Czech University of Life Sciences Prague

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Master's Thesis

Real effective exchange rate and its impact on foreign trade: the case study of Kazakhstan

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Real effective exchange rate and its impact on foreign trade: the case study of Kazakhstan

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Objectives of thesis

The main aim of the present Master thesis is to define the extent to which real effective exchange rate of national currency (KZT) affects foreign trade in the Republic of Kazakhstan.
Kazakhstan has the largest and strongest performing economy in Central Asia and its fiscal situation is stable. However, having undergone the significant changes both in terms of a transition process and entering the WTO, it becomes interesting to investigate:
- what the most important turnarounds have occurred in the structure of Kazakh foreign trade and
- what is the impact of REER on exports of Kazakhstan.
The analysis will cover the period from 2000 to 2021.

Methodology

Descriptive analysis, thematic synthesis, index and regression analysis along with comparative techniques will be applied in the present Master thesis.

The proposed extent of the thesis

60-80

Keywords

Kazakhstan, REER, Foreign trade, Index analysis, Regression analysis,

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Declaration

I declare that I have worked on my master's thesis titled "Real effective exchange rate and its impact on foreign trade: the case study of Kazakhstan" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the master's thesis, I declare that the thesis does not break any copyrights.

In Prague on 31.03.2022   _____

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I would like to thank Mgr. Elena Kuzmenko, Ph.D. for her time, guidance, advice and feedback, which were crucial for completing this thesis and all other persons, for their advice and support during my work in this thesis.

Real effective exchange rate and its impact on foreign trade: the case study of Kazakhstan

Abstract

The level of the exchange rate is an important macroeconomic indicator, and its change has a significant impact on the economy. Changes in the exchange rate determine the status of a country in the global economic space, and with it the guidelines for its further development, both in external and internal trade relations. Thus, the real exchange rate has an impact on the development of foreign trade economic relations.

Therefore, this dissertation is devoted to the study of the main question - what is the impact of the real effective exchange rate (REER) of the national currency KZT on exports in the Republic of Kazakhstan.

The practical part of this dissertation will contain a brief retrospective analysis of Kazakhstan's foreign trade, an analysis of the commodity structure of Kazakhstan's foreign trade, its main trading partners and the Balance of Trade for the period 2000-2021. Further research in the course of this work focuses on the analysis of selected variables (USD, EUR, RUB, CNY) with an emphasis on exchange rate quotes. The analysis of the dynamics of the exchange rate of the national currency KZT for the period 2000-2021 is presented. The most important thing that was considered was the impact of an effective exchange rate on the export and economic development of Kazakhstan.

Regression analysis was used to determine the degree of influence between the variables, as well as to establish their relationship with a detailed description to determine whether the real effective exchange rate of the national currency KZT has an impact on Kazakhstan's exports.

Skutečný efektivní směnný kurz a jeho dopad na zahraniční obchod: případová studie Kazachstánu

Abstrakt

Úroveň směnného kurzu je důležitým makroekonomickým ukazatelem a jeho změna má významný dopad na ekonomiku. Změny směnného kurzu určují postavení země v globálním ekonomickém prostoru as tím i pokyny pro její další rozvoj, a to jak ve vnějších, tak ve vnitřních obchodních vztazích. Reálný směnný kurz má tedy dopad na rozvoj ekonomických vztahů zahraničního obchodu.

Tato disertační práce je proto věnována studiu hlavní otázky-Jaký je dopad skutečného efektivního směnného kurzu (REER) národní měny KZT na vývoz v kazašské republice.

Praktická část práce bude obsahovat stručnou retrospektivní analýzu zahraničního obchodu Kazachstánu, analýzu komoditní struktury zahraničního obchodu Kazachstánu, jeho hlavních obchodních partnerů a obchodní bilance za období 2000-2021. Další výzkum v průběhu této práce se zaměřuje na analýzu vybraných proměnných (USD, EUR, RUB, CNY) s důrazem na kurzové kotace. Je prezentována analýza dynamiky směnného kurzu národní měny KZT za období 2000-2021. Nejdůležitější věcí, která byla zvažována, byl dopad efektivního směnného kurzu na vývoz a hospodářský rozvoj Kazachstánu.

Regresní analýza byla použita k určení stupně vlivu mezi proměnnými a ke stanovení jejich vztahu s podrobným popisem, aby se zjistilo, zda skutečný efektivní směnný kurz národní měny KZT má dopad na vývoz Kazachstánu.

Klíčová slova: Kazachstán, REER, zahraniční obchod, regresní analýza, Export, Import

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List of abbreviations

BOP Balance of Payment

BOT Balance of Trade

CIS Commonwealth of Independent States

CNY Chinese yuan

GATT General Agreement on Tariffs and Trade

GDP Gross domestic product

GNP Gross national product

KASE Kazakhstan Stock Exchange

KZT Kazakhstani Tenge

MTS Multilateral Trade Agreements

REER Real effective exchange rate

RUB Russian Ruble

USA United States of America

USD United States dollar

USSR The Union of Soviet Socialist Republics

WTO World trade organization

1 Introduction

The level of the exchange rate is an important macroeconomic indicator, and its change has a significant impact on the economy. Changes in the exchange rate determine the status of a country in the global economic space, and with it the guidelines for its future development, both in external and internal trade relations.

The exchange rate of the national currency is an important guideline for decision-making by economic agents, both at the level of the population and at the level of the government. With high volatility of exchange rates, the costs of export-import operations increase, prices for imported goods increase. This leads to higher prices for products in the domestic market. To protect themselves from rising prices and possible devaluation, consumers increase the share of savings in foreign currency, which does not contribute to the strengthening and stabilization of the national currency. Such sharp jumps in the exchange rate of the national currency give the population a reason to reduce consumption, and the entrepreneur - to reduce investments in the national economy. High volatility prevents enterprises from building long-term development strategies, which leads to a reduction in exports by enterprises and a slowdown in production.

Thus, the exchange rate has an impact on the development of foreign trade economic relations, as a result of which an in-depth study of all aspects of foreign policy, the formation of the exchange rate and all the issues arising from it is the most relevant today.

Therefore, this dissertation is devoted to the study of the main question - what is the impact of the real effective exchange rate (REER) of the national currency KZT on exports in the Republic of Kazakhstan.

In this work, the theoretical part will consider, on the one hand, the formation of the exchange rate and its role in the country's economy, the economic content of the real effective exchange rate, as well as the factors determining the real effective exchange rates, in addition, to explain the macroeconomic role of the exchange rate. On the other hand, the issue of theoretical aspects of Kazakhstan's foreign trade will be disclosed, including the study of their principles and mechanisms, foreign trade policy and tools for its implementation will also be considered, and additional attention will be paid to the economy of Kazakhstan in the system of world economic relations, including the country's accession to the WTO.

The practical part of this dissertation will contain a brief retrospective analysis of Kazakhstan's foreign trade for the period 2000-2021 with an emphasis on its export-import operations, a more detailed analysis of the commodity structure of Kazakhstan's foreign trade, including an analysis of its main trading partners, as well as an analysis of the trade balance in Kazakhstan also for the period 2000-2021.

Further research in the course of this work will focus on the analysis of selected variables (USD, EUR, RUB, CNY) with an emphasis on exchange rate quotes. A general analysis of the dynamics of the exchange rate of the national currency KZT for the period 2000-2021, as well as an overview of their indicators, will be presented. The most important thing that will be considered is the impact of the exchange rate on exports and economic development of Kazakhstan,

Regression analysis will be used to determine the degree of influence between variables, as well as to establish their relationship, with a detailed description, in order to identify whether there is an impact of the real effective exchange rate of the national currency KZT on Kazakhstan's exports.

2 Objectives and Methodology

2.1 Objectives

The main aim of the present Master thesis is to define the extent to which real effective exchange rate of national currency KZT affects foreign trade in the Republic of Kazakhstan.

Kazakhstan has the largest and strongest performing economy in Central Asia and its fiscal situation is stable. However, having undergone the significant changes both in terms of a transition process and entering the WTO, it becomes interesting to investigate what the most important turnarounds have occurred in the structure of Kazakh foreign trade and what is the impact of REER on exports of Kazakhstan.

This work will focus on a brief retrospective analysis of Kazakhstan's foreign trade for the periods 2000-2021, a more detailed analysis of the commodity structure of Kazakhstan's foreign trade, including an analysis of its main trading partners, as well as an analysis of the trade balance in Kazakhstan for the period 2000-2021.

In the course of this work, a general analysis of the dynamics of the exchange rate of the national currency KZT for the period 2000-2021 will also be presented in the practical part. And the influence of the real exchange rate on Kazakhstan's exports is considered.

The economy of Kazakhstan, having undergone significant changes both in terms of the transition process and accession to the WTO, as well as the impact of various external factors and the crisis, it becomes interesting to study the following:

- What are the most important changes in the structure of Kazakhstan's foreign trade?
- What is the impact of the real effective exchange rate (REER) of the national currency KZT on Kazakhstan's exports?

Thus, the partial objectives of the master's thesis can be formulated as follows:
1. Conduct a brief retrospective analysis of the foreign trade of the Republic of Kazakhstan, as well as its structure, and identify the main importers and exporters of Kazakhstan's foreign trade for the period 2000-2021.

2. Analyze the dynamics of real exchange rates in the Republic of Kazakhstan, for the period 2000-2021, and also determine the impact of the REER of the national currency KZT on Kazakhstan's exports.

2.2 Methodology

For the purposes of this thesis, a descriptive analysis and thematic synthesis, analysis of data obtained from secondary sources will be carried out.

The theoretical part is based on information contained in books, expert papers, reports of international economic organizations, research institutes related to the exchange rate of currencies, foreign trade, export and import of goods.

In the practical part, regression analysis will be used to study the relationship. A model will be built that analyzes the causal relationships and statistical significance of the relationship between the variable by collecting reliable and reliable data on the available variable. Comparative methods of currencies of trading partner countries based on the results of the study will also be used.

The chronological framework of the study covers the period 2000-2021. This choice was due to the availability of comparable statistics on bilateral trade and exchange rates of the countries in question. And also, Kazakhstan's accession to the WTO took place during this period, I will be able to analyze what foreign trade was before 2015 and after.

3 Literature Review

3.1 The exchange rate as an indicator of a country's economic development

3.1.1 Exchange rate – formation, types and role in the country's economy

The national currency is the main element of the currency system and the national economy of any country. In international trade, goods and services are exchanged between countries, which means that their national currencies are exchanged. This implies the need to establish a ratio of the value of one currency to another for the mutual exchange of currencies in the trade of goods, services, as well as in the movement of capital and loans.

Thus, world experience shows that for many countries, the priority task of economic policy is the stability of the national currency, which depends on the state of the exchange rate. In modern conditions, when determining the exchange rate of the national currency, it is necessary to take into account not only the monetary factor – this is the amount of money in circulation, and also take into account the state of the country's balance of payments. That is, the exchange rate of national money is the link that allows you to determine the place of an entire country in the world community and economy (Krueger, 1983). Based on this, the exchange rate is not just the price of one monetary unit expressed in another, but a complex indicator of the value ratio of the purchasing power of currencies.

So, the exchange rate is a numerical expression of the value of a monetary unit of one currency in monetary units of another currency, which affects the national economy and its individual components. In other words, the exchange rate can be characterized as the price of a foreign currency in the national currency, which depends on the demand of foreign buyers (non-residents) for national goods and services (Krueger, 1983).

The calculation of the exchange rate is necessary in the following cases:

-mutual exchange of currencies in the trade of goods and services,

-comparison of prices for goods and services on world and national markets,

-attracting foreign capital in the form of direct and portfolio investments, loans, loans and loans,

-periodic revaluation of accounts of companies, financial institutions, foreign exchange reserves of the state, which reflect assets in foreign currency.

There are two types of currency exchange rates: nominal and real, linked by some dependence. The nominal exchange rate is the exchange rate of the domestic currency relative to other currencies that have weight in the country's trade. Taking into account the weight of each country in cross-country trade is a simple approach to determine the exchange rate of currencies based on the volume of sales between countries.

In order to determine the real trends of the effective exchange rate and to obtain a characteristic of the country's competitiveness in the world market, it is necessary to take into account the price movement, both in your own country and in all countries taken into account. For this purpose, the real effective rate is calculated.

The Real Effective Exchange Rate (REER) is used to determine a country's competitive position relative to its competitors. Thus, it takes into account changes in the price level between trading partners and regulates the nominal exchange rate by the ratio of domestic inflation to foreign inflation (Darvas, 2012).

For example, the nominal exchange rate of the country depreciated by 10%, domestic inflation for the same period was 10%. Trading partners had zero inflation. In fact, no depreciation has occurred in real conditions. The competitive advantage provided by a 10% nominal depreciation is neutralized by a 10% increase in domestic prices relative to foreign prices.

In addition to this classification of exchange rates, there are others. So, according to the method of fixing, a fixed exchange rate - is distinguished fixed for a certain amount of time at a certain level or within a certain range by the central bank or other authorized organizations and floating - formed in the market under the influence of supply and demand for currency.

So, a fixed exchange rate is an officially established ratio between national currencies, allowing for a temporary deviation from it in one direction or the other. Under the fixed exchange rate regime, market participants freely conduct currency transactions, and the government only stabilizes sharp changes in the exchange rate within the agreed limits.

The floating exchange rate regime provides market participants with free execution of transactions with foreign currency, there is no government activity on the market. The exchange rate changes freely under the influence of supply and demand, the state can, under certain conditions, influence the exchange rate through currency interventions (Kandil, 2019).

As it was found out, it is difficult to overestimate the role of the exchange rate in the economy. Changes in the exchange rate determine the status of a country in the global economic space, and with it the guidelines for its future development, both in external and internal relations.

3.1.2   The economic content of the real effective exchange rate

In a modern open economy, the choice of economic policy instruments and, in general, its effectiveness largely depends on the exchange rate regime used.

The real exchange rate, it is calculated to compare the prices of goods in one country with the prices of other countries, based on the quotes of the current exchange rate. The real effective exchange rate determines a specific index of the national currency, the purpose of which is to determine the dynamics of exchange rates and measure the overall balance of currencies. In order to calculate the REER, it is necessary to take the real exchange rates of all trading partners and derive a weighted average value from them (Sato, et al. 2015).

That is, each country trades with two (or more) other countries, each of which has its own currency. Therefore, if the exchange rate of the national currency increases against the currency of one partner and at the same time decreases against the currency of another country, the average data of these changes will be taken for the REER.

The purpose of the basic formula for calculating the REER is to process data on real exchange rates for a particular period. The value of changes in these rates is given with an average relative to any base period (Chinn, 2002).

The formula for calculating the REER:

$$Eer = \sum i \left(Per * Wi \right), \qquad (1)$$

Where: *Eer* - real effective exchange rate

$\sum i$ - the sign of the sum of indicators for i-countries

i - trading partner country

PEr - the index of the current year's real exchange rate compared to the base year of each trading partner country

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Wi - the share of each country in the trade turnover of this country with those countries that are considered the main trading partners.

Each partner country receives a weight, which usually represents the value of the country in the foreign trade of the base country. Among other things, the weighting of these partner countries may be based on the import or export shares of the partner country in the base country. Since it is difficult to track two different exchange rates, the effective exchange rate weighting is usually used as an average of the share of exports and the share of imports (Koch 1984).

Ready-made data on the effective exchange rate can speak not only about the dynamics of the movement of exchange rates, but also give an idea of the competitiveness of a particular country in relation to its trading partners. Therefore, based on the REER, it is also possible to judge the further trends of the national currency.

The central banks of each country closely monitor the established indicators in REER terms, since serious fluctuations in data indicate an imbalance in exchange rates, which is an unfavorable factor for the economy. The real effective exchange rate is a global economic indicator that is useful for analyzing assets in combination with other tools for long-term investments, such as, for example, stock indices (Symansky, et al. 1994).

3.1.3 Factors determining real effective exchange rates

Like any price, the exchange rate deviates from the value basis - the purchasing power of currencies - under the influence of the supply and demand of the currency. Therefore, the ratio of such supply and demand in the market depends on a number of factors. The multifactorial nature of the exchange rate reflects its relationship with other economic categories - value, money, price, interest, balance of payments, etc. Moreover, there is a complex interweaving of them and the nomination of some or other factors as decisive.

From this, it is necessary to distinguish between conjunctural and structural (long-term) changes affecting the country's exchange rate (Barbosa, et al. 2018). The conjunctural factors affecting the exchange rate include:

- state of the economy
- inflation rate

- the level of interest rates

- activities in the foreign exchange markets

- currency speculation

- currency policy

- balance of payments status

- the degree of use of the national currency in international settlements

- acceleration or delay of international settlements

- political situation in the country (political factor)

- the degree of confidence in the national currency on the national and world markets (psychological factor).

Conjunctural factors are associated with fluctuations in business activity, the political and military-political situation, with forecasts and even rumors.

The exchange rate depends on how pessimistic or optimistic society is about all government policies. For example, the higher the level of inflation (price growth) in a country compared to other countries, the lower the exchange rate of its currency, if other factors do not counteract. It is the inflationary depreciation of money in the country that leads both to a decrease in their purchasing power and to a tendency for their exchange rate to fall.

The real exchange rate is affected by the degree of currency use in world markets. In particular, this is the predominant use of the United States (US) dollar in international settlements and, consequently, causes constant demand for it on the entire international capital market and supports its exchange rate even in conditions of falling purchasing power or the passive balance of payments of the US (Galati, et al. 2004).

Consequently, any increase in interest rates on deposits or the yield of securities in any currency will cause an increase in demand for this currency and lead to its appreciation. Relatively higher interest rates and the yield of securities in such a country (in the absence of restrictions on the movement of capital) will lead:

Firstly, to an influx of foreign capital into this country and, accordingly, to an increase in the supply of foreign currency, its depreciation and appreciation of the national currency.

Secondly, deposits and securities in the national currency, which bring higher income, will contribute to the outflow of national funds from the foreign exchange market, reduce the demand for foreign currency, reduce the exchange rate of foreign currency and increase the exchange rate of the national currency (Galati, et al. 2004).

With an active balance of payments of a country, the demand for its currency from foreign debtors is growing, its exchange rate may rise.

The important economic significance of the exchange rate determines the need for its state regulation.

Along with conjunctural factors, the impact of which is a little difficult to predict, relatively long-term trends that determine the position of a particular national monetary unit in the currency hierarchy (structural factors) also affect the supply and demand of the currency, and hence the dynamics of its exchange rate.

Structural factors should include the following:

- competitiveness of goods on world markets and its changes. Ultimately, they are determined by technological factors. For example, forced exports stimulate the inflow of foreign currency,

- the growth of national income causes increased demand for foreign products, while the import of goods can increase the outflow of foreign currency,

- a consistent increase in domestic prices compared to prices on partner markets increases the desire to purchase cheaper foreign goods, while the tendency of foreigners to purchase goods or services that are becoming more expensive practically disappears. As a result, the supply of foreign currency decreases, and the national currency depreciates,

- all other things being equal, an increase in interest rates is a factor in attracting foreign capital and, accordingly, foreign currency, and may also lead to a rise in the cost of domestic. But the increase in interest rates also has a shadow side: it increases the cost of credit and reduces investment activity within the country,

- the degree of development of the securities market (bonds, credit bills, shares, etc.), which constitute a healthy competition to the foreign exchange market. The stock market can attract foreign currency directly, but also attract national funds that could be used to purchase foreign currency (Ahn, 2004).

In the course of the study, it was also studied that the main factors directly affecting the exchange rate of KZT are divided into internal and external factors. According to the National Bank of Kazakhstan, external factors include world oil prices, the dynamics of exchange rates of major trading partners, primarily Russia, global interest rates and the geopolitical situation in the world.

Among the internal factors, the National Bank of Kazakhstan identifies the following factors - the dynamics of inflation, the level of the base rate, the onset of the period of tax payments by exporting companies, the pace of budget disbursement, and others (Aldiyarov, et al. 2017).

If we analyze the exchange rate of tenge to tenge in the long term, it is determined by the state of the country's balance of payments, which reflects the influence of all of the above factors, including the situation in the world and partner countries.

Kazakhstan, as the country of our study, has already entered more deeply into the world economic integration than, for example, its closest neighbors - Uzbekistan or Kyrgyzstan. Which makes the country more vulnerable to external influences, whether it's anti-Russian sanctions or the US trade wars with China. In general, the exchange rate of KZT is influenced by a huge number of external factors, as mentioned above, including oil prices and all commodities, as well as the economic and financial situation around the world, including in the main trading partner countries (Russell, 2019).

Understanding the reason for the change in the exchange rate due to the action of any particular factor makes it possible for the state to influence the exchange rate and stabilize the economic situation in the country.

3.1.4 The macroeconomic role of the exchange rate

The exchange rate has a close organic connection with fundamental macroeconomic indicators. In order to more accurately determine their socio-economic policy in society, state governing bodies conduct constant statistical monitoring of the state of the entire national economy of the country (macroeconomic level). The dynamics of GDP is the most important indicator of the state of the conjuncture in the country: cyclical fluctuations in economic activity, the depth of structural and other crises, etc. In essence, the decline or growth of GDP is the main criterion for the transition of the economy from crisis to recovery and vice versa (Callen, 2020)

So, I propose to consider this indicator:

$$\textbf{GDP} = \textbf{C} + \textbf{I} + \textbf{G} + \textbf{NX} \tag{2}$$

Where: GDP – gross domestic product

C – all consumers spending

I – investment by businesses

G – all government spending

NX – the country's net exports (total export-total import)

GDP is the most commonly used measure of a country's level of development and standard of living in it. For this, the indicator of GDP per capita is most often used. Based on the formula, it can be determined that GDP is a macroeconomic indicator that characterizes the cost of final products produced in the country for a certain period (usually for 1 year). Final products are those goods acquired during the year for final consumption and not used in the production of other goods (Masood, 2021).

Let's return to the exchange rate, it elastically accepts the effects of many economic indicators and from this point of view it is necessary to study the impact on the following:

1) *Influence on the level of domestic prices:*

A change in the exchange rate has an immediate impact on the level of domestic prices as a result of changes in the value of imports in the national currency. And this affects the level of domestic prices, initially goes through two channels: through a direct change in the prices of imported final goods and services produced domestically, imported components are included in production costs. In addition, the change in the exchange rate affects the volume of exports, which can also affect the level of domestic prices: with an increase in exports, all other things being equal, prices for export goods within the country will increase, and with a decrease in exports, they will decrease (Dornbusch, 1985).

Analyzing the impact of changes in the exchange rate on the price level in the country, it is necessary to keep in mind two circumstances. Firstly, in modern conditions, prices have much more flexibility in the upward direction than in the downward direction. That is, if a decrease in the exchange rate (devaluation), as a rule, leads to an increase in prices, then in the scenario of an increase in the exchange rate (revaluation), the price decrease is weakly pronounced or absent at all.

Secondly, the relationship between domestic prices and the level of the exchange rate is significantly modified if high inflation rates are observed in the country. Because with high inflation, the process of "dollarization" of the economy takes place. Under these conditions, purchasing power parity is maintained very precisely: that is, most prices are

actually expressed in dollars and then translated into prices in the national currency by multiplying by the currently existing market exchange rate. Therefore, in conditions of high inflation, the prices of the domestic market directly follow the changes in the exchange rate (Dornbusch, 1985).

2) *Impact on the Balance of Payments:*

The Government and the National Bank of the Republic of Kazakhstan use the balance of payments to assess the current economic situation in the country and develop economic policy measures, including in the field of monetary, currency and foreign trade policy, as well as the policy of the exchange rate of the national currency KZT. International economic organizations - used to assess the country's sovereign credit rating.

The state of the balance of payments is one of the main criteria by which foreign investors assess the investment climate in the country, its solvency and position in the global economy. Therefore, the completeness, reliability and quality of the balance of payments directly depend on the completeness, reliability and quality of the information that respondents submit to the National Bank in accordance with the legislation.

The Balance of Payments (BOP) formula is written as:

Current account + Capital Account + Financial Account+ Balancing Items = 0 (3)

Based on the formula, the definition of the BOP is a statistical system that reflects all foreign economic transactions between the economy of a given country and the economy of other countries that occurred during a certain period of time (month, quarter or year). The balance of payments is a report on all international transactions of residents of a particular country with non-residents for a certain period, usually a quarter and a year (Meade, 1951).

The BOP in neutral terms is always reduced to zero, because the balance of payments is based on the principle of "double entry", in which each transaction is reflected twice — on the credit of one item and the debit of another. Moreover, the sum of all credit transactions should coincide with the amount of debit transactions, and their total balance should be zero.

However, a positive (debit) balance is typical today for many young countries, including Kazakhstan. The deficit of the balance of payments to pay for current operations reflects the increasing debt of the state to other countries. And Kazakhstan needs an active (positive) balance as a source of foreign exchange earnings to pay bills for international

obligations. Therefore, a negative balance should be regarded as a sign of a shortage of foreign currency funds in the country.

From the point of view of the impact on *imports*, for a small developing economy, a change in the exchange rate usually has a double effect on imports: its price in the national currency changes and its volumes change. The degree of increase or decrease in import volumes depends on the elasticity of import demand by price. Therefore, this change will be different for each type of imported products.

As for *exports*, a change in the nominal exchange rate affects the amount of revenue in the national currency received by exporters, and thus creates incentives to change the volume of production for export. At the same time, in order for export volumes to really change, the demand on the world market must change, that is, the price must change (Fountas, et al. 2005).

The balance of services and the capital account - since the balance of payments items related to payments or receipts from transport services are largely related to foreign trade activities, therefore, these items will change in general in the same proportion as changes in the volume of exports and imports when the exchange rate changes. Assessing the effects of a change in the exchange rate on capital flows is difficult enough. Some types of international lending are related to the financing of foreign trade operations, so these capital flows will change along with changes in exports and imports. At the same time, with a significant decrease in the exchange rate, we can expect an increase in the inflow of foreign direct investment, since a foreign investor gets cheaper access to the necessary resources. In addition, the devaluation of the national currency restricts imports, and foreign direct investment can allow foreign firms to bypass these foreign trade restrictions and conquer the market (Thirlwall, 1979).

3) *Impact of the exchange rate on the state budget:*

The exchange rate also has an impact on a number of items of the state budget, including both revenue and expenditure items:

State revenues - change in the exchange rate will immediately lead to a corresponding change in foreign exchange receipts in the national currency from ad valorem foreign trade duties (determined as a percentage of the customs value of goods), and then, as the volume of foreign trade turnover responds to the new exchange rate, other receipts from taxes on foreign trade, from the sale of export licenses will also change and import, etc.

Since the exchange rate affects the level of domestic prices, the volume of income from domestic taxes, primarily indirect, will also change. Wages also depend on the level of domestic prices, so income tax receipts will also change after a while.

Government spending - in the expenditure items of the state budget, the change in the exchange rate will affect the following:

- o the cost of public procurement of goods and services, not only imported, but also domestic, since their prices will also change,
- o expenses for the payment of salaries to civil servants and employees of budgetary industries, since its level is often indexed in accordance with the rate of inflation,
- o expenses for servicing the external debt (Annicchiarico, et al. 2011).

4) *The impact on the accounts of the monetary system:*

The devaluation of the currency, we know, causes an increase in prices. This, in turn, leads to an increase in demand for money from both households and commercial banks and structures. To maintain the exchange rate at a new, devalued level and prevent the appreciation of the domestic currency. The central bank should intervene in the foreign exchange market. As a result, the Central Bank replenishes foreign currency reserves, while the shortage of money among the population is mitigated by the sale of the national currency by the bank. Such interventions in the foreign exchange market should continue until the excess demand for the national currency is satisfied. This will happen when the supply of money increases in the same ratio in which the currency was devalued and domestic prices rose. As a result, the Central Bank increases its reserves, and the private sector reduces its foreign assets (Ghosh, 2011).

So, the exchange rate can be both an indicator of the development of the state's economy as a whole, and a determining factor affecting its attractiveness and competitiveness on the world stage. Sharp changes in the exchange rate may entail serious economic consequences for the country and the global economy as a whole.

3.2 Theoretical aspects of foreign trade

3.2.1 Foreign trade: the essence, principles, mechanisms

Foreign trade, as a system of institutions that promote the promotion of domestic goods to foreign markets, is a mobile structure that includes certain subgroups in relation and interaction. The concept of foreign trade in the modern world is defined broadly, where, in addition to the exchange of goods, it also includes the exchange of services and works. Every year, the share of services in foreign trade turnover increases, and through international trade exchange, replenishment of working capital in the field of production is provided. Thus, foreign trade is not only the movement of goods and working capital, but also a mechanism for the transfer of information between consumers and producers.

Many companies and enterprises participate in international trade by importing the necessary materials and exporting finished products, and everyone actively participates in international trade by buying imported goods.

Unlike domestic trade, foreign trade provides certain problems, both arising from long distances, the time factor of national money, and differences in traditions. Over time, the role of foreign trade in international economic relations has steadily increased. Many economists argue that there is a causal relationship between the growth of foreign trade and the growth of world production and welfare.

The development of foreign trade and the economic situation of the country are inextricably linked. A higher level of economic development corresponds to more progressive methods of conducting international trade and more favorable (from the point of view of ensuring the national and economic security of the country) the structure of exports and imports (Helpman&Krugman, 1999).

For most countries, foreign trade is one of the main sources of replenishment of budget funds, and also has an impact on the social sphere. But, in order for foreign trade to still give positive results, an effective state policy is necessary. To protect their interests, each participant in international trade pursues a certain policy in this area. There are two types of international trade policy: international trade policy and foreign trade policy.

International trade policy is usually understood as a generally accepted policy, which is supported by most countries of the world, that is, it is a globally accepted trade policy that

leads to an increase in world trade turnover and, of course, to an increase in the standard of living in trading countries.

Foreign trade policy is understood as the purposeful impact of the state on trade relations with other countries.

Foreign trade policy at the level of the national economy includes the following: the system of state measures in the investment, legal, and tax spheres, and accordingly influences the development and regulation of international exchange of goods, services, and information, taking into account the interests of other states. The goals of foreign trade policy should meet national economic interests and be established on the basis of a scientific assessment of the real conditions, as well as the possibilities for the development of the country's economy, analysis of the development of international trade and options for the country's participation in the international division of labor. The main ones are:

- o changing the degree and method of inclusion of a given country in the international division of labor,
- o providing the country with the necessary resources,
- o changes in import and export volumes,
- o changes in the structure of foreign trade,
- o changes in the ratio of import and export prices.

Other elements of foreign trade policy are the formulation of intermediate tasks, the definition of a system of priorities in the development of export-oriented or import-substituting industries, as well as a mechanism for the implementation of foreign trade policy, which includes economic, administrative, legal norms and institutional bodies regulating international exchange. The described elements together constitute the content of the concept of foreign trade policy and contribute to improving its effectiveness, which consists in increasing both economic benefits and optimizing the country's participation in the international division of labor (Helpman, 1999).

For a better study of the mechanism of foreign trade turnover and regulation of international trade, it is advisable to consider the basic theories of international trade. The development of foreign trade was suspended by the First World War After the war, growth resumed, but then was interrupted by the Great Depression and the Second World War. If we compare the average annual growth rates of world production and world exports of goods over the past 50 years, the export growth rate is almost 1.5 times higher than the growth rate of production. This means that the foreign trade orientation of the world economy has

increased significantly. A. Smith was the first who tried to explain scientifically the mutually beneficial nature of foreign trade. He compared nations with households, since each family farm produces only a part of what is necessary for itself and tries to buy the rest by selling surplus products, the same can be attributed to countries.

For example, if another country can supply cheaper goods to our country, then it makes no sense to spend resources on their manufacture. It would be wiser to focus on the production of those goods that our country can produce cheaper than other countries. And therefore, have an advantage. A. Smith's views on foreign trade were called the theory of absolute advantages.

D. Ricardo developed the theory of A. Smith further and proved that the basis of international trade is the principle of the comparative advantage of a country in the production of a commodity. That is, trade exists due to relative, not absolute, differences in productivity, so all countries participating in world trade benefit. The strength of the so-called classical theory is its simplicity and the assumption of different technologies in countries. Its weakness lies in the assumption of only one factor of production - labor. If we apply the studied theories to the present, we can see that they partly work today (Meoqui, 2014).

3.2.2   Foreign trade policy and the main instruments of its implementation

The development of economic policy is determined by the intersection of objective laws with economic interests and values at the national level. Foreign trade policy is an integral part of the foreign economic policy of the state, which is aimed at regulating its foreign trade.

That is, as we found out from the study, for a more complete understanding of foreign trade policy, it is advisable to disclose the concepts of import and export.

Export is the sale of products that are produced in one country for further resale or processing in other countries.

Import is the purchase of products that are manufactured in the countries of the world, for the purpose of further processing or sale on the territory of their country.

Re-import is understood as the import of goods previously exported, but not processed. The country of import is the country of origin of this product, while the country

of export is the country of destination of the product. The difference in the value of exports and imports forms the trade balance. And the sum of exports and imports is the trade turnover (Leontiep, 1946).

Imports are calculated on the basis of CIF prices - that is, they include the cost, insurance and freight, and therefore the cost of world exports will always be less than the cost of imports in the amount of the insurance premium, the freight of the ship for transportation, and other port charges. Import is an important object of regulation by the state.

Such regulation can be carried out through the following trade policy instruments:

- o specific and ad valorem duties,
- o voluntary export restrictions,
- o quotas,
- o minimum import prices,
- o technical barriers, etc.

Import restrictions are usually imposed for protectionist purposes to protect national producers from competition. Import taxes in addition can be set for fiscal purposes, to replenish the treasury. And the degree of import regulation already depends on the chosen type of trade policy of the state (Baier&Bergstrand, 2001).

Exports also include the export of goods for processing in other countries, the transportation of goods in transit through another country, as well as the export of goods brought from another country for sale in a third country (re-export). Exports and imports are regulated by quotas, which are quantitative restrictions (production, sales, consumption, export, import of goods) imposed for a certain period of time.

The analysis of the foreign economic policy of various states shows that developing countries need to adhere to the path of rational inclusion of the national economy in a complex system of world economic relations. And then in this regard, their export policy should include the following:

- creating conditions for the development of export industries or the orientation of industries to export production,

- assessment of the feasibility of developing certain industries and the adoption of a program to curtail those that cannot compete with imported production,

- another industry has the potential to provide a particular niche in the world market in the future, but by now it has no opportunity to implement it,

- customs protection, fiscal and financial incentives, creation of other convenient conditions, provision of benefits for their functioning.

And this makes it necessary to optimize industrial policy: to protect industries undergoing intensive modernization, to establish the production of such goods that are not produced in this country, to stimulate the import of goods without which priority industries cannot function (Dixit, 1987).

Those industries with constantly growing export positions, as a rule, are the objects of priorities in investment policy. At the same time, protectionist regimes on the part of international economic organizations and even developed countries may be opposed to themselves. Therefore, the procedures mentioned above for performing certain operations should establish a certain balance of interests by applying mutual concessions. Since any developing State will be under pressure from significant levers, it should have sufficient options for maneuvering them as a response. As for the import policy, the following methodology is used: the national potential in the production of goods is analyzed, its place in the structure of the national economy and export positions is determined, and the trends of the world market are analyzed.

It should be noted that the measures used in trade policy should synchronously connect regulators and investment, currency, customs and other policies. For example, investment policy instruments can be aimed at the development of those industries that serve as so-called "locomotives of growth".

The foreign trade policy of the state is inextricably linked and is aimed at increasing competitiveness in the struggle for markets with certain states. That is, trade policy as a multifaceted phenomenon can be aimed at regulating import and export flows, rationalizing the structure of foreign trade, providing the domestic market with the necessary material and technical resources, effectively including the country in the international division of labor, as well as regulating the price ratios for imported and exported goods.

Within the same variety of goods, a significant number of different taxable items are used, which is the field of activity for negotiating between countries. That is, for one position or another, the country makes concessions in return for reciprocal benefits. This led to the need to allocate simple and complex tariffs. Depending on political situations, non-tariff instruments also take place, they are classified into the following groups:
- aimed at direct import restrictions (quotas, licenses, compensation fees, import deposits, anti-dumping duties),

- administrative type, mediating the process of restrictions in foreign trade (customs formalities, sanitary and technical norms, standards, labeling, packaging requirements) and others (Baier&Bergstrand, 2001).

3.2.3   Kazakhstan in the system of world economic relations, as well as measures for accession to the WTO

Kazakhstan occupies the ninth place in the world in terms of its area, and thus is among the top ten largest countries in the world - after Russia, Canada, China, the USA, Brazil, Australia, India and Argentina. It means, that Kazakhstan is a large country that has huge reserves of mineral resources and minerals. Only this can already indicate the enormous potential of this region of the globe.

In this research, I would like to consider the economic characteristics of the Republic of Kazakhstan. Currently, Kazakhstan is ahead of many post-soviet countries in economic reforms, while being a leader in the Central Asian region.

It is obvious that the goal set by the leadership of Kazakhstan to remain a competitive and developing country in the region can be achieved only on the basis of deep diversification of the country's economy, the introduction and development of competitive industries, by stimulating innovative activities integrated into regional and, of course, world markets. That is why, in the last decade, innovation activity has increasingly become one of the most important factors in the development of the economy of Kazakhstan, since it is based on the introduction of new ideas, scientific knowledge, technologies and types of products in various spheres of production and management of society (Hindley, 2008).

The main provisions of the Law of the Republic of Kazakhstan "On Innovation Activity" and "Innovative Development Program of the Republic of Kazakhstan" were aimed at expanding the scale of innovation activity, for example, in Kazakhstan. The fundamental document defining the economic development of the country was the Strategy of Industrial and Innovative Development of the Republic of Kazakhstan for 2003-2015.

The formation of Kazakhstan's foreign economic policy is associated with the acquisition of state independence and the implementation of economic reforms. It is an independent foreign trade policy that is a necessary condition for the republic's entry into the world community. Together with the acquisition of the status of sovereignty, the Republic

of Kazakhstan inherited the foreign trade system of the former USSR, which had the following main features:

- the state's monopoly on foreign trade,
- the predominance of non-economic methods in the regulation of foreign trade,
- pronounced protectionist policy of the trade regime in the relations of developing countries,
- the difference in the regulatory and legislative framework governing foreign trade, from internationally recognized principles and rules,
- weak participation and presence in the work of international economic organizations,
- centralized planned management of the entire economy.

But, as we know, since 2000, many countries have increased their strategy and tactics in domestic economic activity and foreign policy relations with neighboring countries, taking a course towards the process of globalization and integration. And therefore, further in the field of improving foreign trade activity, Kazakhstan has come a long way from strict state control to significant liberalization of foreign trade. Significant liberalization of foreign trade has been carried out in the republic: the list of licensed products has been reduced, the practice of providing customs and tax benefits has been abolished, quotas for the export of goods have been abolished, export duties on all goods except wheat, oil, gas, non-ferrous metals have been abolished, the institute of special exporters has been abolished, a number of free economic zones have been formed, to prevent the import of low-quality goods from the republic, the system of technical, sanitary, phytosanitary and other control is being improved (Hindley, 2008).

The issue of Kazakhstan's accession to the WTO was initiated in January 1996, when the Republic of Kazakhstan submitted an official application to the WTO Secretariat.

The WTO (World Trade Organization) is a global international organization founded in 1995 that deals with the rules of international trade. The WTO Secretariat, which is based in Geneva, has about 600 employees, The Head of the WTO (Director General) since March 1, 2021 is Ngozi Okonjo-Iweala.

Currently, it is believed that the global trading system should comply with the following five principles:

o No discrimination in trade. No State should infringe on any other country by imposing restrictions on the export and import of goods. That is, in the domestic

market of any country there should be no differences in the terms of sale between foreign products and their national ones.

- o Reduction of trade (protectionist) barriers. Trade barriers are factors that reduce the possibility of penetration of foreign goods into the domestic market of a country. These include customs duties and import quotas.
- o Stability and predictability of trading conditions. Foreign companies, investors and governments need to be sure that trading conditions will not be changed suddenly and arbitrarily.
- o Stimulating competitiveness in international trade. For equal competition of firms from different countries, it is necessary to stop "unfair" methods of competition - such as, for example, export subsidies, the use of dumping prices to capture new markets.
- o And benefits in international trade for less developed countries.

The fundamental principles and rules of the GATT/WTO are:

- o granting the most favored nation treatment in trade on a non-discriminatory basis,
- o mutual provision of national treatment to goods and services of foreign origin,
- o regulation of trade mainly by tariff methods,
- o refusal to use quantitative restrictions,
- o transparency of trade policy,
- o settlement of trade disputes through consultations and negotiations, etc.

As a result, all WTO member countries undertake to implement about twenty basic agreements and legal instruments united by the term "multilateral trade agreements" (MTS). Thus, the WTO is a kind of multilateral contract (package of agreements), the rules and regulations of which regulate more than 90% of all world trade in goods and services (Hoekman& Mavroidis, 2007).

And for Kazakhstan, which has trade relations with many WTO member countries, joining this organization was important for several reasons - to obtain the most favored nation treatment with all participating countries, to develop trade and, in particular, to attract investment, for the possibility of non-discriminatory resolution of trade disputes. As it is known, Kazakhstan's exports are dominated by raw materials, while imports are dominated by finished goods, which creates an unfavorable price proportion.

Kazakhstan's accession to the WTO was an important necessity for the country, as it pursued the goal of creating favorable conditions for sustainable economic growth through

foreign trade and a radical restructuring of the internal conditions for the production of goods and services, already in accordance with the norms, rules, mechanisms adopted in this organization (Hindley, 2008).

As a result, after almost 19 years of negotiations, in November 2015, Kazakhstan officially joined the WTO, becoming the 162nd full member of this organization. Export-oriented domestic enterprises were the first to benefit from joining the WTO by removing barriers to the access of Kazakhstani goods to the markets of WTO member countries. And the obvious beneficiary of Kazakhstan's WTO membership will be agriculture. The agreements reached on the permitted levels of support for domestic agriculture, together with a sufficiently high tariff protection of the market for basic types of food, will make it possible to complete the modernization programs of the domestic agro-industrial complex and further develop exports. Moreover, in the medium term, the country will be able to increase Kazakhstan's food exports, using the WTO as a mechanism for opening world food markets.

WTO membership also makes it possible to trade with the organization's member states under the most-favored-nation regime, that is, at reduced rates. For example, in China, the usual import duties are set at 30% on aluminum oxide, from 14% to 30% on rolled metal and 8% on ferrochrome for Kazakhstan's main non-primary export goods with a high potential for growth. At the same time, under the WTO, the import duty on these products is 5% on aluminum oxide, from 3% to 9% on rolled metal and 2% on ferrochrome (Hindley, 2008).

With an increasingly growing number of participants in foreign trade relations, Kazakhstan faces a difficult question - to find its "economic niche" in the world system of division of labor. Therefore, Kazakhstan's consistent and purposeful implementation of active foreign economic activity is based on the openness of its economy, full participation in the international division of labor and integration into the world economy system, acts as one of the main factors of the existing strategic plan - to ensure sustainable economic growth.

4 Practical Part

4.1 Brief retrospective analysis of Kazakhstan's foreign trade for 2000-2021

4.1.1 Analysis of Kazakhstan's foreign trade

For the sustainable development of the national economy, it is important to ensure the balance of foreign trade. The end of the XX century for Kazakhstan, as for all post-Soviet countries, was characterized by deep socio-economic transformations.
During the first 10 years of independence, Kazakhstan has passed a very difficult path of transition from market reforms to the formation of a market economy focused on innovative development, from a deep economic downturn to economic growth and social stability of society. It is well known that in the early 90s the republic experienced the biggest economic downturn in the entire modern history of development, which was accompanied by an unprecedented increase in inflation, the destruction of accumulated economic potential, mass unemployment and, of course, the growth and increase in poverty.

Market transformations in Kazakhstan were carried out in stages, in accordance with State programs and at each stage included various goals and objectives. Since the beginning of 2000, Kazakhstan has been characterized by small and dynamic economic development, stable operation of the manufacturing sector in places, a more favorable investment climate, and an increase in domestic demand as a result of a gradual increase in the standard of living of the population (Hindley, 2008).

Analyzing the economy at the current time, Kazakhstan in 2020, as it turned out, entered the deepest recession in two decades, when the country's GDP fell by 2.6% amid falling oil prices, as well as restrained external demand for all Kazakh exports in general due to the COVID-19 pandemic, as well as along with the negative impact of numerous blockages on the domestic economic activity of the country (World Bank, 2021).

In addition, the economic downturn continued in the first half of 2021, as the conditions of the pandemic still required quite strict and serious restrictions, and various vaccination programs within the country progressed slowly.

In particular, considering already 2021, for example, already in the 1st quarter of 2021, GDP was about only 1.5% lower than in the same period of 2020. However, since it is still possible to observe an increase in oil prices in the world and an improvement in the

situation on foreign markets, as well as an increase in demand within the country, these factors were able to contribute to a more stable economic recovery.

Thus, in 2021, the economy of Kazakhstan was able to enter a dynamic trajectory of sustainable growth, and GDP growth at the end of the year amounted to 4% compared to 2020. The key growth factor in 2021 was the real sector - 3.5%. The service sector also achieved positive dynamics - 3.9%. The growth rates were shown by the following industries: information and communication -13%, trade - 9.2%, construction - 7.6%, manufacturing - 5.5%, electricity supply - 4.8% (Bureau of National Statistics of the Republic of Kazakhstan, 2021).

Production of petroleum products by the end of 2021 amounted to 12.7 million tons. Of the main types of petroleum products: gasoline production - 4.8 million tons, diesel fuel - 4.9 million tons, fuel oil - 2.4 million tons and aviation fuel - 586 thousand tons.

At the same time, investments in fixed assets increased by almost 3.5% in 2021. The country's foreign trade turnover increased by 17.4%, exceeding $ 100 billion. And also, by the end of 2021, the inflation rate in Kazakhstan was 8.4%.

Figure 1: GDP by production method (million US dollars)
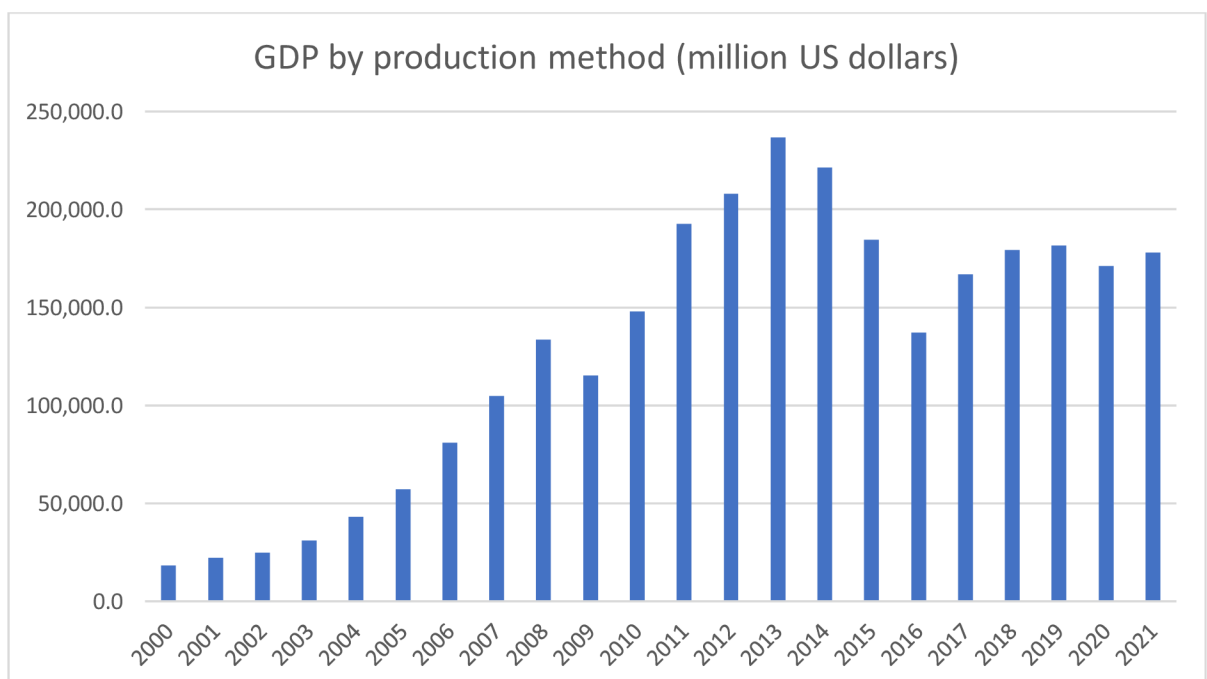
Source: Bureau of National Statistics of the Republic of Kazakhstan

As can be analyzed in Figure 1, according to the Bureau of Statistics in 2020, Kazakhstan's GDP amounted to 171 083.7 million US dollars. And since 2000, the volume has increased by 6843.3 million US dollars. When considering, it can be noted that the peaks of growth mainly occurred in the post-crisis years, when external factors were influenced. So, in 2010, the country's GDP was almost 148,052.4 million US dollars, and in 2011 it was already more than 192,627.6 million US dollars. The decrease can be observed in 2015 – 184,387.0 million US dollars, in 2016 – almost 137,300.0 million US dollars.

At the same time, GDP per capita has grown by 636.7%, or more than seven times, from $1,229 to $9,055 over these 20 years. Here is the biggest fall of this indicator was observed in 2009 to 7.1 million ($8.5 million in 2008), in 2015 to $ 10.5 million (from 12.8 thousand dollars in 2014), in 2016 to 7.7 million U.S. dollars ($10.5 million in 2015) and in 2020, $9 million dollars (9.8 million dollars in 2019).

So, the changes described above show that Kazakhstan's economic growth model was able to turn around with the onset of the financial crisis in the second half of 2007, and the country's economy suffered again when world oil prices fell, and global economic conditions worsened in the last quarter of 2008. As a consequence, Kazakhstan's growth slowed by 1.8 percentage points in 2007, after which there was a sharp decline, and in 2008 economic indicators worsened in the first three quarters of 2009, before a strong jump back was registered, mainly in the oil sector, in the fourth quarter of 2009 a small positive growth was recorded during all year.

I propose to consider in more detail the degree of Kazakhstan's foreign economic activity, from the point of view of the openness of its economy, namely, thanks to the export of goods and services, the country provides a significant, and sometimes even the predominant part of its income.

Thus, in Figure 2, over the past 20 years (from 2000 to 2020), the indicator of the openness of Kazakhstan's economy, which is measured as the ratio of total exports/imports of goods and services to the country's GDP, has significantly decreased: from 104 % of GDP in 2000 to 57 % in 2020 (Acra-ratings, 2021).

In the early 2000s, this was due to the beginning of the oil boom, the indicators of the volume of the entire foreign trade of the country showed us explosive growth, and therefore, for the periods 2000-2013, the one-dollar volume of foreign trade in goods increased 8.2 times. But, however, the situation changed already in 2014-2015, while the

total volume of foreign trade began to decline and by 2020 it still could not reach a high level, as can be observed in 2013, while accounting for only 63 % of the maximum figure.

Figure 2: Dynamics of the openness of the economy (the sum of Exports/Imports to GDP) from 2000-2020, %
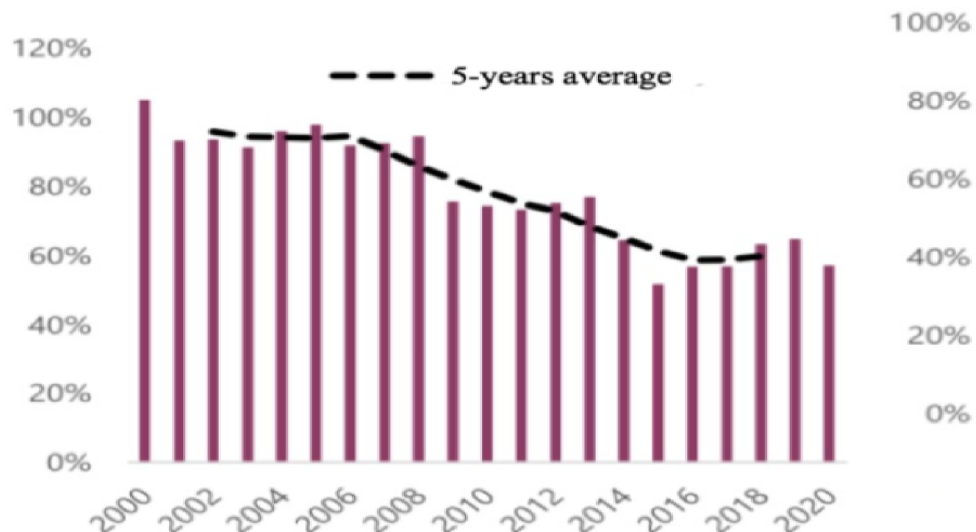
Source: National Bank of Kazakhstan

Within the framework of this analyzed twentieth anniversary, two periods can be distinguished – this is before and after 2015, that is, when the indicator of the openness of the economy of Kazakhstan changed the vector of its growth (Figure 2). The most significant decrease in the indicator has been observed since 2015, while the volume of foreign trade decreased in terms of exports and imports.

The openness of the economy is an important factor in assessing sovereign risk, which takes into account both the change in the ratio and strength of external and internal factors leading to the growth/decline of the country's economy, and the nature of external shocks that any economy faces.

### 4.1.2 The structure of foreign trade in Kazakhstan

As it is known, the components of foreign trade are exports and imports, the dynamics of which reflect the growth or decline of the country's foreign trade turnover.

Export is an important characteristic of the economy, as it plays a significant role in the development of the country. On the one hand, exports replenish the state treasury, and also increase the profits of domestic companies. On the other hand, it allows you to gain new knowledge and experience. And this increases the competitiveness of products and the demand for it, which leads to an increase in production, and consequently the industrial potential of the country. An analysis of the first years of sovereign development shows that at first the Government gave preference to export regulation through the use of export restrictions.

Kazakhstan is a country of industrial-agrarian type, where the industrial sector accounts for one-fourth of the country's economy. And currently, Kazakhstan is mainly represented by raw materials in the world commodity system. The analysis of the structure of industrial production of the republic revealed the predominance of extractive industries in it. In many ways, this may be a consequence of the impact on the country's economy of the global market conditions and rising commodity prices. Thus, analyzing the period from 2000 to 2010, the volume of Kazakhstan's foreign trade increased almost 6.4 times, so imports increased by 5.9 times, exports - 6.7 times (World Bank, 2021).

For 2021, the predominance of extractive industries in the structure of Kazakhstan's economy has led to the raw material specialization of Kazakhstan's exports – more than 66% of its volume is mineral products (Figure 4). In 2000, mineral products accounted for 54.4% of exports (Figure 3). Such a production structure significantly increases the economic dependence of the republic on external factors.

Figure 3: Commodity structure of Kazakhstan's exports, 2000 (%)
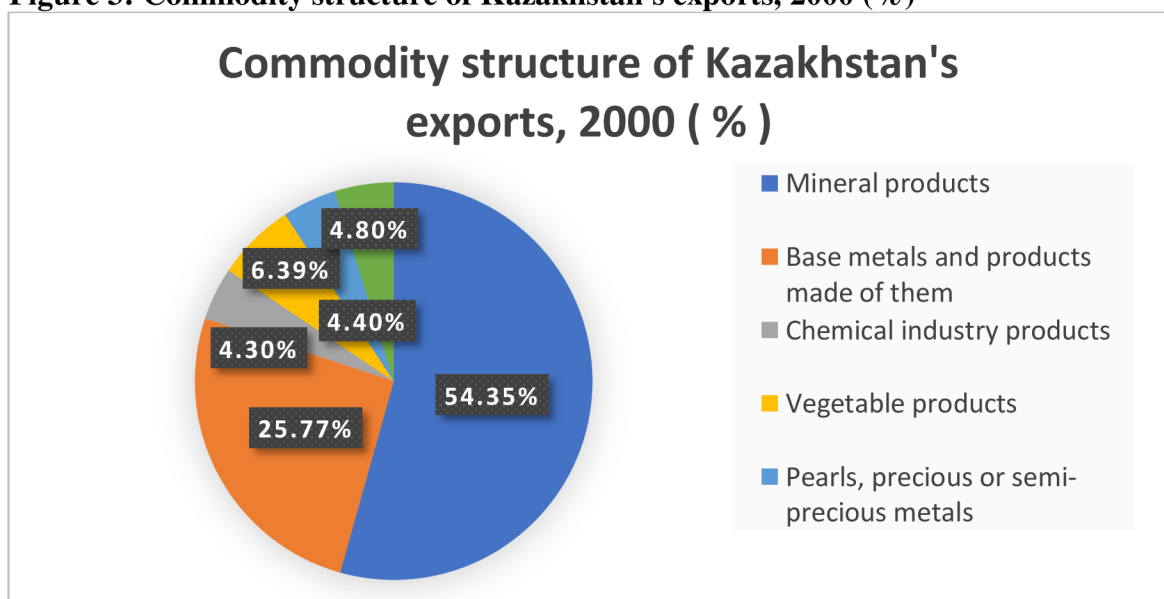
Source: Development Bank of Kazakhstan

It was analyzed that the main export goods from Kazakhstan are crude oil, copper and copper cathodes, ferroalloys, natural gas, uranium, iron ores and concentrates, copper ores and concentrates, wheat, hot-rolled flat rolled non-alloy steel, petroleum products. The predominance of fuel and raw materials in Kazakhstan's exports can be characterized as an objective reflection of the country's real competitive advantages in the international division of labor.

According to Figure 4, in the commodity structure of Kazakhstan's exports in 2021, mineral products, including oil and gas, occupied 66.1%. Non-ferrous and ferrous metals occupy another 18.2%. Thus, mineral products with metals already account for 84.3% of Kazakhstan's total exports. This analysis shows us that the macroeconomic situation in Kazakhstan is extremely sensitive to world prices for both oil and metals.

Figure 4: Commodity structure of Kazakhstan's exports, 2021 (%)
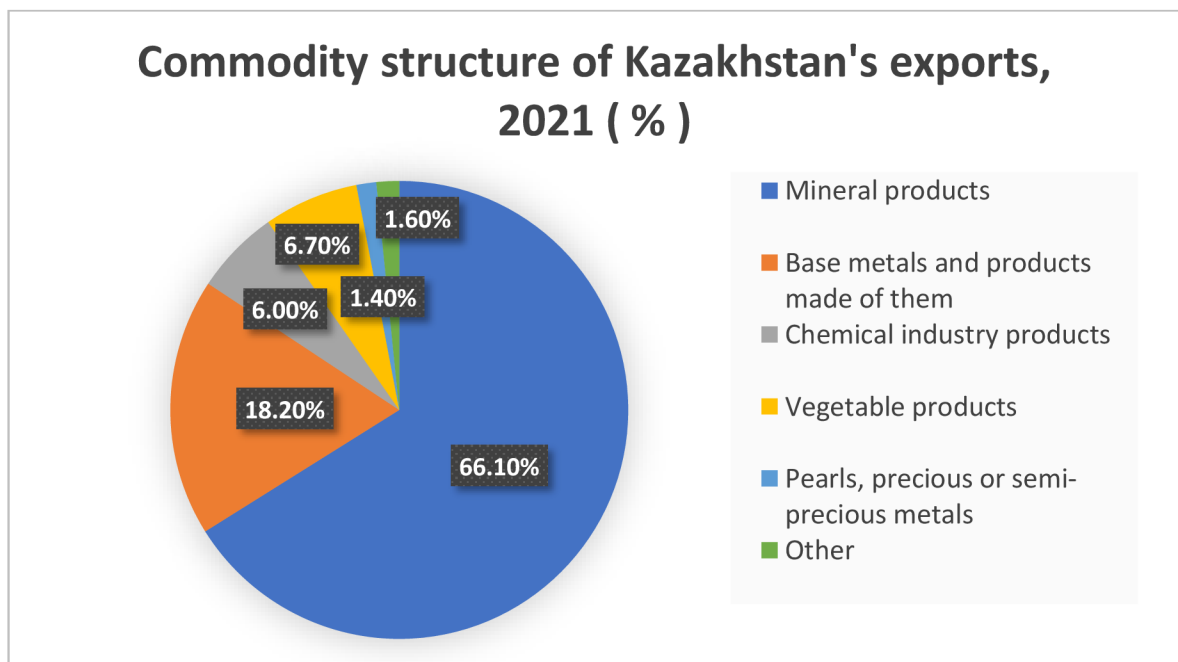
Source: Development Bank of Kazakhstan

At the same time, of course, the slowdown in overall global economic activity due to the pandemic leads to a current account deficit at the end of the year. And the structural problems of the economy show how much the country's economy depends on world oil prices. To solve this problem, the priority tasks may be to increase exports of non-primary and ready-to-use goods and services and effectively saturate the domestic market with

domestically produced goods. And the reduction of the balance of payments deficit will also reduce the pressure on the exchange rate of the national currency tenge.

Due to which goods the country's exports increased in 2021, compared to the previous years:

• oil - an increase of 31.2% to $ 31.1 billion (share in exports 51.5%),

• base metals - an increase of 23.5% to $ 9.8 billion (15.2%),

• metal ores - an increase of 20.5% to 4.3 billion dollars (7.1%),

• agricultural products - an increase of 17.3% to 2.4 billion dollars (3.9%),

• oil refining products - an increase of 40% to 1.9 billion dollars (3.1%),

• chemical substances and chemical products - an increase of 48.7% to 1.4 billion dollars (2.3%),

• food products - growth by 1.7% to $1.3 billion (2.2%).

Thus, structurally, Kazakhstan's exports grew due to raw materials (+8.5 billion dollars or +26.5%), semi-finished products (+3.6 billion dollars or +26.6%) and finished goods (+0.7 billion dollars or +36.6%). At the same time, the supply of finished products increased due to the re-export of telephones (from $17.9 to $ 360 million), computers (from $9.5 to $231.5 million) and special-purpose floating vehicles (from $9.4 to $130.1 million).

Also, among food products, there is a significant increase in the supply of such goods as pasta (+48.2%), sunflower oil (+12.7%), poultry meat (2.3 times growth), margarine (2.2 times) and fish caviar (+34.2%).

The external conditions facing Kazakhstan are changing rapidly, it is necessary to take into account the declining global demand, new conditions for economic growth and rapidly changing trade policy. Therefore, the changes that I noticed in the structure of export goods between 2000 and 2021, an increase in the share of mineral products by almost 15%, and every year this indicator increases. A slight decrease in the share of exports in base metals and products made of them, as well as the chemical industry products. And a rather noticeable decrease in the share of exports by approximately 2 times can be observed in the structure of goods - pearls, precious or semi-precious metals and other groups.

In turn, import growth rates are significantly lower. The commodity structure of Kazakhstan's imports is more diverse as shown in Figure 5. Machines, mechanisms, equipment, vehicles, their parts and accessories, raw materials, food, stone products, ceramics, glass, chemical industry products, etc. prevail here. The active development of

extractive industries has led to an increase in imports of metal structures, pipes for oil or gas pipelines and other metal products. At the same time, if there is a dominance of natural resources in Kazakhstan's exports, then there is no significant predominance of individual goods in the import of goods.

Kazakhstan's imports increased by 8.2% to 41.7 billion US dollars in 2021, approximately approaching the level of the pre-crisis period 2018-2019.

Consumer imports have reached a record value over the past six years – $ 12.3 billion. Due to the implementation of deferred spending in 2020, as well as quarantine restrictions and the growth of solvent demand of the population, the number of purchases of imported cars, new equipment, computers and mobile phones has increased. The cumulative growth of such goods amounted to about $ 1.5 billion (+53.3%).

Kazakhstan's main imports often consist of refrigeration equipment (approximately $1.6 billion), pumps, compressors and fans ($1.1 billion), medicines ($829.2 million), telephones ($708.8 million), fittings for pipelines ($632.7 million), equipment and devices for filtering liquids or gases ($542 million), passenger cars ($495.9 million), computers ($412 million), etc.

According to Figure 5, imports for the distant year 2000 are a heterogeneous part, high indicators are demonstrated in the sector of machinery, equipment and mechanisms, mineral products, as well as other goods and vehicles, their parts and also base metals.

Figure 5: Commodity structure of Kazakhstan's imports, 2000 (%)

Source: Development Bank of Kazakhstan

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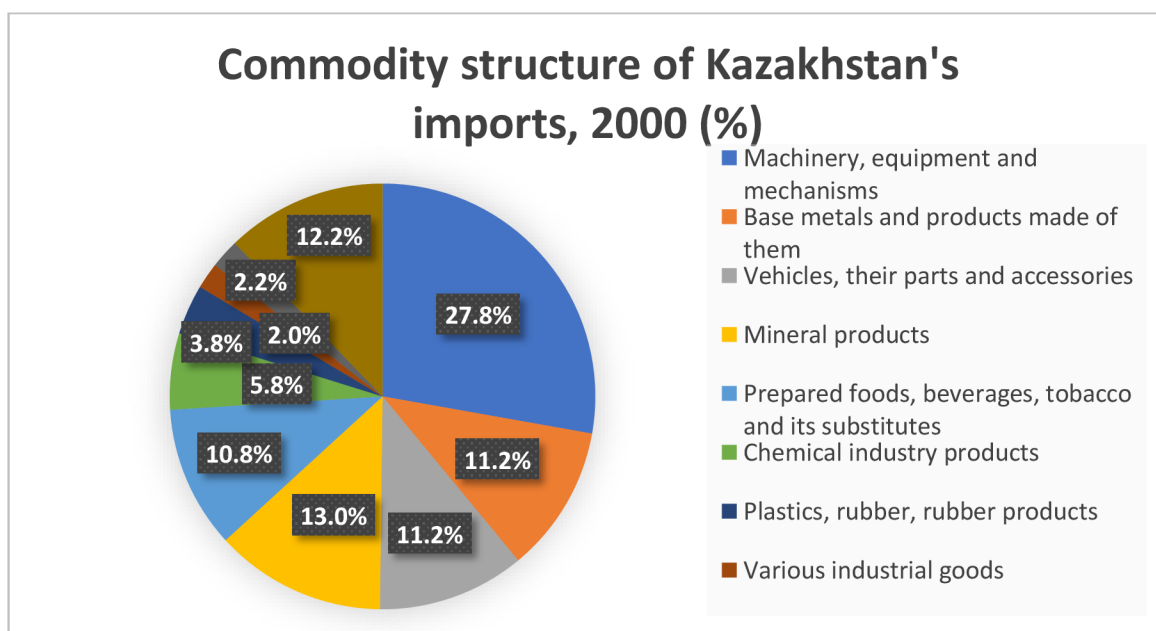
The main increase in imports of goods for 2021, compared with previous years, occurred on the following points:

• cars – an increase of 53.8% to $ 2 billion (the share in imports is 5.0%)

• computers and peripheral equipment – an increase of 2.4 times to $ 1.9 billion (4.5%)

• pharmaceutical preparations – an increase of 9.7% to $ 1.64 billion (4.0%)

• basic chemical substances, fertilizers – an increase of 27.4% to $ 1.56 billion (3.8%)

• ferrous metals – an increase of 71.4% to $ 1.56 billion (3.8%)

• non-ferrous metal ores – an increase of 72.8% to $1.1 billion (2.7%)

At the same time, imports decreased, for example, general-purpose vehicles (-51.9%) and also general-purpose equipment (-62.3%). Structurally, the increase in imports was due to consumer goods (+2.2 billion dollars or +23.0%) and intermediate goods (+2.0 billion dollars or +11.6%). While imports of investment goods decreased by almost $ 1.9 billion or 16.1% (Development Bank of Kazakhstan, 2021).

Kazakhstan somehow depends on the import of various goods, which often determine the amount of inflation in the country. Thus, the commodity structure of imports for the period 2021 is presented in Figure 6, as follows: machinery and equipment, hardware in total amount to about 40%, mineral products 7%, chemical products almost 10%, food and raw materials for their production about 12%, base metals and products from them - 9.7%, various industrial goods 8.6%.

Figure 6: Commodity structure of Kazakhstan's imports, 2021 (%)
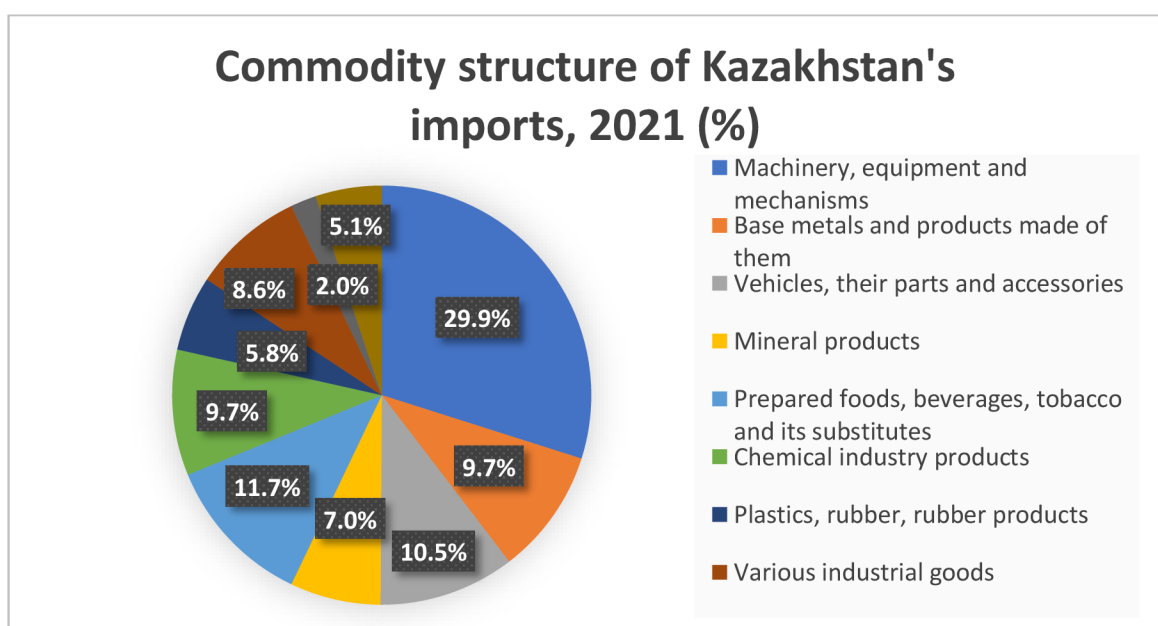
Source: Development Bank of Kazakhstan

At the same time, compared with 2000, the share of machine-building products in total imports increased by an average of 5 percentage points, the share of mineral products decreased by almost 2 percent, the share of chemical products increased by 4 percent, the share of products of various industries increased by almost 7 percent.

Meanwhile, the expansion of consumer and investment demand will be the main factors of import growth in the current and, possibly, in subsequent years, with the stabilization of the world market. Therefore, the import indicators may change in the next one.

4.1.3   Analysis of Balance of Trade

The country's trade balance is one of the most important resulting indicators of international trade. And as mentioned above in this work, about the factor of increasing the degree of openness of the economy, it was the state in many countries of the world that assumed the functions of stimulating export production, encouraging the export of goods and services, promoting the development of foreign economic relations and cooperation with foreign companies. Thus, thanks to the support of the state, a solid legal framework has been created in many countries of the world, which has facilitated the inflow of investments, technologies, labor, and information from abroad.

Almost from the very beginning of its independent development, Kazakhstan has tried to pursue an open economy strategy in order to liberalize foreign economic activity, open access to its domestic market for foreign goods, services and capital, and provide non-residents with any opportunity to freely engage in entrepreneurial activity on the territory of the country.

The analysis of the Balance of Trade (BOT) of the Republic of Kazakhstan, as can be seen from Table 1, which is presented below, for the period under study from 2000-2021 has a steady upward trend from 3,772.2 million US dollars to 19,165.8 million US dollars. (Bureau of National Statistics of the Republic of Kazakhstan, 2021).

Table 1: Analysis of Kazakhstan's Balance of Trade (BOT) for 2000-2021

	Turnover in foreign currency (exports)		Turnover in foreign currency (imports)		Turnover in foreign currency (Total foreign trade turnover)		Balance of Trade 2000-2021
	million US dollars	as a percentage of the previous year	million US dollars	as a percentage of the previous year	million US dollars	as a percentage of the previous year	million US dollars
2000	8 812,2	150,1	5 040,0	137,9	13 852,2	145,4	3 772,2
2001	8 639,1	98,0	6 446,0	127,9	15 085,1	108,9	2 193,1
2002	9 670,3	111,9	6 584,0	102,1	16 254,3	107,8	3 086,3
2003	12 926,7	133,6	8 408,7	127,7	21 335,4	131,2	4 518,0
2004	20 096,2	155,5	12 781,3	152,0	32 877,5	154,1	7 314,9
2005	27 849,0	138,6	17 352,2	135,8	45 201,2	137,5	10 496,8
2006	38 250,3	137,3	23 676,9	136,4	61 927,2	137,0	14 573,4
2007	47 755,3	124,8	32 756,4	138,3	80 511,7	130,0	14 998,9
2008	71 183,5	149,1	37 889,0	115,7	109 072,5	135,5	33 294,5
2009	43 195,7	60,7	28 408,7	75,0	71 604,4	65,6	14 787,0
2010	60 270,8	139,5	31 126,7	109,6	91 397,5	127,6	29 144,1
2011	84 335,9	139,9	36 905,8	118,6	121 241,7	132,7	47 430,1
2012	86 448,8	102,5	46 358,4	125,6	132 807,2	109,5	40 090,4
2013	84 700,4	98,0	48 805,6	105,3	133 506,0	100,5	35 894,8
2014	79 459,8	93,8	41 295,5	84,6	120 755,3	90,4	38 164,3
2015	45 955,8	57,8	30 567,7	74,0	76 523,5	63,4	15 388,1
2016	36 736,9	79,9	25 376,7	83,0	62 113,6	81,2	11 360,2
2017	48 503,3	132,0	29 599,6	116,6	78 102,9	125,7	18 903,7
2018	61 111,2	126,0	33 658,5	113,7	94 769,7	121,3	27 452,7
2019	58 065,6	95,0	39 709,3	118,0	97 774,9	103,2	18 356,3
2020	47 540,8	81,9	38 929,1	98,0	86 469,9	88,4	8 611,7
2021	60 339,6	110,5	41 173,8	106,2	101 513,4	107,9	19 165,8

Source: Own Computation from Bureau of National Statistics of the Republic of Kazakhstan

During this reporting period, there was an annual increase in both exports and imports in the structure of Kazakhstan's foreign trade. The stable positive balance of this trade balance undoubtedly testifies to the positive results of economic transformations and reforms carried out in the country during the period under study.

According to official data of the Bureau of National Statistics (2021), the foreign trade turnover of the Republic of Kazakhstan over the past 2021 amounted to more than

101.5 billion US dollars. Of this amount, exports amount to 60.3 billion US dollars, imports - 41.1 billion US dollars (Table 1).

The import figures for 2021 compared to 2020 increased from 38.9 to 41.1 billion US dollars, that is, by almost 8.2 %. The export figure for 2021 compared to the same period in 2020 increased by about 28.6 % (+15.5 % by 2019).

Figure 7: Turnover in foreign currency exports-imports, 2000-2021 (million US dollars)
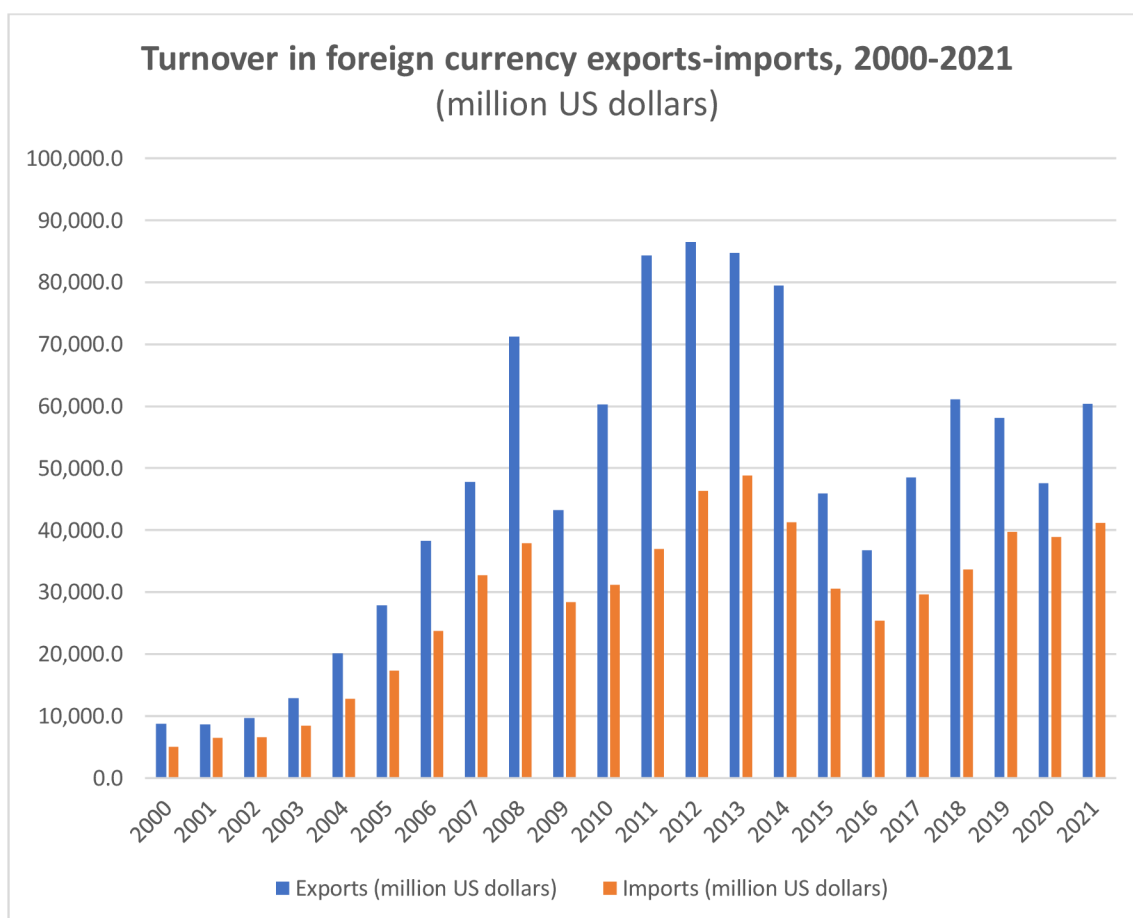
Source: Bureau of National Statistics of the Republic of Kazakhstan

Thus, I have revealed that against the background of a more accelerated growth of income from the export of goods, the positive trade balance of the Republic of Kazakhstan for 2021 increased almost 2.2 times – to more than 19.0 billion US dollars. These indicators significantly improve the overall dynamics of the country's trade balance and will contribute to leveling the chronic current account deficit and, accordingly, easing the pressure of the National Bank on the national currency KZT.

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4.1.4   The main trading partners of Kazakhstan

Expanding the geography of sales markets for Kazakh products and increasing its competitiveness is one of the priorities of the Kazakh economy. In particular, Kazakhstan pays great attention to the development of cross-border trade, the elimination of trade barriers, ensuring the freedom of movement of goods and services.

The top 10 largest trading partners of Kazakhstan in terms of trade turnover for 2021 include the following countries: Russia ($24.2 billion, around 23.9%), China ($18.1 billion, 17.9%), Italy ($9.6 billion, 9.5%), the Netherlands ($4.6 billion, 4.5%), Turkey ($4.1 billion, 4%), Uzbekistan ($3.9 billion, 3.8%), South Korea ($2.6 billion, 2.6%), Germany ($2.2 billion, 2.2%), India ($2 billion, 2%) and Spain ($1.8 billion, 1.8%).

According to Figure 8, it can be observed that the following trade partners occupy leading positions in the share of Kazakhstan's exports in 2000: Russia - 19.5%, Italy - 14.9%, Other countries - 11.2%, Bermuda -9.8%, Great Britain - 7.3%, China - 7.3%, Virgin Islands - also 7.3%, Germany - 6.2%. That is, most of the volume of exports falls on Russia.

Figure 8: Distribution of Kazakhstan's exports by country, 2000 (%)
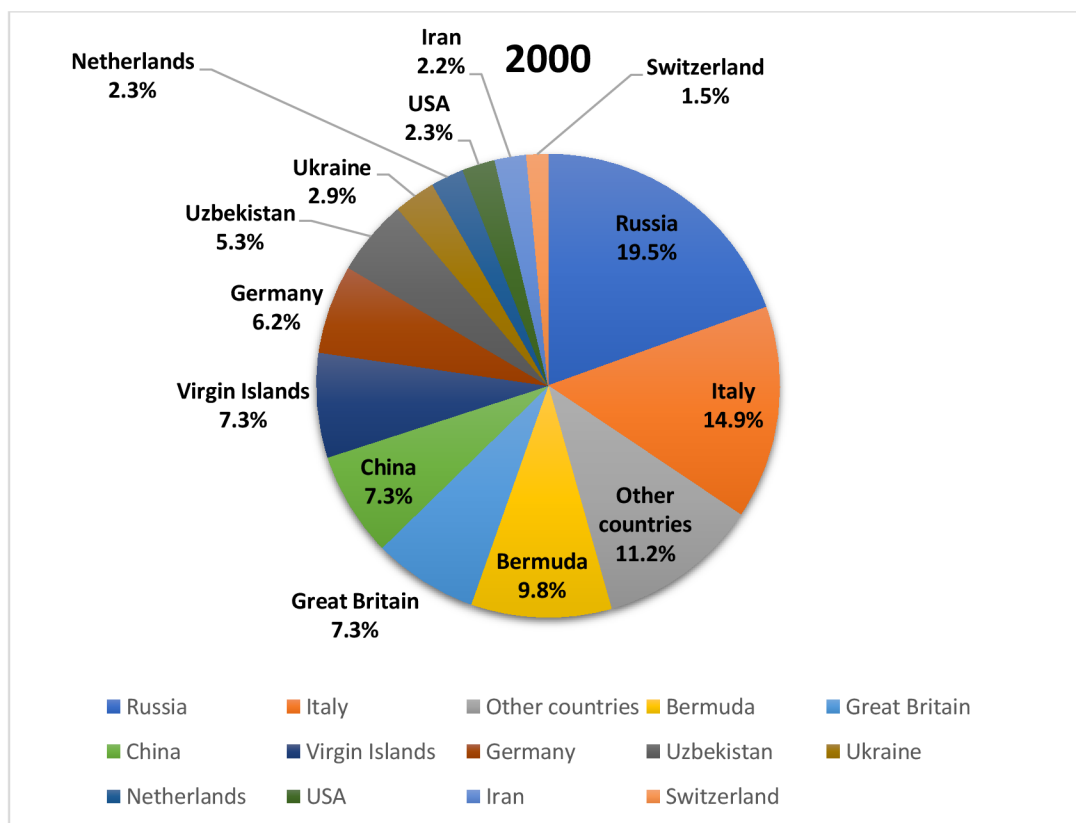
Source: Development Bank of Kazakhstan

Kazakhstan exported the most goods to European countries in 2021. During the year, almost $25.2 billion worth of products were delivered to this region. This is 41.8 % of the total export volume. In Figure 9, it can be observed that, at the same time, Italy accounts for 14.7% or $ 8.9 billion, the Netherlands for another 7.3% or $ 4.4 billion, France for 4% or $ 2.3 billion, Spain for 2,7% or $ 1.6 billion, Greece for 2.2% or $ 1.3 billion (Development Bank of Kazakhstan, 2021).

Figure 9: Distribution of Kazakhstan's exports by country, 2021 (%)
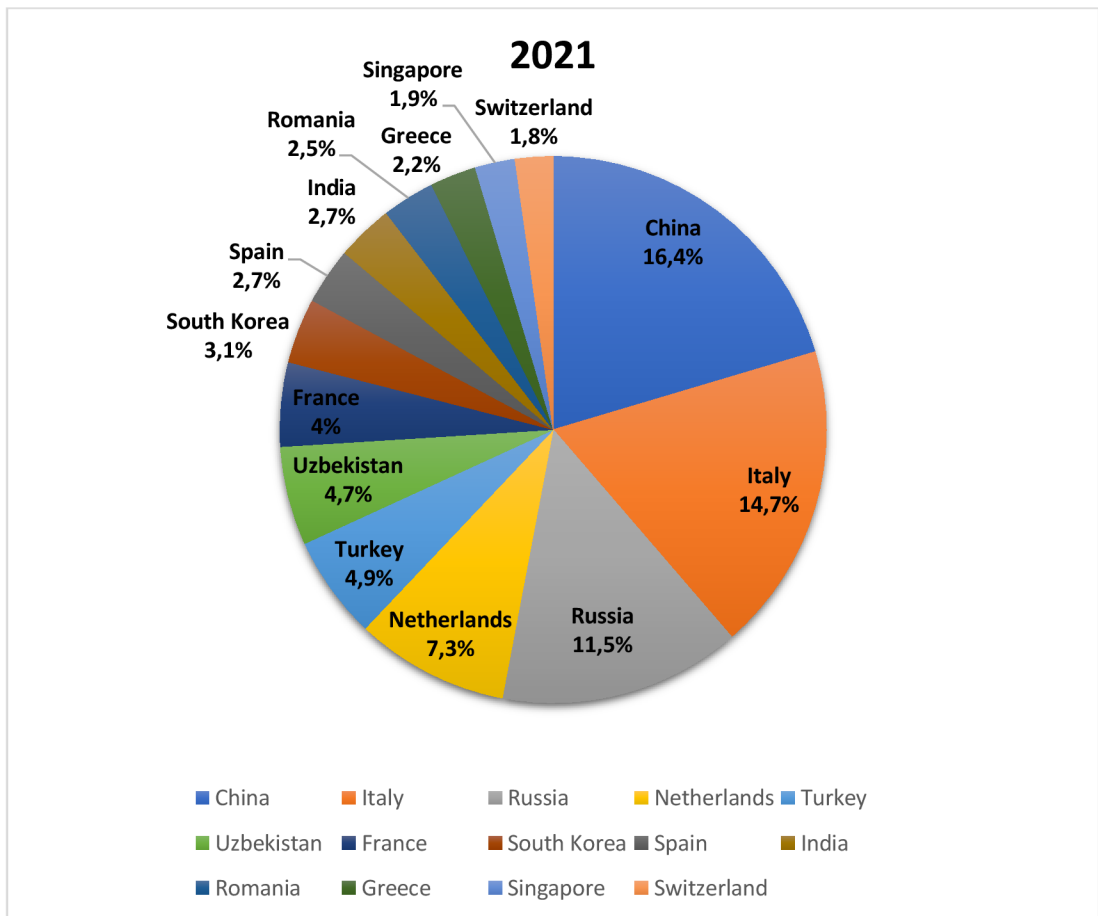
Source: Development Bank of Kazakhstan

Kazakhstan's exports by trading partner countries as of 2021 (Figure 9):

• EU countries – growth by 31.8% to $ 23.3 billion (share in exports 38.5%),

• China – growth by 4.8% to $9.9 billion (16.4%),

• Russia – growth by 38.1% to $ 6.9 billion (11.5%),

• Turkey – growth by 39% to $ 3.0 billion (4.9%),

• Uzbekistan – an increase of 33% to 2.8 billion dollars (4.7%),

• South Korea – an increase of 87% to 1.9 billion dollars (3.1%),

• India – a decrease of 18.4% to 1.6 billion dollars (2.7%),

• Singapore – an increase of 14.5 times to 1.1 billion USD (1.9%),

• Switzerland – down 31% to USD 1.1 billion (1.8%),

• Brunei Darussalam – 2.6 times growth to 0.9 billion dollars (1.5%).

During the analyzed period between 2000 and 2021, there was a growing trend in the share of non-CIS countries in exports and imports of Kazakhstan, there is a slight decrease in the share of CIS countries.

So, if in 2000 the share of Russia in Kazakhstan's exports was 19.5%, in imports 48.7%, then at the beginning of 2022 Russia in Kazakhstan's exports is only 11.5%, and in imports 42.1%. Also, comparing the available data on the structure of trading partners for 2000 and 2021, in exports, the following changes can be observed: China now occupies a leading position in the country's exports of 16.4%, Italy has maintained its indicators at 14.7%, in Russia, as we noted above, export indicators have decreased by almost 2 times.

Such countries as the Netherlands, Turkey, South Korea, France and Singapore have become a significant presence in the Kazakh economy. In 2000, export trade relations with many of these countries were not as well established as they are today.

As for imports, our republic imported goods and products mainly from CIS countries. In a year, this figure could reach $20.4 billion. This is 49.6% of the total import volume. For example, according to Figure 10 below, imports from Russia account for 48.7%, Germany 6.6%, Great Britain 4.3%, Italy 3.1%, France 1.5%.

Russia is Kazakhstan's main partner in the import of goods, as we can see below both in 2000 and in 2021. So, about 42.1% or 17.3 billion dollars in 2021, falls on Russia.

China is in second place in terms of imports in 2021, imports from other countries are much smaller. Thus, approximately 30% of the import structure is occupied by Asian countries, and 20.2% or $8.3 billion of them is occupied by China itself. Previously, Germany was in second place among importing countries, but now China confidently occupies this place - its share has increased from 3% back in 2000 to 20.2% in 2021. (Development Bank of Kazakhstan, 2021).

Imports from China are traditionally diverse: a large range of products is imported from there, from food to electronics, appliances. Cell phones, the import of computers and other computing machines, components and more remain the most popular so far.

Figure 10: Distribution of Kazakhstan's imports by country, 2000 (%)
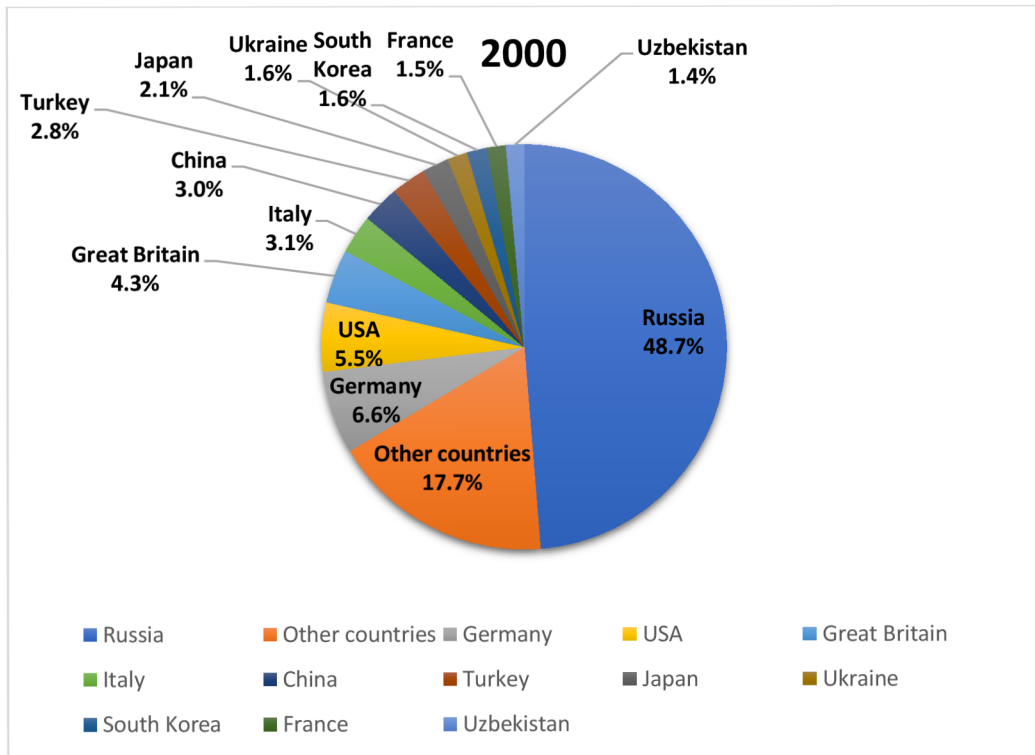
Source: Development Bank of Kazakhstan

Figure 11: Distribution of Kazakhstan's imports by country, 2021 (%)
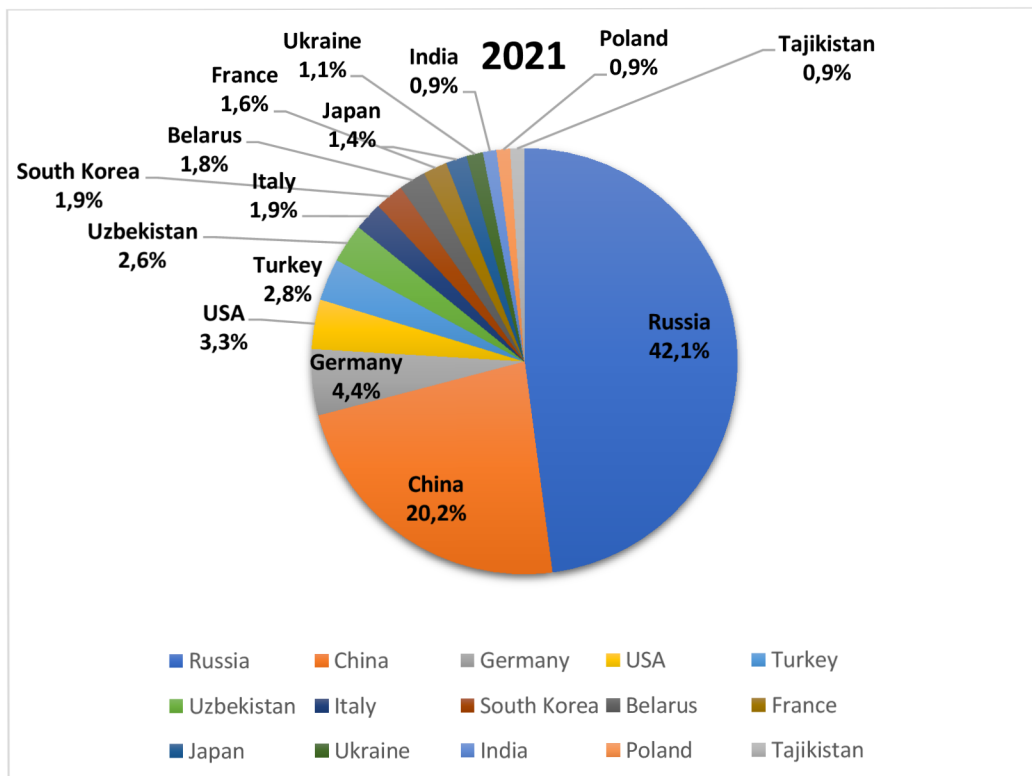
Source: Development Bank of Kazakhstan

As shown in Figure 11, Kazakhstan's imports by trading partner countries as of 2021 are represented by the following countries:

    • Russia – growth by 25.8% to $17.3 billion (share in imports 42.1%),

    • China – growth by 30.5% to $8.3 billion (20.2%),

    • EU countries – decrease by 8.3% to $ 5.7 billion (13.7%),

    • USA – growth by 16.1% to $ 1.4 billion (3.3%),

    • Turkey – an increase of 20.5% to $1.1 billion (2.8%),

    • Uzbekistan – an increase of 33.2% to $1.1 billion (2.6%),

    • South Korea – a decrease of 84.4% to $0.77 billion (1.9%),

    • Belarus – an increase of 14.5% to $0.76 billion dollars (1.8%).

Thus, after conducting a comparative analysis of the main trading partners, there are changes in the geographical distribution of both exports and imports of Kazakhstan.

So, if in 2000 the bulk of imports accounted for other European countries, then according to the analysis for 2021, participation in the import of goods with Asian countries has expanded. Kazakhstan is establishing its cooperation in foreign trade with such countries as Uzbekistan (import volume 2.6%), South Korea (import 1.9%), Japan (import 1.4%), Tajikistan (import 0.9%).

As we noted above, the list of countries with which Kazakhstan most actively maintained trade relations in 2021 also included: Netherlands, Turkey, Uzbekistan, France, South Korea, USA, Germany, India, Spain, Romania, Greece, Switzerland (Development Bank of Kazakhstan, 2021).

4.2 Analysis of the dynamics of the exchange rate of Kazakhstan for 2000-2021

4.2.1 General analysis of the dynamics of the exchange rate of the national currency

One of the existing problems of the Kazakh economy can be identified as the instability of the monetary and financial system, which is expressed in a weak national currency KZT and which, in turn, is a key indicator of the international competitiveness of the national economy.

Since the introduction of the national currency of the Republic of Kazakhstan – KZT, and further analyzing the official market exchange rates of USD, EUR, CNY, RUB, there is a tendency of its constant depreciation (Table 2 below).

So, according to Figure 12 in 2000, one dollar cost 144.5 KZT. By 2007, the dollar had dropped to the lowest possible value of 120.3 KZT, since these years accounted for the global financial crisis, which greatly affected the United States, and consequently its currency. In 2012, the average exchange rate of tenge to the dollar was 150.74 KZT, where as at the beginning of 2015, the dollar rose sharply to 339.47 KZT, that is, the Kazakh national currency has depreciated by about 2.5 times since the beginning of 2000 (National Bank of Kazakhstan, 2021).

Figure 12: Official (market) exchange rate USD, 2000-2021 (KZT)

Source: National Bank of Kazakhstan

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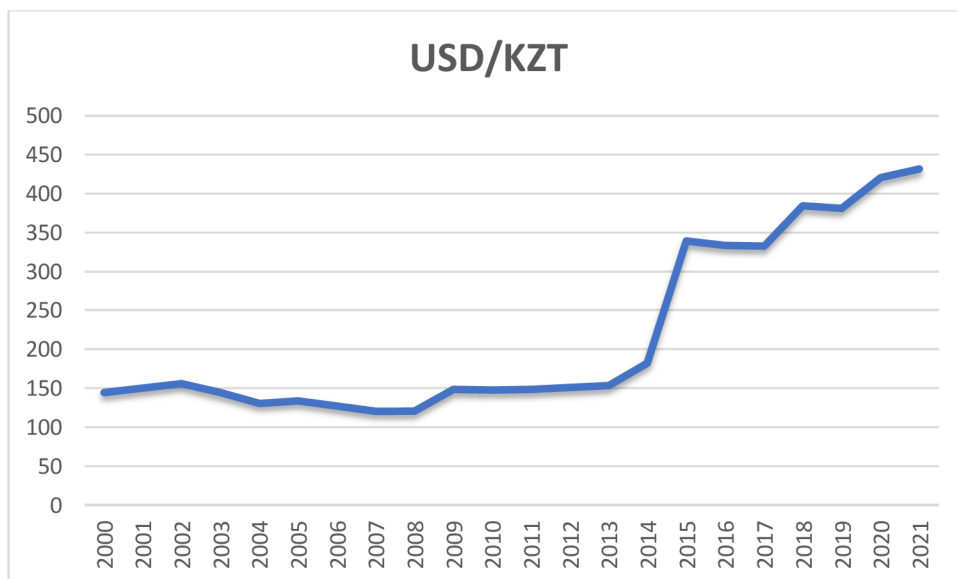
The data presented above on the official market exchange rate of the USD to the KZT are also displayed in the form of tabular values in Table 2 below. Also, where we can see the KZT price not only to the USD, but also to the RUB, EUR, CNY. Analyzing the indicators of these market exchange rates to the KZT, one can observe a trend that over time, the depreciation of the national currency of the KZT in relation to USD, RUB, EUR, CNY is constantly occurring. Depreciation of the national currency means an increase in the price of a unit of foreign currency, i.e. to purchase any foreign currency (USD), more units of the national currency (KZT) will be required (Bahmani-Oskooee, et al. 2019).

That is, the depreciation of the currency leads to an increase in the cost of imported goods relative to products of national production, as a result of which the volume of imports decreases, and to cheaper exports abroad, as a result of which the volume of exports increases.

Table 2: Dynamics of official market exchange rates, 2000-2021 (KZT)

| Period	Official (market) exchange rates							
	RUB_quant	RUB/KZT	USD_quant	USD/KZT	EUR_quant	EUR/KZT	CNY_quant	CNY/KZT
2000	1	5,16	1	144,5	1	136,21	1	17,46
2001	1	4,97	1	150,2	1	134,77	1	18,15
2002	1	4,89	1	155,6	1	162,45	1	18,8
2003	1	4,93	1	144,22	1	180,23	1	17,42
2004	1	4,67	1	130	1	177,1	1	15,71
2005	1	4,65	1	133,77	1	158,54	1	16,58
2006	1	4,82	1	127	1	167,12	1	16,27
2007	1	4,92	1	120,3	1	177,17	1	16,47
2008	1	4,11	1	120,77	1	170,89	1	17,67
2009	1	4,92	1	148,36	1	212,84	1	21,74
2010	1	4,84	1	147,4	1	195,23	1	22,33
2011	1	4,61	1	148,4	1	191,72	1	23,58
2012	1	4,96	1	150,74	1	199,22	1	24,19
2013	1	4,69	1	153,61	1	211,17	1	25,34
2014	1	3,17	1	182,35	1	221,97	1	29,4
2015	1	4,65	1	339,47	1	371,31	1	52,31
2016	1	5,43	1	333,29	1	352,42	1	48,02
2017	1	5,77	1	332,33	1	398,23	1	51,09
2018	1	5,52	1	384,2	1	439,37	1	55,88
2019	1	6,17	1	381,18	1	426,85	1	54,56
2020	1	5,65	1	420,71	1	516,13	1	64,49
2021	1	5,77	1	431,67	1	487,79	1	67,73

Source: National Bank of Kazakhstan

It is well known that the main settlement currency of the oil and gas industry is the US dollar, so this contributes to its preferential use in the transaction costs of the country and, accordingly, increases the dependence of our national currency on it.

In addition, the stability of the KZT is influenced by both external factors, including world oil prices, the economic and geopolitical situation in the world, including the main partner countries of Kazakhstan, whose economy depends on the export of raw materials, the monetary policy of central banks of developed countries, and internal factors, such as: balance of payments, inflation indicators, the value of the base rate, the size of gold and foreign exchange reserves, the currency policy of the National Bank of Kazakhstan.

World oil prices are one of the main factors affecting the exchange rate formation of the national currency KZT, because oil, as I described above in the practical part, has a significant share in Kazakhstan's exports (Figure 13), (Smagulova, et al. 2016).
Having analyzed the dynamics of stock quotes for oil, the indicators correlate with the main cycles of the world economy. For example, the sharp collapse of prices on the world oil market in 1998, 2008, 2014, 2015, as it is obvious, also coincides with financial crises and devaluation processes in Kazakhstan.

Figure 13: Crude Oil Prices - Historical chart 2000-2021 (US dollar per barrel)
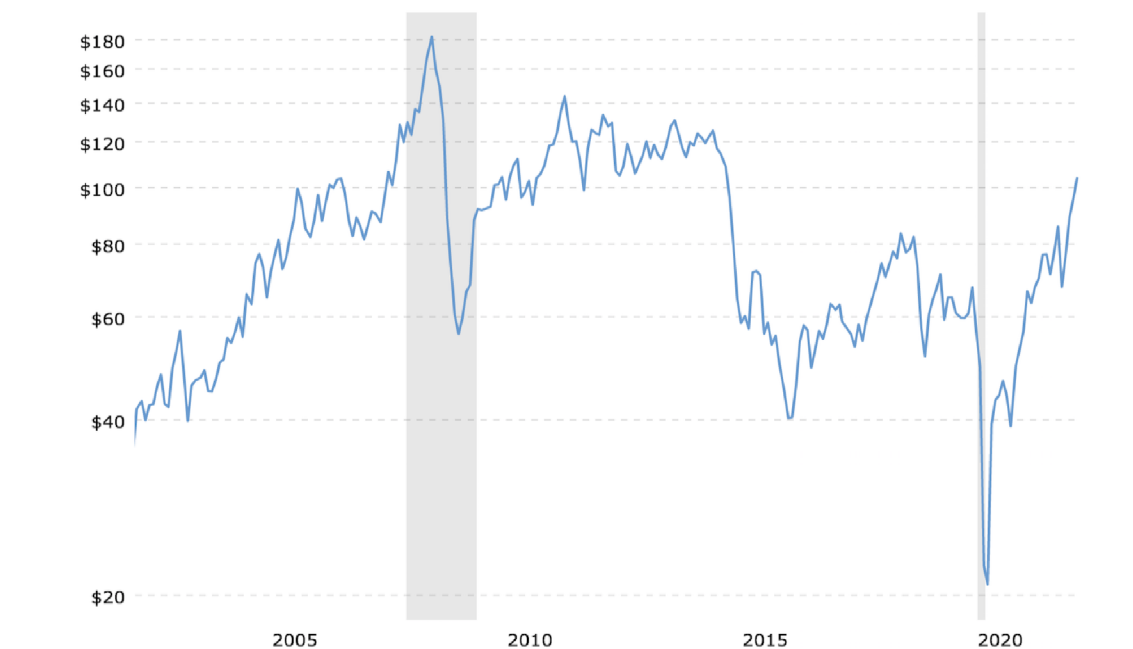
Source: Official website of Macrotrends – The Premier Research Platform for Long Term Investors

Thus, it was revealed that fluctuations in Kazakhstan's export volumes are also associated with world oil prices, but to a lesser extent, with the volume of physical export growth. In general, during the period 2000-2021, Kazakhstan has a positive Balance of Trade, mainly due to an increase in the supply of oil and other raw materials to foreign markets (Smagulova, 2016).

With a decrease in the KZT exchange rate, the growth of export revenue does not lead to an increase in import consumption, because the share of imports decreases in kind, and the purchasing power of consumers decreases due to the fact that goods and services denominated in US dollars become more expensive and still more inaccessible.

That is, with a strong devaluation, the country's trade balance deteriorates due to high dependence on imports and the impossibility of its rapid replacement, and only over time can the effect of devaluation be observed, which is associated with import substitution. Thus, in general, the economy of Kazakhstan is characterized by a high sensitivity of foreign trade to changes in the country's exchange rate.

4.2.2 Effect of the exchange rate on Kazakhstan's export

The dependence of the exchange rate on the nature of the development of the country's economy and the peculiarities of its foreign economic relations is not one-sided. The level and fluctuations of the exchange rate have a significant reverse effect on changes in the volume of exports and imports of goods, other current transactions, the inflationary situation, the price of credit, the scale and direction of international investments.

The exchange rate is one of the most important external factors of the sharp deterioration of international currency liquidity and solvency in the region, which leads to a decrease in international confidence in the validity of the economic policy of the state.

With an increase in the exchange rate of the national currency KZT, domestic prices become less competitive, and thus the efficiency of Kazakhstan's exports decreases, which may lead to a reduction in export industries and production in general. Imports, on the contrary, are expanding, and the inflow of foreign and national capital into the country is also stimulated, and the export of profits from foreign investments is increasing. The real amount of external debt, which is expressed in depreciated foreign currency, is also decreasing (Kutan, et al. 2005).

Decreasing in the exchange rate of the national currency KZT stimulates the export of goods and services. Exporters receive an export bonus when they exchange the proceeds of a foreign currency that has become more expensive for a cheaper national currency and have the opportunity to sell goods at prices below the global average.

Which is important, because in this way exporters increase their profits. But at the same time, the depreciation of the KZT exchange rate increases the cost of imports, which will stimulate price growth in Kazakhstan, a reduction in the import of new goods and consumption, or the development of national production of goods instead of imported ones.

Also, the decrease in the KZT exchange rate reduces the real debt in the national currency and increases the severity of foreign debts denominated in foreign currency. That is, it becomes unprofitable for residents of Kazakhstan to export profits, interest, dividends received by foreign investors in the currency of the host countries. Alternatively, the population can reinvest these profits or use them to purchase goods at domestic prices of the country and then export them (Lee, 2010).

It should be noted that in both cases, national producers are faced with a dilemma — to develop activities in the domestic or foreign market. Here, the proportions of resource allocation between import-substituting and export-oriented industries are already important, which determine the level of protection of the domestic market from foreign competition.

In Figure 14, I tried to analyze the dependence and visually see the dynamics of Kazakhstan's exports on the values of the real effective exchange rate (index), as well as the exchange rate of KZT to USD, the exchange rate of KZT to EUR.

Figure 14: Dynamics of dependence of exports and rates of REER, KZT/USD, KZT/EUR

Source: Bureau of National Statistics of the Republic of Kazakhstan

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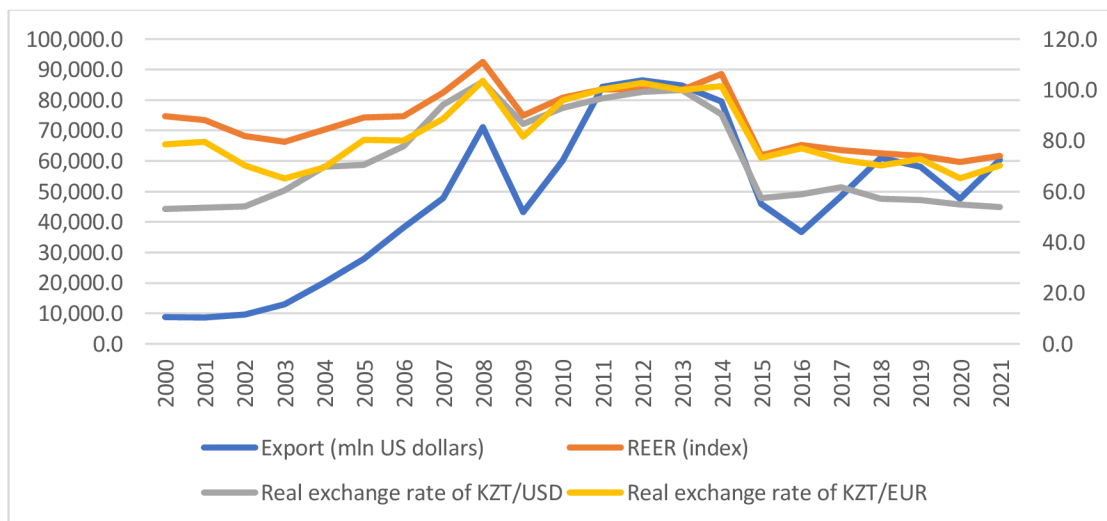
As we can see, the charts touch in some places, and the indicators are quite equally located on the plane, which means that the dependence of exchange rates, as well as REER, market exchange rates, has an impact on Kazakhstan's exports. Thus, the change in the exchange rate of the national currency affects the dynamics of exports. In our case, the change in the REER, the market exchange rate of the KZT/USD, KZT/EUR, has an impact on the indicators of Kazakhstan's export volumes.

4.3 Regression analysis

The main purpose of using econometric analysis in my work is to determine whether there is a relationship or a causal relationship between the indicator

Kazakhstan's exports and the real effective exchange rate (index), and if this happens, to be able to assess the degree of influence of this variable on the volume of exports of the country. It follows from this that in order to carry out the above analysis, we must study the dependence of exports on the indicator of the real effective exchange rate of the national currency KZT, calculated from historical data that were recalculated in connection with the update of statistics on the consumer price index of trading partner countries.

Thus, the indicator of the real exchange rate of the national currency KZT was taken as an explanatory (independent) variable for the period 2000-2021. Kazakhstan's export indicator for 2000-2021 will be used as the dependent variable "Y".

4.3.1 Economic model

The above goal can be translated into an algebraic model as shown below:

$$Y_{1t} = f(X_{0t}, X_{1t}) \tag{4}$$

Where:

Y_{1t}... Export (million US dollars),

X0t... Unit vector,

X1t... Real effective exchange rate (index).

4.3.2 Econometric model

Next, I derive the econometric model from the economic model by defining the functional form of the model and adding the term error. Since the selected variables are expressed in different units of measurement, it is important to translate the variables into a power form.

Thus, a logarithmic model will be used. Equation can be explained in an econometric model as follows:

$$ln\ Y_{1t} = \gamma 0 * lnX_{0t} + \gamma 1 * lnX_{1t} + e_t \tag{5}$$

This model assumes that the endogenous variable Y_{1t} of Kazakhstan's exports, million US dollars, is influenced by the exogenous variable X_{1t}, namely: the real effective exchange rate, index.

The hypothesis is that the exogenous variable taken has a direct relationship with the endogenous variable, as expressed in the statement below, because when the REER increases by 1%, the real depreciation of the national currency KZT increases by 1%, therefore:

H1: If the REER increases, then the volume of exports in the country increases.
H2: If the REER decreases, it means that the export volume indicator has increased.

4.3.3 Data set

This section presents the initial data set for my regression analysis for the period 2000-2021 (22 observations), which also consists of one important variable. The information presented below was taken from the official source of Bureau of National Statistics of the Republic of Kazakhstan.

Table 3: Data set for regression analysis, 2000-2021

Period	Export (mln US dollars)	REER (index)
2000	8 812,2	89,5
2001	8 639,1	88,2
2002	9 670,3	81,8
2003	12 926,7	79,5
2004	20 096,2	84,2
2005	27 849,0	89,2
2006	38 250,3	89,7
2007	47 755,3	98,9
2008	71 183,5	111,0
2009	43 195,7	89,8
2010	60 270,8	96,8
2011	84 335,9	100,2
2012	86 448,8	100,3
2013	84 700,4	100,0
2014	79 459,8	106,2
2015	45 955,8	74,2
2016	36 736,9	78,2
2017	48 503,3	76,2
2018	61 111,2	75,0
2019	58 065,6	74,1
2020	47 540,8	71,6
2021	60 339,6	74,0

Source: Bureau of National Statistics of the Republic of Kazakhstan.

4.3.4   Estimation of OLS parameters

The parameters of the presented models are evaluated using the GRETL software, which uses this method to obtain information that is used for further testing and validation of the model. The results are shown in table 4 below. The full disclosed evaluation data can be viewed in the Appendices section.

Figure 15: Estimated parameters

```
                        coefficient
        ------------------------------------
        const              -1.30194
        l_REER              0.741667
        l_Export_1          0.818045
```

Source: GRETL output

Relying on the obtained data, final econometric equation of the regression model is identified as follows:

$$\ln \hat{y}_{1t} = -1.30 + 0.74 * \ln x_{It} + 0.82 * \ln y_{It-1} \tag{6}$$

Figure 16: Results of Gretl estimation for the model

```
Model 6: OLS, using observations 2001-2021 (T = 21)
Dependent variable: l_Export

                   coefficient   std. error   t-ratio   p-value
        --------------------------------------------------------------
        const        -1.30194      1.87619     -0.6939   0.4966
        l_REER        0.741667     0.415749     1.784    0.0913   *
        l_Export_1    0.818045     0.0741138   11.04     1.91e-09 ***

Mean dependent var   10.62727     S.D. dependent var    0.690319
Sum squared resid     1.106830    S.E. of regression    0.247973
R-squared             0.883868    Adjusted R-squared    0.870965
F(2, 18)             68.49816     P-value(F)             3.84e-09
Log-likelihood        1.104022    Akaike criterion      3.791956
Schwarz criterion     6.925523    Hannan-Quinn          4.472020
rho                   0.147883    Durbin's h            0.720515

Log-likelihood for Export = -222.069
```

Source: GRETL output

4.3.5 Economic verification

Economic verification is used to interpret the valuation model. At this stage of the work, it is important to comply with economic theory, as well as its econometric results. On the other hand, regression analysis shows the intensity of the estimated relationship between Exports and the REER indicator. All results are taken into account, all other things being equal.

For the existing equation, where the dependence of Kazakhstan's exports and the Real effective exchange rate of the national currency KZT were estimated, the final conclusion states the following:

if the REER increases by 1%, then Export will increase by 0,74% ceteris paribus;

If last year's exports increase by 1%, then exports in the current year will increase by 0.82%.

These actions fully correspond to the hypothesis that there is a direct relationship between exports and the REER, the intensity of the estimated parameter is also acceptable.

4.3.6 Statistical verification

The coefficient of determination R^2 is the degree of correspondence between the calculated model and the data and the first indicator of whether the selected model is successful in explaining the variation Y (export). In this model, according to the result OLS $R^2 = 0.870965$.

This means that 87% of the y (export) variation is explained by the exogenous variables. That is, only 13% of the information remains unexplained.

Since the coefficient of determination is a preliminary tool for evaluating the model. In order to check the overall significance of the model, an F-test is used.

Table 4: F-test Norway

p-value of F-test	Comparison	Level of significance
$p = 3.84e\text{-}09$	$3.84e\text{-}09 < 0.05$	$\alpha = 0.05$

Source: Own Computation based on GRETL results

The general model is statistically significant at the significance level α = 0.05.

The next test to evaluate the model is the t-test, which checks whether a single estimated parameter is significant or not.

4.3.7   Econometric verification

Further, continuing the analysis, in order to consider the results of regression analysis reliable, some diagnostic methods are used: testing for heteroskedasticity and normality, as well as an autocorrelation test.

A test for the presence of heteroskedasticity, also using the White test, was also conducted using the Gretl application. Hypothesis for the state of the White test:

Null hypothesis (H0): heteroskedasticity not present

The resulting p-values at the significance level: 0.252739. This indicator is also less than 0.05, so there is no heteroscedasticity and non-constant variance of the distribution.

Figure 17: White's Test for Heteroskedasticity

```
White's test for heteroskedasticity
OLS, using observations 2001-2021 (T = 21)
Dependent variable: uhat^2

                  coefficient   std. error   t-ratio   p-value
  ------------------------------------------------------------
  const           -47.7443      25.2507      -1.891    0.0781  *
  l_REER           18.5789      10.2303       1.816    0.0894  *
  l_Export_1        1.11546      1.15003      0.9699   0.3475
  sq_l_REER        -1.48179      1.09928     -1.348    0.1977
  X2_X3            -0.500093     0.298465    -1.676    0.1145
  sq_l_Export_1     0.0555072    0.0331617    1.674    0.1149

  Unadjusted R-squared = 0.313936

Test statistic: TR^2 = 6.592665,
with p-value = P(Chi-square(5) > 6.592665) = 0.252739
```
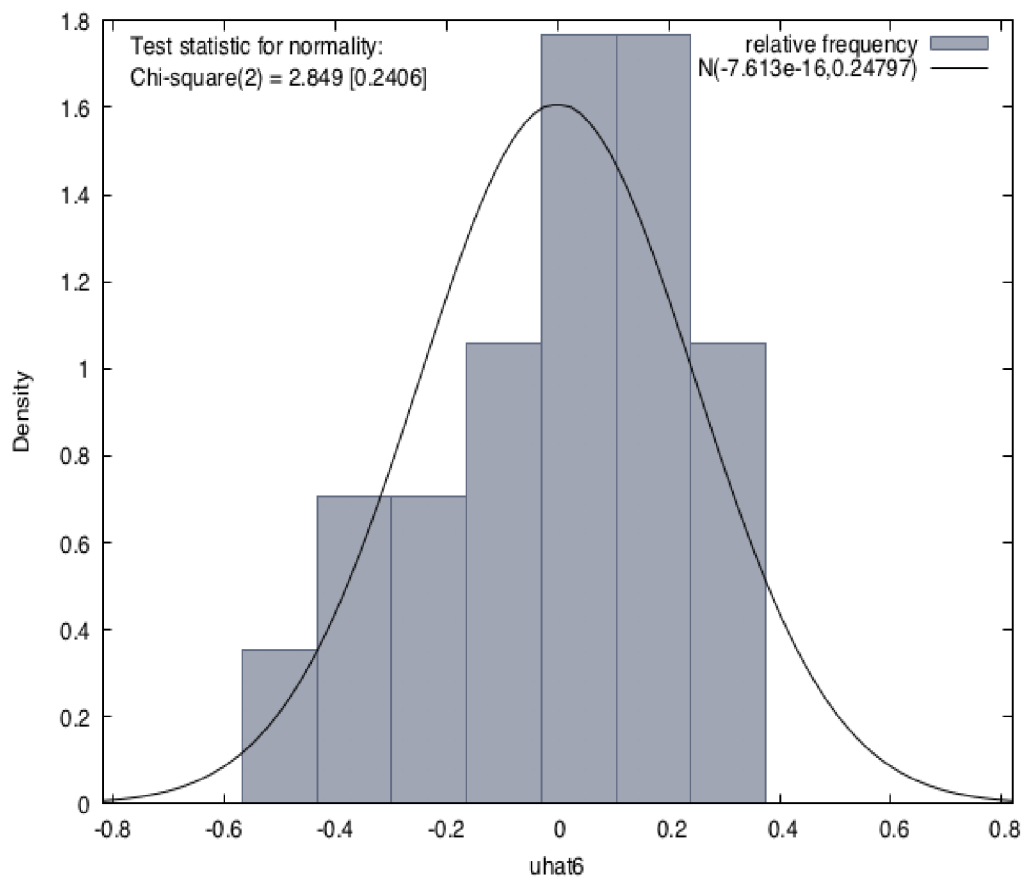
Source: GRETL output

Test for normality of residual includes the following hypothesis:

Null hypothesis (H0): error is normally distributed

The normality test result shows that the model follows a normal distribution, since their p-value is 0.2406, so the null hypothesis was not rejected.

Figure 18: Normality Test

Source: GRETL output

The autocorrelation test deals with the following hypothesis:

Null hypothesis (H0): no autocorrelation

Testing through the Gretl application revealed the following p-value for model: 0.545186. Therefore, there is no autocorrelation, since the p-value is less than 0.05, so the H0 hypothesis cannot be rejected.

Figure 19: Autocorrelation Test

```
Breusch-Godfrey test for first-order autocorrelation
OLS, using observations 2001-2021 (T = 21)
Dependent variable: uhat

              coefficient   std. error   t-ratio    p-value
   ----------------------------------------------------------
   const        0.221131     1.94261      0.1138     0.9107
   l_REER      -0.0187191    0.424171    -0.04413    0.9653
   l_Export_1  -0.0128325    0.0782338   -0.1640     0.8716
   uhat_1       0.162143     0.262644     0.6173     0.5452

   Unadjusted R-squared = 0.021927

Test statistic: LMF = 0.381120,
with p-value = P(F(1,17) > 0.38112) = 0.545

Alternative statistic: TR^2 = 0.460472,
with p-value = P(Chi-square(1) > 0.460472) = 0.497

Ljung-Box Q' = 0.44166,
with p-value = P(Chi-square(1) > 0.44166) = 0.506
```

Source: GRETL output

5 Results and Discussion

In the practical part of my dissertation, first of all, an analysis of the external economy of Kazakhstan was carried out, with the disclosure of its structure and main trading partners, an analysis of the trade balance, an analysis of the dynamics of the exchange rate of the national currency, and the degree of its impact on the country's exports.

The main argument is that Kazakhstan is characterized by dynamic economic development in Central Asia, its financial situation is stable, the country also has a stable operation of its manufacturing and industrial sector, an increasingly favorable investment climate and an increase in domestic demand as a result of a gradual increase in the standard of living of the population. Thus, a more favorable further development of Kazakhstan's economy lies in the developing sector of its foreign trade.

All previously set goals were achieved as follows:

1) I conducted a general retrospective analysis of Kazakhstan's foreign trade with an emphasis on its export-import operations. The commodity structure of Kazakhstan's foreign trade was also analyzed in detail and a brief description was given. So, the analysis of the commodity structure of exports was compared with the value in 2000 and in 2021.

It was revealed that the main export goods from Kazakhstan are crude oil, copper, natural gas, uranium, iron ores, copper ores and concentrates, wheat, petroleum products. Since Kazakhstan's exports are dominated by fuel and raw materials, this is characterized by the fact that the macroeconomic situation in Kazakhstan is extremely sensitive to world prices for both oil and metals. And since the external conditions are rapidly changing.

The changes that I noticed in the commodity structure of exports in the period from 2000 to 2021 are an increase in the share of mineral products by almost 15%, and this indicator continues to increase every year. A slight decrease in the share of exports of non-ferrous metals and products made from them, as well as chemical industry products. And a rather noticeable decrease in the share of exports by about 2 times can be observed in the structure of goods - pearls, precious or semi-precious metals and other groups.

Taking into account the similar structure of imports of goods, there was a decrease in imports of general-purpose vehicles by 51.9%, as well as general-purpose equipment by almost 62%.

Structurally, the increase in imports of goods in 2021 was due to consumer goods by 23.0% and intermediate goods by +11.6%. Kazakhstan somehow depends on the import of various goods, which determine the amount of inflation in the country.

At the same time, compared with 2000, the share of machine-building products in total imports increased by an average of 5 percentage points, the share of mineral products decreased by almost 2 percent, the share of chemical products increased by 4 percent, the share of products of various industries increased by almost 7 percent.

That is, the gradual expansion of consumer and investment demand will become the main factors of import growth in the current and, possibly, in subsequent years, with the stabilization of the world market.

As for the analysis of trading partners, over the same period of 2000 and 2021, there was a trend of growth in the share of non-CIS countries in both exports and imports of Kazakhstan, and there is a slight decrease in the share of CIS countries. So, if in 2000 Russia's share in Kazakhstan's exports was 19.5%, in imports 48.7%, then at the beginning of 2022 Russia in Kazakhstan's exports is only 11.5%, and in imports 42.1%. Also, comparing the available data on the structure of trading partners for 2000 and 2021, the following changes can be observed in exports: China now occupies a leading position in the country's exports of 16.4%, Italy has maintained its indicators at 14.7%, in Russia, as we noted above, export indicators have decreased by almost 2 times.

Countries such as the Netherlands, Turkey, South Korea, France and Singapore have become a significant presence in the Kazakh economy. In 2000, export trade relations with many of these countries were not as well established as they are today.

2) As for the second issue studied, it was revealed that the exchange rate of the national currency KZT has an impact on Kazakhstan's exports, as well as on foreign trade in general. In the course of the work, it was revealed that several main factors significantly affect the exchange rate of the national currency, including oil prices, the balance of payments and trading partners.

It was also analyzed that the tenge exchange rate correlates with the situation and currency in the trading partner countries of Kazakhstan.

To date, the KZT exchange rate is formed under the influence of supply and demand in the market, taking into account internal and external macroeconomic factors.

Based on the statistical analysis carried out, there are good reasons to believe that if the effective exchange rate of the national currency changes by 1%, this leads to a decrease in the exchange rate of KZT of its currency by 1%.

That is, a decrease in the real effective exchange rate of the national currency KZT stimulates the export of goods and services. That is, exporters will receive an export bonus when they exchange the proceeds from the increased price of foreign currency for a cheaper national currency and have the opportunity to sell goods at prices below the global average.

In order to prove the existing theory, regression analysis was used in this research. With the help of the Gretl application, all models were built and completed, which also revealed the confirmation of the theory. That is, based on hypothesis 1 (H1), the question posed was confirmed.

6 Conclusion

The analysis of Kazakhstan's foreign trade shows that the national economy sees in foreign trade, in particular, exports, an opportunity to take not only a worthy place in the international division of labor, but also the opportunity to create favorable conditions for industrial production to realize the interests of the country. A positive aspect in Kazakhstan is that international exchange, that is, exports and imports have become an integral part of the national economy. That is, the policy of opening the economy of Kazakhstan to the outside world, entering the world economy involves improving existing international economic relations and increasing its effectiveness in the future.

The development of Kazakhstan's domestic foreign exchange market in recent years has largely been determined by the positive shifts achieved in the dynamics of the most important macroeconomic indicators, as well as the current currency policy of the National Bank of the Republic of Kazakhstan. Studying the dynamics of the real exchange rates of the national currency KZT, allowed us to rather judge the stability in the domestic market of Kazakhstan. In many ways, the positive trade balance contributed to the strengthening of our national currency KZT, thanks to the continued revival of world production and the price situation for the main items of Kazakhstan's exports.

Answering also our main research question, the change in the real effective exchange rate affects the amount of revenue in the national currency received by exporters, and thus creates incentives for changes in the volume of production for export. At the same time, in order for export volumes to really change, the demand on the world market must change, that is, the price must change.

In general, the foreign exchange market of Kazakhstan faces many problems. The most urgent problem, as I believe, is the excessive excess of foreign currency, namely the US dollar, in the course of my research, this indicator was also most often used in the analysis.

Thus, in Kazakhstan, the predominant use of the US dollar in international settlements and on the international capital market causes constant demand for it and maintains its exchange rate against the national currency KZT even in conditions of a decrease in its purchasing power or a passive balance of payments balance of the USA. But I am sure that our state is already working in this direction.

Thus, the real effective exchange rate of the national currency KZT, in the course of the study, showed that the exchange rate really has a huge impact on the development of foreign trade economic relations. The influence of the real effective exchange rate (REER) of the national currency KZT on exports in the Republic of Kazakhstan has been established.

In conclusion, I would like to note that the specifics of Kazakhstan are that the country has the characteristics of a developed country, this is determined by the factors of general literacy of the population, the existing wide network of research institutes, space research, etc., as well as a developing economy, which is characterized by a raw orientation, the need for foreign investment and the import of new technologies and services, infrastructure expansion. Kazakhstan has positive forecasts for the future, as a result of my study of this broad topic and the analysis carried out, we can expect such events from the economy of Kazakhstan in the future as strong export growth and a positive balance of payments, balance of Trade, GDP growth, unemployment reduction, and thus the convertibility of the national currency of the KZT.

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