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Commodity price changes after 2000 and their effects on the economies of commodity-exporting African countries

After 2000, unprecedented rises in commodity prices were recorded. Despite sharp declines in the second half of 2008, from the beginning of 2001 to mid-2011 prices of primary commodities more than tripled in value against the USD. The aim of the paper is to analyse the effects of commodity price changes after 2000 on the value of Africa's exports and economic growth of commodity-exporting African countries. Section 1 analyses the significance of primary commodities in African countries. Section 2 presents commodity price developments after 2000. Section 3 analyses relations between commodity price changes and changes in the value of Africa's exports and economic growth of commodity-exporting African countries. The author uses mainly descriptive statistics as a method of analysis. The results of the analyses suggest that there is a strong short-term relationship between commodity price changes and the value of Africa's exports as well as between changes in commodity prices and changes in GDP in commodity-exporting African countries.

Zmiany cen towarów surowcowo-rolnych i ich wpływ na gospodarki eksportujących te produkty krajów Afryki

Po roku 2000 miał miejsce bezprecedensowy wzrost cen artykułów surowcowo-rolnych. Pomimo znacznych spadków odnotowanych w drugiej połowie 2008 roku, od początku 2001 roku do połowy 2011 roku ceny wspomnianych produktów w dolarach amerykańskich wzrosły ponad trzykrotnie. Celem artykułu jest analiza wpływu zmian cen artykułów surowcowo-rolnych po 2000 roku na wartość eksportu Afryki i wzrost gospodarczy eksportujących te produkty krajów Afryki. W części pierwszej przeanalizowano znaczenie artykułów surowcowo-rolnych dla krajów regionu. W części drugiej przedstawiono zmiany cen produktów wydobywczych i rolnych po 2000 roku. Z kolei w części trzeciej przenalizowano związki pomiędzy zmianami cen artykułów surowcowo-rolnych a zmianami wartości eksportu Afryki, a także pomiędzy zmianami cen artykułów surowcowo-rolnych a wzrostem gospodarczym eksportujących te produkty krajów Afryki. Autor korzystał przede wszystkim z metod statystyki opisowej. Wyniki przeprowadzonych analiz sugerują występowanie w krótkim okresie silnego związku między zmianami cen artykułów surowcowo-rolnych a wartością eksportu Afryki, jak również pomiędzy zmianami cen

artykułów surowcowo-rolnych a zmianami PKB eksportujących analizowane produkty krajów regionu.

Keywords: commodities, prices, Africa, exports, economic growth

JEL classification: F10, F43, F44, Q30

Introduction

Prices of primary commodities tend to exhibit high volatility in the short run. This is due to low price elasticities of supply and demand for these products. The low price elasticity of supply for agricultural products is associated with a relatively long production cycle, high cost of storage, a very large number of producers, policies of exporting countries to maintain the supply of agricultural products at a similar level regardless of the price development, sales of agricultural surpluses abroad regardless of world prices, even by subsidising the export. Factors which make the demand for mined products less price elastic include: technical and production issues, high capital intensity, high proportion of fixed costs and time-consuming, costly investment cycle. In turn, the low price elasticity of demand for food and beverages is associated with the fact that they satisfy basic human needs. In the case of mined products, a low price elasticity of demand is the result of high dependence of technological processes on systematic supply of raw materials. Non-economic factors, such as supranational political and social events, false market signals, which may cause price movements of a speculative nature, also play a role [Orłowska, 2014].

In the long run, from the end of World War II to the 1990s, commodity prices, relative to those of manufactured goods, followed a downward trend. Over this period, only two major commodity booms can be identified. The first one, in 1950–1951, was a result of the massive inventory buildup during the Korean War. The second, in 1973–1974, was associated with widespread harvest failure and the Arab-oil embargo of that time [Radetzki, 2006].

In the early 2000s, the next period of a sharp increase in commodity prices began. The magnitude of this increase, its breadth and duration were unprecedented. Strong rises in prices were observed in all individual commodity groups: fuels, metals, food and beverages. Only prices of agricultural raw materials recorded lower growth rates. Global commodity prices peaked in mid-2008 and then started to decline sharply. Since mid-2009, they began to recover strongly and in 2011, in some product categories, they surpassed their 2008 peak. Further large changes in commodity prices were recorded in the second half of 2014, when the IMF index of all primary commodity prices fell by 30%, largely reflecting sharp declines in the oil market.

The aim of the paper is to analyse the effects of commodity price changes after 2000 on the value of Africa's exports and economic growth of commodity-exporting African countries.

The paper is organised as follows. Section 1 analyses the significance of primary commodities in African countries. Section 2 presents commodity price developments after 2000. Section 3 analyses relations between commodity price changes and changes in the value of Africa's exports and economic growth of commodity-exporting African countries. In the paper, the author employs mainly descriptive statistics and graphical techniques of analyses.

1. The significance of primary commodities in African countries

Africa is abundant in natural resources. It is estimated that the continent has the largest or second largest in the world resources of minerals: bauxite, cobalt, industrial diamonds, manganese, phosphates, platinum group metals and zirconium. As can be seen in Table 1, African countries are the leading worldwide producers of platinum, cobalt, diamonds, palladium, gold, copper and bauxite.

Table 1. The shares of African countries in world production of selected minerals, 2013 (estimates)

Mineral	Countries	Share (%)
Platinum (mine)	South Africa, Zimbabwe	82
Cobalt (mine)	Dem. Rep. of the Congo, Zambia, Madagascar, Morocco, South Africa, Botswana, Zimbabwe	76
Diamond	Botswana, Dem. Rep. of the Congo, Angola, Zimbabwe, South Africa, Namibia, Tanzania, Sierra Leone, Ghana	58
Palladium (mine)	South Africa, Zimbabwe	48
Gold (mine)	South Africa, Ghana, Mali, Tanzania, Sudan, Burkina Faso, Dem. Rep. of the Congo, Mauritania	17
Copper (mine)	Zambia, Dem. Rep. of the Congo, South Africa	10
Bauxite (mine)	Guinea, Sierra Leone	7

Source: [Menzie et al., 2013].

Africa has also significant resources of crude oil and natural gas. At the end of 2012, the continent accounted for 7.8% of the world's proven oil reserves. At the beginning of 2013, twelve countries of the region had the oil reserves of at least 0.5bn barrels. Africa's proven oil reserves are concentrated in the four member countries of the Organization of Petroleum Exporting Countries (OPEC): Libya,

Nigeria, Angola and Algeria. In 2012, these countries accounted for 84.5% of all proven oil reserves in Africa. Among the other countries of the continent with significant crude oil resources are: Egypt, South Sudan and Gabon. Africa's share of global natural gas reserves is almost the same as for crude oil: at the end of 2012, it amounted to 7.7%. At the beginning of 2013, each of the seven African countries, i.e., Nigeria, Algeria, Egypt, Libya, Angola, Cameroon and Mozambique, had more than 100bn m^3 of proven natural gas reserves [KPMG, 2014].

Table 2. Africa's countries with the highest shares of fuels, ores and metals, and food and beverages in the value of merchandise exports, 2013

	Fuels		Ores and metals		Food and beverages	
1	Angola	98.7	Dem. Rep. of the Congo	73.4	Guinea-Bissau	94.9
2	Algeria	98.3	Zambia	64.1	Seychelles	85.5
3	Libya	96.6	Mauritania	62.9	Somalia	84.7
4	Equatorial Guinea	94.9	Rwanda	48.0	Sao Tome and Principe	76.9
5	Chad	94.2	Guinea	44.0	Malawi	74.5
6	Nigeria	93.5	Liberia	36.1	Cabo Verde	74.2
7	Congo	87.4	Sierra Leone	33.9	Ethiopia	73.5
8	Gabon	78.8	Madagascar	29.7	Uganda	58.5
9	Sudan	66.4	Mozambique	29.3	Burundi	55.8
10	Cameroon	50.8	South Africa	24.9	Saint Helena	52.9
11	Mozambique	39.3	Namibia	24.7	Sierra Leone	43.3
12	Guinea	37.9	Central African Rep.	17.8	Comoros	41.7
13	Niger	37.4	Niger	17.7	Kenya	41.1
14	Ghana	35.0	United Rep. of Tanzania	14.7	Zimbabwe	40.3
15	Egypt	31.3	Togo	14.6	Côte d'Ivoire	40.0
16	Côte d'Ivoire	29.1	Zimbabwe	14.4	Rwanda	37.6
17	Benin	16.7	Gambia	13.3	United Rep. of Tanzania	37.5
18	Senegal	15.5	Burundi	13.2	Senegal	35.1
19	Tunisia	15.2	Botswana	9.5	Ghana	34.9
20	Dem. Rep. of the Congo	15.0	Namibia	8.8	Mauritius	31.8

Source: Author's own calculations based on: [UNCTAD, 2015].

Natural resources, mainly minerals, oil and natural gas, are a significant source of export revenues for more than twenty African countries (see Table 2). In 2010, in seven oil exporters in the region, i.e., Angola, Chad, Gabon, Cameroon, Equatorial Guinea, Nigeria and Republic of Congo, and in addition Botswana, Democratic Republic of the Congo and Guinea, resource revenue exceeded 20% of total revenue. In Equatorial Guinea, Congo, Angola and Nigeria resource revenue accounted for even more than 70% of total revenue. At the same time, for several

countries, revenues from exports of natural resources exceeded non-resource GDP (see Table 3). As a whole, in 2005–2010, almost 10% of the annual output of Sub-Saharan Africa and half of its exports came from non-renewable natural resources. Besides countries dependent on oil exports, there are countries heavily dependent on exports of base metals and uranium (Niger, Zambia) and a larger number of natural resources (Democratic Republic of the Congo, Guinea, Namibia and Sierra Leone) [Lundgren, Thomas, York, 2013].

Some African countries which are not currently classified as 'resource-rich' may become significant exporters of natural resources in the future. The identified stock of these resources in Africa is much lower than in other regions. According to experts, it is highly likely that the bulk of African exploitable natural resources have not yet been discovered [Lundgren, Thomas, York, 2013].

Besides mining products, Africa has also abundant renewable resources. The continent is a mosaic of forests, arable land, mountains, deserts, coastal and freshwater systems. Land is one of the most basic resources of Africa and the basis of survival for most people [African Development Bank, 2007]. In 2011, agricultural land represented 52% of the continent area, and forests – 23% [World Bank, 2015a].

Table 3. Africa's resource-intensive countries: selected resource indicators, 2010

Country	Resource exports (% of non-resource GDP)	Resource revenue (% of non-resource GDP)	Resource revenue (% of total revenue)
Oil exporters			
Angola	110.6	59.8	75.9
Cameroon	10.5	4.8	26.6
Chad	60.2	26.1	67.6
Equatorial Guinea	171.6	66.4	88.1
Gabon	116.3	31.6	53.9
Nigeria	54.3	27.2	72.2
Other fiscally dependent on budget revenue derived from natural resource extraction countries			
Botswana	38.2	13.4	31.3
Dem. Rep. of the Congo	68.6	5.5	26.5
Guinea	33.6	5.0	24.8

Source: [Lundgren, Thomas, York, 2013].

Today, agriculture is the main source of income for 90% of the rural population in Africa. According to estimates, it provides employment for approximately 57% of the labour force [Kanu, Salami, Numasawa, 2014]. Agriculture accounts for about 13% of Africa's GDP. However, there are significant variations in the share of agriculture in GDP among the countries. For example, in Sierra Leone, Chad,

Central African Republic, Guinea-Bissau and Ethiopia, agriculture contributes about half to GDP, while in Seychelles, South Africa, Botswana, Mauritius and Congo the ratio is below 5% [World Bank, 2015b]. In 2001?2011, real annual agricultural GDP growth rate in Africa averaged 3.7% [AGRA, 2014]. Although the agricultural production is increasing, productivity is stagnating. Except North Africa and, to a some extent, West Africa, there has been very little improvement in the factors of production (labour and land). Agricultural growth in the continent is generally obtained by cultivating more land and mobilising a large labour force. There has been little improvement in yields and almost no change in agricultural production techniques [NEPAD, 2013]. About 80% of the food supply in the continent is provided by smallholders. The low productivity of agriculture translates to less than US$ 1 per day, being a key factor which affects rural poverty [AGRA, 2014].

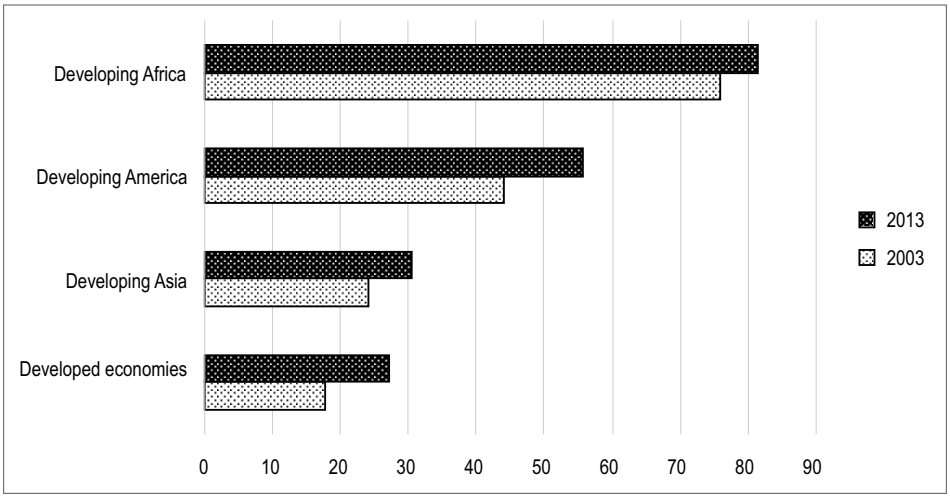

Figure 1. Exports of primary commodities as a percentage of total merchandise exports, Africa compared to other groups of countries, 2013 and 2003

Source: Author's own calculations based on: [UNCTAD, 2015].

Among the most important products in Africa's agricultural exports are: coffee, tea, cocoa, fruits and vegetables, cotton, tobacco and sugar [UNCTAD, 2015]. In 2013, food and beverages accounted for more than 30% of export revenues in about twenty African countries (Table 2).

As a whole, in 2013, the share of primary commodities in Africa's merchandise export value exceeded 80%. The corresponding ratio for developing America was 56%, for developing Asia – 30%, and for developed countries – 27%. It should be noted that the relative importance of primary commodities in merchandise exports has increased in every region over the last ten years (Figure 1). In 2013, in

thirty two African countries, the share of primary commodities in the value of merchandise exports was at the level of over 80% [own calculations based on UNCTAD, 2015]. Countries whose export revenues are most dependent on primary commodities have been listed in Table 4.

Table 4. Africa's countries with the highest share of primary commodities in the value of merchandise exports, 2013

Country	Exports of primary commodities as a percentage of total merchandise exports	Merchandise exports as a percentage of GDP
Angola	99.9	50.9
Chad	99.4	20.6
Guinea-Bissau	99.3	22.6
Algeria	99.1	31.4
Mauritania	99.0	68.8
Sudan	97.9	10.6
Libya	97.8	49.4
Nigeria	97.6	18.4
Guinea	97.5	34.6
Equatorial Guinea	96.2	80.7
African average	81.4	28.8

Source: Author's own calculations based on: [UNCTAD, 2015].

2. Commodity price developments after 2000

After 2000, unprecedented rises in commodity prices were recorded (Table 5). Despite a sharp decline in the second half of 2008, from the beginning of 2001 to mid-2011 commodity prices surged more than 230% in value against the USD. The magnitude of the increase differed significantly across individual commodity groups. Oil prices in current USD more than quadrupled. Prices of metals recorded almost the same increase. Prices of edibles rose by 130%. The smallest increase (of about 60%) was observed in the group of agricultural raw materials. The detailed data for changes in the prices of selected commodities important for Africa's exports have been presented in Figures 2–5.

Prices of crude oil, the most crucial export product of Africa, increased from US$ 20 per barrel in 2001 to almost US$ 150 per barrel in mid-2008. Over the next six months, oil prices fell dramatically below US$ 40 per barrel. From early 2009 to mid-2011, oil prices rose again, reaching US$ 110 per barrel at the end of the period. In the following months, until mid-2014, oil prices ranged generally from

US$ 100 to 120 per barrel. In the second half of 2014, oil prices plummeted and stood at below US$ 60 per barrel at the end of December.

Table 5. Indices of primary commodity prices, 2000–2014 (2005 = 100, in terms of US$)

	All primary commodities	Edibles (food and beverages)	Metals	Agricultural raw materials	Petroleum
2001	58.3	79.0	56.3	95.2	45.6
2002	58.3	83.2	54.3	95.0	46.8
2003	65.0	88.3	60.7	95.6	54.1
2004	80.4	99.4	81.7	99.5	70.6
2005	100.0	100.0	100.0	100.0	100.0
2006	120.8	110.0	156.2	108.7	120.7
2007	134.9	126.1	183.3	114.2	133.5
2008	172.4	156.9	169.0	113.4	182.1
2009	120.7	136.1	136.5	93.9	116.2
2010	152.3	152.6	202.3	125.1	148.5
2011	192.4	182.4	229.7	153.5	195.9
2012	186.3	174.8	191.0	134.0	197.9
2013	183.3	174.6	182.9	136.2	195.9
2014	171.8	171.0	164.1	138.8	181.1

Source: [IMF, 2015a].

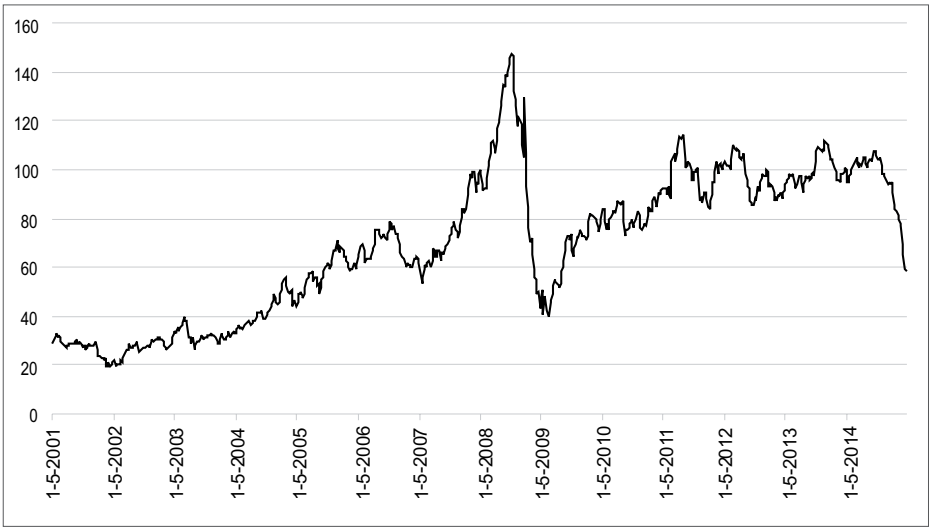

Figure 2. Light sweet crude oil prices (futures contracts), New York Mercantile Exchange, 2001–2014, US$ per barrel

Source: [Thomson Reuters, 2015].

At the beginning of 2001, copper traded at about US$ 0.8 per lb. Copper prices began to rise in 2003. They followed an upward trend until mid-2008, when they reached the level of more than US$ 4 per lb. In the second half of 2008, copper prices declined sharply and stood at below US$ 1.5 per lb at the end of the year. In the following months, the price of copper began to rise and peaked at over US$ 4.5 per lb in the first half of 2011. In the next months, copper prices followed a downward trend. At the end of 2014, they stood at below US$ 3 per lb.

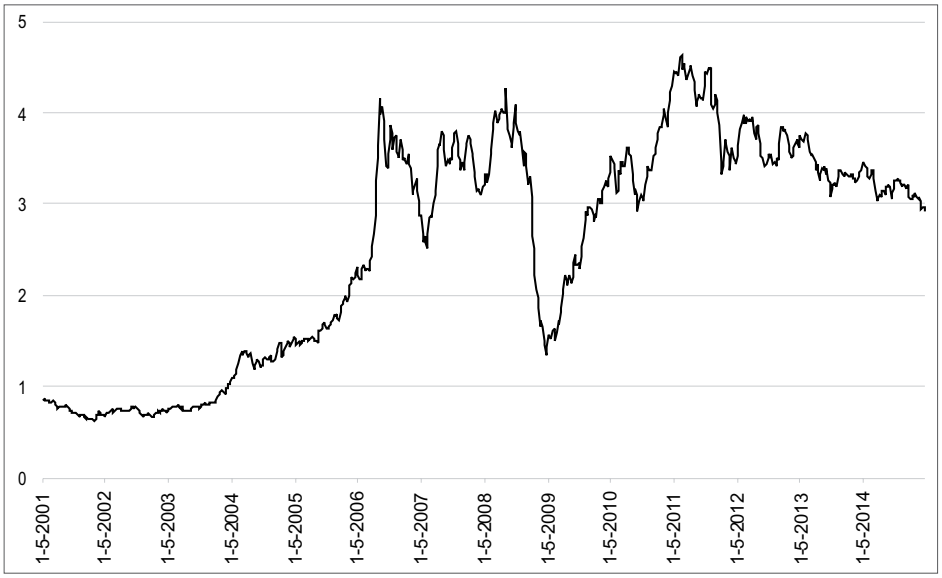

Figure 3. Copper prices (futures contracts), COMEX division of the New York Mercantile Exchange, 2001–2014, US$ per lb

Source: [Thomson Reuters, 2015].

Coffee was priced at about US$ 0.7 per lb in January 2001. Since 2002, coffee prices had been in an upward trend. In February 2008, they approached US$ 1.7 per lb. By December 2008, they fell to US$ 1.1 per lb. Then coffee prices started to rise again and reached the level of over US$ 3 per lb in April 2011. They collapsed back down to below US$ 1.1 per lb in November 2013 but increased to US$ 2.15 per lb in April 2014. At the end of 2014, coffee prices were at about US$ 1.8 per lb.

Cotton cost about US$ 0.6 per lb at the beginning of 2001. Until the late 2009, cotton prices showed relatively small fluctuations, and with a few exceptions they ranged around US$ 0.4–0.7 per lb. In the last quarter of 2009, cotton prices began to move sharply upwards reaching almost US$ 2.2 per lb in March 2011. Then they collapsed down to below US$ 1 per lb in November 2011. At the end of 2014, cotton traded at about US$ 0.62 per lb.

Figure 4. Coffee prices (futures contracts), Intercontinental Exchange, 2001–2014, US$ per lb

Source: [Thomson Reuters, 2015].

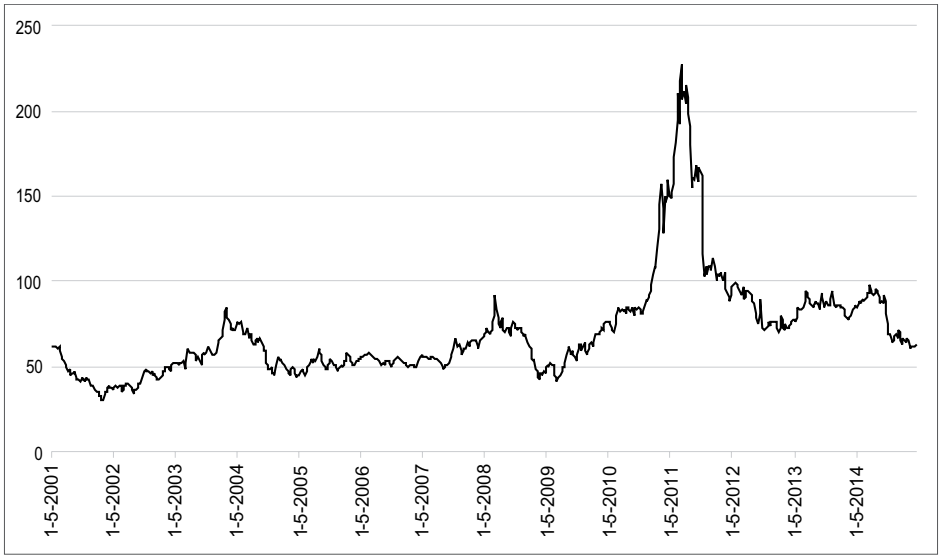

Figure 5. Cotton prices (futures contracts), Intercontinental Exchange, 2001–2014, US$ per lb

Source: [Thomson Reuters, 2015].

There are several factors behind the commodities boom after 2000 [Helbling, 2008]. First, in 2000–2007, a significant increase in demand for these products,

mainly from emerging economies, especially China, India, and the Middle East, was observed. Many of these countries recorded high growth rates of GDP per capita, rapid industrialisation, higher commodity intensity of growth and strong population growth. The rapid development of these countries have led to an increase in consumption of oil, base metals, as well as high-protein foods such as meat, seafood, fruits and vegetables and edible oils.

Second, the increased use of biofuels, particularly in developed countries, resulted in the rising demand for certain food crops. Growing interest in biofuels was associated not only with environmental issues, but also with rising oil prices.

Third, too slow supply response to the growing demand for commodities amplified inflationary pressure in commodity markets. Insignificant supply responses reflected limits in commodity production increases in the short term.

Fourth, higher prices were transmitted by linkages across commodities. For example, an increase in corn prices due to the growing use of this product in the production of biofuels contributed to upward pressure in prices of other food products (i.e. meat, poultry, dairy), as corn is their close substitute and is used as input in their production.

Fifth, some other conditions were an additional factor behind commodity price increases. In particular, low interest rates added to the 2000s commodity boom because they had spurred aggregate demand, which increased the demand for commodities. Additionally, weakening US dollar also had an important effect on changes of commodity prices in value against that currency.

However, it should be noted that some of the above-mentioned fundamental factors explaining commodities boom after 2000 are contested, including the role of demand from Asia (China) and the role of the biofuels. For example, Baffes and Haniotis [2010] reveal a strong relation between energy and non-energy commodity prices, which increased significantly during the 2006–2008 boom. They found no evidence that alleged stronger demand for food commodities by emerging economies had any effect on world prices. They argue that the effect of biofuels on food prices had not been as large as originally thought, but that the use of commodities by financial investors (the so-called financialisation of commodities) may have been responsible to some extent for the 2007/08 spike. On the other hand, Gilbert and Pfuderer [2014] reject the view that financialisation of commodities has been responsible for high and volatile food prices but also that financialisation has had no effects on these markets. In turn, Juvenal and Petrella [2012] reveal that although the increase in oil prices after 2000 was mainly driven by the growing global demand, speculation played a significant role in the oil price increase between 2004 and 2008 and its subsequent collapse.

3. The relations between commodity price changes and changes in exports and economic growth of commodity-exporting African countries

After 2002, the value of Africa's merchandise exports grew rapidly (Figure 6). While in 2002 the growth rate of export value amounted to just 4%, in 2003–2008 it averaged about 25% annually. In 2009, the value of exports from African countries fell by 30%. In 2010 and 2011, Africa's exports recorded increases in value by 32 and 17%, respectively. In 2012, Africa's export growth rate dropped to 5%. In 2013, export value declined by nearly 6%. In absolute terms, Africa's exports increased from 138.8bn USD in 2001 to 562.4bn USD in 2008. In 2013, the value of Africa's exports was at 602.5bn USD [UNCTAD, 2015].

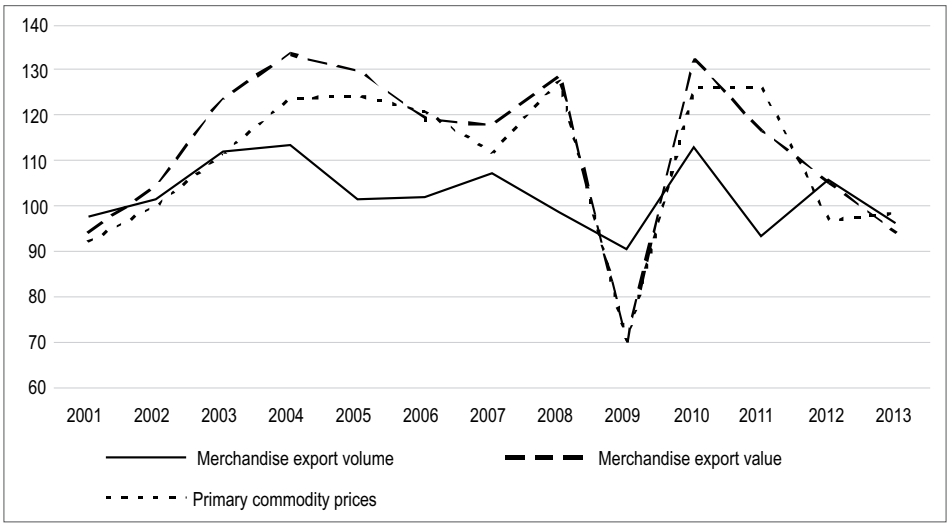

Figure 6. Indices of Africa's merchandise exports and global primary commodity prices, 2001–2013 (previous year = 100)

Source: [UNCTAD, 2015; IMF, 2015a].

Given the dominance of commodities, particularly fuels, in Africa's exports, the continent's export revenues are strongly correlated with changes in primary commodity prices in the international markets. Commodity price developments seem to be the main factor explaining the changes in the value of exports of African countries. The crisis year of 2009 can be an example of this. In 2009, when prices of primary commodities recorded a decrease of 30%, and oil prices plummeted by about 36%, the value of Africa's exports fell by 30%, although the volume of continent's exports decreased by less than 10%.

Given the high share of primary commodities in Africa's merchandise exports and the fact that the value of merchandise exports approaches 30% of continent's GDP (Table 4), one can expect a visible impact of commodity price fluctuations on economic growth of commodity-exporting African countries. Figures 7–9 show changes in prices in individual commodity groups and in real GDP in selected countries where a specific product group is a significant source of export revenues (i.e. countries in which exports of products from a given group averaged at least 25% of their merchandise exports in 2001–2013). Figure 7 shows changes in food prices and the economic growth in fifteen African countries which are highly dependent on exports of foods. Figure 8 presents real GDP changes and fuel price changes in eight selected African countries with high share of petroleum in export revenues. Figure 9 shows real GDP changes and metal price changes in six African countries with high share of ores and metals in export revenues.

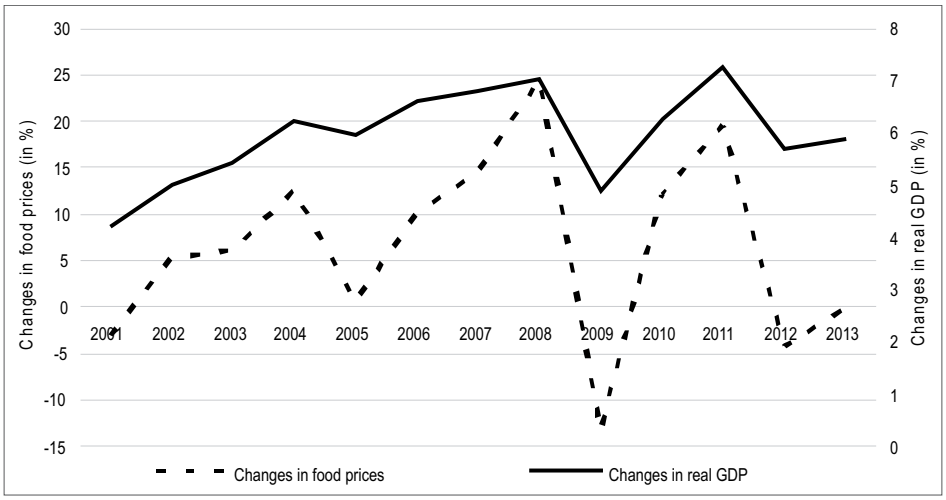

Figure 7. Changes in food prices and real GDP growth in 2001–2013, sample of fifteen selected African countries highly dependent on exports of foods*

* Burundi, Cabo Verde, Comoros, Djibouti, Gambia, Ghana, Guinea-Bissau, Malawi, Mauritania, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Tanzania, Uganda

Source: Author's own calculations based on: [IMF, 2015a; World Bank, 2015b].

Declines in commodity prices in 2014 will lead to a slowdown in economic growth in Africa in 2015 and 2016. In April 2015, in the World Economic Outlook report, the IMF cut its forecasts for Sub-Saharan Africa's economic growth for 2015 and 2016, compared to what it was predicting a year earlier. According to IMF forecasts from 2015, Africa's real GDP would increase by 4.5% in 2015 and 5.1% in 2016, compared to 5.5% and 5.8%, respectively, according to forecasts from 2014. Overall, the IMF has downgraded its growth forecast for thirty two (out of forty

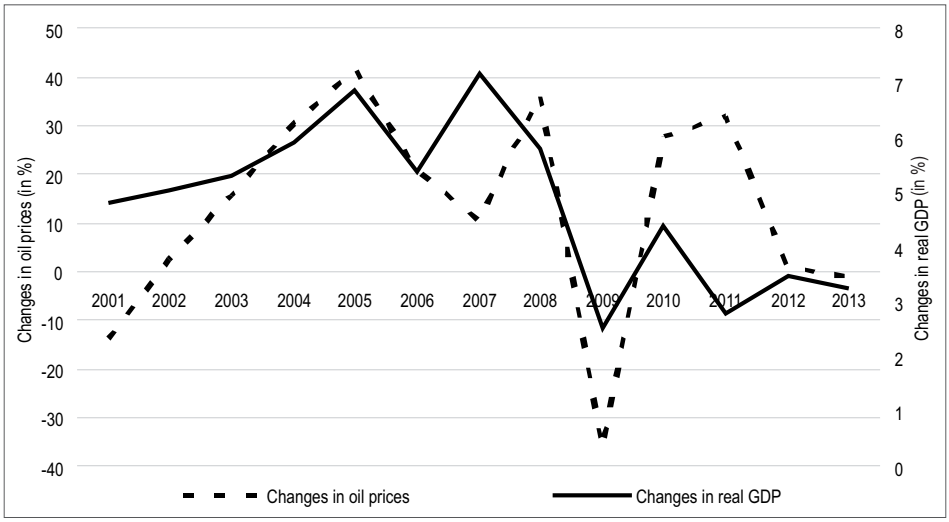

Figure 8. Changes in oil prices and real GDP growth in 2001–2013, sample of eight selected African countries highly dependent on exports of oil*

* Algeria, Angola, Cameroon, Chad, Congo, Gabon

Source: Author's own calculations based on: [IMF, 2015a; World Bank, 2015b].

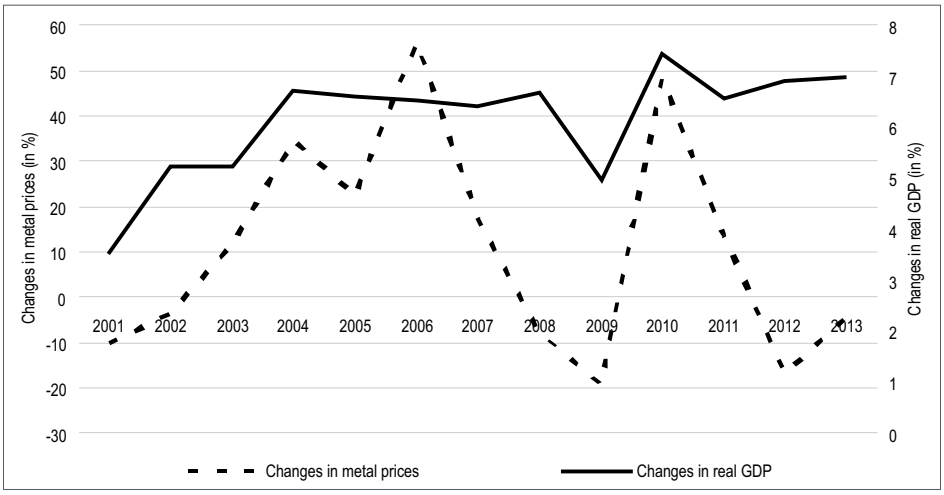

Figure 9. Changes in metal prices and real GDP growth in 2001–2013, sample of six selected African countries highly dependent on exports of ores and metals*

* Dem. Rep. of the Congo, Guinea, Mauritania, Mozambique, Rwanda, Zambia

Source: Author's own calculations based on: [IMF, 2015a; World Bank, 2015b].

five) Sub-Saharan African countries for 2015, and for twenty four countries for 2016. For five countries: Sierra Leone, South Sudan, Liberia, Equatorial Guinea

and Guinea, forecast values for real GDP growth rates in 2015 were cut by at least 5 percentage points and for eight different countries by at least 1.5 percentage points (Table 6).

Table 6. Real GDP growth rates in selected Sub-Saharan African countries in 2015 and 2016 – IMF World Economic Outlook (WEO) forecasts from April 2015 and April 2014

	Forecast for 2015			Forecast for 2016			
	WEO April 2015 (%)	WEO April 2014 (%)	Difference (p.p.)		WEO April 2015 (%)	Difference (p.p.)	WEO April 2014 (%)
Sierra Leone	-12.8	10.8	-23.6	Niger	5.4	14.3	-8.8
South Sudan	3.4	17.6	-14.2	Liberia	5.0	7.7	-2.7
Liberia	-1.4	8.7	-10.1	Zimbabwe	2.7	4.8	-2.1
Equatorial Guinea	-15.4	-8.3	-7.1	Angola	3.9	5.9	-1.9
Guinea	-0.3	5.0	-5.2	Nigeria	5.0	6.9	-1.9
Nigeria	4.8	7.0	-2.3	Ghana	6.4	8.1	-1.8
Burkina Faso	5.0	7.0	-2.1	Uganda	5.6	7.1	-1.5
Gabon	4.4	6.3	-1.9	Gabon	5.5	6.8	-1.3
Ghana	3.5	5.4	-1.9	Burkina Faso	6.0	7.0	-1.1
The Gambia	5.1	7.0	-1.9	South Africa	2.1	3.2	-1.1
Eritrea	0.2	1.9	-1.7	Malawi	5.7	6.5	-0.8
Zimbabwe	2.8	4.5	-1.6	Lesotho	4.4	5.1	-0.7
Lesotho	4.0	5.5	-1.5	Mauritius	3.5	4.2	-0.6
Sub-Saharan Africa	4.5	5.5	-1.0	Sub-Saharan Africa	5.1	5.8	-0.7

Source: Author's own calculations based on: [IMF, 2014; 2015b].

Presented data suggest that changes in GDP of many African countries are linked to a large extent to changes in commodity prices. As to the existing literature, it suggests that commodity booms have positive short-term effects on economic growth in commodity-exporting countries. When prices of commodities rise, higher income in the commodity-exporting country, which is the result of improved terms of trade, boosts consumer demand and domestic output (along with an increase in imports). This positive cyclical impulse can be reinforced by additional investment in the commodity sector and other sectors which face higher demand from commodity sector. In turn, it should expand the productive capacity of the economy [Gruss, 2014].

Nevertheless, the positive effects of the commodity boom may be only temporary. As soon as investment and consumption have adjusted to new commodity price forecasts, production growth would revert to its previous (pre-shock) level,

unless the new investment leads to a permanently higher productivity growth [Gruss, 2014].

In the long-run, it is often argued that commodity booms have negative effects on economic growth. The literature indicate three possible channels of transmission. First, countries which are abundant in natural resources often face much more volatility, in particular through primary commodity prices. Second, commodity booms may result in Dutch Disease effects. Third, natural resources can have negative effects on governance [Collier, Goderis, 2007].

Conclusions

African countries are highly dependent on the production and exports of natural resources. Natural resources, mainly minerals, oil and natural gas, are a significant source of revenues for a large number of African countries. In the short term, commodity booms tend to contribute positively to export revenues and GDP growth of those countries.

However, high dependence on non-renewable raw materials cannot be considered to be a secure path to development. As a result, African countries should strengthen their efforts to diversify their production and export structures. Some efforts to manage commodity export revenues should also be taken [Renard, 2011]. First, commodity-rich countries should introduce prudent fiscal rules for the treatment of increased revenues during commodity booms which in a large proportion should be used to finance economic and social development projects. Secondly, increased revenues should be used to stabilise expenditures over the commodity price cycle. Accordingly, governments ought to absorb financial resources when commodity prices rise and spend them when prices fall.

In April 2015, Makhtar Diop, World Bank Vice President for Africa said: 'The end of the commodity super-cycle has provided a window of opportunity to push ahead with the next wave of structural reforms and make Africa's growth more effective at reducing poverty' [World Bank, 2015c].

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