The Dutch Disease: An Overview

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Abstract

The Dutch disease is a negative impact of the increase in foreign income on the economic development that often affects relatively small resource-rich countries. The consequent appreciation of the real exchange rate could harm the export competitiveness of inflows receiving countries and thus lower their growth potential. It could affect the macroeconomic stability, the competitiveness of the export sector and the external sustainability of the countries as it diverts country´s resources away from activities that are more contribute to growth in a long run. Paper presents an introduction to the phenomenon of the Dutch disease and the current state of the theoretical and practical aspects of this problem.

Keywords: The Dutch disease, natural resources, booming sector, real exchange rate

Introduction[2]

"A great fortune in the hands of a fool is a great misfortune"

Natural resources can be as much a course as a blessing. Sometimes countries with an abundance of non-renewable resources experience stagnant or negative economic development, especially when a country begins to focus on a single industry, such as mining, and ignores other traditional sectors. The Dutch disease, also known as a case of "resource curse" or "paradox of plenty", is a term that generally refers to the negative consequences of large increases in a country's income. The Dutch disease is the negative impact on an economy of anything that increases inflows of foreign currency into the country, such as the discovery of large natural reserves. The currency inflows lead to currency appreciation, making the country's other products less price competitive on the export market. It also leads to higher levels of cheap imports and can cause deindustrialisation as industries apart from resource exploitation are moved to cheaper locations.

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The phrase "Dutch disease" originates from the Dutch economic crisis in the 1960s following the discovery of North Sea natural gas deposits which increased the wealth of Netherlands, but harmfully influenced other sectors of economy and resulted in negative economic development, especially the decline in manufacturing and farming. First time the term was used in the Economist in 1977. The so-called Dutch disease has damaged the industrial sector of many commodity exporting nations such as Norway, currencies of which are well supported by high oil prices but have uncompetitive manufacturing sectors.

The Dutch disease is not a new phenomenon. The Dutch disease model may describe the flows of treasures into Spain and Portugal in 16th century or Australian gold rush in the 1850s. The first paper regarding this relationship in Australia was written by Meade and Russell (1957). In 1970s the same development as in Norway we can find in Great Britain. Typical example of the Dutch disease is Nauru, whose economy relies almost entirely on phosphate, or Angola and Gabon, where the traditional industries was repressed by oil counting for 97 % of their export. Nowadays, Russia should be worried about losing the value of the Russian rouble along with the 70 % share of oil and gas on its exports. Resource exports account for 78 % in Norway, 61 % in Australia or 39 % in Canada.

The Model

The Dutch disease model was firstly described by W.M. Corden and J.P. Neary in 1982. They assumed a small open economy divided into three sectors – a non-tradable sector determined by domestic demand and supply and two tradable export sectors with internationally given prices, the booming and lagging one. The non-tradable sector represents the domestic supply of services, retail trade or construction. Booming export sector is usually sector exporting natural resources or crops. The lagging sector is the traditional export sector in economy producing usually manufacturing or agricultural products. The model assumes that:

- one factor of production (capital) is not mobile and one factor (labour) is perfectly mobile among all three sectors what equalises the wages,
- all goods are for final consumption,
- trade is balanced,
- commodity and factor prices are not distorted.

The „disease" starts with large inflows of income (or foreign currency) from the booming sector, for example caused by discovering large natural resource reserves, and on the demand side of the economy the spending effect occurs. The rising income increases the demand for all goods and, depending on the type of exchange rate mechanism, may affect

domestic prices or nominal exchange rate[3]. In case of fixed exchange rate, the large inflows of foreign currency will increase the money supply and domestic prices. If the exchange rate is flexible, it will appreciate the domestic currency and the nominal exchange rate will increase. In both cases, the country experiences the real exchange rate (the price of traded goods relative to the price of non-traded goods) appreciation and therefore less competitiveness of its traditional exports as they are becoming more expensive for other countries to buy. At the same time, producers of goods for local markets face competition from increasingly cheap imports. As a result the labour and production moves from lagging traditional export sector to the booming export sector (direct deindustrialization) and domestically produced non-traded goods (indirect deindustrialization). This is the resource movement effect and occurs on the supply side of the economy. The increased demand for non-traded goods raises the price of these goods. The prices in the traded good sector are set internationally, so they do not change, but the imports will be cheaper. Manufacturing jobs are moved to the lower-cost countries and imports rises. The result is that non-resource export industries are hurt by the increase in wealth created in resource-based industries. Exchange rate overvaluation damages long-term economic growth and influences a country´s macroeconomic stability. Moreover, the traded goods sector is the channel through which an economy gains better performance and productivity from abroad and through the Dutch disease country is losing "the learning-by-doing" spillovers.

The Dutch disease may have also some political consequences for resource exporters. Large inflows of foreign income often result in increasing government and political corruption. Politicians prefer short-term thinking, and investments in non-resource sectors, infrastructure and human capital are reduced. The independent judiciary and free press are threatened. Ross (2001) implemented the model of the political Dutch disease, when the incomes from natural resource exports create high state revenues and help politicians to hold their power. In one case, the government is able to cover the public expenditures and citizens do not have to pay taxes and are satisfied with government without ambition to change it. In other case, the government uses the external revenues for fostering their military power and creating the dictature.

The empirical literature has not clearly verified the suggestions of the Dutch disease. The reason for mixed evidence is due to the general difficulty in holding "ceteris paribus" in macroeconomics. There are a lot of difficulties in proving the relationship between increase in country´s foreign income and its negative development. An appreciation of the real exchange

[3] This occurs only in case the increased incomes are not entirely spent on imports.

rate or decrease in the manufacturing sector can be caused by other factors like changes in domestic or foreign productivity, transformation of the economy or the economic policy of the country. Furthermore, the currency appreciation does not necessarily cause the economic slowdown. However, many empirical studies have confirmed the existence of this phenomenon. Sachs and Warner (1995) showed that in period 1970 – 1990 countries with a high natural resource exports experiences slower growth than did those with few resources. Dolan (2014) experienced that exchange rates of the wealthiest resource exporters, like Norway, Australia, and United Arab Emirates, are more overvalued than poorer resource exporters, like Angola, Venezuela or Russia, measured by the ratio of GDP at market prices to GDP at purchasing power parity. According to Stijns (2003) using the gravity model, a one percent increase in world energy price leads to decrease a net energy exporter's real manufacturing exports by almost half a percent. Similarly, a one percent increase in an energy exporting country's net energy exports decreases the country's real manufacturing exports by 8 percent.

The Causes of the Dutch disease

The Dutch disease is usually associated with a natural resource discovery, but it can be caused by any factor which increases the inflow of the foreign currency. The typical source of the Dutch disease is significant increase in natural resource prices. The boom in mineral commodity prices in the late 2000s affected negatively Chile. The oil prices boom in 1970s influenced the development in many countries producing oil and now they have got a lot of problems with trade balances and state finance following the sharp decrease in oil prices. The rise in coffee prices in the late 1970s in Colombia brought a boom in the coffee sector at the expense of manufacturing and resources were reallocated to the agricultural sector.

Another source of the Dutch disease could be foreign direct investments (FDI) which are usually concentrated to the natural resource industries and may mean the exogenous technological advance (Corden, 1984). FDI may lead in these countries to the development of the dual economy, which has one developed sector, usually owned by foreign investors, and underdeveloped sector owned by domestic owners. The developed sector is usually capital-intensive, while underdeveloped agricultural and manufacturing sectors are labour-intensive. Thus the negative effect of FDI could be harmful for domestic employment. The capable example of the biased growth and the symptoms of the Dutch disease through the FDI to energy sector is Colombia after 2011.

Sometimes the symptoms of the Dutch disease could be related to the foreign aid. Some Asian countries experienced the increased inflation after the post-tsunami recovery assistance in 2004. Among other sources, the

arrival of migrant worker´s remittances became the important source of extra finance for developing countries, often exceeding other financial flows. The greatest recipients of the remittances are India, China, Mexico and Philippines.

How to avoid the Dutch disease?

Country can handle the negative consequences of the Dutch disease in several ways depending whether the increase in income is permanent or temporal. If the higher inflows are expected to be permanent, generally it is not considered as a problem. Economy´s sectoral transition is only an adaptation to its new conditions and wealth. However, focusing the economy´s production on one sector, especially on extraction of natural resources, may create constrains for further technological and human development and long-term economic growth and makes the economy more vulnerable and sensitive on world development of demand and prices. The solution can be the diversification of the production by investing in different sectors. Governments have to increase productivity in other sectors of economy especially though investments into innovations, education and infrastructure that may increase the competitiveness of the lagging sectors. An efficient tool is reallocation of the revenues directly to local authorities in order to reduce poverty. Protection of lagging sectors in the economy can be done also through the instruments of the trade policy as tariffs or subsidies.

If the income shock is temporary, it is necessary to protect other sectors in economy and manage the real exchange rate development and the monetary policy becomes very important. Policymakers have got several possibilities. One of them is to prevent the exchange rate appreciation. That needs foreign exchange interventions which raise the foreign exchange reserves and may lead to inflation and lower interest rates crowding out the investments. The way how to avoid inflation is to increase private and public savings through a budget surplus that reduces the need for foreign inflows, and to raise interest rates.

Another alternative is a sterilisation of the increasing revenues that reduces the spending effect and prevents the sudden strengthening of the local currency. A part of the abundant income could be saved for future spending through special funds. In this case, country also creates some kind of insurance for potential negative development and a stable revenue stream. Such funds we can find in Norway, Australia, Canada, Russia or Kuwait. The main purpose of these sovereign wealth funds is usually stabilization, development investments or pension payments.

Problems associated with the Dutch disease could be settled only with appropriate macroeconomic policies and need transparency in revenue flows, prevention of corruption and application of environmental standards

often with help of external institutions like World Bank or NGOs. The example of good and appropriate dealing with the Dutch disease is Latin America. In these countries were revenues from mineral exports used to increase productivity in the agricultural sector. Their productivity has risen since 1990 more than in East Asia or the United States. A very wise policy of investments we can find in Colombia with sophisticated marketing on the coffee market, in Chile with the creation of a new export industry of fruits and vegetables or in Argentina with an innovative farming and agriculture institute. The greatest progress was seen in Brazil. The country has set itself the objective of becoming the largest producer of agricultural products in the world, while in 1973 it was a net importer of these products. The government has adopted a policy of training of young farmers in the form of overseas internship to brought to the country the latest findings and create a new effective agriculture. And apparently it works. Currently, Brazil is the large exporter of coffee, sugar, orange juice, tobacco products, but also ethanol, beef and chicken meat and takes the second place in exporting soybeans. In Latin America, the internal modernization of enterprises is at a low level. On average, companies are investing in only 0.5 % of its gross revenues into innovations, in comparison to 2 % in the wealthy countries. Therefore, the use of external income from mineral exports for the innovation of sectors is very important.

Conclusion

The transmission mechanism of the Dutch disease explains the relation between foreign inflows and over-valuation of the exchange rate, that puts the pressure on the country´s current account and reallocate resources from industry and agriculture (tradable sectors) to services (non-tradable sector) and natural resource industries, and lead to lower competitiveness of a country.

The natural resources can be as much a curse as a blessing. The way in which the curse affects differs from one country to another. Regarding the overvaluation of the currency respectively to the levels of GDP per capita, the greater threat it is for high-income resource exporters. On the other hand, lower-income resource exporters have to deal more with political economy of the dealing with the symptoms of the disease. In these cases, higher income usually does not transform into the better outcome and social conditions for their citizens. For successful dealing with the Dutch disease it is necessary to constitute the democracy and transparent society and establish the suitable channels for stabilization and future development of the economy.

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