

**International Economics**

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**ANALYSIS  
OF RAW-RESOURCES IMBALANCES  
OF THE WORLD ECONOMY**

**Abstract**

The raw-resource imbalances of the world economy and its impact on foreign trade of Ukraine are analyzed. Theoretical, methodological and practical aspects of the impact raw-resource problems of the world economy on foreign trade of Ukraine are accumulated.

**Key words:**

Resources, raw materials, world economy, foreign trade, raw imbalances, resource supply.

**JEL:** F01, Q00, F18.

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## Introduction

The important issues for practical foreign economic activity are: changes in geographical structure of international trade in raw materials; the dynamics of world prices and transformation of structure commodity and its assortment of quality and so on. Theoretical aspects regarding the formation, functioning and development of the market raw materials in the world economy for a long time are in view of famous foreign and domestic researchers and economists as: Arbatov A. A., Bardin I. P., Bulatov A. S., Brown R., Brunstad R., Berland H., Vernadsky V. I., Vavilova E. V., Weidmann D., Gerlach R., Dysurys A., Dyurstad D., Kampbell N., Lomakin V. K., Mehlum H., Moyen K., Makogon J. V., Novitsky V. Y., Rogach O. I., Rummyantsev A. P., Revenko L. S., Stydzhyns D.-P., Torvyk R., Trempman W., Hamfrys M., Heynkl J., Hall G., Chezelly F., Tsygan-kova T. M., Filippenko A. S., Fomichev V. I., Juergen D. and others.

Actuality of the problem, its lack of theoretical elaborated and great practical importance resulted the main goal, which is to study raw-resources problem of the world economy. Within the framework of this goal we can follow such tasks for researching, in particular, to outline current trends of raw-resource problems of the world economy and analyze the foreign trade policy of Ukraine in the context of raw-resource problems of the world economy.

## Main Material

In world practice, imbalances of resources and raw materials are a phenomenon of stable inverse relationship between economic growth and the presence of a significant amount of mineral resources in them. The relationship between the value of inventories of resources and low levels of economic activity has been the subject of research and theories of «resource curse» and «wealth paradox». This phenomenon is also called «Dutch syndrome» or «Dutch disease» but in relation to developed countries and identifying on the example of Holland.

The most strongly it was shown in the Sachs and Warner during the period from 1970 till 1989. According to this study, large deposits of oil and other minerals do not made a positive impact on economic growth. According to the World Bank's average annual decline in GDP per capita over the period from 1965 to 1998 in Iran and Venezuela accounted for 1%, in Libya – 2%, Iraq and Kuwait – 3%. In general, countries – OPEC GDP per capita during this period did not increase, but decreased on about 1–3% per year.

However, studies on the «resource curse» have some exceptions. In particular, Hausman and Rigobon agreeing with the presence of most of the inverse relationship, indicate positive results, which have achieved some oil-rich countries in the period of high prices for the energy source in the 1980s through the effective governance and protectionism, particularly in respect of these industries of the country.

Example of some countries has shown that with proper policies and strict government regulation of natural resource abundance may contribute to long-term economic growth. Some economists draw attention to the risks associated with the weakening of the institutional framework in the field of resource management, particularly in the oil sector<sup>1</sup>.

Some countries that have achieved macroeconomic stabilization and applied transparent management, managed to get a significant return on their mineral resources, in particular, Canada, Norway (gas and oil), Chile (copper), Botswana (diamonds).

One of the most convincing examples of sustainable management of the resource is Norway (Temchenko, 2001). As an exporter of oil and gas, it is third after Russia and Saudi Arabia. Management model of natural resources is based on state ownership of the oil and gas reserves and in the full state control in the production. The state is involved in all fields of operation completely straight-through state-owned companies, as well as through the allocation of the share of the state, licensing, permitting activities and more.

However, Norway has not escaped the same problems faced by other countries in the dominant commodity in the economy. The high export revenues from oil and gas cause redistribution of funds across high-tech sector and mining. This naturally slows raw specialization and inhibits the development of an integrated economy.

Note that is not only Norway, but also to some extent Venezuela , United Arab Emirates have also found their economic and social integration criteria commodity (oil and gas) sector in the development of an integrated economy, thus avoiding crises.

Possessing of resources for developing countries is connected with the risk of social and economic instability, the growth of corruption, sharpening rivalry between the conflicting political forces. The weakness of the institutional structure of government is the source of the phenomenon of «resource curse». However, the most important in economic terms, as the cause of poor growth rates – is the abstraction of available investment funds in the production and distribution of commodities. This situation is particularly evident in the case of increasing cost of exported resources.

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<sup>1</sup> The Global Enabling Trade Report 2010: <http://gcr.weforum.org/getr2010>.

The main components of the global market of raw materials are: oil and petroleum products – 39% , ferrous metals and steel – 19%, coal – 14%, natural and liquefied gas 8%. According to Chatham House on the global raw materials market eight countries are dominated: China, the U.S., Australia, the EU, Brazil, Russia, India and Indonesia. The leader is Russia in four positions: 12% of world oil production, gas – 19% aluminum – 10%, wheat – 6%. Overall, Russia must invest according to Bloomberg \$750 billion in oil industry by 2035, and according to statements Chatham House – \$3 trillion in 2020 and \$37 trillion by 2035 to withstand natural production decline<sup>2</sup>.

Overall, Chatham House counted 30 countries – influential players in the global market of raw materials. In addition to the eight key countries these include countries with large reserves or production facilities of one or more resources – Saudi Arabia (oil), Iran (oil and gas), Canada (nickel), Chile (copper), Argentina (soybeans). There is a danger of the emergence of new industrial cartels for example OPEC if quotations remain high.

In world practice there are resource-provided countries (USA, China, and Brazil) with significant natural resources, but it still imports some resources. The majority of countries are resource-insufficient (Japan, Italy, South Korea, Taiwan). They usually satisfy their needs due to the global market. There are a number of resources vitally important – water and air, state of forest supply.

Countries reflect the critical situation according to the limited internal and external renewable water resources, such as Israel, Bahrain, Jordan, United Arab Emirates, Gaza, Kuwait, and Qatar (see Table 1). This region is part of the world with the lowest indexes in absolute terms and per capita on water resources. Rainfall in the region is very low and variable, and the water resources of the region are particularly sensitive to drought.

*Table 1*

**Country leaders with the least amount of water reserves**

No	Country	Total volume of renewable water resources	Average annual level of rainfall
1	Kuwait	0.02 km <sup>3</sup> /y	2.16 km <sup>3</sup> /y
2	Qatar/Malta	0.05 km <sup>3</sup> /y	0.81/0.12 km <sup>3</sup> /y
3	Gaza	0.06 km <sup>3</sup> /y	0.00 km <sup>3</sup> /y
4	Bahrain	0.12 km <sup>3</sup> /y	0.06 km <sup>3</sup> /y
5	UAE	0.15 km <sup>3</sup> /y	6.53 km <sup>3</sup> /y

Note: Made by author: AQUASTAT, 2011.

<sup>2</sup> Mining Royalties: a global study of their impact on investors, government and civil society / J. Otto and oth. The world Bank, 2006.

Middle East countries are covering 4.7 percent of the total land area in the world and contain 4.25 percent of its population, and water resources only 1.1 percent of the total renewable water resources. Middle East countries have less water per person than the world average. In general, the Arabian Peninsula has limited water resources, with less than 10 mm/year rainfall on average, and this is in conditions of strong lack of water in the range of 200 to 700 m<sup>3</sup> per citizen per year. Unlike subregion Middle East, this peninsula shows much higher indicators, mainly due to abundant flows from the mountain Turkey and the Caucasus subregion. According to United Nations estimation 1.8 billion people will live in regions, suffering from lack of water and two-thirds of the world's population will live under water in stressful conditions to 2025.

Some oil-rich countries process a significant amount of salt water from the sea or of poor quality aquifers (hard water) in drinking water. The general use of desalinated water in the Middle East estimated at 3.93 km<sup>3</sup> per year. Three countries (Saudi Arabia, United Arab Emirates and Kuwait) are today the largest consumers of desalinated water, which is 77% of the entire region.

Less than 1% of the world freshwater is readily available for direct human use (see Table 2). Agriculture is the largest consumer of freshwater today: about 70% of all freshwater use in irrigated agriculture. That it uses about 70% of all freshwater worldwide and over 80% in developing countries<sup>3</sup>.

For every \$ 1 invested by the World Health Organization (WHO) returns of \$ 3 – \$ 34, depending on the region and technology.

Table 2

**Countries leaders of the largest reserves of freshwater in the world**

No	Country	Global water resources	Average annual level of rainfall
1	Brazil	8233.0 km <sup>3</sup> /y	15,236 km <sup>3</sup> /y
2	Russia	4508.0 km <sup>3</sup> /y	7,855 km <sup>3</sup> /y
3	Canada	2902.0 km <sup>3</sup> /y	5,352 km <sup>3</sup> /y
4	Indonesia	2838.0 km <sup>3</sup> /y	5,147 km <sup>3</sup> /y
5	China	2830.0 km <sup>3</sup> /y	5,995 km <sup>3</sup> /y

Note: Made by author: AQUASTAT, 2011.

<sup>3</sup> AQUASTAT: \_water\_resources\_and\_MDG\_water\_indicator\_November\_2011.xlsx.

According to the data – water supply fall and water demand increase sharply (see Table 3). According to the forecasts for the next 20 years, the average supply of water per one person in the world will decrease by one-third. One liter of wastewater pollutes about eight liters of fresh water. Asian rivers most polluted in the world, three times as many bacteria from human waste as the average in the world. These rivers have in the 20 times more lead than in industrialized countries<sup>4</sup>.

Table 3

**Countries leaders of the largest consumption of water in the world by 2012**

No	Country	Consumption of freshwater
1	USA	2,500 m <sup>3</sup>
2	Greece	2,400 m <sup>3</sup>
3	Malaysia	2,300 m <sup>3</sup>
4	Italy	2,200 m <sup>3</sup>
5	Spain	2,100 m <sup>3</sup>

Note: Made by author: AQUASTAT, 2011.

It should note that vital resource for humans is not only water but also the air that depends on the world's forest reserves. So, Africa and South America are losing most of forests. For Oceania and North and Central America is also typical loss of forests (see Table 4). The forest area in Europe continues to expand but more slowly times. The total forest area in 2008 was less than 4 billion hectares that corresponds 0.62 hectares per capita. Nevertheless, the forest area is unevenly distributed. For example, in 64 countries with a total population of 2 billion there is less than 0.1 ha of forest per capita. Ten richest forests countries account for two-thirds of the total forest area. Conversion of forests to agricultural land continues at an alarmingly high level – about 13 million hectares per year. At the same time, forest planting, landscape restoration and natural expansion of forests have significantly reduced net loss of forest area. Change in forest area

<sup>4</sup>Global infectious diseases, such as water disease is the number one killer of children under five years of age. More people die each year from unsafe water than from all forms of violence, including war. Unsafe water causes 4 billion cases of illness each year, resulting in 2.2 million people, mainly children under five years of age. This means that 15% of child deaths per year associated with disorders of the stomach, that a child dies every 15 seconds. In India alone, the biggest cause of ill health and death among children is this reason that kills half a million children each year.

during the 2000–2008 is estimated at –7300000 hectares per year (an area about the size of Sierra Leone or Panama), compared with –8.9 million hectares per year in the period 1990–2000.

Forests cover about 30% of the land in the world (see Table 5). The biggest catalyst for deforestation is agriculture. In Nigeria 81% of its original forest cover is now irretrievably lost. Countries such as India, Mexico, Philippines, Thailand, Indonesia, Bangladesh, Myanmar, China, Sri Lanka, Congo and Ghana lost more than 50% of its rainforests (FAO, 2012).

Table 4

**Countries leaders with the greatest destruction of forests by 2012**

No	Country	% destruction	Total area of forest	Remnants of forests, %	Annual changes
1	Nigeria	55.7%	11,089,000 ha	0.36%	– 3.12%
2	Vietnam	54.5%	12,931,000 ha	0.26%	+ 2.06%
3	Cambodia	29.4%	10,447,000 ha	1.82%	– 1.90%
4	Sri Lanka	15.2%	1,933,000 ha	2.58%	– 1.43%
5	Malawi	14.9%	3,402,000 ha	12.0%	– 0.9%

Note: Made by author: (FAO, 2012).

Table 5

**Countries leaders by forests availability in 2012**

No	Country	% territory occupied by forest
1	Cook Islands	96.0%
2	French Guiana	90.0%
3	Solomon Islands	87.8%
4	Suriname	86.9%
5	Gabon	84.7%

Note: Made by author: (FAO, 2012).

It should note that about six countries lost all their forests. Only seven countries there is still a large part of their original forest cover. Approximately 40% of forests on Earth qualify as those that are on the brink of destruction. Note that 70% of forest remaining in the world found in Russia, Canada and Brazil,

and 5.39% of the remaining forests of the world is threatened deforestation, destruction of agricultural and other human activities. Among the important resources and raw materials in the world are precious metals. So gold is mined on every continent except Antarctica (where mining is not allowed), in clandestine operations ranging from small businesses to large industrial complexes with hundreds of employees. Annual production in South Africa fell due to high cost, low quality ore and labor issues.

In 2010, the total global supply of gold was 4,287 tons, which is 8% higher than in 2009, mainly due to increased production of gold mining, along with a corresponding increase in recycling scrap gold. China is the largest producer of gold. The volume of gold production in China grew by 11% compared to 2010 and amounted to 324 thousand tons. Among the top 10 largest producers of gold, only the U.S. and South Africa have seen a decline in production of gold. The largest decrease in consumption of metal jewelry manufacturer was observed in India, Turkey, Italy and the USA. It estimated that 15% of all mined gold used in the industry. Thus, 157 000 tons of gold extracted historically to 2009, 133 000 tons of which remain in circulation, with 28,700 tons held by central banks as official stocks and 104,000 tons are in the form of bars, coins and jewelry (FAO, 2012).

Around 15 leading mining companies produce about half of the total gold that produced in 2009. The top five companies include Barrick Gold Corp (Toronto, Canada), Newmont Mining Co (Denver, Colorado), Anglo Gold Ashanti Ltd (Johannesburg, South Africa), Gold Fields Ltd (Johannesburg), and Goldcorp Inc (Vancouver, British Columbia, Canada), which accounted for nearly a third of world production of gold.

According to the U.S. Geological Survey, the world production of silver increased for 5% in Peru as a leading producer. Production of silver also increased in Mexico (3%) and China (4%) in second and third place for the production of silver, respectively. Demand for silver built on three pillars: 1) industrial use; 2) photo industry; 3) jewelry and silverware. Together, these three categories represent more than 95% of annual silver consumption. Almost 3126000 Troy ounces of silver used around the world in 2009 for photography. Despite the wide range of technologies, available silver-based photography is expected to dominate the market in the near future due to its excellent clarity and low cost (FAO, 2012).

Primary commodity trade characterized by specific features, factors and trends affecting the dynamics, structure, growth of trade and create short-term and long-term commodity market conjuncture. At the same time, it is necessary to define common to primary commodities characteristics and development trends of world trade.



Table 6 shows the volume of world exports of the main types of primary commodities, including agricultural products, fuels and mining products industry, iron and steel, and chemical products.

From 1980 to 2011 in all kinds of raw material can be traced different dynamics of annual growth. Thus, only the export of chemicals characterized by positive dynamics with only recession in the crisis year (2009) – 13%. The largest increase was in 2010 with growth of 18%. It should be noted, that in 2009 the negative impact was on export performance of all raw products, but the largest impact was on exports of iron and steel (45%), fuels and mining products industry (36%).

Table 6

**World exports of basic primary commodities**

	volume, billions USD	share in world trade	annual percentage change								
			1980–85	1985–90	1990–95	1995–00	2000–05	2005–11	2009	2010	2011
Agricultural products	1660	9,3	-2	9	7	-1	9	12	-12	16	21
Fuels and mining products	4008	22,5	-5	3	2	10	16	14	-36	33	34
Iron and steel	527	3,0	-2	9	8	-2	17	9	-45	30	24
Chemicals	1997	11,2	1	14	10	4	14	10	-13	18	16

Note: Made by author: (FAO, 2012).

Characterizing the major share of primary commodities in exports of major parts of the world (see Table 7), it should be noted that the share of p/c is the highest in exporting countries of South and Central America (27.7%) and the lowest – in the exports of the Middle East. The largest share of exports fuel and production of mining industry belongs to Middle East, and with a small margin in exports of the CIS and Africa. The lowest number represented in European exports.

Table 7

**Share of main primary commodities in the export  
of the major regions of the world, 2011**

	agricul- tural prod- ucts	fuels and mining products, general	fuel	total	iron and steel	chemi- cals
World	9,3	22,5	17,8	64,6	3,0	11,2
North America	11,0	17,9	13,2	65,7	1,5	11,4
South and Central America	27,5	43,0	24,8	26,4	2,8	6,4
Europe	10,1	12,4	8,7	75,3	3,4	16,2
CIS	7,5	66,1	59,6	22,9	6,9	6,2
Africa	10,0	64,3	54,6	18,6	1,7	3,7
Middle East	2,6	67,7	66,2	20,9	0,6	7,5

Note: Made by author: <sup>5, 6, 7</sup>.

Iron and steel exports represent most of the CIS countries (6.9%), and least are from the Middle East. The largest share in world exports chemicals represented by Europe (16.2%), and lowest – African countries (3.7%). In general, the share of primary commodities in exports of major regions of the world in 2011 falls in export of chemicals, and the lowest fall of agricultural raw materials (Fig. 1).

Exports of agricultural products prevailed only in the trade of America, and a leading position occupied Southern and Central America the rest of the world imports exceeded exports. In Europe they are in almost equal proportions (Fig. 2).

The share of exports and imports of agricultural products in primary products is much more. The largest importer is the Middle East (52.7%) (see Figure 3).

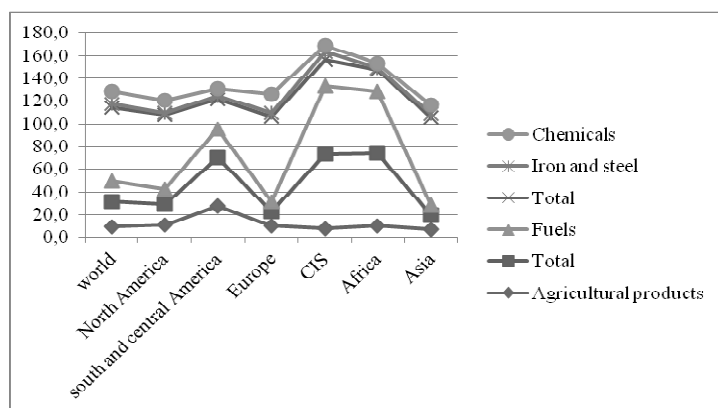
<sup>5</sup> International Trade Statistics 2011. <http://www.wto.org>.

<sup>6</sup> Mining Royalties: a global study of their impact on investors, government and civil society / J. Otto and oth. The world Bank, 2006.

<sup>7</sup> The Global Enabling Trade Report 2010. <http://gcr.weforum.org/getr2010>.

Figure 1

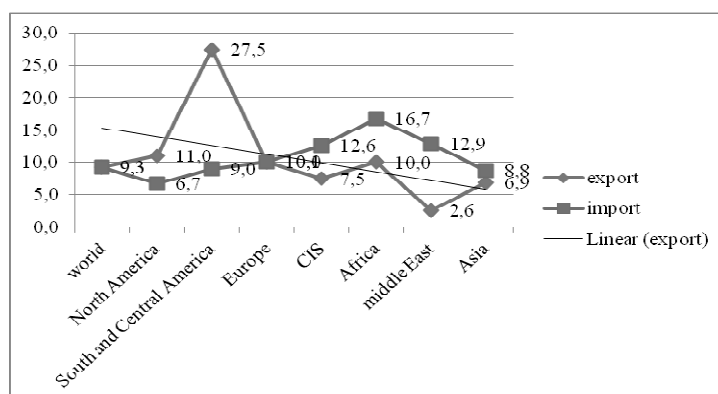
Share of main primary commodities in the export of major regions of the world in 2011



Note: Made by author: (5–7).

Figure 2

Share of agricultural products in world trade in 2011 by main world regions



Note: Made by author: <sup>8, 9, 10</sup>

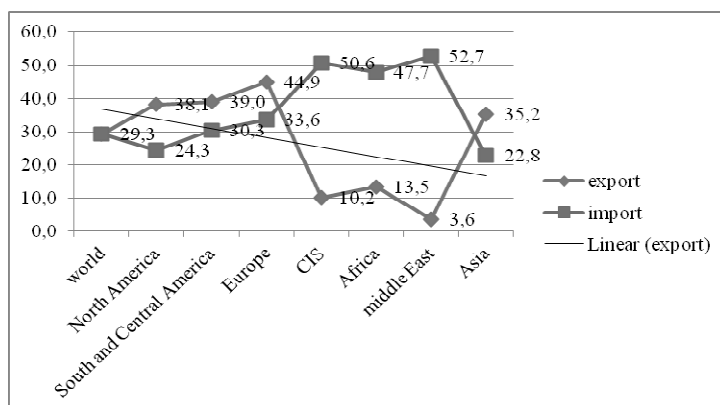
<sup>8</sup> International Trade Statistics 2011. <http://www.wto.org>.

<sup>9</sup> Mining Royalties: a global study of their impact on investors, government and civil society / J. Otto and oth. The world Bank, 2006.

<sup>10</sup> The Global Enabling Trade Report 2010. <http://gcr.weforum.org/getr2010>.

Figure 3

Share of agricultural products in primary products in 2011



Note: Made by author: (8–10).

Thus leaders in the export of chemical products were the EU-27 in 2011. Share in world exports was 48.7% in the EU and 17.6% was in the foreign market. The next position in 2011 occupied the U.S. – 10.4%, China – 10%, Japan – 5.7% and Switzerland – 4.2%.

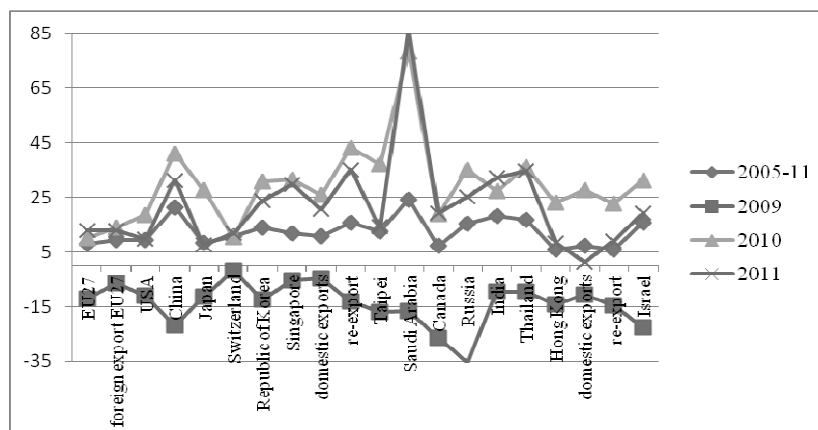
In addition, top leaders-exporters of chemical products are Singapore, Taipei, Saudi Arabia and Canada (Fig. 4). The last in a series of leading exporters of chemicals is Israel with the index 0.9% of world exports. It should be noted, that the decline in exports reflected in all countries observed in 2009 with the highest increase in 2010. Saudi Arabia has typical largest positive trend both in 2010 and in 2011.

Leading position occupied by the EU-27 in world imports 41.3%. With the wide gap, the following position takes U.S. – 10%. The smallest share of imported goods has Turkey – 1.5% Singapore – 1.3% and Australia – 1.2%.

Dynamics of annual changes in the world imports chemical shown in Figure 5. It can be concluded that the decline in imports reflected in all countries observed in 2009 exclusively by the crisis in the global economy, and the largest increase was in 2010, followed by a decrease in 2011. However, for China, Korea, Singapore and Taipei typical the high positive trend was in 2010, with partial reduction in 2011.

Figure 4

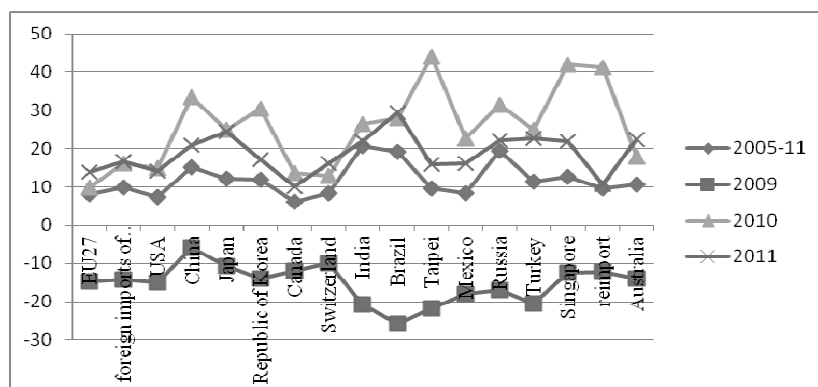
Annual change in production of chemicals exporters-leaders%



Note: Made by author: <sup>11, 12, 13</sup>.

Figure 5

Annual change in production of chemicals importers-leaders, %



Note: Made by author: (WTO, 2011; WB, 2010).

<sup>11</sup> International Trade Statistics 2011. <http://www.wto.org>.  
<sup>12</sup> Mining Royalties: a global study of their impact on investors, government and civil society / J. Otto and oth. The world Bank, 2006.  
<sup>13</sup> The Global Enabling Trade Report 2010. <http://gcr.weforum.org/getr2010>.

When we analyzed the exports of chemical products during 2002–2011 years we can note that most European chemical exports sent within Europe, particularly in 2005 – 72.2%, in 2011 – 69.2% and globally, this indicator was – 43.3% and 37.1% respectively. Export of these products to other parts of the world was very different. The smallest share of European chemical products exports aims to South and Central America – 1.6% in 2005 and – 2.3% in 2011. In Asia and Europe, the main part of its exports focused on the Asian market (share in 2005 was – 65.2% and in 2011 – 64.3%). Least chemicals product exported from Asia to CIS countries in 2005, 1.2% and 1.5% in 2011. Slightly larger and equal parts products are exported to Africa, South and Central America and the Middle East – 2.1% and 3% in 2005 and 2011 respectively.

China is an exporter mainly in Asia and it is important that its share in this market is growing; it was – 42.7% in 2005 and 45.4% – in 2011. Note that China as one of the largest exporters in the world shows a positive trend in the Asian market. Large share of its exports directed to Europe 24.1% in 2005 and 20.7% in 2011. The lowest share of exports directed to the CIS countries.

In North America the largest part of exports directed to the domestic market – 3.6% in 2005 and – 35.1% in 2011. Almost equal share of exports are directed to Europe and Asia. Least chemical products exported in Africa and the CIS countries.

We characterized the proportion commodities in world exports of raw materials by the example of Spain, Qatar, China, Latvia, Turkey, and Saudi Arabia.

It should be noted that the largest share of Spanish exports of raw materials (Table 8) to the world market was the chemical products. Its share increased from 39.59% in 1995 to 53.20% in 2011. The second was the exports of iron which dispatched from 2000 to 2009, anticipating the economic crisis. Almost an equal level with the previous indicator was the share of fuels exports which showed a maximum value in 2009.

Table 9 analyzed the structure of raw materials in Qatar. Thus, the largest share was a fuel in exports of raw (99%).

Relatively small share of exports of chemical products was, which greatly reduced (almost twice) in 1995 (11.2%) to 2011 (5.6%). Similarly, the reduction was in exports of iron and steel in the total raw materials from 4.84% to 0.42% in 2011. For example, Qatar has the smallest share of agricultural exports (0.03%).

Table 10 shows the raw material in the context of China's export. It should be noted the share of chemicals this country in world exports, which increased from 37.78% in 1995 to 89.93 in 2011. Another significant share of raw materials in world exports were exports of iron and steel, which increased more than twice from 1995 to 2011 and amounted to 43.48% of the total export of raw materials in China. Smallest share of its exports were pearls and precious metals (2.74%) and other ores (2.9%).

Table 8

## Share of Spanish raw materials in the world exports

Raw materials	1995	%	2000	%	2009	%	2011	%
Raw materials, precious stones and non-monetary gold	19148708		23715063		54896776		78439533	
Agricultural raw	1470793	7,68	1518453	6,40	2258047	4,11	3777244	4,82
Ores and metals	2115972	11,05	2560758	10,80	6220321	11,33	10929870	13,93
Ferrous metals	1502610	7,85	1575717	6,64	4002449	7,29	6949930	8,86
Other ores and metals	613361,7	3,20	985041,1	4,15	2217871	4,04	3979940	5,07
Fuel	1564062	8,17	4171700	17,59	10134903	18,46	12837628	16,37
Pearls, precious stones and non-monetary gold	174275,7	0,91	107108,7	0,45	535658,5	0,98	1204785	1,54
Chemical products	7581011	39,59	10639361	44,86	30045332	54,73	41731502	53,20
Iron and Steel	3749089	19,58	3553513	14,98	8039935	14,65	14935372	19,04
Mineral fuels, lubricants and similar materials	1564062	8,17	4171700	17,59	10134903	18,46	12837628	16,37

Note: made by author (WTO, 2011; WB, 2010).

Table 9

## Share of Qatar raw materials in the world exports

Raw materials	1995	%	2000	%	2009	%	2011	%
Raw materials, precious stones and non-monetary gold	2936407		10303873		42465389		106865906	
Agricultural raw	2769,861	0,09	3172,704	0,03	1485,867	0,003	2838,631	0,003
Ores and metals	27694,13	0,94	16483,49	0,16	116347,5	0,274	1414203,1	1,323
Ferrous metals	22185,89	0,76	649,83	0,01	4247,173	0,010	929888,09	0,870
Other ores and metals	5508,235	0,19	15833,66	0,15	112100,4	0,264	484314,99	0,453
Fuel	2894727	98,58	10269945	99,67	42300346	99,611	105406577	98,634
Pearls, precious stones and non-monetary gold	685,977	0,02	6230,462	0,06	27027,23	0,064	12409,915	0,012
Chemical products	328794,5	11,20	644346,3	6,25	2758065	6,495	603 8221,5	5,650
Iron and Steel	142033,9	4,84	151421,2	1,47	374461,7	0,882	453416,54	0,424

Note: made by author (WTO, 2011; WB, 2010).

Table 10

**Share of China raw materials in the world exports**

Raw materials	1995	%	2000	%	2009	%	2011	%
Raw materials, precious stones and non-monetary gold	2698174	11,28	2824989	9,60	5564019	7,23	10444836	8,19
Agricultural raw	3072537	12,85	4579544	15,56	13945750	18,11	27184580	21,31
Ores and metals	1929255	8,07	3362548	11,42	12089302	15,70	23480415	18,41
Ferrous metals	1143282	4,78	1216997	4,13	1856448	2,41	3704164,9	2,90
Other ores and metals	5332030	22,29	7855415	26,69	20382775	26,47	32274070	25,30
Fuel	515072,6	2,15	613744,4	2,09	1788919	2,32	3499032,5	2,74
Pearls, precious stones and non-monetary gold	9035151	37,78	12097737	41,10	62007817	80,53	114723041	89,93
Chemical products	5160542	21,58	4390730	14,92	23660091	30,73	55462481	43,48

Note: made by author (WTO, 2011; WB, 2010).

The export of raw materials is interesting. For example, we analyze the structure of Latvia's exports (Table 11). The most substantial share of raw materials in the world market was export of agricultural products (11.45%), which significantly decreased compared with 1995 (27.26%). Approximately the same share are the exports of iron and steel, fuel and chemical products. The lowest part was export of non-ferrous metals (1.14%).

Table 12 represented Turkey export of raw materials on the world raw market. Most exports of iron and steel (11.91%) observed since 1995. Small export is the export of agricultural products in 2011 (0.69%) compared with 1995 (1.9%). There is a small proportion of non-ferrous and other ores and metals 2.5% and 2.71% respectively.

The analysis of Saudi Arabia's exports of raw materials on the world market (Table 13) was done. Absolute majority is the fuel (43.61%) in 2011, which is practically not changed since 1995. This indicates the stock stability and the domestic and foreign policy. Smallest share in exports of raw materials was the export of agricultural raw.

We have done it by the example of India, Germany and France. In tabl. 14 the raw materials import of India and its share in the global arena is reflected. So, country imports fuel all kinds (34.76%) the most, and pearls, gemstones and non-monetary gold – 15.5% in 2011.



Table 11

**Share of Latvia raw materials in the world exports**

Raw materials	1995	%	2000	%	2009	%	2011	%
Raw materials, precious stones and non-monetary gold	300563,99	27,26	561562,1	30,70	772869,4	12,03	1304924	11,45
Agricultural raw	12232,113	1,11	112771,3	6,17	200052,1	3,11	523919,4	4,60
Ores and metals	3060,24	0,28	48681,61	2,66	65073,77	1,01	129572,2	1,14
Ferrous metals	9171,873	0,83	64089,73	3,50	134978,3	2,10	394347,2	3,46
Other ores and metals	22808,621	2,07	46150,42	2,52	362796,2	5,65	948115	8,32
Fuel	1160,659	0,11	324,154	0,02	336,778	0,01	11793,89	0,10
Pearls, precious stones and non-monetary gold	89758,101	8,14	119112,4	6,51	648308	10,09	1010161	8,86
Chemical products	63697,359	5,78	115649,8	6,32	470066,1	7,31	795805,1	6,98

Note: made by author (WTO, 2011; WB, 2010).

Table 12

**Share of Turkey raw materials in the world exports**

Raw materials	% 1995	% 2000	% 2009	% 2011
Raw materials, precious stones and non-monetary gold				
Agricultural raw	1,90	1,71	0,49	0,69
Ores and metals	4,32	3,96	4,06	5,21
Ferrous metals	1,64	2,07	1,79	2,50
Other ores and metals	2,68	1,89	2,27	2,71
Fuel	1,75	1,64	5,07	5,95
Pearls , precious stones and non-monetary gold	0,02	0,01	6,03	1,37
Chemical products	5,38	5,92	6,28	6,58
Raw materials, precious stones and non-monetary gold	11,94	10,26	11,79	11,91

Note: made by author (WTO, 2011; WB, 2010).

Table 13

**Share of Saudi Arabia's raw materials in the world exports**

Raw materials	% 1995	% 2000	% 2009	% 2011
Raw materials, precious stones and non-monetary gold				
Agricultural raw	0,09	0,06	0,03	0,03
Ores and metals	0,51	0,24	0,28	0,36
Ferrous metals	0,22	0,08	0,07	0,07
Other ores and metals	0,29	0,16	0,21	0,29
Fuel	43,61	45,31	43,45	43,26
Pearls, precious stones and non-monetary gold	0,02	0,02	0,09	0,07
Chemical products	4,68	3,52	5,09	5,35
Raw materials, precious stones and non-monetary gold	0,33	0,19	0,29	0,24

Note: made by author (WTO, 2011; WB, 2010).

Table 14

**Share of India raw materials in the world imports**

Raw materials	% 1995	% 2000	% 2009	% 2011
Raw materials, precious stones and non-monetary gold	39,62	50,46	53,28	60,92
Agricultural raw	4,14	3,90	1,51	1,59
Ores and metals	7,58	5,38	4,75	5,54
Ferrous metals	3,70	2,40	1,74	2,18
Other ores and metals	3,88	2,98	3,02	3,36
Fuel	14,17	17,66	29,32	34,76
Pearls, precious stones and non-monetary gold	9,17	17,49	13,35	15,50
Chemical products	15,83	11,37	10,53	9,61
Iron and steel	4,82	2,00	2,96	2,54

Note: made by author (WTO, 2011; WB, 2010).

The share of raw materials in total imports of France (table15) was similar to the share of Germany and in 2011 (29.19%). As illustrated by the data of table 15, France imports more fuel as Germany (in 2011, 16.37%). Also more use of chemical products are in 2011 (13.83%). Agricultural raw materials is not significant share 1.34%, ores and metals – 2.90%, iron and steel – 2.81%, non-ferrous metals – 1.88%.

Table 15

**Share of France raw materials in the world imports**

	% 1995	% 2000	% 2009	% 2011
Agricultural raw	2,54	1,90	1,26	1,34
Ores and metals	3,46	2,93	2,14	2,90
Ferrous metals	2,47	2,13	1,44	1,88
Other ores and metals	0,99	0,80	0,70	1,02
Fuel	6,87	9,90	13,31	16,37
Pearls, precious stones and non-monetary gold	0,42	0,30	0,19	0,24
Chemical products	12,49	12,22	14,47	13,83
Iron and steel	3,34	2,80	2,38	2,81

Note: made by author (WTO, 2011; WB, 2010).

Germany imports the fuel 13.22% in 2011 (largest), chemical products 12.54%. Smallest share is agricultural raw materials 1.61% in importing. The share of raw materials in total imports of the country from 1995 to 2011 unchanged and remained at a relatively stable level.

According to the conducted analysis of Ukrainian raw export (table 16) to the world market, it should be noted that the largest share of all raw were iron and steel 22.09% in 2011. Just paradoxical was the fact that there was a small export of agricultural raw products and non-ferrous metals (0.57%) in 2011.

Table 16

**Share of Ukrainian raw materials in the world exports**

	% 1995	% 2000	% 2009	% 2011
Raw materials, precious stones and non-monetary gold				
Agricultural raw	0,73	1,13	0,93	0,79
Ores and metals	5,95	9,47	5,42	6,49
Ferrous metals	1,18	2,94	0,79	0,57
Other ores and metals	4,78	6,53	4,63	5,92
Fuel	3,17	3,71	4,22	6,17
Chemical products	9,36	6,04	4,88	5,87
Iron and steel	21,26	23,71	22,83	22,09
Mineral fuels, lubricants and similar materials	3,17	3,71	4,22	6,17

Note: made by author (WTO, 2011; WB, 2010).

Table 17 demonstrates the Ukrainian import of raw materials, which lets you describe the largest share of imports – fuel (34.63%) in 2011.

*Table 17*

**Share of Ukrainian raw materials in the world imports**

	% 1995	% 2000	% 2009	% 2011
Raw materials, precious stones and non-monetary gold	61,14	56,19	47,11	46,68
Agricultural raw	2,40	1,50	1,09	0,99
Ores and metals	3,13	5,39	3,10	2,89
Ferrous metals	0,98	1,51	1,01	1,18
Other ores and metals	2,15	3,88	2,09	1,72
Fuel	47,75	42,97	32,23	34,63
Chemical products	6,73	8,76	15,27	12,83
Iron and steel	1,85	2,10	2,70	3,56

Note: made by author (WTO, 2011; WB, 2010).

It was a positive fact of reducing energy import in 2011 compared to 1995. Thus, imports of coke and semi-coke of coal, lignite, peat, presented from CIS countries, including most imports from Russia (99.8%) in 2012. Also from other countries, particularly from Poland (98.51%) – the largest share were Slovak 0.02%, Germany 0.02%.

## **Conclusions**

World trade of raw materials is characterized by a number of the following characteristics: supply and demand for raw materials depends on natural resources, climate, political and economic crises, the tendency to reduce material and energy intensity of production, a long-term excess supply over demand of raw materials, export of raw production is half of export earnings of developing countries and countries with new economies, 10 countries accounted for ½ of all world exports and imports of raw materials, semi-finished growing trade, made from mineral and plant materials, and trade of chemical products; increased demands importers to environmental safety of products supplied, the dominance of TNCs in the global raw-resources market; raw-resources prices are character-

ized by considerable fluctuations, which is not always possible to predict; projected to increase demand for mineral raw materials and fuel in the future due to the restructuring of national production and upgrading of rural sector in most developing countries and countries with new markets.

### Bibliography

1. Modern tendencies and factors of development of foreign trade of Ukraine / Edited by Dr. of Econ. Sciences, professor of kyiv National Trade-economic University T.M. Melnyk // National library of Ukraine named after V.I. Vernadsky. – 2011. [Electronic source] <http://www.nbu.gov.ua/>
2. Temchenko A.H. Resource efficiency: technology, economics, management / A.H. Temchenko, S.O. Zhukov. – Kryvyi Rig: Mineral. – 2001. – 173 s.
3. AQUASTAT. [Electronic source] [\\_water\\_resources\\_and\\_MDG\\_water\\_indicator\\_November\\_2011.xlsx](#).
4. FAO statistics. <http://www.fao.org>.
5. International Trade Statistics 2011 [Electronic source] <http://www.wto.org>.
6. Mining Royalties: a global study of their impact on investors, government and civil society / J. Otto and oth. The world Bank, 2006 / (ISBN-13: 978-0-8213-6502-).
7. The Global Enabling Trade Report 2010 [Electronic source] <http://gcr.weforum.org/getr2010>.

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