SCIENTIFIC AND THEORETICAL BASES OF LOCALIZATION OF INDUSTRIAL PRODUCTION

Abstract: In the context of import substitution, it is advisable to refer to the foreign experience of localization policy. It not only creates new jobs and production on its own territory, but also encourages the development of knowledge-intensive industries, fuels domestic companies, turning them into strong competitors at the global level, and guarantees national control over strategic industries. In the context of import substitution, it is advisable to refer to the foreign experience of localization policy. It not only creates new jobs and production on its own territory, but also encourages the development of knowledge-intensive industries, fuels domestic companies, turning them into strong competitors at the global level, and guarantees national control over strategic industries. In the context of import substitution, it is advisable to refer to the foreign experience of localization policy. It not only creates new jobs and production on its own territory, but also encourages the development of knowledge-intensive industries, fuels domestic companies, turning them into strong competitors at the global level, and guarantees national control over strategic industries.

Key words: Localization, industry, competition, oil and Gas industry, economically effective, economically efficient, economically viable.

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Introduction
In the Wake of the 2008-2009 crisis, many economists feared that the world would be overwhelmed by a new policy of protectionism and a repeat of the wave of tariff restrictions launched by the Smoot-Hawley tariff act in 1930, during the great depression. This time, however, public authorities were much more restrained, avoiding traditional forms of protectionism (such as quotas and tariffs) and focusing on non-tariff restrictions (NTOs). These restrictions took various forms: complex customs procedures, high standards (packaging requirements), direct government subsidies, etc.

These tools also include increasingly popular localization requirements. These requirements are expressed in the share of the project that must be provided by local (local) companies (which brings these requirements closer to quotas), or in subsidies provided only to local companies. This may also include requirements for the nationality of companies that are allowed to import certain goods or invest in certain firms and sectors of the economy (which can be called requirements for localization of ownership).

Historically, localization requirements have been used in various contexts. Over the past five years, the dominant motive has been the need to create new jobs in the domestic market, rather than in the global market. So, during the 2008 crisis, (as in 1933) the US Congress included the article "Buy American" in the "American Recovery and Reinvestment Act" of 2009. (providing a huge amount of financial incentives in the amount of $ 787 billion). many other countries have done the Same. In these cases, public procurement and state-funded projects served as mechanisms for localization requirements.

But high unemployment and the need for financial incentives are not the only drivers of localization requirements. The development of new
industries is also often used as an argument for encouraging local companies, especially in developing countries, interested in developing high-tech sectors such as information technology and renewable energy.

Regulated industries (such as air transportation, broadcasting, utilities, and telecommunications), "important" companies, and "strategic" industries are often subject to property localization requirements. In this case, when state-owned enterprises are privatized, only companies and citizens of this state can act as buyers. Similarly, when "important" companies are sold, foreign multinationals may be excluded from the bidding process. This was the case, for example, in the cases of the American oil company "Unocal" and the Canadian "Potash Corporation of Saskatchewan".

In 2005, the Chinese "Chinese National Offshore Oil Corporation" intended to acquire "Unocal" for $16-18 billion. The US Congress considered the deal a threat to the country's national security, and after submitting it to President Bush, the deal was rejected [Blustein].

Potash Corporation of Saskatchewan, the world's largest producer of potassium carbonate, was the target of an unfriendly takeover by the Anglo-Australian giant BHP Billiton in 2010. The Canadian government blocked the deal on the pretext that it would not benefit Canada [BHP Billiton...].

Data show that after 2008, not only developing but also developed countries actively resorted to localization projects to solve economic problems, such as creating new jobs, developing strategic sectors of the economy, and so on. The number of such projects among the leaders was the United States (second only to Brazil), which is at the forefront of economic liberalism and free trade. Moreover, the richer a country is and the less connected it is to globalization (in terms of the share of bilateral trade and accumulated direct investment in GNP), the more it has resorted to coercion in localizing production.

Localization requirements are an old defense mechanism that ensures the achievement of three major goals: creating jobs in your own economy, not abroad; fueling your national companies to turn them into global first-class competitors; guaranteed national control over "strategic" industries such as civil aviation, broadcasting, electric power, etc. [Local Content...]

We will analyze typical examples of the use of localization policies in developed and developing countries that relate to different sectors of the economy: agriculture, healthcare, information technology, automotive industry, etc.

Health sector in Brazil
The development of the health sector in Brazil is characterized by the "forced" localization of the production of medical equipment and medicines. One of the goals of this was to combine public and private companies in healthcare. Another goal was to support the emerging industry and medical equipment firms. The third is to ensure public safety in the production of new medicines and preparations. Finally, the fourth was to ensure that medicines were available, especially for those suffering from serious illnesses.

Brazil is the largest healthcare market in Latin America. In 2009, $142 billion of capital investment, or 8.8% of GDP, was directed to this sector. Expenditures on hospitals and medical care account for 5.6% of GNP, medical equipment outside hospitals accounts for 1.3% of GNP, and pharmaceuticals purchased outside hospitals account for 1.9% of GNP.

Until 2012, no Brazilian hospitals or medical services were owned by foreign capital. Foreign companies could not participate directly or indirectly in the Brazilian insurance system. However, foreign companies have played a significant role in the Brazilian market of medical equipment and medicines. Imported medical equipment accounted for 60% of the market in 2012. Imported medicines account for 24% of the market, while 70% of pharmaceutical products were produced by foreign companies in Brazil as part of localization requirements and other programs.

Brazilian imports of medical products have caused a growing trade deficit in this sector, which has increased from $700 million in the late 1980s, up to $8 billion in 2011 [Oliveira] Approximately 75% of this deficit was accounted for by medicines. This was one of the most important prerequisites for the localization program.

Localization requirements can take many forms. The most direct and immediate form is the requirement that all materials and components can be incorporated into local production.

A large part of the mechanisms of localization in Brazil is of a direct nature.

In 2011 Brazil imported $226 billion worth of goods and services, of which $10 billion (or about 4.4%) was health care. At the same time, the country exported $256 billion of goods and services, of which only $2 billion (0.8%) belonged to this sector. Thus, the trade deficit in health care was $8 billion billion, while the entire trade turnover of Brazil showed a surplus of $30 billion.

Import protection was often used to encourage the development of certain industries. In the 1980s, Brazil imposed severe import restrictions in order to develop its computer business. By the end of the decade, the country had a network of various IT...
corporations. National computer production grew from less than $200 million in 1979 to more than $4 billion in 1990. [Botello]

Interventionist industrial policies, including localization requirements, received a new boost in 2003, when the government began to use exchange rate management as a priority economic tool. Now industrial policy focused on stimulating certain sectors of the economy related to new technologies [Domestic Industry…].

The health sector is one of these priority sectors. The state controls the sale of domestic and foreign medical products through a licensing system. The Ministry of health’s national Wealth Surveillance Agency (ANVISA), which regulates these issues, was established in 1999 to protect public health. The licensing system creates significant time and price barriers for foreign companies to register medical products, which indirectly serves the localization policy.

A few years ago, Brazil announced a new public procurement program for hospitals. The main goal of the program was to create demand for domestic goods in order to increase employment. The long-term goal of this policy is to stimulate knowledge-intensive sectors of the economy.

In Brazil, 74% of the population depends on the state health insurance system and public hospitals. However, private hospitals (about half of them) account for 65% of all hospital beds in the country. However, they are better equipped and often provide better services. For example, private clinics have 44 MRI scanners and 20 CT scanners per million patients, ranking third in the world after Japan and Australia. Public clinics have only 3 MRI scanners and 16 CT scanners and per million patients and are at the level of Mexico and Eastern Europe.

As per capita income increases, more Brazilians are buying private-sector insurance policies. Thus, the number of private insurance contracts increased from 32 million in 2003 to 47 million in 2011, i.e. by 47% - and this is during a period when the country’s population increased by only 9% [Medical Device…].

Brazil is critically dependent on imports for a number of medical equipment: digital radiography (63%), auxiliary medical devices (89%), wheelchairs and medical furniture (81%).

Regardless of where medical products are manufactured (in the country or abroad), in order to sell them on the Brazilian market, companies must register these products with the special Agency of the Ministry of health ANVISA and obtain a license. This procedure is borrowed from other developed countries, mainly Western Europe.

There are two registration procedures in Brazil: "Cadastro" for low-risk products and "Registro" for high-risk products. The choice between the first and the second depends on whether you need to obtain a "Good Manufacturing and Control Practice" (GMP) certificate, which is a common practice for high-risk products. If a medical product is manufactured abroad, ANVISA employees are required to visit the place of manufacture. However, the Agency does not have sufficient funds and personnel to carry out GMP certification abroad in a short time. As a result, the average period for obtaining a certificate reaches 18 months or more, which is a hidden form of localization.

To speed up the process of product certification and approval, foreign companies began to localize their production in Brazil, either through the acquisition of Brazilian companies, or by building new factories from scratch. At the same time, the Brazilian government often encourages foreign companies by offering preferential loans and tax exemptions. However, industrial companies must obtain an environmental license to build a new plant, as well as meet other local requirements. The requirements may vary from municipality to municipality. It usually takes two months to obtain such a license, but in large cities this period can be up to a year. This practice encourages foreign companies to acquire existing Brazilian firms.

Thus, registration requirements do not openly discriminate against foreign companies, but the practice itself makes it difficult to export goods to Brazil and encourages their production on the territory of the country.

Pharmaceutical companies face the same difficulties when registering their products as manufacturers of medical instruments. In addition, the Brazilian patent regulation system requires that within three years after the introduction of a patented foreign drug on the local market, its production should be started in Brazil itself [Medical Device….]. If this condition is not met, the state can grant a license to a Brazilian company to produce an analog of a patented medicine in the country. All this seriously restricts the export of medicines to Brazil by multinational companies and is also an indirect form of stimulating localization.

The Brazilian government is putting serious pressure on multinational pharmaceutical companies to reduce their prices (through informal contracts, production of cheap generic drugs, government subsidies). For the same purpose, drug prices are often prominently printed in the media.

The results of the alternative license is one form of the more cheap of generic drugs. For example, in 2007, the government granted an alternative license to produce a generic version of the drug Efavirenz to Merck Sharp & Dohme as part of the national AIDS program. The Brazilian company Farmaquinhos / Fiocruz, which is managed by the Ministry of health, produces 2 billion units of generic EFV a year and plans to bring annual savings to $900 million.

Another effective tool of the Brazilian state is the refusal to recognize foreign patents. So, in 2008, the
impact of the American company "Gilead Sciences" for the production of its drug "Tenofovir" was rejected – on the grounds that the drug is not unique. At the same time, Brazil received the right to import a cheaper generic analog from India, which costs the patient almost ten times cheaper ($158 per year instead of $1,387). Since the analog is not produced on the territory of Brazil, this cannot be considered a form of localization, but there is a clear desire of the Brazilian government to provide the population with cheaper medicines by all available means.

As can be seen from the examples discussed, the Brazilian government imposes significant restrictions on foreign manufacturers of medical products. At the same time, the country's health sector is growing rapidly. By the size of the pharmaceutical market, for example, Brazil ranks 6th in the world. The Brazilian government is putting serious pressure on multinational pharmaceutical companies to reduce their prices (through informal contracts, production of cheap generic drugs, government subsidies). For the same purpose, drug prices are often prominently printed in the media.

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Wind power Canada

The policy of producing wind turbines in the Canadian provinces of Ontario and Quebec is an example of clearly defined measures to encourage localization. The tool is quantitative requirements for increasing the percentage of localization. The goal is to encourage Canadian industrial companies to create new jobs and create new industries.

According to the International wind energy Association, the capacity of this industry in the world doubles every three years, with an annual growth rate of 20%. In 2014, the total installed capacity of wind farms reached 370 thousand megawatts (in 2011-237 thousand megawatts). megawatt). Currently, more than 100 countries around the world use wind power to generate electricity. In 2014, wind power accounted for more than 4% of global electricity production [a new record...].

For a long time, the development of wind power was determined by the five largest markets (China, the United States, Germany, Spain and India). In 2010, Canada joined the expanded list of leaders that ranked seventh in the world in 2014.

The growth rate of wind power in Canada is even higher than in China, and second only to Brazil. Although Canada is a relatively new player in the wind energy market, about 60% of the country's electricity is generated from renewable sources, mainly water; 20% comes from nuclear power plants, 15% from coal – fired power plants, and 5% from gas – fired power plants.
Rich natural resources allow Canada to keep electricity rates at one of the lowest levels in the world. In this indicator, the country is second only to Sweden.

However, Canada will soon have to find new sources of energy to meet growing demand and compensate for retiring coal-fired power plants.

According to the calculations of the International Energy Agency, the country will need about $200 billion of new investments in power generation, transmission and distribution capacities by 2030. Canadian provincial governments have already announced plans to invest $115 billion in energy production over the next 20 years. The problem is to achieve a balance between the demand for electricity and the environmental burden.

As part of the fight against the greenhouse effect, Canada is rapidly developing renewable energy sources. Wind power was ranked second in the country after hydropower. The Canadian wind energy Association predicts that it will account for up to 20% of the market by 2025. This involves the installation of 22,000 wind turbines in the country [Poweringcanada's...].

Canada, as you know, is a Federal state consisting of 10 provinces and three territories. Regulation of electricity production, transmission and distribution is mainly in the hands of provincial authorities. As a result, there are significant differences between individual regional electricity markets. At the Federal level, only the management of nuclear power is concentrated. All wind power projects require provincial approval and licensing, including site plans and municipal construction permits.

Significant inter – regional differences include electricity tariffs and prices. For example, tariffs for the residential sector in Montreal in 2011 were the lowest and amounted to 68.21 Canadian dollars per 1 thousand kW, while in the province of Ontario-127 Canadian dollars, and in Calgary – almost 150 dollars.

The largest installed wind power capacity was in Ontario in 2014 (2,855 MW). The production, transmission and distribution of electricity in the province is regulated by several structures at once. Ontario Power Generation Inc. (OPG), which is entirely in the hands of local provincial governments, accounts for 70% of the province’s electricity generation. Approximately 97% of electric networks are also owned by the state-owned Hydro One Networks, which serves 1.2 million consumers.

Ontario authorities make extensive use of the feed-in tariff, an economic and political mechanism designed to attract investment in renewable energy technologies (including wind). This mechanism is not unique to Canada: it is used by about 50 countries around the world, including the United States, China, India, and others. It is based on three main factors:

- guarantee of network connection;
- long-term contract for the purchase of all electricity produced;
- surcharge on the cost of electricity produced [Mendonça].

Under this mechanism, the government of Ontario guarantees adequate prices, network connectivity and a long-term contract with a green energy producer, which together makes large investments in the industry profitable. This mechanism was launched in 2009. At the same time, the government of Ontario began to seek investment in the manufacturing industry related to "green" energy. Here, the state relies on a policy of encouraging localization. It requires that when equipment is supplied, the minimum level of locally produced goods and services ranges from 25% in large wind power projects to 60% in solar power projects [Feed-in...].

Despite accusations of violating WTO rules, the province of Ontario has made significant progress in attracting large-scale investment in renewable energy. According to a number of experts, the localization incentive mechanism has attracted $30 billion in new investment [Ontario...]. The largest project under the province's green energy development program is a complex of four wind and solar clusters worth $6.7 billion, built by the South Korean company Samsung.

In the power industry of the province of Quebec, which ranks second in the country in terms of installed wind power capacity, the dominant position is occupied by the local state monopoly "Hydro-Quebec". To build new wind power here, you need to get a number of permits [Wind Energy...].

Quebec is dominated by hydropower, with a market share of 97%. However, already in the mid-2000s, wind power was considered an important addition. According to the energy development strategy "Quebec Energy Strategy 2006-2015", it was planned to introduce 100 MW of wind stations for every 1000 MW of new hydro capacity [Using Energy...]. By mid-2015, the total installed wind capacity in the province reached 2.5 thousand MW.

The provincial authorities announced that they are trying to get the maximum economic effect for municipalities and the region as a whole through the mechanism of enforcement of localization. This mechanism includes requirements that 30% of the cost of wind turbines is generated in the municipalities of the province and 60% of all costs are deposited in the province of Quebec [Using Energy...]. These costs include site and environmental research, the cost of wind turbines, and total construction costs, including transporting the turbines to the construction site, testing them, and putting them into operation. Such a mechanism, according to the authorities, should help attract investment in industrial enterprises for the production of turbines and create appropriate jobs.
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