POTENTIAL OPTIONS FOR INTERNATIONAL TRADE

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Purpose: The main purpose of the article was to perform a critical analysis of existing theories of international trade and develop proposals for their improvement, which will allow to make the right decisions regarding trade policy in the future and to qualitatively predict the trends in the development of international trade and its impact on the socio-economic state of countries, regions and enterprises.

Design/methodology/approach: The main research methods in the article were the method of critical literary analysis and the method of morphological analysis.

Findings: Among all the theories of international trade, the most well-founded are those that explain it by natural and geographical differences between countries and differences in the costs of producing the same goods in different countries. The remaining theories of international trade require additional justification or interpret differently the influence of natural and geographical differences between countries and differences in the costs of producing the same goods in different countries.

Research limitations/implications: Further research is promising in the following areas: developing a methodology for determining the share of each of the two causes of international trade in terms of the total volume of international trade of individual countries and in terms of bilateral trade between countries; assessment of the existing distance resistance and forecasting its changes for various goods in bilateral trade between countries in terms of regions, modes of transport and time; activities of firms that can, in order to optimize taxes, carry out real or fictitious actions in the field of international trade; the impact of the national security factor on international trade.

Originality/value: There are only two reasons for international trade and, accordingly, only two most well-founded theories of international trade, which makes it possible to have three options for international trade for a single country or between any two countries.

Keywords: International trade, reasons for international trade, theories of international trade, distance resistance, options for international trade.

Category of the paper: Research paper.

1. Introduction

International trade has grown to enormous proportions, bringing significant benefits not only to its participants. At the same time, international trade also poses certain threats to enterprises and countries, related to dumping, exchange rates, foreign currency debt, and the relocation of production of goods to other countries, which is accompanied not only by economic losses in the respective states (jobs, tax revenues to budgets of various levels, etc.), but also by a decrease in national security if the production of strategic goods (weapons, medicines, etc.) is relocated. In order to predict the trends in the development of international trade and its impact on the socio-economic state of countries, regions, and enterprises, attempts have long been made to explain the causes of international trade, that is, attempts to create theories of international trade (Andresen, 2010; Jeyarajah, 2020; Mansouri, 2022).

2. Theories of International Trade: A Critical Analysis

The first theory of international trade is considered to be the theory of mercantilism (15th century), according to which a nation becomes wealthier and more powerful when it exports more than it imports (Johnson, 1974; Herlitz, 1964). According to the theory of mercantilism, a positive balance of foreign trade will remain in the country in the form of precious metals, in particular gold and silver, which, according to mercantilists and the public opinion of the time, were a measure of the wealth of countries and individual citizens.

But, if the mercantilist approach is analyzed from the perspective of the expediency of trade, it is worth emphasizing that the need for trade between countries arises when it is cheaper to purchase a desired good in another country and move it to one's own country than to produce it in one's own country (reason for international trade No. 1), or when it is possible to purchase and move to one's own country a desired good in another country that, for some reason, is not produced in one's own country or is produced in insufficient quantities (reason for international trade No. 2).

The hoarding of precious metals was actually the fashion of the time, and this means that the theory of mercantilism is not really a theory of international trade, but a theory of fashion of that time. Precious metals were exported from countries (which had efficient gold and silver deposits) where they were cheaper to countries (which did not have such deposits or their deposits were not efficient enough) where precious metals were more expensive.

The classical and even elite theory of international trade is considered to be David Ricardo's theory of relative advantage, according to which international trade can exist even under conditions of absolute advantage of one country in the production of all goods (Ricardo reduced

all costs to labor costs, which acted as a "universal currency" in his research), since it is more profitable for this country to focus on the production of goods (for domestic consumption and export) with a greater relative advantage, and to import goods with a lower relative advantage (Meoqui, 2023; Ruffin, 2002; Thompson, 2024).

In Ricardo's theory, everything seems to be elegant and delicate, understanding the theory is considered a pass to the scientific economic elite, but there is one "but". All these "relative advantages" in the production of various goods find their expression in the higher level of payment for more productive labor and in the higher exchange rate of the country that had an absolute advantage in the production of goods compared to another country. It is this increase in costs associated with wages and the exchange rate that makes it advisable to focus on the production of goods with a greater relative advantage, because only in the production of these goods will the country have (in the new conditions of the level of wages and the exchange rate) an absolute advantage. The absolute advantage of this country in the production of goods with a lower relative advantage will be lost by moving to another country, where the level of wages and the exchange rate will decrease. That is, Ricardo's theory of relative advantages is actually not one of the theories of international trade, but one of the theories of the exchange rate or one of the theories of wages.

A popular theory of international trade explanation is the Heckscher-Ohlin theory, according to which countries export goods that intensively use "surplus factors" and import goods that intensively use factors that are scarce for them (Brondino, 2023). The provisions of the Heckscher-Ohlin theory were somewhat later "mathematically supported" by Paul Samuelson, who in 1948 "proved the equalization theorem for the prices of production factors", according to which international trade leads to the equalization of absolute and relative prices for homogeneous factors of production (homogeneous capital is capital that has the same productivity and riskiness; homogeneous labor is labor with the same level of training, education and productivity; homogeneous land is land with the same fertility, soil condition, etc.) in trading countries (Brazelton, 1977; Dixit, 2012; Pickhardt, 2006).

Regarding Heckscher-Ohlin theory. Countries can export those goods for which the total costs (of production in the relevant country and transportation to the foreign market) are lower than the costs of production in the importing country. The presence of "surplus factors" affects the spatial differentiation of production costs, which can determine the feasibility of international trade, but the "surplus factors" themselves are not the cause of international trade. Therefore, the Heckscher-Ohlin theory can be considered not as a separate theory of international trade, but as a component of the theory based on the phenomenon of spatial differentiation of production costs.

Regarding the "equalization of prices" for homogeneous factors of production according to Samuelson. What kind of equalization of prices for homogeneous factors of production can we talk about if, for example, a significant difference in prices for the same quality of labor in different countries is a constant factor in the socio-economic development of civilization.

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The price of land of the same quality in different countries can differ radically, since, unlike labor, land is a non-mobile resource. Similarly, we can talk about the price of capital - immobile capital of the same quality can differ significantly in price in different countries. And only mobile capital of the same quality can be characterized by a tendency to "equalize prices" in different countries.

A brief analysis of the theory of "price equalization" for homogeneous factors of production is general and has no bearing on the causes of international trade, since Samuelson did not claim to have "his" theory of international trade. Samuelson's error regarding "price equalization" for homogeneous factors of production is not surprising against the background of another fundamental error of the Nobel laureate: in 1961 he predicted that in the period from 1984 to 1997 the USSR would overtake the USA in terms of economic size (Levy, Peart, 2009). But in 1984 the USSR began to decline critically, and in 1991 it ceased to exist. In 1997 the total size of the economies of the countries that emerged from the ruins of the USSR was no more than 25% of the US economy.

Proposed in 1966 by Raymond Vernon, the theory of the international life cycle of goods (also considered a theory of international trade) states that some goods go through a cycle consisting of four stages (introduction, growth, maturity and decline), and the production of these goods moves from one country to another depending on the stage of the cycle (Vernon, 1966). At the first stage (introduction), innovative goods are developed and produced: as a rule, the main role here belongs to economically developed countries, which will produce for the domestic market and for export. At the second stage (growth), the country where the innovation appeared, in addition to production on its territory, can start producing a new good abroad. A foreign competitor can also start producing the same good, and he can do this with minor changes, bypassing patent protection, or by purchasing a license. The produced goods will be intended for the domestic market of the relevant countries and for export.

In the third stage (maturity), global demand for the new good begins to stabilize. The technology for producing this good becomes so standardized that its production can be moved to less economically developed countries, from where the good will be exported to some foreign markets. Finally, in the fourth stage (decline), the technology is so improved that the production of the good no longer requires special labor skills, and therefore it moves to poor countries with a surplus of cheap labor, where the good will be produced both for the needs of the domestic market and for export.

In Vernon's theory, everything seems logical, but a deeper analysis shows that in fact the reasons for moving production from country to country are not problems with the availability of the technology for producing the good, but the usual geographical differences between countries (in the case when it is impossible to produce a good in some countries due to the lack of the necessary resource, for example, a skilled workforce) or the usual spatial differentiation of production costs.

In 1961, the Englishman Michael Posner proposed the Theory of Technological Gap, according to which one of the reasons for international trade is technological innovations that allow the innovator country to obtain a quasi-monopoly on the production of a new good and export it profitably and without competition (Posner, 1961). Over time, the technological gap decreases due to technology transfer, import substitution, and the introduction of interchangeable technologies in other countries. Then everything starts again: new innovative solutions (not necessarily in the same country) cause new export-import flows. Although the theory of technological lead is considered by some scientists to be an offshoot of the Heckscher-Ohlin theory, it can rather be called a component of Vernon's theory in the first stage of the life cycle of a good (implementation). If the implementation stage is implemented in a country, it is not due to the impossibility of implementing it in another country, but due to the high cost of this in the absence of the necessary resources there, primarily such as specialized infrastructure and qualified personnel. Non-mobile resources (specialized infrastructure) will need to be created, and mobile resources (qualified personnel) will need to be moved from other countries, which will require significant financial costs and a lot of time.

One of the theories of international trade is often called the gravity model, according to which trade between two countries is directly proportional to the product of their economic potential and inversely proportional to the distance between them (Anderson, 2011; Anderson, Van Wincoop, 2003; Tinbergen, 1963). In addition to GDP, the significance of countries' economies is modeled in gravity equations by population, area of countries, length of borders, etc. It can be agreed that the "force of economic gravity", that is, the size of trade between countries depends on the distance between them and the size of their economies, but they do not determine international trade. Gravity theory explains to some extent the volume of international trade, but not its reasons.

Among the theories of international trade, there is one that tries to explain its existence not from the side of production of goods, but from the side of their consumption. In 1961, Stefan Linder, studying the features of international trade in technologically new goods (refrigerators, televisions), with which US firms entered the European market in the 1950s, drew attention to the fact that although the main inventions that formed the basis for the development of these goods were made by Europeans, in practice these inventions were used in the USA to produce technologically new goods, which then conquered foreign markets, including Europe (Linder, 1961).

According to Linder, the wealthy American consumer was more inclined to consume new expensive goods, and with the increase in the standard of living of Europeans, new American goods found their way to Europe. Linder concluded that technologically complex goods are created by entrepreneurs as a response to needs that already exist, that is, primarily to the needs of the domestic market. And only after expanding production, after the saturation of the domestic market, the firm seeks to capture foreign markets. The firm will enter the foreign market on the basis of the goods it has prepared for national consumers, therefore,

the consumption structure of the importing country should be as similar as possible to the consumption structure of the exporting country. Thus, according to Linder, not only differences, but also similarities between countries can be a prerequisite for trade.

When characterizing this theory, it is worth emphasizing, first of all, that the "rich American consumer" could easily buy technologically new goods even if they were produced in Europe or, as has been the case in recent decades, in Japan, South Korea or China. At that time, the issue was not the "rich American consumer", but the well-functioning US economy, which made it possible to produce high-tech goods at relatively low costs. At one time, American scientists had already made many inventions that were used as the basis for the production of goods in Japan - and not so much for domestic consumption as for export (including to the USA). That is, Linder's theory should be more reasonably interpreted not as a separate theory of international trade, but as a branch of the theory based on the phenomenon of spatial differentiation of production costs. A rich country can import goods, rather than produce them first for its own market and then for export.

The most recent theory of international trade is that of Paul Krugman, who won the Nobel Prize in Economics in 2008 (Krugman, 1979, 1981). According to his research, economies of scale are one of the important reasons for international trade, since the optimal scale of production that ensures maximum efficiency often exceeds demand within a country, which necessitates exports (Ethier, 1982). According to Krugman, even in the absence of other reasons for international trade, economies of scale make international specialization advisable, in which countries specialize in the production of certain goods (for themselves and for export), exchanging these goods through international trade.

The claim that the effect of specialization and scale is one of the reasons for international trade is easy to refute, since in fact, although the volume of production affects unit production costs (mostly in the direction of their decrease with an increase in production volume), and may even be one of the factors of spatial differentiation of production costs (since not all places may be suitable for large-scale production, which ensures a decrease in unit production costs), exports will arise not because the capacity of the national market is less than the optimal volume of production, but because relatively low production costs make the good competitive in domestic and foreign markets.

Thus, among all the theories of international trade, the most justified are those that explain it by natural and geographical differences between states and differences in the costs of production of the same goods in different countries. This conclusion is indirectly confirmed by the fact that international trade statistics and forecasting trends in the development of international trade in the future are oriented precisely on natural and geographical differences and differences in production costs.

3. Two reasons and three options for international trade

The first reason for international trade is the existence in at least one country of the world of demand for a good that is not produced for some reason within its borders (for example, due to the lack of suitable deposits – for example mineral extraction, a favorable climate – when considering agriculture or forestry, production of necessary goods), or is produced in insufficient quantities, while such a good is produced in at least one other country of the world and can be purchased and moved to the importing country. This situation arises due to natural and geographical differences between states (differences in climate, mineral deposits, economic structure, etc.), which are inevitable, although they can change (decrease or increase), and sometimes even be leveled.

One of the most interesting and promising situations (both from a scientific and entrepreneurial point of view) in the field of natural and geographical differences between states in terms of their impact on international trade is the difference of identical goods according to the criterion of the country of production, which creates an aura of originality for the goods (after all, each country is unique). In this situation, for example, carrots grown in Germany are a different good for many consumers than carrots grown in Poland, and, as a result, a situation of export of carrots from Germany to Poland (for Polish consumers who form the demand for German carrots) and counter-export of carrots from Poland to Germany (for German consumers who form the demand for Polish carrots) is possible.

The author of the concept of the difference of goods by the criterion of the country of production is Paul Armington, who in the article "A Theory of Demand for Products Distinguished by Place of Production" substantiates the thesis that consumers, as a rule, interpret the same goods, but from different countries, as different goods (Armington, 1969). And although such an interpretation cannot be considered rational, it is real. It is known that the basis of the prosperity of Greek cities and their colonies has always been trade, but it must be taken into account that the Mediterranean is quite homogeneous in terms of climate, soils and flora, and therefore it was possible to trade not so much different goods as special qualities of formally identical goods. It is believed that the subtle differences in the taste of wine and olive oil, the subtle differentiation of the shape and decoration of ceramic vessels became the basis of well-being, and without the ability to distinguish the subtle, nuanced properties of goods, the very formation of Greek civilization in its special form would have been impossible. But in fact, the special quality of wine, olive oil and ceramic vessels was produced in another country - polis, although located nearby.

The existence of such a situation seems to mean that differences in goods according to the criterion of the country of production make international trade inevitable, since these differences cannot but exist. However, everything is not so clear-cut: the level of demand (within the country and abroad) for such specific goods may not be sufficient for profitable

production, which, thereby, negates the inevitability of international trade due to differences in goods according to the criterion of the country of production.

Adam Smith in his famous work The Wealth of Nations was the first to claim that a country could have natural advantages due to its climatic features or the possession of unique natural resources (Schumacher, 2020). Since Adam Smith was the official discoverer of this type of goods, they can rightfully be called "Adam Smith goods". Formally, "Adam Smith goods" include the same goods produced in different countries (because a country is also a geographical concept), but since Adam Smith did not even mention such goods, it is appropriate to call them "Paul Armington goods", obviously in the "Adam Smith goods" group.

The second reason for international trade is that, due to the influence of various reasons, there are differences in the costs of producing identical goods in different countries, and if the magnitude of those differences is significant enough, then it becomes advisable to export the corresponding goods from a country of relatively cheap production to a country where production is relatively expensive. Such goods can be called "Adam Smith goods-2", since it was Adam Smith who is the author of the theory of absolute advantages, according to which the reason for the emergence of international trade is the difference in the costs of producing identical goods in different countries (Tribe, 2006).

The existence of two reasons for international trade makes it possible to have three variants of international trade, which can characterize the situation in international trade for an individual country or between any two countries (Table 1).

Table 1.
Potential options for international trade by the criterion of its causes

Variants of international trade	Reasons for international trade	
	1) natural and geographical differences between states	2) differences in the costs of producing the same goods in different countries
1	+	-
2	-	+
3	+	+

Each of the options given in Table 1 is characterized by the existence of one or two reasons that determine the international trade of a single country or trade between two countries. Thus, option 1 assumes that the cause of a country's international trade is only natural and geographical differences between states, option 2 - only differences in the costs of producing the same goods in different countries, and option 3 - both natural and geographical differences between states and differences in the costs of producing the same goods in different countries.

It is worth emphasizing that any variant of international trade can be implemented only under conditions of not very significant distance resistance, the main characteristics of which are technical capabilities, costs, safety and speed of cargo movement. The two reasons for international trade mentioned (natural and geographical differences between states; differences in the costs of producing the same goods in different countries) are necessary, but not sufficient

for the emergence of international trade, since with very significant distance resistance, production must take place close to the sales market and be oriented, obviously, to local resources, since distance resistance will be strong not only for final goods, but also for the resources necessary for the production of these goods.

Only the reduction of distance resistance (primarily due to the development of transport communications and the reduction of import and export customs duties) in the presence of at least one reason for international trade makes international trade possible, activating its potential (Table 2).

Table 2.
Situations regarding the possibility of international trade

Significance of the reasons for international trade (1) and/or (2)		Distance resistance		
		A) Very significant	B) Significant	C) Insignificant
1)Significant	Impact only 1	1.1.A) No preconditions for international trade	1.1.B) International trade possible	1.1.C) International trade possible
	Impact only 2	1.2.A) No preconditions for international trade	1.2.B) International trade possible	1.2.C) International trade possible
	Common impact 1 i 2	1.3.A) No preconditions for international trade	1.3.B) International trade possible	1.3.C) International trade possible
2) Insignificant		2A) No preconditions for international trade	2B) No preconditions for international trade	2C) No preconditions for international trade

Under conditions of very significant distance resistance, with any significance of the reasons for international trade, the prerequisites for international trade are absent (situations 1.1.A, 1.2.A, 1.3.A and 2A). Under conditions of insignificant significance of the reasons for international trade, with any distance resistance, the prerequisites for international trade are also absent (situations 2A, 2B and 2C). In all other situations, international trade is possible.

Situations regarding the possibility of international trade from Table 2 should be characterized in sectoral, spatial and temporal aspects. The sectoral aspect consists in the dependence of distance resistance on the properties of the good: in a specific space and time, distance resistance for different goods will, as a rule, be different. The spatial aspect of situations regarding the possibility of international trade consists in the dependence of distance resistance on the properties of the space that must be overcome from the place of production of the good to foreign markets (legal status of the space, availability of transport communications, physical characteristics of the space, etc.). The temporal aspect consists in the change in time of distance resistance for different sectors and spaces, as well as in the fact that in general, distance resistance is characterized by a tendency to decrease over time for all spaces and sectors. The temporal aspect also lies in the fact that sometimes new spaces and new industries may appear with their own distance resistance indicators. An example of such a new industry is the production of goods using 3D printing technologies, which is characterized by a small distance resistance when moving materials for 3D printing and a relatively large distance

resistance when moving final goods. An example of a new space can be Space, which is increasingly becoming a place of production of various goods, including for international trade.

If the reasons of international trade are considered in the long term, then interesting and important nuances appear here. First, among the natural and geographical differences between countries, it is worth distinguishing between differences that are long-term in nature and cannot really be changed (for example, climate), and differences that can be leveled over time (for example, the availability of production of certain goods, transport connections). If a decision is made regarding this second group of differences on the expediency of their leveling (for reasons of economic feasibility or national security), then this will automatically lead to the removal in the future of these current differences (for example, regarding the availability of production of certain goods, transport connections) from the list of natural and geographical differences between countries that are the cause of international trade. The possibility of such a situation should be taken into account both when classifying the causes of international trade, and when analyzing it and assessing trends and prospects.

The international trade of a country is also characterized by regional and seasonal aspects. The regional nature of international trade is manifested in the fact that at the same time some regions of the state can export a certain good, and some can import the same good. The seasonal nature of international trade is that in some periods of time the state can export a certain good, and in some periods of time the same good can be imported.

4. Conclusions

Among all the theories of international trade, the most well-founded are those that explain it by natural and geographical differences between countries and differences in the costs of producing the same goods in different countries. This makes three options for international trade possible for a single country or between any two countries. Only the reduction of distance resistance in the presence of at least one reason for international trade activates its potential.

Further research on the topic of the article is promising in the direction of developing a methodology for determining the share of each of the two causes of international trade in terms of the total volume of international trade of individual countries and in terms of bilateral trade between countries. An important direction for further research is to assess the existing distance resistance and predict its changes for various goods in bilateral trade between countries in terms of regions, modes of transport and time. It would be advisable to study the activities of transnational corporations, which can, in order to optimize taxes, carry out real or fictitious actions in the field of international trade. It would also be reasonable to research the impact of the national security factor on international trade.

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