

**Tashkent financial institute  
Master's department  
Kabulov H.**

## **THE STRATEGY OF EXPORT DIVERSIFICATION AS A PRIORITY TOOL OF IMPROVING SOUTH AFRICAN FOREIGN TRADE**

**Аннотация:** Статья посвящена возможностям использования Южно-Африканской республикой различных инструментов диверсификации экспорта с целью улучшения сферы внешнеторговой деятельности страны, являющейся для нее приоритетной.

**Abstract:** The study researches the opportunities of using different export diversification tools by South Africa in the order to improve the most priority domain of the country - international trade.

**Ключевые слова:** экономика ЮАР, внешняя торговля ЮАР, экономика развивающихся стран.

**Keywords:** economics of South Africa, foreign trade of South Africa, economics of developing countries.

### **Introduction**

South Africa is currently one of the most dynamic developing countries of the African continent. South Africa is among 25 the world's largest exporters. Revenues from foreign trade are about half the country's GDP. Since the mid-1990s, South Africa has had a steady trade surplus and attractive investment climate for international investors. Understanding the importance, the country's participation in international trade, as evidenced by the complex theoretical and methodological concepts justifying the value foreign trade for economic development as well as the promise modernizing strategies of a developing economy towards export orientation, further research is needed on degree of state involvement in international trade relations and selection of the subject of trade.

**Export diversification as part of the strategy export orientation.** The world's leading theoretical economists from Adam Smith to Standard International Trade Theory Developers Heckscher-Olin-Samuelson justified the importance of the country's participation in international division of labor and the need for export specialization based on comparative advantage to achieve economic growth and development. However, after the end of the World War II, during the recovery of European economies and the acquisition independence a large number of countries - former colonies – received popularity of the idea that for developing nations the principle economic diversification, rather than specialization, takes decisive value to sustain economic growth and sustainable development. At that moment, active government was widely encouraged. intervention in the process of industrialization

and export diversification. R. Prebisch and X. made a revolutionary contribution to the justification of this strategy. Singer, who argued that the dependence of developing countries on the production and export of unprocessed raw materials makes them vulnerable to commodity shocks, price fluctuations and deteriorating terms of trade, especially given that the elasticity of demand for income commodities is very low. This, in turn, affecting currency reserves of the country and its ability to provide the necessary imports, becomes a source of fluctuations and uncertainties in the economic development. In such circumstances, the enrichment of raw materials before its export is regarded as adding new value, leading to increase employment and ensure a more stable and predictable growth in export earnings for developing countries.

Export diversification is an increase in the number of items and varieties produced for the export of goods and services. Export diversification creates all the necessary opportunities for eliminate the negative impact on the economy of the country negative market conditions and provides the conditions for economic maneuvers. It determines the formation of its effectiveness and optimal structure, expanding the range of products, gradual increasing the share of high-tech products and goods with high degree of processing, as well as mastering by producers and exporters new markets for goods, technology, capital and services.

It is important to distinguish between vertical and horizontal diversification. Initially, the scientific literature settled namely, vertical diversification, as the basis for transformation export structure from commodities to industrial products. Vertical diversification involves the development of new products, for the production of which as raw materials or semi-finished products of traditional raw exports are used, or production of goods that are raw materials or semi-finished products components in the manufacture of traditional products. This kind diversification is associated with the creation of technological chains “mining and raw materials processing - intermediate product production – production product with high consumer properties - sales” as in full, and in a shortened version with the absence of any links. That is, in the framework of the country's foreign trade diversification strategy is about processing of raw materials and semi-finished products, which ends the release of finished products, significantly increasing the price of aggregate export country.

**Importance of export diversification strategy for improve the foreign trade of South Africa.** Understanding the importance stimulation and improvement of foreign trade for South Africa, it is necessary to determine which export development strategy (diversification or specialization) the state should turn attention first. Following the theoretical studies and methods can trace the level of diversification (or specialization) South African exports from 1962 to 2017 and what kind of influence exerts applied export combination on overall development The

economy of this country, represented as a whole in the form of the average index of GNP per capita. Data sources for the years 1962-2017. served as general information about South African trade with 140 countries of the world, collected in the works National Bureau of Economic Research at the UN (NBER); data on trade for the years 2000-2017, as well as GNP per capita were obtained from World Bank studies and World Bank reports. Trade Organization. The results were also used in the work. research problems of export diversification of African countries specialists of the World Institute for Development and Economic Research United Nations University (UNU-WIDER) and the United Nations Economic Commission for Europe Africa. Table 1 presents the results of the calculations of the three indices: Index Herfindahl, Hirshman Normalized Index and Absolute Index deviation measures - by which it is possible to calculate the depth diversification and / or export specialization of South Africa over the period 1962-2017 in comparison with the global average.

**Table 1 - Export Diversification Indexes (Specializations) South Africa for 1962-2017**

Period	South Africa	On average in the world
Herfindahl Index		
1962-1969	0.05	0.26
1970-1979	0.03	0.23
1980-1989	0.07	0.23
1990-1995	0.08	0.21
1996-2000	0.04	0.20
2001-2010	0.56	0.19
Normalized Hirschman Index		
1962-1969	0.18	0.44
1970-1979	0.15	0.40
1980-1989	0.22	0.40
1990-1995	0.25	0.38
1996-2000	0.17	0.37
2001-2010	0.67	0.35
Index of absolute deviation measure		
1962-1969	0.76	0.84
1970-1979	0.75	0.81
1980-1989	0.77	0.81

1990-1995	0.74	0.79
1996-2000	0.65	0.78
2001-2017	0.76	0.79

As can be seen from the data of Table 1, despite the fluctuations of values in the middle of this period of time, a noticeable difference in the value of the indices at the beginning of the study period (1962) and at the end (2017) is almost not observed. Comparison of index values in the indicated time periods shows that the level of export diversification in South Africa initially increased, then decreased, which is explained by the increase in concentration and specialization of the country's exports in the period 1985-1995. But this period was also replaced then by the growth of export diversification since 1996. Growing export diversification is likely to reflect the trend of increasing vertical diversification through the increasing complexity of the export basket of South Africa (a combination of exports of primary and industrial sectors) than horizontal diversification within the industrial sector. This fact can be confirmed by analyzing the dynamics of the sectoral structure of South African exports over a number of years (Table 2), the results of which show a significant increase in the degree of vertical diversification of exports and minor changes in the structure of industrial exports, which means a weak movement towards horizontal diversification.

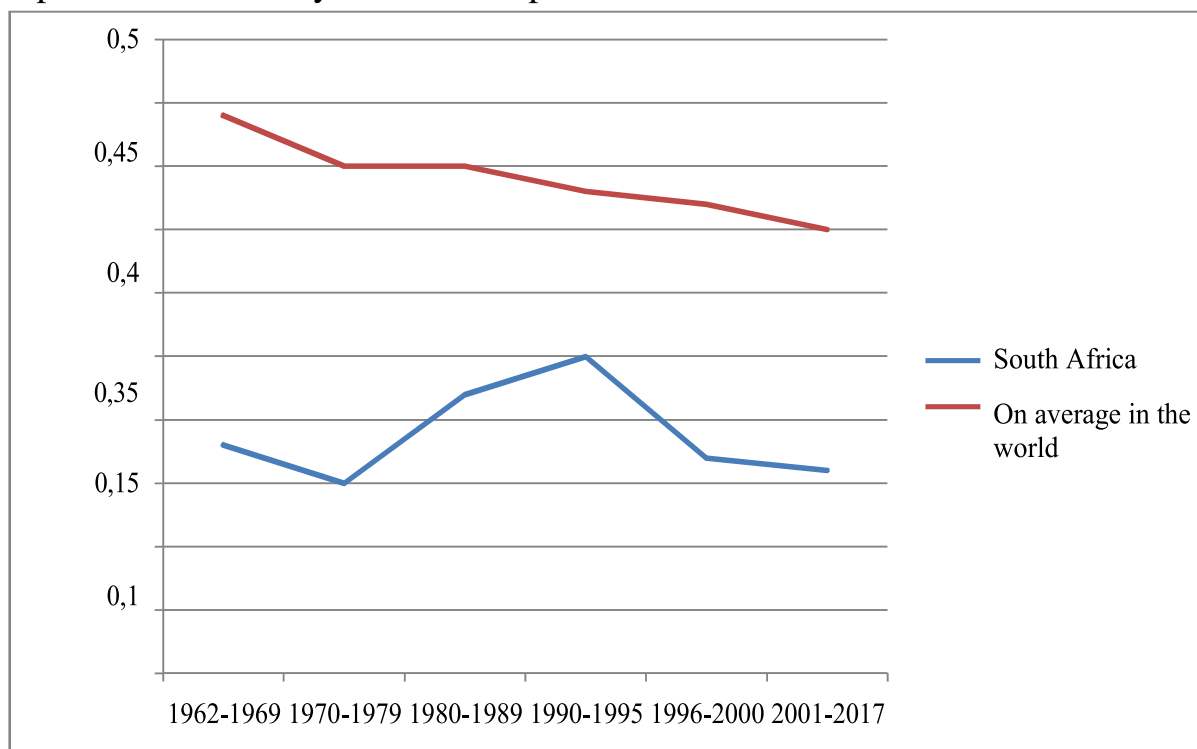
In accordance with the data of Table 2, since 1988 in South Africa there has been a significant increase in vertical export diversification, characterized by a decrease in the share of commodity exports from 71.8% in 1988 to 46.2% in 2002, and to 40.2% in 2017. In industrial exports, there was a decrease in the share of exports of commodity-based raw materials and low-tech industries from 44.7% to 30.3% in 2017, and from 19.4% to 15.8%, respectively. At the same time, the share in total exports of industrial goods of medium-tech industries increased from 33.2% to 47.5% from 1988 to 2002, and to 49% in 2017, which corresponds to general global trends of industrialization and structural changes. However, only a small part of exports of industrial goods in South Africa accounts for high-tech industries (4.8% in 2002, 4.9% in 2017), which is explained by the overall relatively weak export structure of the country corresponding to developing countries, while the average global growth in exports of goods these industries are growing at an accelerating pace and correspond to about 11.7% per year.

**Table 2 - Diversification of South African Commodity Exports (Sectoral Structure) in 1988, 2002 and 2017**

<b>Indicator</b>	<b>1988 (%)</b>	<b>2002 (%)</b>	<b>2017 (%)</b>
Commodities	71.8	46.2	40,2
Industrial products	27.7	53.4	59,8
TOTAL	100.0	100.0	100.0
Industrial goods:			
Resource and raw materials industries	44.7	31.4	30,3
Recycling agricultural products	17.5	14.2	11,1
Recycling mineral raw materials	27.2	17.2	19,2
Low-tech industries	19.4	16.3	15,8
Textile products	4.7	4.4	4,3
Other industries	14.7	11.9	11,5
Medium technology industries	33.2	47.5	49,0
Automotive industry	2.3	13.9	13,5
Products manufacturing industry	25.7	19.9	20,7
Mechanical engineering	5.3	13.7	14,8
High-tech industries	2.7	4.8	4,9
Electronics	1.4	2.9	2,9
Other industries	1.3	1.9	2,0

In Fig. Figure 1 shows the general direction of development of the export diversification trend in South Africa for the period under review. In comparison with the average export diversification indicator in the world, the export basket of South Africa is quite diversified. At the same time, during the years 1970-1995. The country's exports became less diversified, while the global indicator began to show a tendency to increase the level of diversification. These years generally correspond to the period of growing international isolation of the South African economy due to sanctions in response to the Apartheid regime, and also coincides with the surge in world gold prices in the late 1970s and the problem of the debt crisis of the early 1980s. In addition, it was the heyday of import protectionism, which contradicted the growth of exports of finished products in the manufacturing industry. Thus, according to experts, indirect taxes on non-commodity exports in 1989 corresponded to 52%, while on average for all groups of goods in the manufacturing industry - 26%. The period after 1996 is characterized by the growth of the country's

integration into the world economy and international trade liberalization under the auspices of the country's membership in the WTO.



**Fig. 1 - Export diversification of South Africa in accordance with the normalized Hirschman index, 1962-2017**

In Fig. 1 compares the diversity of the South African export basket, calculated on the basis of the normalized Hirschman index, with similar global averages in the study period. Table 3 presents the South African export diversification rates by year compared to the major regions of the world.

**Table 3 - Comparison of the levels of export specialization and diversification of South Africa and large regions of the world, 1962-2017**

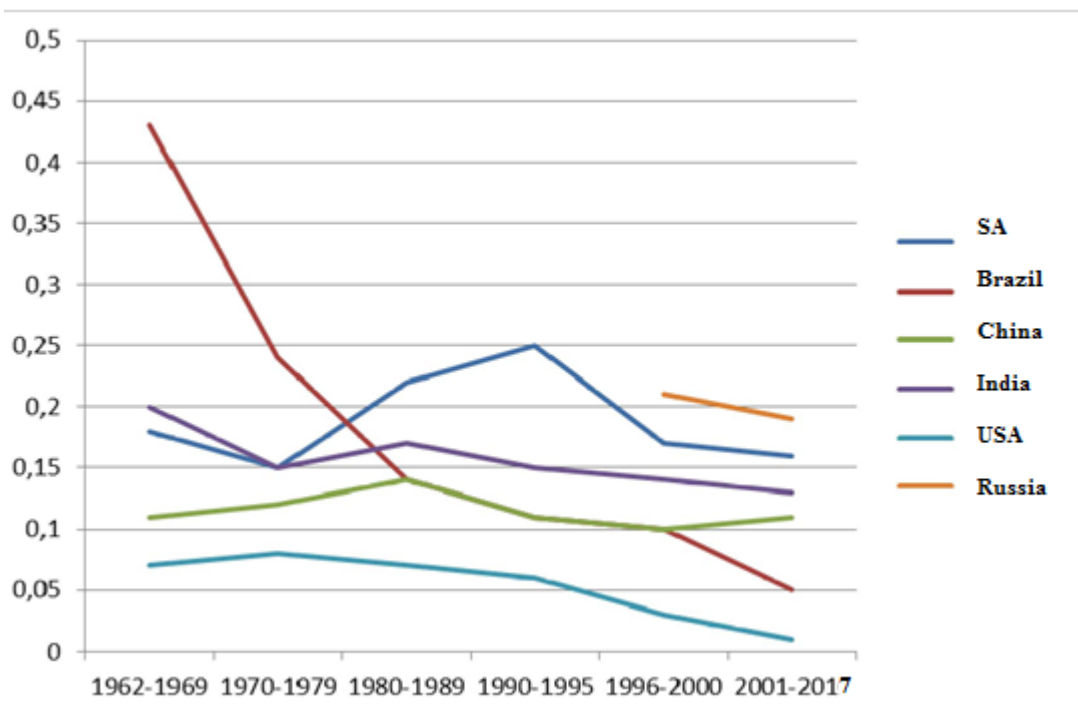
Region	1962-1969	1970-1979	1980-1989	1990-1995	1996-2000	2001-2017
Herfindahl Index (SPEC) by region by period average						
South Africa	0,05	0,03	0,07	0,08	0,04	0,05
Rest of Africa	0,34	0,34	0,37	0,35	0,34	0,32
Latin America	0,26	0,20	0,19	0,13	0,16	0,10
European Union	0,05	0,05	0,04	0,04	0,05	0,04
Asia	0,27	0,23	0,19	0,17	0,16	0,15

North America	0,1 0	0,0 7	0,0 7	0,0 8	0,0 6	0,0 5
	The absolute deviation level of the export share by regions, average period					
South Africa	0,7 6	0,7 5	0,7 7	0,7 4	0,6 5	0,6 3
Rest of Africa	0,9 0	0,8 9	0,9 0	0,9 1	0,9 1	0,9 0
Latin America	0,8 7	0,8 3	0,8 3	0,8 2	0,8 1	0,7 9
European Union	0,6 5	0,6 1	0,6 0	0,5 7	0,5 5	0,5 3
Asia	0,8 4	0,8 0	0,7 8	0,7 5	0,7 3	0,7 1
North America	0,6 2	0,6 3	0,6 3	0,5 6	0,5 3	0,5 0
	Normalized Hirschman index by region, in average period					
South Africa	0,1 8	0,1 5	0,2 2	0,2 5	0,1 7	0,1 6
Rest of Africa	0,5 3	0,5 4	0,5 7	0,5 4	0,5 4	0,5 1
Latin America	0,4 6	0,4 0	0,3 9	0,3 2	0,3 4	0,3 1
European Union	0,1 7	0,1 5	0,1 5	0,1 5	0,1 6	0,1 2
Asia	0,4 4	0,3 9	0,3 5	0,3 2	0,3 1	0,3 0
North America	0,2 3	0,2 0	0,2 0	0,2 2	0,1 9	0,1 8

The data in Table 3 demonstrate that the export basket of South Africa in most periods during 1962-2010 was more diversified than the average for Africa, Latin America and Asia, but much less diversified than in the European Union and North America. The Herfindahl indices presented in Table 3, the normalized Hirschman index and the absolute deviation measure index illustrate a relatively small change in these indicators during the period under consideration (with the exception of a fairly decent increase in export diversity based on the calculation of the absolute deviation measure in 1996-2000). This stability of the South African export basket is more comparable to EU data than with indicators of, for example, Asian states that have experienced a significant increase in export diversification across all indices. When comparing the export diversification of South Africa with some



specific countries, a number of changes in the export basket become more apparent. In Fig. 2 compares the diversity of export baskets of South Africa and Brazil, China, India, the United States and partially Russia.



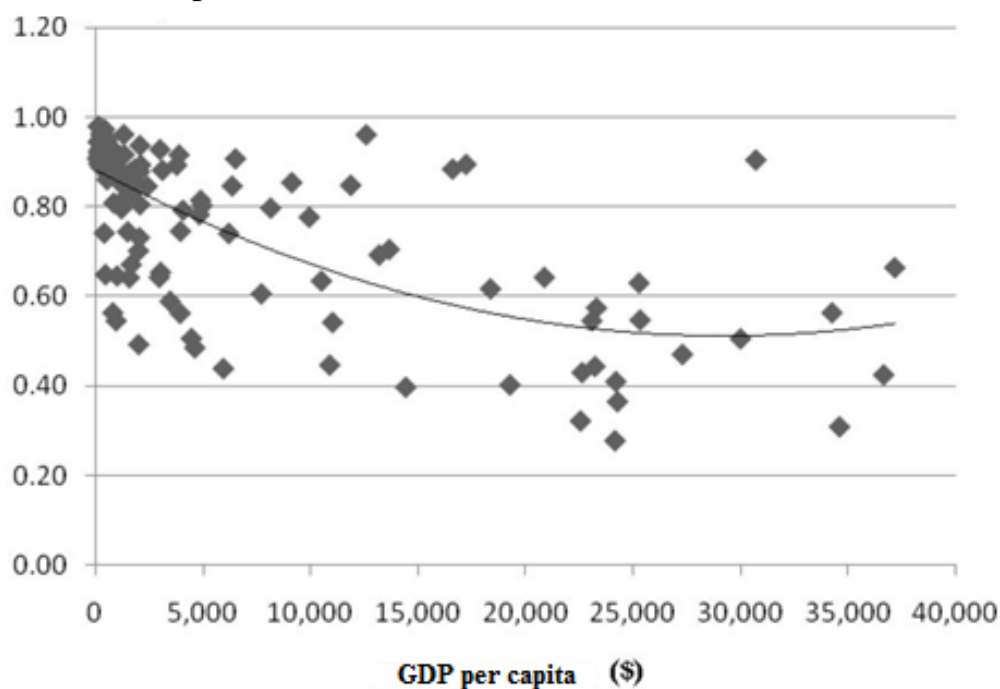
**Fig. 2 - Change of the normalized Hirschman index by country, 1962-2017.**

The United States is included in the analysis as a comparative criterion for an indicator of a developed state, the rest of the country as members of the BRICS group, which is currently the engine of world economic growth. According to expert estimates, Brazil, China and India in the coming decades will lead the ranking of the strongest economies in the world. South Africa is the largest trading partner of these countries in Africa and has concluded bilateral free trade agreements with each of them. Fig. 2 shows that, since the 1980s, all of South Africa's most important trading partners have had more diversified export baskets. Between 1989 and 1995, this difference became even more noticeable, since South Africa's exports became more specialized during this period, while in Brazil, China and India, the level of specialization decreased. Data Figure 2 also show a significant increase in Brazilian export diversification over the study period, when the normalized Hirschman index moved from 0.43 in 1962 (the highest index among the analyzed countries) to 0.05 in 2010 (one of the lowest indices in this comparison). Adequate analysis of data on Russia can only be gleaned from the 2000s, but it is obvious that the trends to enhance export diversification also apply to it.

When comparing the level of diversification of the export basket of South Africa and other countries, it is also necessary to take into account theoretical approaches explaining, from different points of view, the causes and consequences for the country of export specialization or diversification. For example, J. Imbs and



R. Huarzek argued that the level of export diversification can be associated with the stage of economic development of the state. Thus, the more rapid growth in export diversification of Asian countries is due to the fact that, in general, the development of these countries and the degree of their export diversification since the beginning of the process studied seriously lagged behind the starting level of South Africa, including, for example, such an indicator as GDP per capita. The relationship between export diversification / specialization and GDP per capita can be represented graphically based on the use of mathematical modeling and statistical analysis methods. After conducting a correlation-regression analysis, we can construct a dispersion diagram confirming the relationship between the size of GDP per capita and the level of export diversification / specialization for the largest economies of the world (Fig. 3). And, it is obvious that this dependence is non-linear U-shaped (a polynomial trend line of the second order), which confirms the theory of J. Ibs and R. Ouzhiarga. The studies of W. Naude and R. Rosso on levels of export diversification and GDP per capita corresponding to the studied periods confirmed a similar relationship for South Africa.

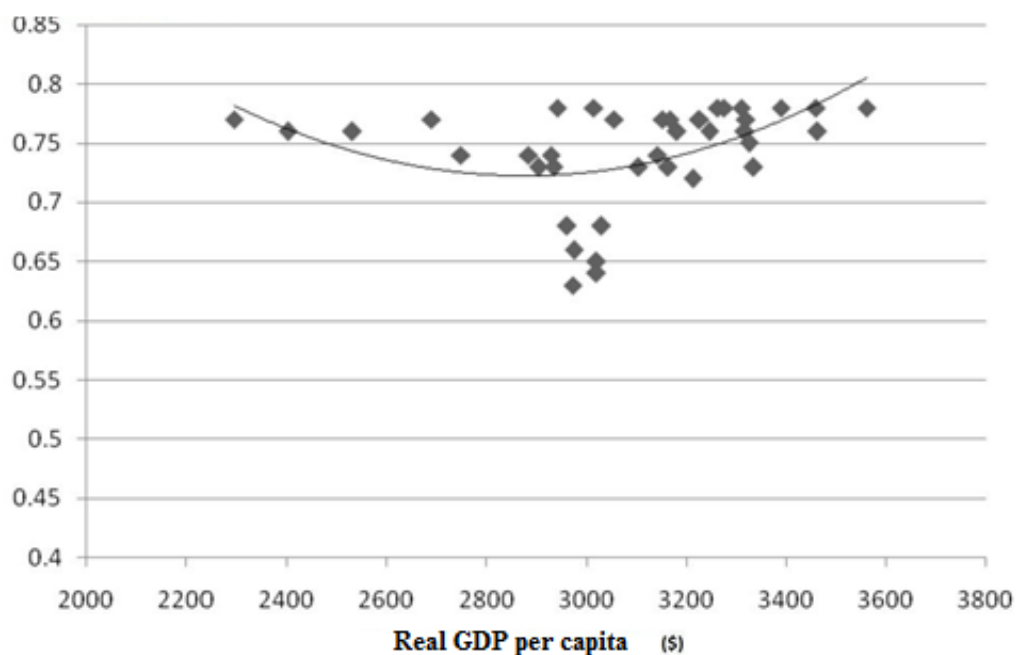


**Fig. 3 - Correlation between export diversification / specialization and real world GDP per capita in the world, 1962-2017**

In Fig. 4 shows a graphical illustration of the obtained scattering diagram, which was constructed by the correlation analysis of the parameters of the absolute measure of deviation ( $S_{jt}$  from equation (3) of paragraph 1.3) and real GDP per capita. Moreover, the authors claim that they obtained similar results when calculating the correlation with GDP per capita with the Hirshman and Herfindahl indices in the relevant periods. The regression trend line for South Africa also has a U-shape (a second-order polynomial line with one extremum). This form of non-

linear communication suggests that the economy (along with foreign trade, and, accordingly, export), as it develops, accompanied by an increase in per capita GDP, becomes first more diversified, and then, when a certain level of GDP is reached, increases again specialization in production and export.

Further analysis of causal relationships using Granger's test allowed the authors to prove that it is export diversification that affects the country's GDP, and that the lack of diversity in the export basket has a restrictive effect on South African economic growth.



**Fig. 4 - Correlation between export diversification / specialization and real GDP per capita in South Africa, 1962-2017**

This theoretical premise formed the basis of the new trade policy of South Africa, aimed at expanding trade and economic ties and deepening the country's integration into the world economy, but subject to the formation of a vector to increase export diversity and diversification.

### **Conclusion**

Based on the importance of stimulating and improving foreign trade for South Africa, the type of state export development strategy is determined - diversification or specialization. According to statistics for 50 years and on the basis of calculations of various concentration indices, South Africa's commitment to an export diversification strategy is being tested. Growing export diversification is likely to reflect the trend of increasing vertical diversification through the increasing complexity of export baskets of South Africa (a combination of exports of primary and industrial sectors) than horizontal diversification within the industrial sector. This is confirmed by an analysis of the dynamics of the sectoral structure of South African exports over a number of years, the results of which reflect a significant

increase in the degree of vertical diversification of exports and minor changes in the structure of industrial exports, which means a weak movement towards horizontal diversification. From this it follows that the lack of diversity in the export basket has an inhibiting effect on the economic growth of South Africa. This theoretical message may become the basis of the new trade policy of South Africa, aimed at expanding trade and economic ties and deepening the country's integration into the world economy, but subject to increased export diversity and diversification.

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