 1507.75|                 |
| Petrol after       | 1070.01| 1400.58|                 |
| Δ Petrol           | -82.16 | -107.17| -189.33         |
| Revenues from oil products export duties, million dollars |        |        |                 |
| Diesel before      | 9847.73| 10913.29|                 |
| Diesel after       | 9009.00| 9986.29|                 |
| Δ Diesel           | -838.73| -927.00| 1765.73         |
The results presented in Table 4 demonstrate that the positive effect for the Russian budget system from the new system of oil products export duties calculation was obtained only for dark oil products, namely oil. Budget revenues estimates 6249.71 million dollars.

Analysis of complex effect, which is calculated by summing up the results obtained for the export of crude oil, dark, light oil and petrol, shows a negative value in the amount of 9065.15 million dollars. These losses of federal budget occurred in 2012-2013 from the implementation of export duties “60-66-90” scheme, i.e. increase in revenues of 6249.71 million dollars from selling of dark oil does not cover losses in the amount of 13359.8 million dollars by reducing the crude oil export duty.

3. Conclusion
Thus, further study is required for financial and tax incentives, stimulating the effective development of fuel and energy complex of oil refining segment, in order to find a compromise regulation of relationship between business and the state, which is especially important in terms of innovative development of the national economy.

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