Observations on the Influence of High Oil Prices on Russia's GDP Growth

Shinichiro Tabata[1]

Abstract: A noted economist and observer of post-Soviet affairs presents a study probing the influence of high oil prices on Russia's GDP growth. The paper analyzes the contributions to the country's GDP by sectors of origin and final use, and pays special attention to the influence of trade margins produced by oil and gas but recorded and placed by Goskomstat Rossii in Russia's trade sector. The author's interpretation of statistical data released by Goskomstat Rossii as well as by Russian customs authorities enables him to conclude that the present-day economic boom in Russia can be characterized as consumption-led growth fueled by oil and gas export revenues. *Journal of Economic Literature,* Classification Numbers: C67, C82, E23, L71, Q43. 2 figures, 10 tables, 20 references. Key words: Russian oil, Russian gas, Russian GDP, value added, trade margins.

INTRODUCTION

The recent increase in world oil prices affected the economies of nearly every country. Not only were the economies of importers under pressure, but also, albeit in a different way, those of exporters of the "liquid gold," such as Russia—the world's second largest producer. Russia's oil exports increased substantially in 1999, and then more rapidly in 2000, as shown in Figure 1. Due to decreases in oil prices, oil exports in value terms declined slightly in 2001, but then recovered and began to increase rather rapidly in 2003 due to the higher prices. On the other hand, oil production and exports in physical terms have increased steadily since the year 2000. Production yielded gains of 6 to 8 percent annually in 2000–2001 and about 10 percent in 2002–2004, while exports in physical terms gained ca. 10 percent during the period 2001–2004.

Although observers of the Russian economy tend to take it for granted that high oil prices are likely the most important factors shaping the economic boom experienced in present-day Russia, we do not know exactly how these prices have influenced Russia's overall growth rates.[2] The purpose of this paper is to consider how the increase in oil prices has influenced Russia's GDP growth and how this effect was recorded in Russia's SNA statistics. Special attention is devoted to the direct influence of high oil prices and to the impact of

[1]Director, Slavic Research Center, Hokkaido University, Kita-9, Nishi-7, Kita-ku, Sapporo, Japan (email: shin@slav.hokudai.ac.jp). A draft of this paper was presented at the 37th National Convention of the American Association for the Advancement of Slavic Studies, Salt Lake City, Utah on November 4, 2005. The author wishes to thank Masaaki Kuboniwa for his support and Phillip Hanson for comments on an earlier draft. Partial funding in support of research for this paper was provided by the Ministry of Education and Science in 2005 in the form of a grant for research on Russian capitalism and the flow of financial resources.

[2]An OECD (2004, pp. 29-32) study analyzed the impact of high oil prices on growth by estimating growth in average oil prices over the period 2000–2003. It concluded that Russian economic growth depended less on oil prices than claimed by most Western economists.

Eurasian Geography and Economics, 2006, **47**, No. 1, pp. 95-111.

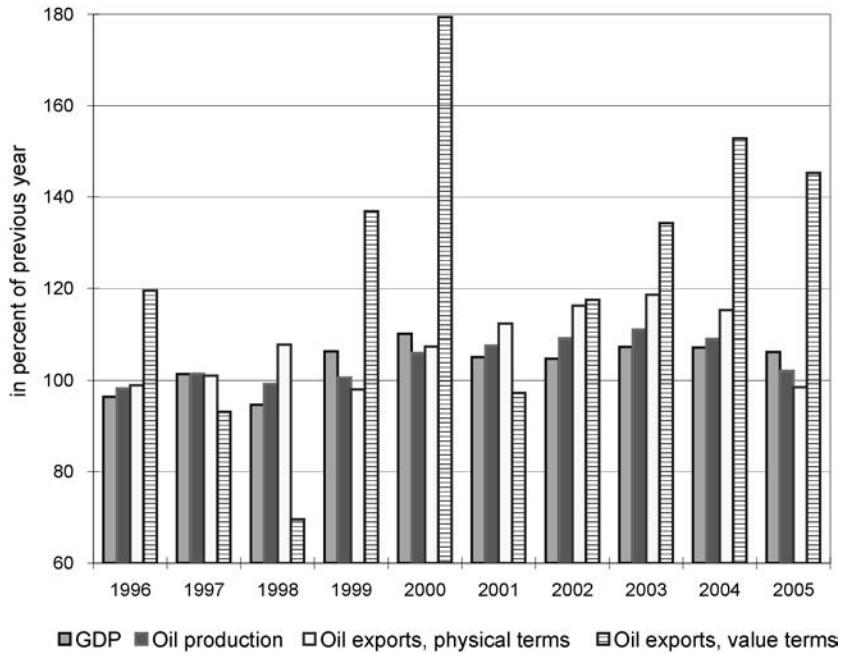

Fig. 1. Growth of GDP, oil production, and oil exports in Russia, 1996–2005 (2005 data are for January–September 2005, expressed as a percentage of the corresponding period in 2004). *Sources*: Compiled by the author from various annual volumes of RSY, SEP, *Tamozhennaya*, and *Belarus'*, and from websites of the Central Bank of Russia and Goskomstat Rossii.

trade margins produced by oil and gas, but recorded in the trade sector.[3] The adverse effect of high oil prices, i.e., the effect of Dutch disease caused by increases in foreign currency earnings from oil exports (analyzed in Tabata, 2006), is not discussed in this paper.

CONTRIBUTION TO GDP GROWTH BY SECTOR OF ORIGIN

Unlike its prominence in the international arena, the oil and gas industry's contribution to Russia's GDP is not necessarily spectacular. The contribution to GDP growth by sector of origin in real terms is shown in Table 1, calculated from officially published data by Goskomstat Rossii (Federal State Statistics Service of Russia). In 1999–2000, i.e., during the period of recovery from the financial crisis in 1998, the industrial sector's contribution, which includes that by oil and gas, was remarkable. Contributions by agriculture in 1999–2001 and by construction in 2000 also deserve to be noted. As for the trade sector, it contributed 2.4 percent in the latter year and has become the largest contributor to Russia's GDP growth since 2002.[4] It is also noteworthy that data on the growth of value added (in real

[3]Throughout this paper, references to "oil and gas" include petroleum products.

[4]Throughout this paper, the expression "trade in narrow definition" includes retail and wholesale trade, procurement, and catering, whereas "trade in wide definition" includes the aforementioned factors, to which information-calculation services, real estate, and general commercial activities supporting market functions are added. While "trade in wide definition" (or trade and intermediary services) is used in input-output tables, "trade in narrow definition" is a category in ordinary SNA statistics in Russia.

Table 1. Contribution to GDP Growth in Real Terms by Sector of Origin, 1996-2004 (in percent)

GDP and selected components	1996	1997	1998	1999	2000	2001	2002	2003	2004
					Growth rate				
GDP at market prices	-3.6	1.4	-5.3	6.4	10.0	5.1	4.7	7.3	7.1
Goods production	-5.9	0.7	-7.4	10.4	12.4	6.5	3.6	8.2	6.3
Industry	-2.6	2.3	-4.8	10.2	11.1	4.9	4.0	7.5	6.1
Agriculture	-5.3	2.5	-18.8	17.1	12.7	11.4	2.9	5.7	2.9
Construction	-16.8	-5.4	-6.3	6.0	17.4	9.9	2.8	14.3	10.2
Service production	-0.2	1.9	-3.4	2.3	6.9	3.6	5.6	6.9	7.9
Transporation and communications	-4.5	-1.9	-3.4	9.6	6.1	5.7	5.8	8.7	9.5
Trade (in narrow definition)	1.9	5.2	-6.7	-2.0	12.1	3.9	8.2	10.9	10.1
					Contribution to change in GDP				
GDP at market prices	-3.6	1.4	-5.3	6.3	10.0	5.1	4.7	7.3	7.1
Goods production	-2.5	0.3	-3.0	4.1	5.1	2.6	1.5	3.3	2.6
Industry	-0.7	0.6	-1.3	2.7	3.1	1.4	1.1	2.1	1.7
Agriculture	-0.4	0.2	-1.3	1.0	0.8	0.7	0.2	0.3	0.2
Construction	-1.4	-0.4	-0.4	0.4	1.2	0.6	0.2	0.9	0.7
Service production	-0.1	1.0	-1.8	1.2	3.6	1.8	2.7	3.4	3.8
Transporation and communications	-0.5	-0.2	-0.4	1.1	0.7	0.5	0.5	0.7	0.8
Trade (in narrow definition)	0.4	1.1	-1.4	-0.4	2.4	0.8	1.7	2.4	2.3
Net taxes on products	-1.0	0.1	-0.6	0.9	1.3	0.7	0.6	0.9	
					Rate of contribution				
GDP at market prices	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Goods production	68.9	21.6	55.8	64.8	50.9	51.5	31.0	45.1	35.8
Industry	18.8	43.7	23.7	43.0	30.7	27.0	23.4	28.2	23.8
Agriculture	9.7	12.1	23.5	15.4	7.9	12.9	3.7	4.6	2.4
Construction	39.6	-28.9	8.0	6.3	11.7	11.4	3.6	11.7	9.1
Service production	2.9	74.7	34.3	19.5	36.1	34.7	57.1	46.1	53.5
Transporation and communications	14.2	-15.3	7.0	16.9	7.0	9.0	9.9	9.6	11.0
Trade (in narrow definition)	-10.1	78.9	27.1	-6.7	23.7	16.3	36.0	32.0	31.5
Net taxes on products	28.3	4.2	10.3	14.3	12.7	13.8	12.2	11.8	

Sources: Calculated by the author from data on Goskomstat Rossii's website [http://www.gks.ru].

terms) by the oil and gas sector, as well as by the subsectors within the trade sector (in narrow definition), would provide a reasonable basis for calculating their contributions to GDP growth. However, such data have not been published, even though industry and trade have been the major locomotives for economic growth in recent years. Exceptionally, data on retail and wholesale trade (i.e., subsectors of trade) are available for 2000–2002, and will be analyzed below.

We should recall here that a portion of value added produced by oil and gas has been recorded in other Russian sectors, mostly as transportation and trade margins of oil and gas,[5] rather than in the country's oil and gas sector (Kuboniwa, 2002; Tabata, 2002; Kuboniwa et al., 2005; Gurvich 2004; World Bank 2004). Among others, Masaaki Kuboniwa and Goskomstat Rossii jointly investigated this problem by using input-output tables to calculate "actual" contributions of the oil and gas sector to GDP.[6] These data show that the share of value added produced by oil and gas in Russia's total GDP is not 6.5 percent (as indicated in the published input-output table for 2002) but rather as much as 18.9 percent.

This significant difference of 12.4 percentage points leads us to believe that the contribution of oil and gas to GDP growth becomes much larger. In Table 2, I estimated their contribution on the basis of the Kuboniwa-Goskomstat data. Here (i.e., in Table 2) the contribution of transportation and trade margins of oil and gas and of net taxes on products in the oil and gas sector are estimated on the basis of the contributions that these components have made to GDP growth in nominal terms (see Table 4 below).[7] The contribution of the oil and gas sector is calculated from data detailing the contribution of this sector to industrial growth in real terms (see Table 5 below). These estimates indicate that the oil and gas sector contributed 7.1 percent in 2002 and 5.6 percent in 2003. The totals contributed by oil and gas reached 22.3 percent in 2000, decreasing to 7.5 in 2001, but recovering to 13.8 percent in 2002.

One might tend to believe that the total contribution of oil and gas to GDP growth is rather small when compared with the size of value added displayed by the Kuboniwa-Goskomstat data. But the difference was due to the small share of oil extraction in the oil and gas sector, when one takes into account the value added produced by oil and gas that is recorded and placed in other sectors of the Russian economy. While according to the published input-output table for 2000, the share of oil extraction in the oil and gas sector is as high as 73.1 percent, it decreases to 48.1 percent when we add all value added produced by oil and gas to the subsectors of the sector (oil extraction, oil processing, and the gas sector), in accord with the Kuboniwa-Goskomstat data.[8] Among these three subsectors, only oil extraction recorded higher growth rates than GDP in 2001–2004, as will be shown in Table 5.

In this regard, I felt compelled to make a test calculation (shown in Table 3), assuming that all amounts of value added produced by oil and gas were recorded in one of the three subsectors and increased by the growth rates of the three.[9] The test calculation revealed that the GDP growth rate decreased by 0.2 percent points in 2001 and 0.3 in 2004. Thus, my calculation demonstrates that official GDP statistics in real terms overvalue GDP growth by

[5]Output of the trade sector is measured by the total value of trade margins realized on the goods that the trade sector purchased for resale. A trade margin is defined as the difference between the price realized on a good purchased for resale and the price that would have to be paid by the distributor for obtaining that good (SNA, 1993, p. 137).

[6]We shall call them in this paper the "Kuboniwa-Goskomstat" data. Parts of these data were published in Tabata (2002, p. 615), Kuboniwa (2004, p. 141), and Kuboniwa et al. (2005, p. 71). In addition, there are unpublished data for 2002. Because the data have been calculated by Goskomstat Rossii using input-output tables, they are not as yet available for the years after 2002.

[7]For example, the contribution of trade margins is calculated from the contribution of the trade sector (in wide definition) in real terms multiplied by the share of trade margins in the contribution of the trade sector (in wide definition) in nominal terms.

[8]This means that value added realized as transportation and trade margins and net taxes on products was larger in oil processing and gas sectors than in oil extraction. In other words, "hidden profits" that were transferred to other sectors were larger in the former two sectors than in oil extraction.

[9]I used industrial growth rates of these three subsectors (see Table 5) as a proxy for growth rates of their value added, admittedly weakening the estimates in Table 3.

Table 2. Estimated Contribution of Oil and Gas to GDP Growth in Real Terms, 1996-2004 (in percent)

GDP and selected components	1996	1997	1998	1999	2000	2001	2002	2003	2004
	Contribution to change in GDP								
GDP at market prices	-3.6	1.4	-5.3	6.3	10.0	5.1	4.7	7.3	7.1
Industry	-0.7	0.6	-1.3	2.7	3.1	1.4	1.1	2.1	1.7
Oil and gas sector	-0.0	0.0	-0.1	0.0	0.2	0.2	0.3	0.4	0.3
Transporation and communications	-0.5	-0.2	-0.4	1.1	0.7	0.5	0.5	0.7	0.8
Transportation	-0.5	-0.3	-0.4	0.6	0.5	0.2	0.2	0.4	
Transportation margins of oil and gas	-0.2	0.2	-0.2	-0.1	0.1	0.1	0.0		
Trade (in wide definiiton)	0.4	1.4	-1.3	0.0	2.6	0.9	1.8	2.5	
Trade (in narrow definition)	0.4	1.1	-1.4	-0.4	2.4	0.8	1.7	2.4	2.3
Trade margins of oil and gas	0.1	0.4	-0.1	0.0	1.3	-0.2	0.4		
Net taxes on products	-1.0	0.1	-0.6	0.9	1.3	0.7	0.6	0.9	
Net taxes on products in the oil and gas sector	-0.6	0.0	-0.0	0.3	0.6	0.3	-0.1		
Other	-1.8	-0.5	-1.8	1.6	2.4	1.6	0.8	1.2	2.4
Oil and gas, total	-0.8	0.7	-0.4	0.3	2.2	0.4	0.7		
	Rate of contribution								
GDP at market prices	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Industry	18.8	43.7	23.7	43.0	30.7	27.0	23.4	28.2	23.8
Oil and gas sector	0.8	2.5	1.4	0.6	1.9	4.8	7.1	5.6	4.5
Transporation and communications	14.2	-15.3	7.0	16.9	7.0	9.0	9.9	9.6	11.0
Transportation	14.2	-24.2	7.8	9.1	4.6	4.2	4.7	5.9	
Transportation margins of oil and gas	5.9	13.5	3.1	-1.0	0.8	1.1	0.0		
Trade (in wide definiiton)	-10.7	100.0	24.9	0.4	26.1	18.2	38.2	33.4	
Trade (in narrow definition)	-10.1	78.9	27.1	-6.7	23.7	16.3	36.0	32.0	31.5
Trade margins of oil and gas	-2.8	31.9	2.1	0.2	13.3	-4.2	8.0		
Net taxes on products	28.3	4.2	10.3	14.3	12.7	13.8	12.2	11.8	
Net taxes on products in the oil and gas sector	17.4	0.1	0.0	5.5	6.2	5.8	-1.2		
Other	49.3	-32.6	34.0	25.4	23.6	32.0	16.2	17.0	33.7
Oil and gas, total	21.4	48.1	6.6	5.2	22.3	7.5	13.8		

Sources: Calculated by the author from data on Goskomstat Rossii's website [http://www.gks.ru]; Tables 4 and 5; and the Kuboniwa-Gokomstat data.

recording value added produced by oil and gas in the trade and other sectors. However, the degree of overvaluation proves to be fairly small.[10]

[10]The assumption adopted in Table 3 that the category for "other" in the test calculation grows at the same rate as in the case of official statistics might be one of the reasons for the small overvaluation. This might be true because we could believe that the "other" grows at a slower rate after deducting a portion of value added of the trade sector that is growing faster than GDP as a whole (Table 1). Certainly, it is rather strange that the "other" category grew faster than the oil and gas sector in 2001 and 2004, as shown in Table 3, suggesting some weakness in the estimates.

Table 3. Test Calculation of the Contribution of Oil and Gas to GDP Growth in Real Terms, 2000-2004

GDP and selected components	2000[b]		Bill. rubles at constant 2000 prices				Growth rate in percent of previous year			
	Bill. rubles	Percentage share	2001	2002	2003	2004	2001	2002	2003	2004
Official statistics										
GDP at market prices[a]	7,305.6	100.0	7,677.6	8,041.8	8,632.7	9,249.4	105.1	104.7	107.3	107.1
Oil and gas[c]	569.8	7.8	604.4	650.5	710.9	763.9	106.1	107.6	109.3	107.5
Oil extraction[d]	416.4	5.7	448.5	488.4	543.1	592.0	107.7	108.9	111.2	109.0
Oil processing[d]	80.4	1.1	82.5	86.4	88.1	89.9	102.7	104.7	102.0	102.0
Gas[d]	73.1	1.0	73.3	75.7	79.6	82.0	100.4	103.2	105.2	103.0
Other[c]	6,735.8	92.2	7,073.2	7,391.3	7,921.8	8,485.5	105.0	104.5	107.2	107.1
Test calculation										
GDP at market prices[c]	7,305.6	100.0	7,661.4	8,040.2	8,624.7	9,213.8	104.9	104.9	107.3	106.8
Oil and gas[c]	1,760.6	24.1	1,838.6	1,955.6	2,103.3	2,228.4	104.4	106.4	107.6	105.9
Oil extraction[d]	847.4	11.6	912.7	993.9	1,105.3	1,204.7	107.7	108.9	111.2	109.0
Oil processing[d]	394.5	5.4	405.2	424.2	432.7	441.3	102.7	104.7	102.0	102.0
Gas[d]	518.7	7.1	520.8	537.4	565.4	582.3	100.4	103.2	105.2	103.0
Other[e]	5,545.0	75.9	5,822.8	6,084.6	6,521.3	6,985.4	105.0	104.5	107.2	107.1

[a]Data on Goskomstat Rossii's website [http://www.gks.ru].
[b]Calculated from share data obtained from the Kuboniwa-Goskomstat data.
[c]Figures for 2001-2004 are calculated as a sum or as a residual and growth rates are calculated from them.
[d]Figures for 2001-2004 are calculated from figures for 2000 and growth rates that are assumed to be equal to industrial growth rates shown in Table 5.
[e]Figures for 2001-2004 are calculated from figures for 2000 and growth rates that are assumed to be equal to those calculated in the row of official statistics.

Table 4. Contribution to GDP Growth by Oil and Gas in Nominal Terms, 1996-2004 (in percent)

GDP and selected components	1996	1997	1998	1999	2000	2001	2002	2003	2004
GDP at market prices	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Industry	29.9	26.4	28.7	28.8	28.2	12.8	21.0	21.4	28.3
Oil and gas sector	6.2	4.9	1.8	8.3	10.3	1.8	5.5	—	—
Transporation and communications	11.7	10.1	-1.7	6.9	7.1	8.0	8.4	7.6	6.4
Transportation	9.7	6.8	-3.2	5.7	6.1	6.2	7.0	6.2	—
Transportation margins of oil and gas	4.1	-3.8	-1.3	-0.6	1.0	1.5	-0.1	—	—
Trade (in wide definiiton)	15.3	18.7	46.0	31.1	28.8	24.4	28.4	24.5	—
Trade (in narrow definition)	13.4	11.4	32.0	23.5	21.8	14.0	20.3	19.6	18.2
Trade margins of oil and gas	4.0	6.0	3.8	13.4	14.7	-5.7	6.0	—	—
Net taxes on products	12.2	10.5	11.0	11.4	13.6	16.1	7.7	14.2	—
Net taxes on products in the oil and gas sector	7.5	0.3	0.0	4.4	6.7	6.8	-0.8	—	—
Other	30.9	34.3	16.0	21.8	22.3	38.7	34.6	32.3	—
Oil and gas, total	21.8	7.3	4.4	25.4	32.8	4.4	10.7	—	—

Sources: Calculated by the author from data on Goskomstat Rossii's website [http://www.gks.ru] and the Kuboniwa-Gokomstat data.

Table 4 shows the contribution to GDP growth by oil and gas in nominal terms. Evidently, the contribution by the trade sector (in wide definition) has surpassed that by industry since 1998, and the industry's contribution, especially of the oil and gas sector, decreased significantly in 2001. The total contribution by oil and gas, which amounted to 25.4 percent in 1999 and 32.8 in 2000, decreased to a mere 4.4 percent in 2001. The decline in 2001 (28.4 percentage points) can be explained by the decreases in trade margins (20.4 points) and in the oil and gas sector (8.5 points). While trade margins of oil and gas contributed 13–15 percent of total GDP growth in 1999–2000, their contribution turned negative in 2001. Trade margins of oil and gas were greatly influenced by exports of these commodities, because about one half of the oil and one-third of the gas produced in Russia were exported in recent years and export prices have been much higher than selling prices on the domestic market. Actually, due to some decreases in world oil prices in 2001, export trade margins decreased from 650.4 billion rubles in 2000 to 473.1 billion in 2001, but rose to 575.4 billion rubles in 2002 (calculated from input-output tables published in *Sistema*). Thus, the share of export trade margins in the total trade margins of oil and gas decreased from 65.2 percent in 2000 to 50.2 in 2001 and 49.8 percent in 2002.

We could also detect the influence of tax reforms in the decrease of net taxes on oil and gas in 2002, as shown in Table 4. While their contribution was 6.7–6.8 percent of the total contribution in 2000–2001, it turned negative in 2002. In that year, excises on oil were abolished and severance taxes (mineral extraction fees) on oil and gas introduced and injected into the economy. While excises were included in the taxes on products, the severance taxes were not recorded as taxes in Russia's SNA statistics,[11] even though severance tax

[11]A Goskomstat statistician confirmed during the course of an interview with this author in September 2005 that they were recorded as property income, as was the case for payments for the use of subsoil (royalties) before 2002 (Tabata, 2002, p. 615).

Table 5. Growth Rate and Contribution to Industrial Growth by Sector, 1996-2004 (in percent)

Industrial sector	1996	1997	1998	1999	2000	2001	2002	2003	2004
					Growth rate				
Total industrial production	-4.5	2.0	-5.2	11.0	11.9	4.9	3.7	7.0	6.0
Electricity	-2.7	-1.8	-2.3	-1.2	2.3	1.6	-0.7	1.0	0.3
Fuel	-3.1	-0.4	-2.6	2.5	4.9	6.1	7.0	9.3	7.0
Oil extraction	-1.7	1.4	-1.0	0.5	5.9	7.7	8.9	11.2	9.0
Oil processing	1.2	-0.8	-7.4	1.8	2.2	2.7	4.7	2.0	2.0
Gas	-1.3	-1.4	0.8	2.2	2.3	0.4	3.2	5.2	3.0
Ferrous metals	-4.8	0.9	-7.6	16.8	15.7	-0.2	3.0	8.9	5.0
Non-ferrous metals	-3.6	6.0	-4.3	10.1	15.2	4.9	6.0	6.2	4.0
Chemicals	-7.1	3.7	-5.7	23.5	14.9	4.9	0.7	4.6	6.0
Machinery	-4.6	3.6	-8.6	17.4	19.9	7.1	1.9	9.2	10.0
Timber, pulp and paper	-22.6	-0.4	0.4	17.8	13.4	2.6	2.4	1.5	3.0
Construction materials	-25.5	-4.1	-6.3	10.2	13.1	5.5	3.0	6.4	5.0
Textiles and shoes	-28.2	-3.9	-10.3	12.3	20.9	5.0	-3.4	-2.3	-7.0
Foods	-9.3	-2.8	0.8	3.6	14.4	8.4	6.5	5.1	4.0
					Contribution to change in total industrial production				
Total industrial production	-4.5	2.0	-5.2	11.0	11.9	4.9	3.7	7.0	6.0
Electricity	-0.3	-0.2	-0.3	-0.1	0.2	0.1	-0.1	0.1	0.0
Fuel	-0.6	-0.1	-0.5	0.5	0.8	1.0	1.1	1.5	1.2
Oil and gas	-0.2	0.1	-0.3	0.2	0.8	0.9	1.1	1.4	1.1
Oil extraction	-0.2	0.2	-0.1	0.1	0.7	0.8	1.0	1.3	1.1
Oil processing	0.0	0.0	-0.2	0.0	0.1	0.1	0.1	0.0	0.0
Gas	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Ferrous metals	-0.4	0.1	-0.6	1.3	1.3	0.0	0.2	0.7	0.4
Non-ferrous metals	-0.3	0.6	-0.4	1.0	1.5	0.5	0.6	0.7	0.4
Chemicals	-0.5	0.2	-0.4	1.5	1.1	0.4	0.1	0.3	0.4
Machinery	-0.9	0.7	-1.6	3.2	3.8	1.5	0.4	1.9	2.1
Timber, pulp and paper	-1.2	0.0	0.0	0.8	0.6	0.1	0.1	0.1	0.1
Construction materials	-1.0	-0.1	-0.2	0.3	0.4	0.2	0.1	0.2	0.1
Textiles and shoes	-0.7	-0.1	-0.2	0.2	0.4	0.1	-0.1	0.0	-0.1
Foods	-1.5	-0.4	0.1	0.6	2.1	1.3	1.0	0.8	0.6
					Rate of contribution to growth of total industrial production				
Total industrial production	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Electricity	6.7	-10.3	4.9	-1.2	2.0	3.0	-1.7	1.2	0.4
Fuel	12.4	-3.6	8.9	4.2	7.0	19.7	30.3	22.0	19.7
Oil and gas	4.1	5.8	5.9	1.4	6.3	17.9	30.1	19.9	19.1
Oil extraction	4.3	8.3	2.3	0.6	5.5	16.5	25.9	18.1	17.7
Oil processing	-0.7	-1.1	4.0	0.4	0.5	1.3	2.8	0.6	0.7
Gas	0.5	-1.3	-0.3	0.4	0.3	0.1	1.4	1.2	0.8

(*table continues*)

Table 5 (Continued)

Industrial sector	1996	1997	1998	1999	2000	2001	2002	2003	2004
Ferrous metals	8.8	3.7	11.8	12.0	11.0	-0.4	6.6	10.3	6.9
Non-ferrous metals	7.7	29.1	8.3	9.3	12.9	10.4	16.9	9.4	7.0
Chemicals	10.5	12.0	7.2	14.0	9.1	7.5	1.4	4.8	7.1
Machinery	19.0	33.4	31.1	28.7	32.1	29.8	10.8	27.1	35.1
Timber, pulp and paper	27.1	-0.9	-0.3	7.3	5.4	2.6	3.1	1.0	2.2
Construction materials	22.8	-6.4	3.6	2.7	3.2	3.3	2.4	2.7	2.4
Textiles and shoes	15.7	-3.7	3.5	1.9	3.0	1.9	-1.7	-0.6	-1.8
Foods	33.8	-21.8	-2.3	5.2	17.8	25.8	27.3	11.6	10.4

Sources: Growth rates are from RSY, 2001, p. 337; 2004, p. 359; and *Rossiya*, 2005, p. 187. Contributions are calculated by the author from the share of each sector in 1999 (*Rossiya*, 2004, p. 184) and its growth rates.

revenues from oil became one of the most important sources of state budget income (Tabata, 2006).

Let us now look at the two major sectors, i.e., industry and trade, in greater detail, because these two sectors have mostly determined Russia's GDP dynamics in recent years. Table 5 illustrates the contribution of the oil and gas sector to industrial growth in real terms.[12] Note that these data do not represent value added (official data in real terms have not been available), but rather total output of each sector. During the period from 1999 to 2001, the contribution rate of another sector, namely machinery, amounted to around 30 percent, followed by chemicals and non-ferrous metals (around 10 percent each). The contribution of ferrous metals also yielded around 10 percent in 1999–2000, but turned negative in 2001. Foods contributed at a remarkably high rate during the 2000–2002 period, reflecting in part good agricultural performance in 1999–2001 (see Table 1). The contribution of fuels became significant as late as in 2001, mostly due to the contribution of oil extraction. Most notably, in 2002, the contribution of the entire oil and gas sector became the largest among industrial sectors, partly due to the substantial decrease in the contribution by machinery in that year. In subsequent years, the contribution of the oil and gas sector or of oil extraction remained the second largest after machinery.[13]

Table 6 shows the value added by retail and wholesale trade sectors published for the first time by the Goskomstat Rossii in *Torgovlya* (2003, p. 24). It should be emphasized that although the share of the trade sector (in narrow definition) amounted to about 22 percent of the total GDP at basic prices in 2001–2003 (*Natsional'nyye*, 2004, p. 63), detailed data within the sector (i.e., in terms of value added and output) had not been published until 2003. Therefore, the data shown in Table 6 are fairly important and worthy of careful analysis.

[12]In calculating the contribution of each sector in Table 5, I used the share of each sector in 1999 and its growth rates, because shares of each sector in 1999 prices in the years 1995 to 2004 were published in *Rossiya* and other Goskomstat Rossii statistical handbooks, which tends to suggest that the growth rates of each sector have been calculated by the Goskomstat from data at constant prices of 1999. However, there is a considerable margin of error in estimates for 1996–1999 in Table 5.

[13]Because these data are used in Table 2, the contribution by the oil and gas sector in that table has been quite large, amounting to ca. 5 percent per annum, since 2001. As noted in the preceding footnote, Goskomstat Rossii's growth data were based on the constant prices of 1999. Had they been based on prices after the year 1999, the contribution of the oil and gas sector might have been larger.

Table 6. Value Added by Retail and Wholesale Trade Sectors, 1999-2002

Trade (in narrow definition) and GDP	1999	2000	2001	2002
	At current prices (bill. rubles)[a]			
Trade	—	1,545.5	1,811.8	2,238.5
Retail trade	—	498.7	652.7	792.1
Wholesale trade	—	1,043.0	1,154.3	1,441.1
Other	—	3.8	4.8	5.3
	Growth rate (in percent of previous year)[a]			
Trade	—	112.1	103.9	108.1
Retail trade	—	105.5	108.4	108.2
Wholesale trade	—	117.6	101.8	108.1
	At constant 2000 prices (bill. rubles)			
GDP[b]	6,638.6	7,305.6	7,677.6	8,041.8
Trade[b]	1,378.7	1,545.5	1,606.1	1,737.1
Retail trade[c]	472.7	498.7	540.6	584.9
Wholesale trade[c]	886.9	1,043.0	1,061.8	1,147.8
	Contribution to change in GDP (in percent)[d]			
GDP	—	10.0	5.1	4.7
Trade	—	2.5	0.8	1.7
Retail trade	—	0.4	0.6	0.6
Wholesale trade	—	2.4	0.3	1.1

[a]Data from *Torgovlya*, 2003, p. 24.
[b]Figures for 2000-2002 are from Goskomstat Rossii's website [http://www.gks.ru], and those for 1999 are calculated from figures and growth rates for 2000.
[c]Calculated from figures for 2000 and growth rates.
[d]Calculated from figures at constant prices.

From this table, it is apparent that two-thirds of the value added by trade (in narrow definition) can be accounted for by wholesale trade, which is known to include foreign trade.[14] While retail trade increased steadily in 2000–2002, wholesale trade fluctuated from a high growth rate in 2000 (17.6 percent) to a low one in 2001 (1.8 percent), which obviously determined the trend of the entire trade sector. These published data have enabled me to calculate

[14]It is obvious from *Torgovlya* (2003, p. 24) that trade in narrow definition includes foreign trade. In Russia's SNA statistics for 1993, foreign trade was not included in wholesale trade (Goskomstat RF and World Bank, 1995, p. 122). It is noteworthy that retail trade in 1993 accounted for 89.5 percent of the value added by the trade sector excluding foreign trade, while wholesale trade accounted for only 5.8 percent (*ibid.*). Now, in the same year, foreign trade is estimated to have accounted for 30.6 percent of value added of the trade sector (in narrow definition) (*ibid.*, pp. 120, 122). If we add foreign trade to wholesale trade, the share of retail trade in value added by the sector amounts to 62.1 percent and that of wholesale trade to 34.6 percent in 1993. These data for 1993 were published, because for that year SNA statistics were compiled for the first time in Russia. In subsequent years, corresponding data have not been published, as was noted above.

the contribution of retail and wholesale sectors to GDP growth given in Table 6. The result also demonstrates the steady contribution by retail trade to GDP growth in 2000–2002 and the highly fluctuating contribution by wholesale trade, ranging from 2.4 percent in 2000 to as little as 0.3 percent in 2001.[15] We can thus argue that the dynamics of oil and gas trade margins constitute one of the most significant determinants of the fluctuation observed in wholesale trade.[16] Actually, according to published statistics characterizing large and medium-sized organizations in wholesale trade (*Torgovlya*, 2003, pp. 139-140), organizations engaged in trade of "solid, liquid and gaseous fuels and related products" accounted for 61.3 percent of the total wholesale turnover and 79.8 percent of the total output in 2000.

As shown in Tables 1 and 2, the trade sector contributed to 2.3-2.4 percent of GDP growth in 2003–2004, more than any other sector of the economy. Because the contribution to the GDP growth rate by retail trade in 2003–2004 is estimated at ca. 0.6 percent (by taking into account a strong correlation between value added by retail trade and retail trade turnover), the remaining contribution of the trade sector in 2003–2004 (1.7–1.8 percent) is deemed to be forthcoming from wholesale trade.

To summarize the above, the direct influence of increases in oil and gas export revenues could be detected in the increased contribution of the wholesale trade sector. Trade margins of oil and gas included in the wholesale trade sector are estimated to have contributed no more than 1.0 to 1.5 percent to GDP growth in 2003–2004, as was the case in the year 2000 (see Table 2).

One might argue that the increase in export prices of oil has had some effect on GDP in real terms and that all was due to inappropriate treatment of value added by oil and gas, not recorded and thus not reflected in Russia's oil and gas sector statistics. However, as my test calculations in Table 3 demonstrate, the effect of the inappropriate treatment is quite small. On the other hand, one might argue that the increase in export revenues due to the increase in oil prices should influence GDP growth, because it enhanced the well-being of the Russian population due to improvement in the terms of trade. This type of argument is related to the notion of the so-called "trade gain" (or loss) that measures real gross domestic income (GDI) introduced by the System of National Accounts (SNA, 1993, pp. 404-406). However, Goskomstat Rossii did not explicitly consider that notion, it is not reflected in its data up to the present time.

A "secondary effect" of high oil prices or of the increase in oil export revenues can be detected in the increase in retail trade. Needless to say, one can also visualize indirect influences in other sectors, such as increases in investments in the oil and gas industry, in the production of consumer goods, and in the provision of charged services.

CONTRIBUTION TO GDP GROWTH BY FINAL USE

Table 7, which shows the contributions to GDP growth by final use in real terms, indicates that the contribution of household consumption has been the largest among the final use components since 2000. It has contributed steadily 3.5–5.3 percent to GDP growth in 2000–2004. Since 2003, the contribution from gross capital formation has become

[15]Figures denoting trade in current prices in 2001 and 2002 and the growth rate in 2002 were subsequently revised, but I used the ones published in *Torgovlya* in Table 6 for the sake of consistency. However, there are inconsistencies among the figures for 2000, probably due to errors in estimating them at constant 1999 prices.

[16]Note that a small portion of oil and gas trade margins is known to be included in a sector called "general commercial activities for securing market functioning," a constituent of the trade sector in wide definition.

Table 7. Contribution to GDP Growth by Final Use in Real Terms, 1996-2005 (in percent)

Components	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005[a]
						Growth rate				
GDP	-3.6	1.4	-5.3	6.4	10.0	5.1	4.7	7.3	7.2	6.2
Final consumption	-2.6	2.8	-2.1	-1.2	5.6	6.8	7.0	6.2	8.4	9.0
Households	-4.9	5.0	-3.4	-2.9	7.3	9.5	8.5	7.5	10.7	11.3
Government	3.1	-2.4	1.0	3.1	2.0	-0.8	2.6	2.2	2.3	2.6
Non-profit organizations serving households	0.6	-0.8	0.5	-1.4	1.6	1.9	0.8	1.1	0.8	0.9
Gross accumulation	-14.0	-4.1	-45.2	-6.6	75.2	16.7	-2.6	13.2	13.6	10.7
Gross capital formation	-21.2	-7.9	-12.4	6.4	18.1	10.2	2.8	12.8	10.8	9.6
Changes in inventories	20.7	7.9	—	—	—	76.5	-33.7	16.7	36.4	15.1
Net exports	22.0	-5.9	131.8	79.2	-15.9	-13.2	3.2	3.0	-11.0	-24.2
Exports	3.7	-0.5	1.9	11.2	9.5	4.2	10.3	12.5	12.3	6.6
Imports	1.3	0.4	-17.4	-17.0	32.4	18.7	14.6	17.7	23.5	18.3
						Contribution to change in GDP				
GDP	-3.6	1.4	-5.3	6.3	10.0	5.1	4.7	7.3	7.2	6.2
Final consumption	-1.9	2.0	-1.5	-0.9	3.9	4.2	4.4	4.0	5.7	6.2
Households	-2.5	2.5	-1.7	-1.5	3.5	4.3	4.0	3.7	5.3	5.7
Government	0.6	-0.5	0.2	0.6	0.4	-0.1	0.4	0.3	0.4	0.4
Non-profit organizations serving households	0.0	-0.0	0.0	-0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross accumulation	-3.6	-0.9	-9.7	-0.8	8.2	3.1	-0.5	2.6	2.8	2.3
Gross capital formation	-4.5	-1.4	-1.9	0.9	2.6	1.7	0.5	2.2	2.0	1.6
Changes in inventories	0.9	0.4	-7.8	-1.7	5.6	1.4	-1.0	0.3	0.8	0.7
Net exports	0.7	-0.2	5.3	7.8	-2.6	-2.6	0.5	0.5	-1.2	-2.4
Exports	1.1	-0.1	0.6	3.7	3.3	1.9	4.5	5.7	4.3	2.4
Imports	0.3	0.1	-4.7	-4.0	5.9	4.5	4.0	5.2	5.6	4.8
Statistical discrepancy	1.1	0.6	0.6	0.3	0.5	0.4	0.4	0.3	-0.1	0.1
						Rate of contribution				
GDP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Final consumption	52.4	144.7	28.7	-14.7	39.2	82.2	92.1	54.0	79.6	100.2
Households	69.1	180.5	32.4	-24.3	34.8	84.1	84.2	49.8	73.9	92.8
Government	-16.5	-34.7	-3.5	10.1	4.2	-2.3	7.8	4.1	5.5	7.2
Non-profit organizations serving households	-0.2	-1.1	-0.3	-0.5	0.3	0.4	0.2	0.2	0.1	0.2
Gross accumulation	98.8	-68.4	181.6	-13.0	81.5	61.5	-11.5	34.7	38.7	37.4
Gross capital formation	123.9	-99.5	36.3	14.4	26.1	34.0	10.3	30.3	27.3	26.5
Changes in inventories	-25.0	31.1	145.3	-27.4	55.4	27.5	-21.8	4.4	11.4	10.9
Net exports	-20.8	-17.9	-98.4	122.2	-26.1	-51.9	11.1	6.7	-17.4	-39.4
Exports	-30.3	-10.5	-10.7	59.0	33.0	36.5	94.5	78.1	60.5	38.7
Imports	-9.5	7.4	87.7	-63.2	59.1	88.3	83.4	71.4	77.8	78.1
Statistical discrepancy	-30.5	41.6	-11.9	5.5	5.4	8.2	8.3	4.5	-1.0	1.8

[a]January–September 2005 as a percentage of the same period in 2004.

Sources: Calculated by the author from data on Goskomstat Rossii's website [http://www.gks.ru].

significant, amounting to 2.0–2.2 percent in 2003–2004. Rather obviously, Russia's economic boom is characterized by personal consumption–led growth fueled by oil and gas export revenues.

Official SNA data (*Natsional'nyye*, 2004, p. 74) indicate that around 70 percent of household consumption has been accounted for by purchases of goods and around 20 percent by purchases of services. These two items correspond to the amounts of retail trade turnover and charged services, both in real and in nominal terms. Because retail trade turnover has grown more rapidly than charged services, purchases of goods must have contributed to GDP growth much more than purchases of services.[17] A rough calculation based on data of retail trade turnover and charged services indicates that 81 to 96 percent of growth in household consumption in the years from 2000 to 2004 was brought about by purchases of goods. It follows (also from Table 7) that purchases of goods by households contributed to GDP growth between 3.0 and 4.5 percent annually during the 2000–2004 period.

In 1999–2004, 40–44 percent of retailed goods were officially reported to be imported (RSY, 2004, p. 507; *Rossiya*, 2005, p. 267).[18] These data reconfirm that the increase in retail trade was "financed" by the increase in oil export revenues. Thus, the former represented the secondary effect of the latter. It can now be estimated on the basis of data from figures analyzed above that consumption of imported goods by households contributed 1.2 to 2.0 percent annually to GDP growth during the period 2000–2004.

Although Russian imports shrank in 1999 due to the devaluation of the ruble, they rapidly recovered and reached the pre-crisis level in 2003. As shown in Table 8, Russian imports from non-CIS countries increased by 2.6 times, from $21.9 billion in 1999 to $57.9 billion in 2004.[19] More rapidly, imports of machinery increased by 3.3 times, from $7.9 billion to $26.4 billion. Machinery imports accounted for 51.5 percent of the total increase in that period, chemicals for 18.1 percent, and foods for 11.2 percent. Accordingly, the share of machinery in imports from non-CIS countries increased from 36.2 percent in 1999 to 45.7 percent in 2004. It further increased to 47.7 in January–November 2005.

It is noteworthy that Russian machinery imports include many consumer durables. Because there have been no data showing the share of consumer goods in machinery imports, I calculated major items of machinery imports from detailed customs statistics (Table 9). As shown in this table, 27.2 percent of machinery, equipment, and vehicle imports from non-CIS countries were accounted for by vehicles (mostly passenger cars), whereas 23.8 percent was electrical machinery for household use. Moreover, Code 84, which covers many investment goods such as machinery for industrial production, includes some electrical machinery for household use (e.g., washing machines). We can thus estimate that more than half of the imported machinery consisted of consumer durables. And if we take into account imports of foods and textiles (shown in Table 8), it becomes obvious that imports of consumer goods contributed significantly to the increase in total imports. In addition, we should take account of the so-called shuttle trade, most of which consists of consumer durables, but is not

[17]The fact that purchases of goods have grown more rapidly than purchases of services, while the shares of purchases of goods and those of services in household consumption have been stable, indicates that prices of services have grown more rapidly than those of goods. This is a well-known recent phenomenon in Russia.

[18]This share was 48–54 percent in 1995–1998 as a result of the appreciation of the ruble in real terms.

[19]Because imports from non-CIS countries have been more significant in Russian imports of consumer goods, especially of machinery for households, than those from CIS countries, I analyze here imports from non-CIS countries. In 2004, imports from non-CIS countries accounted for 76.6 percent of total Russian imports (*Rossiya*, 2005, p. 394).

Table 8. Commodity Structure of Russia's Imports from Non-CIS Countries, 1995-2005

Commodity structure	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005[a]
						In billion dollars					
Total	33.1	31.9	38.9	32.3	21.9	22.3	30.7	36.0	44.1	57.9	70.4
Foods and agricultural raw materials	9.6	7.8	10.1	8.6	6.3	5.3	7.3	8.6	9.4	10.4	12.0
Mineral products	1.0	1.0	1.1	0.8	0.4	0.4	0.4	0.4	0.5	0.6	0.7
Chemicals and rubber	3.8	4.9	6.1	5.0	3.7	4.6	6.1	6.4	8.1	10.2	12.7
Timber, pulp and paper	1.0	1.4	1.7	1.4	0.9	1.0	1.3	1.6	2.0	2.3	2.4
Textiles, shoes and leather	1.7	1.5	1.4	1.0	0.7	0.9	1.4	1.7	2.0	2.3	2.6
Metals and precious stones	1.7	2.0	1.8	1.5	1.2	1.1	1.5	1.8	2.2	3.2	3.9
Machinery and equipment	12.8	12.1	15.2	12.7	7.9	8.1	11.4	13.9	18.0	26.4	33.5
Other	1.5	1.3	1.5	1.1	0.8	0.8	1.3	1.5	1.9	2.5	2.6
						In percent					
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Foods and agricultural raw materials	29.1	24.4	26.0	26.8	28.8	23.8	23.7	23.9	21.4	17.9	17.0
Mineral products	3.0	3.2	2.8	2.6	2.0	1.7	1.4	1.1	1.2	1.0	1.0
Chemicals and rubber	11.4	15.5	15.7	15.6	16.8	20.7	19.8	17.8	18.4	17.6	18.1
Timber, pulp and paper	3.0	4.3	4.3	4.5	3.9	4.5	4.4	4.3	4.5	4.0	3.5
Textiles, shoes and leather	5.2	4.7	3.7	3.1	3.4	4.2	4.6	4.8	4.5	4.1	3.6
Metals and precious stones	5.0	6.1	4.6	4.6	5.3	5.0	4.8	5.0	5.1	5.5	5.5
Machinery and equipment	38.7	37.8	39.1	39.3	36.2	36.3	37.2	38.7	40.7	45.7	47.7
Other	4.6	4.0	3.9	3.5	3.6	3.8	4.2	4.2	4.2	4.2	3.7

[a]January–November 2005.

Sources: Compiled by the author from RSY, 2002, p. 620; 2004, p. 656; *Rossiya*, 2005, p. 404; and the website of the Federal Customs Service of Russia [http://www.customs.ru/ru/].

included in customs statistics. For example, in 2004, the amount of the shuttle trade was estimated at nearly $18 billion vis-à-vis $57.9 billion of total imports in Table 8.[20] Thus, the actual contribution of consumer goods to the increase in imports must have been much larger. Because imports increased rapidly, net exports did not contribute much to GDP growth except in 1999, when they provided the driving force for the economic recovery (Table 7). While we see robust contributions by exports in 2002–2004 (by 4.3–5.7 percent),

[20]In 2004, according to the balance-of-payments statistics that include estimates of the shuttle trade, Russian imports from non-CIS countries amounted to $76.4 billion [http://www.cbr.ru/]. Most of the difference ($18.5 billion) between this amount and the figure in Table 8 ($57.9 billion), based on customs statistics, was accounted for by the shuttle trade.

Table 9. Russian Imports of Machinery from Non-CIS Countries in 2004

Code	Commodity	Volume	
		million dollars	percent
84	Nuclear reactors, boilers, machinery and mechanical appliances	10,279.9	38.9
84.19	Machinery for heating, cooking, cooling etc.	625.6	2.4
84.50	Washing machines	530.5	2.0
84.71	Automatic data processing machines	966.0	3.7
85	Electrical machinery and equipment	6,291.7	23.8
85.17	Electrical apparatus for line telephony or line telegraphy	1,096.6	4.2
85.25	Transmission apparatus for radio broadcasting or television	1,006.9	3.8
86	Railway or tramway locomotives	107.5	0.4
87	Vehicles other than railway or tramway rolling-stocks	7,181.2	27.2
87.03	Motor cars and other motor vehicles	4,978.4	18.8
87.08	Parts and accessories of the motor vehicles	795.1	3.0
88	Aircraft and spacecraft	421.0	1.6
89	Ships, boats and floating structures	146.2	0.6
90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus	1,995.6	7.6
90.18	Instruments and appliances used in medical, surgical, dental or veterinary sciences	587.2	2.2
84-90	Machinery, equipment and vehicles	26,423.0	100.0

Sources: Calculated by the author from data in *Tamozhennaya*, 2005, pp. 23-27 (two-digit code) and *Tamozhennaya*, 2005, pp. 565-655 (four-digit code extracted from the six-digit code listed), excluding items worth less than one million dollars.

contributions by imports have been overwhelming—4.0–5.9 percent in 2000–2005. As shown in Table 10, changes in exports and imports in real terms in GDP statistics have corresponded quite well with the quantity indexes of exports and imports that have been calculated and published by the Federal Customs Service of Russia.[21] The almost perfect accordance of changes in exports in real terms with its quantity index, shown in Figure 2, seems to indicate an appropriate deflation. Actually, the dynamics of the price index of exports reflects the changes in oil export prices. We could thus say that there is no direct influence of high oil prices on GDP growth in real terms, if we analyze final use.

I note in passing the significant contribution to GDP growth made by changes in inventories, reaching 5.6 percent, or 55.4 percent of the total contribution in the year 2000 (Table 7). More than half of GDP growth in that year was brought about by changes in inventories. In nominal terms, there was no significant contribution from changes in inventories, which amounted to 21.4 billion rubles in 1999 and 133.7 billion in 2000.[22] Its rate of

[21]Masakova (2004) suggested that, in GDP statistics, exports and imports in real terms were calculated by Goskomstat Rossii by using quantity indexes of 10 major commodity groups that were calculated by the Federal Customs Service. These indexes of 10 major commodity groups have never been published.

[22]Calculated from Goskomstat Rossii's website [http://www.gks.ru].

Fig. 2. Changes in Russia's exports, 1996–2004, as a percentage of previous year.

Table 10. Changes in the Exports and Imports of Russia, 1996-2004 (in percent of previous year)

Trade	Terms and index	1996	1997	1998	1999	2000	2001	2002	2003	2004
Exports	In real terms	103.7	99.5	101.9	111.2	109.5	104.2	110.3	112.5	112.3
	Quantity index	100.1	101.8	99.7	109.4	110.2	102.8	110.5	111.7	110.7
	Price index	108.6	98.1	84.2	92.1	128.2	93.6	96.1	112.0	122.7
Imports	In real terms	101.3	100.4	82.6	83.0	132.4	118.7	114.6	117.7	123.5
	Quantity index	98.1	121.1	89.0	84.4	129.2	129.8	117.8	122.0	124.2
	Price index	100.2	94.8	92.3	82.1	86.7	94.4	93.6	101.7	106.1

Sources: Calculated by the author from Table 7 (real terms) and customs statistics (quantity and price indexes, *Tamozhennaya*).

contribution to GDP growth in nominal terms in 2000 was only 4.5 percent of the total. In real terms, when expressed in 1995 constant prices, they registered a negative 50.3 billion rubles in 1999 and a positive 27.9 billion in 2000. This change from a minus to a plus (a net swing of 78.2 billion rubles) contributed rather significantly to GDP growth in 2000. The increase in inventories in 2000 was partly due to a significant increase in agricultural production during the year, as shown in Table 2.[23]

CONCLUSION

There has been little direct influence of high oil prices on GDP growth in Russia. In this sense, oil price increases have been appropriately deflated in Russia's GDP statistics. It is reasonably clear that the data analyzed in this paper show that the increase in oil export

[23]This was confirmed by Goskomstat statisticians during the course of an interview with this author in March 2002. They frankly admitted that there are some weaknesses in the calculation of changes in inventories, especially in real terms, during another interview with this author in August 2005.

revenues due to high oil prices prompted a considerable increase in personal consumption, nearly half of which was traced to imports. We can therefore characterize the Russian economic boom as personal consumption–led growth fueled by oil and gas export revenues.

REFERENCES

Belarus' i Rossiya (*Belarus and Russia*). Moscow, Russia: Minstat Respubliki Belarus' and Goskomstat Rossii, various years.

Goskomstat RF and World Bank, *Russian Federation: Report on the National Accounts*. Moscow, Russia and Washington, DC: Goskomstat Rossii and World Bank, 1995.

Gurvich, E. T., "Makroekonomicheskaya otsenka roli Rossiyskogo neftegazovogo sektora (Macroeconomic Evaluation of the Role of the Russian Oil and Gas Sector)," *Voprosy ekonomiki*, No. 10, 2004.

Kuboniwa, Masaaki, "An Analysis of Singularities of Russia's Marketization Using Input-Output Tables," *The Journal of Econometric Study of Northeast Asia*, **4**, 1:1-13, 2002.

Kuboniwa, Masaaki, "A New Growth Wave with Peculiar Industrial Structure in Russia," *Keizai kenkyu (The Economic Review)*, **55**, 2:135-154, 2004 (in Japanese).

Kuboniwa, Masaaki, Shinichiro Tabata, and Nataliya Ustinova, "How Large Is the Oil and Gas Sector of Russia? A Research Report," *Eurasian Geography and Economics*, **46**, 1:68-76, 2005.

Masakova, I. D., "Sovershenstvovaniye metodov ischisleniya dinamicheskikh pokazateley VVP na osnove tablits resursov i ispol'zovaniya tovarov i uslug (Improving the Method of Calculating the Dynamic Indicators of GDP on the Basis of Tables Denoting the Supply and Use of Goods and Services)." Mimeo, 2004.

Natsional'nyye scheta Rossii (*National Accounts of Russia*). Moscow, Russia: Goskomstat Rossii, various years.

OECD (Organisation for Economic Cooperation and Development), *Economic Surveys, Russian Federation*. Paris, France: OECD, 2004.

Rossiya v tsifrakh (*Russia in Figures*). Moscow, Russia: Goskomstat Rossii, various years.

RSY, *Rossiyskiy statisticheskiy yezhegodnik* (*Russian Statistical Yearbook*). Moscow, Russia: Goskomstat Rossii, various years.

SEP, *Sotsial'no-ekonomicheskoye polozheniye Rossii* (*Socio-economic Situation of Russia*). Moscow, Russia: Goskomstat Rossii, monthly.

Sistema tablits "Zatraty-Vypusk" Rossii (*System of Input-Output Tables for Russia*). Moscow, Russia: Goskomstat Rossii, various years.

SNA, *System of National Accounts, 1993*. Brussels/Luxembourg, New York/ Paris/Washington, DC: CEC, IMF, OECD, United Nations, World Bank, 1993.

Tabata, Shinichiro, "Russian Revenues from Oil and Gas Exports: Flow and Taxation," *Eurasian Geography and Economics*, **43**, 8:610-627, 2002.

Tabata, Shinichiro, "Price Differences, Taxes, and the Stabilization Fund," in M. Ellman, ed., *Russia's Oil: Bonanza or Curse?* London, UK: Anthem, 2006.

Tamozhennaya statistika vneshney torgovli RF (*Customs Statistics of Foreign Trade of the Russian Federation*). Moscow, Russia: Federal'naya tamozhennaya sluzhba Rossii, various years.

Torgovlya v Rossii (*Trade in Russia*). Moscow, Russia: Goskomstat Rossii, various years.

Tseny v Rossii (*Prices in Russia*). Moscow, Russia: Goskomstat Rossii, various years.

World Bank, *From Transition to Development: A Country Economic Memorandum for the Russian Federation*. Washington, DC: The World Bank, April 2004 [http://www.worldbank.org.ru].