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**IMPORT SUBSTITUTION OF HI-TECH MACHINE BUILDING INDUSTRY
PRODUCTS: CONDITION OF DEVELOPMENT INDUSTRY PRODUCTION
STRUCTURE DIVERSIFICATION**

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The questions of forming a basis for the new investment-technological type of economic development based on hi-tech machine building industries become increasingly more essential for the Russian economy.

Firstly, the raw materials exporting type of development which was observed in the period of 2002-2008 exhausted its potential, the longer it lasted – the more. Secondly, the long period of development on the basis of fuel and energy industries didn't lead to reduction of the “technological lag”¹ that formed during the period of 1992-1998.

At the same time the analysis of competitiveness of the industries of high technological conversion (first of all, hi-tech machine building industries) shows that in spite of the lasting crisis developments the industries that may become a basis for investment-technological type of development still survive in Russia.

There are several hi-tech machine building industries that meet the main condition of competitiveness: export activity of the industries in the periods of 1992-1998 and 1999-2009 and the existence of new promising samples of products that will be able to compete on the world market after the year of 2012.

- Defence industry complex (the promising aviation complex of combat aviation);
- atomic industry (nuclear power-generating unit of increased capacity and floating nuclear power plant);
- space sector of rocket and space industry (carrier rocket “Angara”);
- civil aircraft industry (Sukhoi Super Jet, An-148);
- automobile industry (Toyota Camry, model range of Fiat, TagAZ Vega);
- power engineering industry (high-capacity gas-turbine units and low-speed turbines).

At the first stage modernization and expansion of production capacities of the chosen industries are invested from the Reserve and the Investment funds and the funds of state corporations.

Then, on the basis of modernized and considerably renewed production it becomes possible to increase the volume of production, enhance the quality and broaden the range of products.

After that “Development bank” stimulates export activity with the help of custom, fiscal or budget measures.

After the expansion of export activity import substitution of analogous products will be possible. The matter is that products that are considered competitive on the world market are considered competitive on the internal market too.

As we can't say that the industry will be able to produce the necessary amount of products, having the information about the amount of investments in stock capital of the machine building complex (including its high technology sector) till 2015 we have defined its production potential. Carrying

¹ “Technological lag” is characterized by domination of fuel and energy complex industries in the industrial structure of the added value of the real sector, while the share of products of average and high technological conversion (metallurgy industry, chemical and oil-chemical complex, machine building industry) remains at a very low level.

out such accounts on the basis of the elements of A. Aihner model we can say that the calculated production potential of the machine building complex (including its hi-tech sector) has a factor of scientific-technological progress that is characterized by additional capital intensity.

In accordance with the defined production potential the additional volume of exports that may be realized by hi-tech machine building industries may equal to about 100 billion rubles during the period of 2010-2015. The prospective volume of import substitution of hi-tech machine building industries' products may exceed 1.3 trillion rubles for the same period.²

Bringing exogenous numerical data of export expansion and import substitution in the structure of interaction between industries through the mechanism of intermediate consumption of Russian and foreign products, we saw macrostructural changes the results of which show the possibility of comparatively soon reduction of the "technological lag".

Table 1. Potential increase of the shares of industrial complexes in the process of extension of export activity, %

	Invested complexes			
	Fuel and energy complex	Metallurgy industry	Chemical and oil-chemical complex	Machine building complex
Fuel and energy complex	100.50	100.16	100.12	100.12
Metallurgy industry	100.02	100.75	100.04	100.20
Chemical and oil-chemical complex	100.01	100.01	100.80	100.04
Machine building complex	100.01	100.02	100.02	100.40

The data in Table 1 shows that in case of investing in modernization and development of the production base of fuel and energy complex (the left column) the share of fuel and energy complex in the industrial structure of gross value added (the first cell of the left column) during the period of 2010-2015 may potentially increase by 0.5 %. The shares of other complexes (the second – the fourth cells in the left column) almost don't increase. It means that in case of continuation of the raw materials exporting type of development the "technological lag" will grow.

In case of investing in modernization and development of the production base of the machine building complex (the right column) the share of fuel and energy complex (the first cell of the right column) may increase by only 0.12 % a year for the period of 2010-2015. Though the shares of other complexes of average and high technological conversion (the second – the fourth cells of the right column) may grow much faster for the same period. If the expansion of export activity comes to import substitution analogous indexes will grow considerably (see Table 2).

Table 2. Potential increase of the shares of industrial complexes in the process of realization of export expansion and import substitution, %

² Such a considerable amount is due to the automobile industry which now produces more and more foreign models of Russian assembly. In case of the increase of the production process localization index it is possible to reach import substitution in the amount of 640 billion rubles in the medium term.

	Invested complexes			
	Fuel and energy complex	Metallurgy industry	Chemical and oil-chemical complex	Machine building complex
Fuel and energy complex	100.50	102.31	100.63	101.59
Metallurgy industry	100.02	107.46	100.21	102.60
Chemical and oil-chemical complex	100.01	100.12	104.14	100.53
Machine building complex	100.01	105.40	102.29	114.22

Thus, we've proved the fact that in case of continuation of the raw materials exporting type of development the "technological lag" will continue to grow, reducing diversification and competitiveness of the Russian production industry. By contrast, if hi-tech industries of machine building complex are the basis of the new type of development, reduction of the "technological lag" will be possible in the medium term.