

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Systems Engineering



Bachelor Thesis

**Comparison of banking systems in Kazakhstan and
Czech Republic**

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

BACHELOR THESIS ASSIGNMENT

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Economics and Management
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Thesis title

Comparison of banking systems in Kazakhstan and Czech Republic

Objectives of thesis

The main goal of the bachelor's thesis is to compare the banking systems in Czech Republic and Kazakhstan by providing the comparative analysis of macroeconomic factors and using and applying the method of multiple criteria decision analysis of particular banks.

Methodology

The work is divided into 3 chapters.

The first part of the work will provide the theoretical basics and historical development of the banking system in both countries, as well as the theoretical framework of the multiple criteria decision making process. The basic goals of MCDM are determined and the main MCDM terms are explained. The theoretical part also explains the steps of choosing the compromise alternative with given multiple criteria. The second chapter will analyse and compare banking systems of the Czech Republic and Kazakhstan on the macroeconomic level by applying the correlation analysis. Finally, the last chapter is devoted to the selection of a suitable bank for a model customer using methods of multiple criteria decision analysis of variants. First, the decision criteria are determined, according to which the model customer chooses the bank. The aspiration levels of these decision criteria are then determined. Subsequently, the weights of the criteria are determined by applying the Saaty method according to the model customer's preferences, and then a compromise solution is found using the SAW method, which determines the alternative with the highest value.

The proposed extent of the thesis

35-40 pages

Keywords

Banking system, interest rates, financial market, multiple criteria decision analysis, simple additive weighting, Saaty method

Recommended information sources

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Declaration

I declare that I have worked on my bachelor thesis titled " Comparison of banking systems in Kazakhstan and Czech Republic" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 14.03.2021

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Comparison of banking systems in Kazakhstan and Czech Republic

Abstract

The bachelor's thesis aims to compare the banking system in the Czech Republic and Kazakhstan. The work is divided into three chapters - theoretical review, comparison of macroeconomic data and multiple criteria decision analyzing selected banks from the customer's perspective.

The first chapter explains the basic terms and concepts relevant to banks and the banking system and gives the theoretical framework to multiple criteria decision-making analysis.

The second chapter compares the banking systems in the Czech Republic and Kazakhstan on the macroeconomic level, including population, inflation, interest rates, exchange rate, money stocks, etc.

The third chapter uses the multiple criteria decision-making analysis to compare selected banks in the Czech Republic and Kazakhstan.

The decision criteria are defined, aspiration levels are set, and finally, compromise alternatives are identified.

Keywords: Banking system, macroeconomic comparison, multiple criteria decision making, analysis, simple additive weighting, Saaty method.

Porovnání bankovních systémů v Kazachstánu a České republice

Abstrakt

Bakalářská práce se zabývá porovnáním bankovních systémů v České republice a Kazachstánu. Práce je rozdělena na 3 části - teoretická východiska, porovnání makroekonomických ukazatelů mezi zeměmi a vícekriteriální analýza vybraných bank z pohledu zákazníka.

První kapitola vysvětluje základní pojmy a koncepty týkající se bankovního systému a poskytuje teoretický rámec pro analýzu na základě vícekriteriálního rozhodování.

Druhá kapitola porovnává bankovní systémy v České republice a Kazachstánu na makroekonomické úrovni, včetně faktorů jako populace, inflace, úrokové sazby, směnný kurz, peněžní zásoby a další.

Třetí kapitola využívá vícekriteriální rozhodovací analýzu jako metodu pro srovnání vybraných bank v České republice a Kazachstánu. Definována jsou rozhodovací kritéria, úrovně aspirace a nakonec jsou identifikovány kompromisní varianty.

Klíčová slova: Bankovní systém, makroekonomické porovnání, vícekriteriální rozhodování, metoda váženého součtu, Saatyho metoda

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1 Introduction

It is unknown exactly when the first banking houses were built, but the Sumerians in the 18th century BC borrowed from priests with a 20% interest rate. Banks have always been very closely associated with the state process, as they were used primarily to finance international trade. However, this profitable business, with the possibility of influencing political decisions, also had its downsides because the rulers did not always pay their debts, which then led to the bank's bankruptcy. Nevertheless, banking was continually moving forward and now became an inevitable part of billions of people's everyday lives. Nowadays, the banking system is experiencing a very dynamic development. The types of products and services offered by banks are very diverse and continually expanding.

I decided to compare Kazakhstan and the Czech Republic's banking systems and highlight the most crucial differences between them. The thesis is divided into three chapters to have a comprehensive overview of banking systems on a macroeconomic level and from a customer's perspective.

The first part describes the banking system and types of banks and gives a historical overview of banking system development. This chapter also explains the main terms related to the multiple criteria decision-making process.

The second part will analyse the banking system in the Czech Republic and Kazakhstan in order to see the difference on the macroeconomic level based on the gathered data from primary sources such as the websites of the Bureau of national statistics of the Agency for strategic planning and reforms of Kazakhstan, Czech Statistical Office and various Ministries of both countries.

The third part will provide a multiple criteria decision analysis from a customer's perspective using methods and formulas described in the theoretical part.

2 Objectives and Methodology

2.1 Objectives

The main goal of the bachelor's thesis is to compare the banking systems and services in the Czech Republic and Kazakhstan. The comparison is based on:

- a) the comparative analysis of macroeconomic factors
- b) using and applying the multiple criteria decision analysis on chosen banks.

2.2 Methodology

The work is divided into three chapters.

The first part of the work will provide the theoretical basics and historical development of the banking system in both countries and the theoretical framework of the multiple criteria decision-making process. The primary goals of MCDM are determined, and the main MCDM terms are explained. The theoretical part also explains the steps of choosing the compromise alternative with multiple criteria.

The second chapter will analyse and compare the Czech Republic and Kazakhstan's banking systems on the macroeconomic level. Finally, the last chapter is devoted to comparing chosen banks using methods of multiple attribute decision making. First, the decision criteria are determined, and then the aspiration levels of these decision criteria are set up. Subsequently, the weights of the criteria are determined by applying the Saaty method according to the model customer's preferences. Then a compromise solution is found using the SAW method, which determines the alternative with the highest value.

3 Theoretical Review

3.1 Bank as the element of the banking system

Banks are a powerful, productive force, and their activities are directly related to the state economy; they ensure continuity, accelerate production and increase the wealth of society. However, much depends on the banking organization, i.e., on the technology of banking operations. These so-called "iron" banking rules allow increasing the banking sector's efficiency and the economy in general. A bank is an autonomous, independent, commercial enterprise. Like any other company, it has its own product. The bank's products are, first of all, the formation of means of payment (money supply), as well as a variety of services in the form of loans, guarantees, consultations, property management, treasury services, merchant services etc. (Lolos, 1966)

In market conditions, banks are a vital link supplying the national economy with additional monetary resources; they redistribute monetary resources from the area of their excess to the area of their deficit. Modern banks not only trade money but also analyze the market. Banks have the closest position to the business, its needs, and the changing market environment. Thus, the market inevitably puts the bank among the fundamental, critical elements of economic regulation. The bank is a financial institution that concentrates temporarily free funds (deposits), provides them for temporary use in the form of loans (loans), mediates mutual payments and settlements between enterprises, institutions or individuals, regulates money circulation in the country, including the issue (emission) of new money (Le Cheminant, 2012)

The main product of the bank is a loan. A bank loan is provided not as a certain amount of money but as capital: borrowed funds must make a circuit in the borrower's economy and return to the starting point with an increase in the interest rate. The bank issues securities perform accounting and storage operations for securities of other issuers. According to the modern theory of entrepreneurship, the competitive position of the bank on the market and the reputation of a steadily developing economic entity are significant for any bank. (Lessig, 2012)

3.1.1 Central bank

In the banking system, the country's Central Bank plays a key role. The stability of the development of the national economy and its banking sector depends a lot on the activities of the Central Bank. Regulating the circulation of money in cash and non-cash forms, the central bank creates economic preconditions for the movement of goods and services from producer to consumer. The central bank operates in the area of exchange. Creating the product in the form of cash and non-cash means of payment and issuing them into turnover, the central bank ensures the circulation of capital of economic entities, the continuity of the process of production, distribution, redistribution and consumption of the products. Providing a rational organization of monetary circulation and non-inflationary development, it creates conditions for the preservation of the value of money and consequently, for the social development of citizens. (Adolph, 2013; Warjiyo. Solikin, 2019)

3.1.2 Commercial banks

A commercial bank operates in the area of exchange as well. It "buys" resources and "sells" them, facilitating the exchange of goods. By "selling its goods" (for example, loans), the bank acts as the owner of the loaned amount, receiving, upon return, not only the initial amount of money but also a surplus amount (interest rate). With an increase in payment transactions, the role of banks as cost centres increases. Banks expand their base of accumulation of money capital, mobilizing both large and small savings, and invest the funds received through investments and loans to develop the country's economy. (Connolly, 2010)

Commercial banks are guided by certain principles in their activities, some of which are inherent in any commercial organization. Some of them are dictated by the specifics of the banking system. Like in any other commercial organization, the first fundamental principle of a commercial bank is to maximize profits. Profit is the bank's driving motive that forces the bank to take a balanced approach while allocating its resources. The second principle is to work within the limits of actually available resources. It means that the bank should perform all operations within the balance of funds on its correspondent accounts. Economic independence is also an essential principle of a commercial bank. Economic independence means the freedom in disposing of own funds,

free choice of customers and depositors, and free disposal of income remaining after taxes. Another principle that might be noted is that banks try to maximally acquire new customers, since the more customers a commercial bank has, the more money the bank will be able to attract and allocate and, accordingly, get a substantial profit. One more principle is that a bank's relationship with a customer is built like a normal market relation. When the bank provides loans, it primarily considers the market criteria - profitability, risk and liquidity. Finally, the last principle of the commercial bank is that the state can regulate its activities only by indirect economic methods, not by direct orders. The state determines the "game rules" for commercial banks, but it has no right to interfere with their operational activities. The organizational structure of commercial banks corresponds to the generally accepted management scheme of a joint-stock company. The supreme body of a joint-stock company is a number of shareholders that meet, as a rule, once a year. The board of directors manages the current operations of the joint-stock company. (Connolly, 2010)

3.1.3 Elements of the banking system and types of banks

The elements of the banking system are banks, financial institutions performing banking operations without the status of a bank, and other institutions that ensure the activity of credit institutions (banking infrastructure).

The functioning of many banks is classified according to various criteria:

- *by the form of ownership*

There are public, joint-stock, cooperative, private and mixed banks. Public banks are mostly central banks because their capital belongs to the government.

- *by functional purpose*

There are banks of issue, depository banks and commercial banks. Banks of the issue are all central banks because they issue money. They do not serve individual clients. Depository banks accumulate savings of the clients and conduct deposit operations. Commercial banks perform all operations allowed by banking legislation.

- *by the nature of the operations*

By the nature of the operations, there are universal and specialized banks. Universal banks perform the entire range of banking services and serve both individuals and legal entities. In contrast to this, specialized banks are engaged in specific operations, such as foreign economic operations, mortgage operations, etc.

- *by the number of branches*

By the number of branches both branchless and multi-branch banks exist.

- *by the territory*

By the territory, there are regional, interregional, national and international banks.

- *by the scale of activity*

There are small-scale, medium-scale, large-scale banks, banking consortia and interbank associations.

- *by the size of capital*

The practice shows that banks with small capital have more liquidity problems. However, small banks can successfully work with small industrial structures, which the large banks try to avoid and prefer medium and large clients. (Connolly, 2010))

3.2 Banking system development

Over the last decades of the 20th century, there have been many changes in central and commercial banks' activities, which inevitably led to a gradual change of the characteristics and development trends of banking systems. The question of transforming central and commercial banks' role in the economic systems of various countries is becoming more and more urgent. In the economic literature and legislative acts regulating the banking system, there is, to one degree or another, many different definitions of the concept of a bank. (Connors, 2017)

The research of the economic literature allows us to conclude that banks developed on the manufacturing stage of capitalism in the form of banking houses in the Italian cities of Venice and Genoa in the 14-15th centuries. One of the confirmations of this fact is that the word bank originated from the Italian "banco", meaning table (there were money changers at those tables in charge of monetary transactions at the marketplaces).

It is also suggested that banks developed in Ancient Babylon (7th century BC), where initially temples and then trading houses were engaged in monetary transactions. Along with this, there is an approach according to which banks developed in Ancient Rome, where temples and then mensarii were in charge of the monetary transactions (I would especially like to note the fact that the word mensarium comes from the Latin word, which also means table.) According to another approach, banks arose in Ancient Greece where first temples and then trapezites performed all monetary transactions (from the Greek. trapeze, which also means table). Based on the study, we can conclude that the banking system is the result of evolutionary banking in the world. It cannot be characterized only as of the result of an agreement between people or the influence of the state. In general, the

emergence and development of the banking system result from the impact of internal and external political, economic and social factors. All existing banking systems are centralized because the country's central bank is invariably at the head. (Connors, 2017; Hoggson, 1926)

3.3 Theory of decision making

The decision-making process is based on the conscious and unconscious merging of all information and experience of the decision-maker. Therefore, it is necessary to define the internal and external aspects that encourage decision-makers to make a given decision. Experience, expertise, estimation, and intuition are considered internal forces acting in decision-making; that is, attributes that form throughout life and cannot simply be learned in many ways. External aspects are characterized by the environment and circumstances in which the decision is made. (Kovacs, 1990)

In historical development, a more significant number of decision making theories were gradually conceived, differing in a certain way from the point of view of decision-making processes or concentrating on specific aspects of these processes. For instance, Fotr, Dědina and Hružová (2003) distinguished the following main ones:

Utility theory – a decision is made based on ranking the choices in regards to the multiple criteria evaluation;

Socio-psychological theory - focused primarily on the subject and its behaviour as one of the essential elements of decision-making processes;

Quantitatively oriented decision making theory - based on the application of mathematical models and methods in solving decision problems - operational analysis as a tool for solving well-structured problems.

There are also more theories, such as:

Game theory - studying the conflicting decision-making processes;

Decision analysis - aims at supporting the solution of decision-making processes with significant elements of risk and uncertainty.

The differences in decision-making theories also result from their normative or descriptive character.

Normative theories focus on:

- *providing instructions on how to solve decision-making problems,*
- *what models are available;*

- *how to use them*

Therefore, it is a matter of creating certain standards for the solution of decision-making processes, the application of which would enable the achievement of the desired quality of decision-making.

The subject of **descriptive theory**, in contrast to normative theory, are already made decision-making processes:

- description, analysis and evaluation of decision-making processes,
- their course,
- basic elements,
- advantages and disadvantages,
- behaviour of the decision-maker and other entities during the decision-making process.

(Švecová, 2016)

3.4 Multiple Criteria Decision Making

Multiple criteria decision-making accompanies any situation where there are several options to choose from. These options are problematic when making decisions because they bring a conflict to the decision-makers. If possible options show the same solution, there could be only one suitable solution. However, such situations are quite exceptional in regular operation. Therefore, in situations where it is impossible to decide which solution is the best, multiple criteria analysis is applied. The best option is defined based on objective criteria, and unsuitable options are sorted out. (Brožová, 2007)

The tasks of multiple criteria decision-making can be encountered in many companies or public administration organizations and households. Various situations can arise and require optimal solutions. (Jablonský, 2007)

Important decisions are generally more supervised and analyzed. The supervision of the decision-making process is much stricter in the public sphere than in the private sector. A particular Public Procurement Act provides the rules, rights, and regulations for public procurement.

3.4.1 Criteria requirements

In the practice of assessment, multiple criteria analysis in decision making is gaining more and more importance, because in many cases, it provides more reliable expert information. Indeed, in many cases, an object is characterized not by one criterion but by

several. For example, when assessing competitiveness, the number of such criteria can go up to a hundred or more. Along with the term "criterion", the terms "factor" and "indicator" can also be used. If we talk about multi-criteria assessment in decision-making, then we, first of all, want to highlight the connection that exists between criteria and goals. Decision-making, as a process of selecting the best option from a range of options, is essential for the customer. (Brožová, 2003)

Brožová classified the criteria according to various aspects, depending on the nature of the criterion (maximization and minimization criteria) and the eligibility (quantitative and qualitative). Maximization criteria are those in which the decision-maker focuses on the highest possible values and evaluates the best, and the minimization criteria are exactly the opposite. Quantitative criteria are those where the data can be objectively compared - usually measurable data where it is possible to identify which option is better. Qualitative criteria are not expressed in a measurable value, but they can be quantified using various methods. (Brožová, 2003)

3.4.2 Criteria matrix

If all criteria are quantitative, or all qualitative criteria are quantified, a criterion matrix $Y = (y_{ij})$ can be built. The criterion matrix Y forms a mathematical model of multiple criteria analysis of alternatives. (Brožová, 2003)

$$Y = \begin{pmatrix} y_{11} & y_{12} & \dots & y_{1k} \\ y_{21} & y_{22} & \dots & y_{2k} \\ \dots & \dots & \dots & \dots \\ y_{m1} & y_{m2} & \dots & y_{mk} \end{pmatrix} \quad (\text{formula 1})$$

The criterion matrix is of type $m \times k$, where m is the number of alternatives, and k is the number of criteria. The rows and columns of the criterion matrix, therefore, may be varied from case to case. The element y_{ij} represents the evaluation of the i -th alternative according to the j -th criterion. (Brožová, 2003)

The decision-maker needs to choose from several alternatives according to particular criteria. For decision-makers, some criteria are more important than others, so they prefer one criterion over another. Preferences can be expressed numerically using criteria weights. The weight of the criterion expresses the importance of the criterion in

comparison with other criteria. The value of this weight has an interval of 0.1, and the sum of all criteria weights is equal to 1. (Šubrt et al., 2015)

3.4.3 Aspiration levels

Aspiration levels do not directly express preferences between criteria, (i.e. which criterion is more important) but only determine the value that needs to be achieved. The aspiration level indicates the minimum values that should be achieved so that the decision-maker can include them in the list of alternatives. (Brožová, 2003)

3.4.4 Saaty's method

Saaty's method of quantitative pairwise comparison is one of the most used methods for estimating the weights of criteria. The decision-maker compares all pairs of criteria, while the degree of importance of one criterion before the other is expressed on a scale from 1 to 9. (Brožová, 2003)

"1 - equivalent criteria i and j

3 - slightly preferred criterion i before j

5 - strongly preferred criterion i before j

7 - very strongly preferred criterion i before j

9 - absolutely preferred criterion i before j " (Brožová, 2003)

It is also possible to use even numbers (2, 4, 6, 8) to evaluate the criteria (so-called intermediate levels). The magnitudes of the preferences of the i -th criterion concerning the j -th criterion are then written into the Saaty matrix $S = (s_{ij})$:

$$\mathbf{S} = \begin{pmatrix} 1 & s_{12} & \dots & s_{1k} \\ 1/s_{12} & 1 & \dots & s_{2k} \\ \vdots & \vdots & \ddots & \vdots \\ 1/s_{1k} & 1/s_{2k} & \dots & 1 \end{pmatrix} \quad (\text{formula 2})$$

The matrix is squared. The main diagonal always has 1, because the criteria are equivalent to each other. If the i -th criterion is slightly preferred over the j -th, the value (i, j) in the matrix S is 3. The position (j, i) in matrix S is the inverse of $1/3$. (Šubrt et al., 2015)

It is challenging for decision-makers to determine their preferences so that the matrix is entirely consistent. Saaty defined the consistency index I_s and considers the matrix to be sufficiently consistent if $I_s < 0.1$. The consistency index can be calculated according to a formula:

$$I_s = \frac{I_{max} - k}{k - 1} \quad (\text{formula 3})$$

The amount of criteria and I_{max} is the largest eigenvalue of the Saaty matrix. If the consistency index is met, then weights need to be calculated.

The most common procedure for calculating weights is to calculate the geometric mean b_j of all rows of the Saaty matrix.

$$b_j = \sqrt[k]{\prod_{l=1}^k s_{il}}, j = 1, 2, \dots, k \quad (\text{formula 4})$$

Then the geometric means b_j are normalized to determine the weights of v_j :

$$v_j = \frac{b_j}{\sum_{l=1}^k b_l}, j = 1, 2, \dots, k. \quad (\text{formula 5})$$

3.4.5 Finding a compromise alternative

There are many methods of multiple criteria evaluation of alternatives. In practice, the most used methods are about determining the value of alternatives, which transform the values of criteria into a dimensionless quantity due to their comprehensibility and low demands on decision-makers. These methods are more suitable for the evaluation of alternatives where quantitative criteria prevail. If the alternatives are evaluated instead by qualitative criteria, the methods of pairwise comparison can be used. The values of alternatives regarding the particular criteria also play an essential role in choosing the method. (Fotr, Švecova, 2016)

3.4.6 SAW method

The simple additive weighting method (also known as weighted sum model) is probably the easiest method for evaluating and ranking the alternatives.

A criteria matrix can be created if all the criteria are quantitative, so if there are qualitative criteria, it is necessary to quantify them. For each criterion, the ne (d_j) and ideal (h_j)

variant are determined from the criterion matrix. Subsequently, a standardized criterion matrix R is created using the following formula:

$$r_{ij} = \frac{y_{ij} - d_j}{h_j - d_j}, \quad i = 1, \dots, m, \quad j = 1, \dots, k, \quad (\text{formula 6})$$

In this formula, r_{ij} is the standardized value of the i -th alternative according to the j -th criterion, y_{ij} is the evaluation of the i -th alternative according to the j -th criterion of the initial criterion matrix. Then, the total utility function for each alternative is calculated according to the formula:

$$u(a_i) = \sum_{j=1}^k v_j * r_{ij}, \quad i = 1, \dots, m, \quad (\text{formula 7})$$

In this formula $u(a_i)$ is the total utility of the i -th alternative and v_j is the weight of the j -th criterion. The SAW method determines the total utility of each alternative. For this reason, it is possible both to find a compromise variant or a variant with the highest utility and to rank a set of variants from the best to the worst. (Jablonský, 2007; Brožová, 2003)

4 Comparison of macroeconomic data of Kazakhstan and the Czech Republic

This chapter will analyse the state of the national economies and banking systems of Kazakhstan and the Czech Republic for the last two decades based on macroeconomic indicators, including, in particular: population, inflation, interest rates, exchange rate and money stock. During this period reviewed in the chapter, the world economy faced serious challenges, such as the global financial crisis of 2008–2009, 2012–2013 (mainly affected Europe), and the crisis of 2014–2015 (mainly in post-Soviet countries, including Kazakhstan).

4.1 Population

It would be imprudent not to consider the differing contexts in both countries while comparing their banking systems. In this sense, the Czech Republic is deemed more progressive and innovative and has a more secure and protected banking system. However, it cannot be said that Kazakhstan is too vulnerable in terms of bank security.

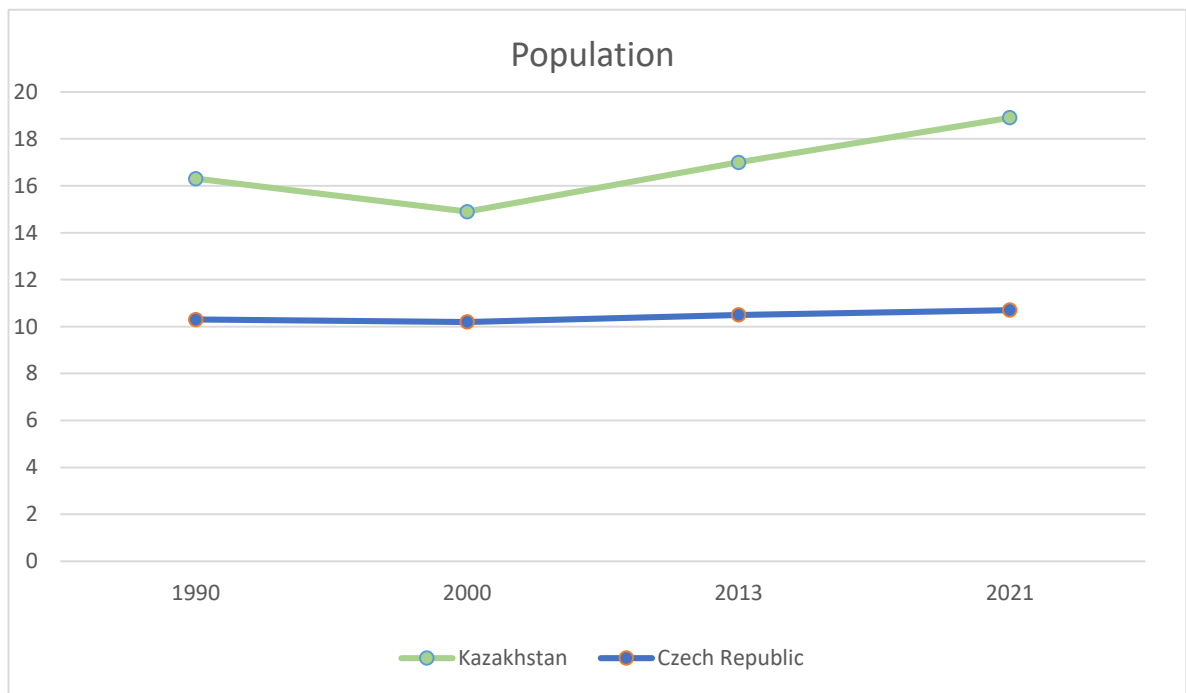


Chart 1. Comparing the population growth in Kazakhstan and Czech Republic. Source: own modelling based on data from www.worldmeters.info

4.2 Inflation

Since there is no official data on Worldbank.org on the inflation rate in Kazakhstan, it was necessary to take the data from the website of the Agency of Strategic planning and reforms of the Republic of Kazakhstan – Bureau of National Statistics in order to conduct the comparison. The statistics in Chart 2 clearly shows the average inflation rate in the Czech Republic and Kazakhstan from 2000 to 2019. The highest inflation in Kazakhstan for the last two decades was in 2008 amounted to 17.15%, whereas in the Czech Republic, the top was also reached in 2008 with 6.35%.

The factors that caused inflation in 2008 in Kazakhstan are:

- *behaviour of enterprises* - natural monopolists, provoking inflation of costs in the country (at the beginning in 2008-2009 there was an increase in prices for housing and communal services, tariffs for gas, electricity, public transport services);
- *increase in world food prices* ("agflation", that is, agrarian inflation is a global trend, but in Kazakhstan, it is more noticeable due to the strong dependence on food imports and high customs duties on it);
- *devaluation of the Kazakh Tenge* (the exchange rate of Tenge against the dual-currency basket fell to 25% by February 2009);

- *decline in production* increase in production costs, decrease in availability and increase in the cost of financial resources;
- *negative expectations and macroeconomic forecasts*, fuelling inflationary behaviour of the population and worsening the country's investment climate.

Inflation growth rates in Kazakhstan decreased in the period from 2009 to 2014. The main factor of inflation growth in 2015 was the continued devaluation of the Kazakh Tenge.

If we analyse the level of inflation in the Czech Republic, it can also be noted that the global economic crisis also influenced this country. In 2009, there was a sharp drop (1%) in the inflation rate, but by 2012 it had grown to 3.3%. Since 2012, the inflation rate has been relatively stable and ranges from 1.5% to 3%. The highest value, apart from 2008, is noted in 2012 (3.3%), while in Kazakhstan, apart from 2008, the highest inflation rate was noted in 2016 (14.56%). It is vital to notice that, in general, the inflation rate in Kazakhstan is several times higher than in the Czech Republic (see Chart 2).

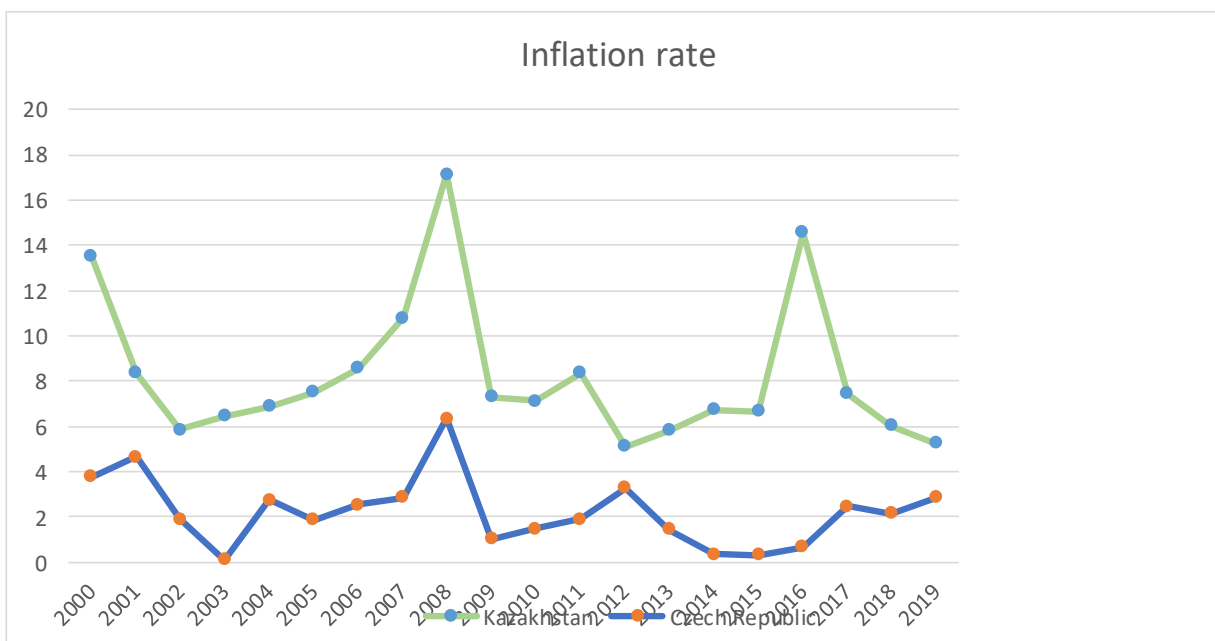


Chart 2. Comparing the inflation rate in Kazakhstan and Czech Republic. Source: own modelling based on data from www.worldbank.org and Bureau of National Statistics <https://stat.gov.kz/>

4.3 Interest rates

As Robert E. Hall well noted,

“...the interest rate is determined by the interaction of many types of behaviour: the policy of the central bank, investment in productive assets, the choice between current and future consumption, and the responses of wealth holders to risk” (Hall, 2017)

Chart 3 shows the dynamics of the real interest rate growth – a nominal interest rate with the subtracted inflation rate

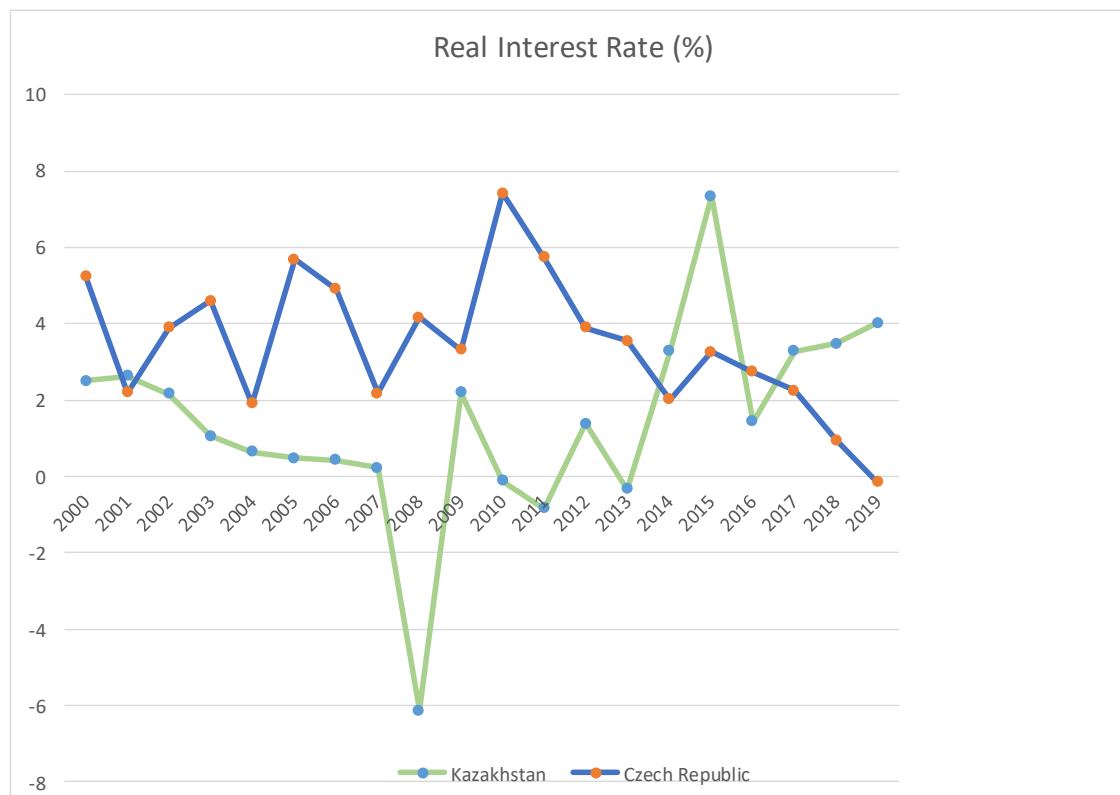


Chart 3. Real interest Rate (%). Source: own modelling based on OECD data and NBRK

Chart 4 shows the long-term interest rates that refer to long-term government bonds (10 years). From the Chart, we can see that rates of Kazakhstan are significantly higher, which can be explained by many factors, including the market weakness, increase in demand for money and credit, political landscape etc. The relatively low long-term interest rates of the Czech Republic may be defined by several factors: the low inflation rate, relatively strong currency, and (but not only) strong support from the European Union.

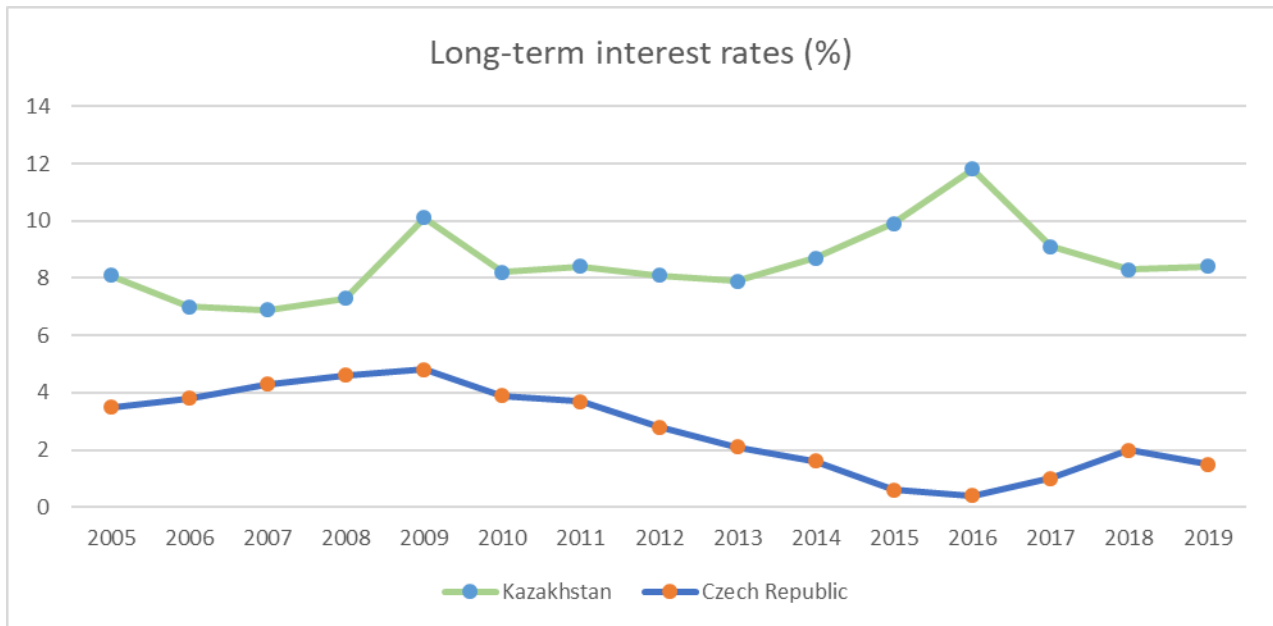


Chart 4. Long-term interest rates (%). Source: own modelling based on data of IMF and NBRK

4.4 Exchange rate

The local currency in the Czech Republic is the Czech crown (CZK), which was introduced in 1993. Despite the long-standing trend of a gradual transition to the euro (EUR) in many European countries, its adoption in the Czech Republic was temporarily postponed and is not expected shortly. However, the euro is actively used in business and trade. The currency in Kazakhstan is the Kazakh Tenge (KZT), which was introduced the same year as the Czech crown. In business and trade, besides its national currency, Kazakhstan uses both euros and American dollars, but more frequently, the latter.

It should be added that since its introduction, the Kazakh national currency has been devalued four times. The first devaluation took place in April 1999, when the Tenge depreciated by 35%. The second devaluation of the Tenge took place ten years after the first one: then, during the day, it fell by 18%, from 122.32 to 143.98 Tenge per dollar. The third devaluation happened already in 2014, depreciating the Tenge in two days by 19% - from 155.6 to 184.5 per dollar.

In August 2015, the National Bank decided to introduce a floating Tenge rate. As a result, it depreciated by 35.5% per day - from 188 to 255 per dollar. Furthermore, by October 17, 2017, it fell by 76.8%.

However, Chart 5 shows that the history of Tenge experienced not only a sharp fall. In 2006, 2007, 2008, the national currency of Kazakhstan was strengthening. In comparison to that, the Czech national currency stayed relatively strong and even showed some strengthening since 2001.

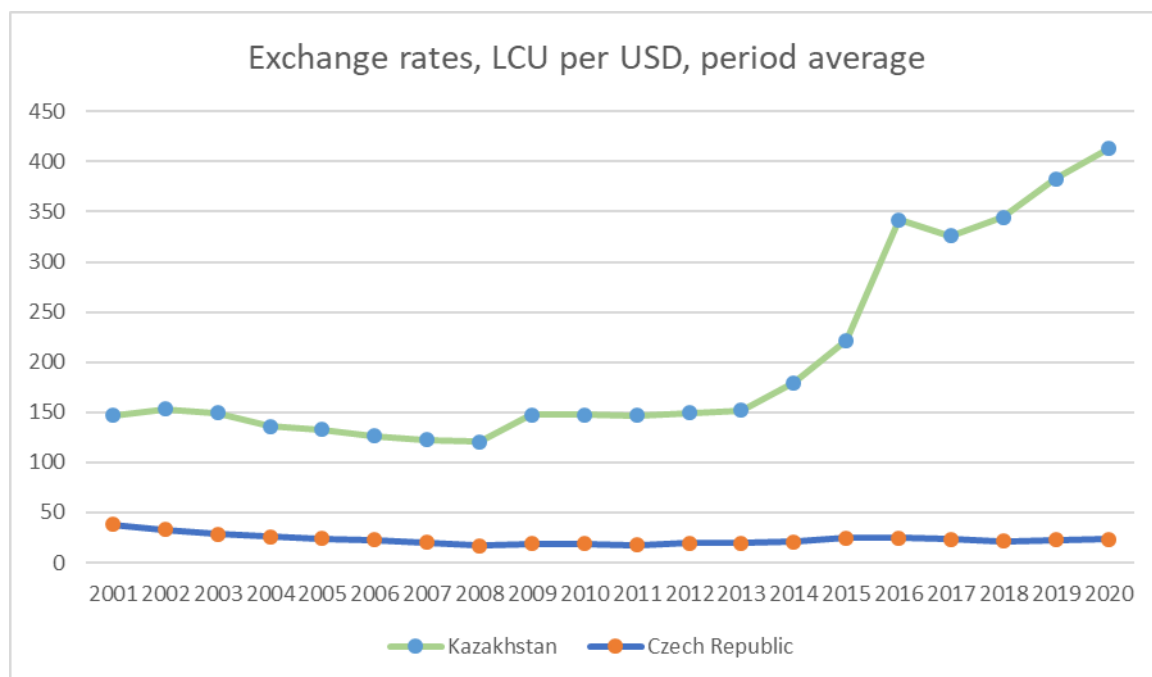


Chart 5. Exchange rates, LCU per USD, period average. Source: own modelling based on data of ČNB and NBRK

4.5 Central banks

The financial system is supervised by the Czech National Bank (CNB). The financial sector in the Czech Republic is characterized by the dominant position of the banking sector. The Czech Republic also has the Prague Stock Exchange, which does not play a significant role in the number of listed firms and bonds. Over the past few years, many investment funds have been opened in the Czech Republic, including from private investors. The main driver of growth in the Czech economy in 2015 was a public investment. However, in 2016, the growth slowed to 2.5% amid cutbacks in government investment programs. At the same time, the private investments deemed to increase their influence on the dynamics of GDP, ensured by the growth of profits in the real sector and the expansion of bank loans, as well as by the growth of household consumption based on the increase in employment and real incomes of the population. It should be noted that

CNB played a significant role in forming the country's macroeconomic policy. Following the Law of the Czech Republic No. 6/1993 "On the Czech National Bank":

"(1) The primary objective of the Czech National Bank shall be to maintain price stability. In addition, the Czech National Bank shall work to ensure financial stability and the safe and sound operation of the financial system in the Czech Republic. Without prejudice to its primary objective, the Czech National Bank shall support the general economic policies of the Government leading to sustainable economic growth and the general economic policies in the European Union with a view to contributing to the achievement of the objectives of the European Union. The Czech National Bank shall act in accordance with the principle of an open market economy. "

The National Bank of the Republic of Kazakhstan (NBRK) is the central bank of Kazakhstan and represents the banking system's upper (first) level. Nevertheless, in comparison to the CNB, in 2004, a new regulatory body representing the interests of the state appeared in the banking system of Kazakhstan - The Agency for Regulation and Development of the Financial Market of the Republic of Kazakhstan (AFN), which shared some of its powers with the National Bank. The AFN carries out operational and comprehensive supervision of all financial institutions. The transfer of all supervisory functions to the AFN allowed the National Bank to concentrate its efforts on the development of its monetary policy, which included the development and implementation of the state's monetary policy; ensuring the functioning of payment systems; currency regulation and currency control; assistance in ensuring the stability of the financial system. The importance of the role of the National Bank in the development of the national economy was highlighted by the participation as a founder of the largest and most representative financial organizations of the domestic financial market. Thus, the National Bank is the founder of many joint-stock companies - "Kazakhstan Deposit Insurance Fund" (KDIF), "Insurance Payments Guarantee Fund" (IPGF), "Kazakhstan Mortgage Loans Guarantee Fund", "Kazakhstan Actuarial Center".

4.6 Money stock

Monetary aggregates (money supply or money stock) are indicators of the structure of the money supply. Monetary aggregates are the types of money and cash, differing from each other in the degree of liquidity. Monetary aggregates are hierarchical - each subsequent aggregate includes the previous one. Different countries have monetary

aggregates of different composition. The IMF calculates a standard indicator for all countries M1 and a broader indicator of "quasi-money". Whereas the Czech Republic has three categories (M1, M2 and M3), Kazakhstan has 4 of them (M0, M1, M2 and M3). If we look at Chart 6 – an M3 index where the year 2015 equals 100, we can see the constant and stable rise of this indicator in both countries.

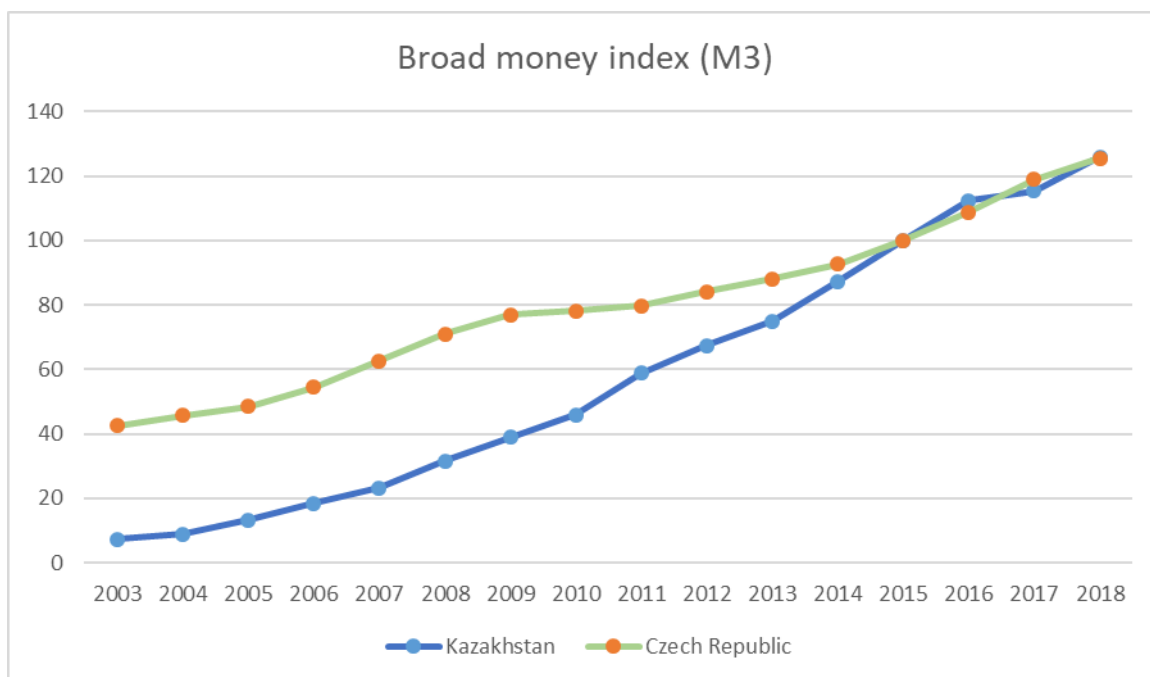


Chart 6 - Broad money index (M3). Source: own modelling based on data from oecd.org and NBRK

Chart 7 below describes the narrow money index (M1) dynamics in Kazakhstan, and CR was given again in 2015 as 100. As we can see, Kazakhstan experienced a steeper rise in this indicator compared to the Czech Republic.

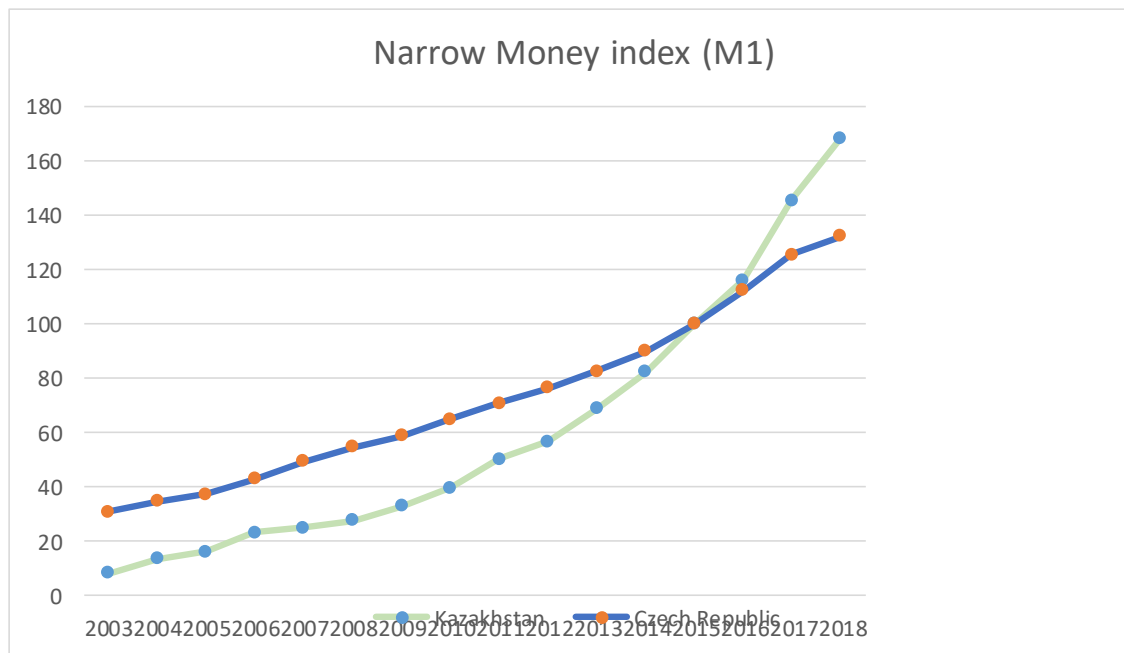


Chart 7 – Narrow Money Index (M1). Source: own modelling based on data from oecd.org and NBRK

4.7 Commercial banks

Most of the Czech banks are foreign-owned. Due to a large number of players on the Czech market, it is highly competitive. The four largest banks have a dominant market share in terms of assets. Recently, the trend of growth in alternative financing has also been noticeable. The financing costs in large Czech banks seem to be more suitable, but the financing conditions appear to be more demanding.

As shown in Chart 8, the total assets of Česká spořitelna are larger and amount to 1426.47 billion CZK. Together with Československá obchodní banka – ČSOB, Komerční banka and UniCredit Bank Czech Republic and Slovakia, they compose the largest group of banks in terms of assets as previously mentioned.¹

¹ https://apl.cnb.cz/apljerrsdad/JERRS.WEB15.BASIC_LISTINGS_RESPONSE

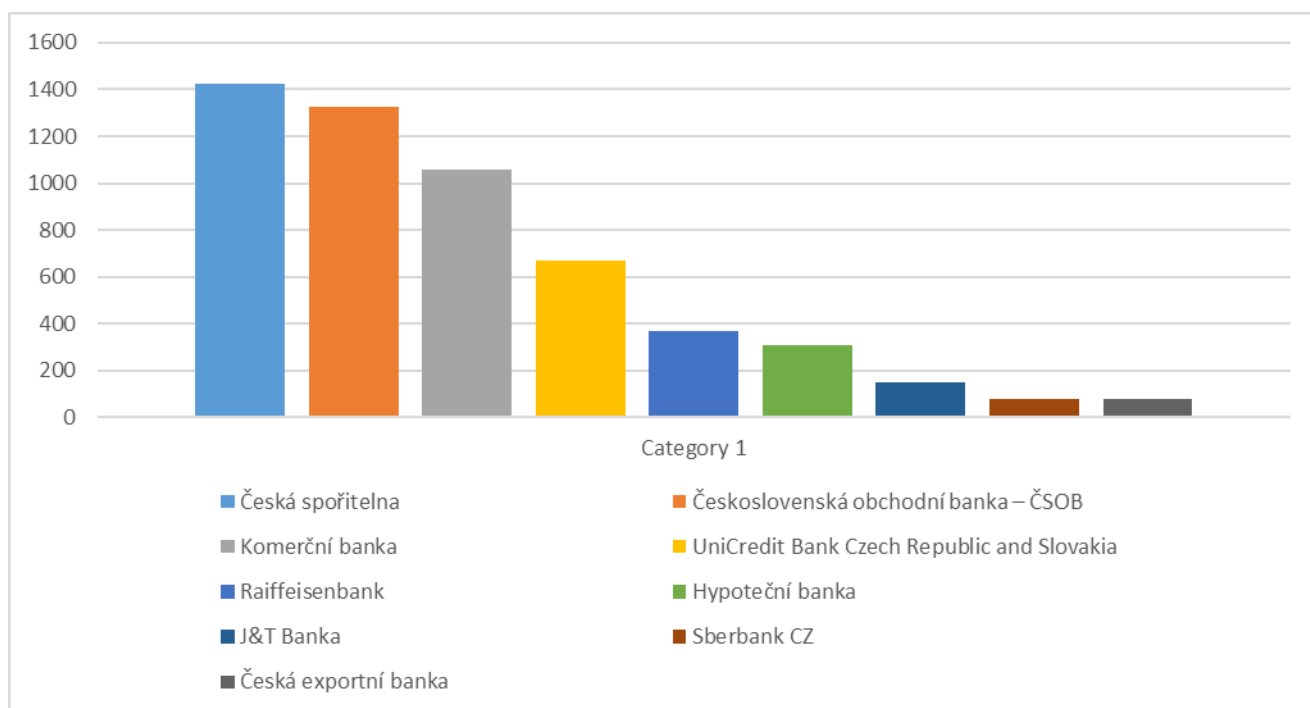


Chart 8 – The rating of the banks with largest assets in the Czech Republic for 2018.

Source: own modelling based on data from www.thebanks.eu

From a ranking point of view, as shown in Table 1, currently six large commercial banks can be distinguished in the banking system of Kazakhstan, although, both in terms of assets and other quantitative indicators, Kaspibank and Halykbank are still significantly ahead of the other four banks and are included in the category of the largest ones. In terms of size, those six banks occupy a dominant position in the banking system.

| Name | Assets, bln KZT | NPL, % | Deposits, bln KZT | Bank equity capital |
|-------------------|-----------------|--------|-------------------|---------------------|
| Kaspi bank | 2171,6 | 7,1 | 1626,9 | 253,9 |
| Halykbank | 8840,9 | 7,3 | 6427,3 | 1248,6 |
| Sberbank | 2206,7 | 4,8 | 1587,4 | 236,0 |
| Fortebank | 2195,8 | 6,0 | 1254,8 | 222,1 |
| Jysan bank | 1329,9 | 38,5 | 648,3 | 343,8 |
| Bank Centr-Kredit | 1468,9 | 6,2 | 938,3 | 122,9 |

Table 1 – ranking of the 6 largest banks in Kazakhstan, 2020. Source: own modelling based on data from Forbes.kz

4.8 Bank branches

Bank branches

As we can see in Chart 9, there is a vast difference between the two countries regarding the number of commercial bank branches per 100 thousand adults. Thus, if in Kazakhstan there are 2.4 branches per 100 000 adults, in the Czech Republic, this amount for the same 100 000 adults is almost ten times higher (20.5 branches), even though the population in the Czech Republic is only almost twice lower (18 million vs 10 million).

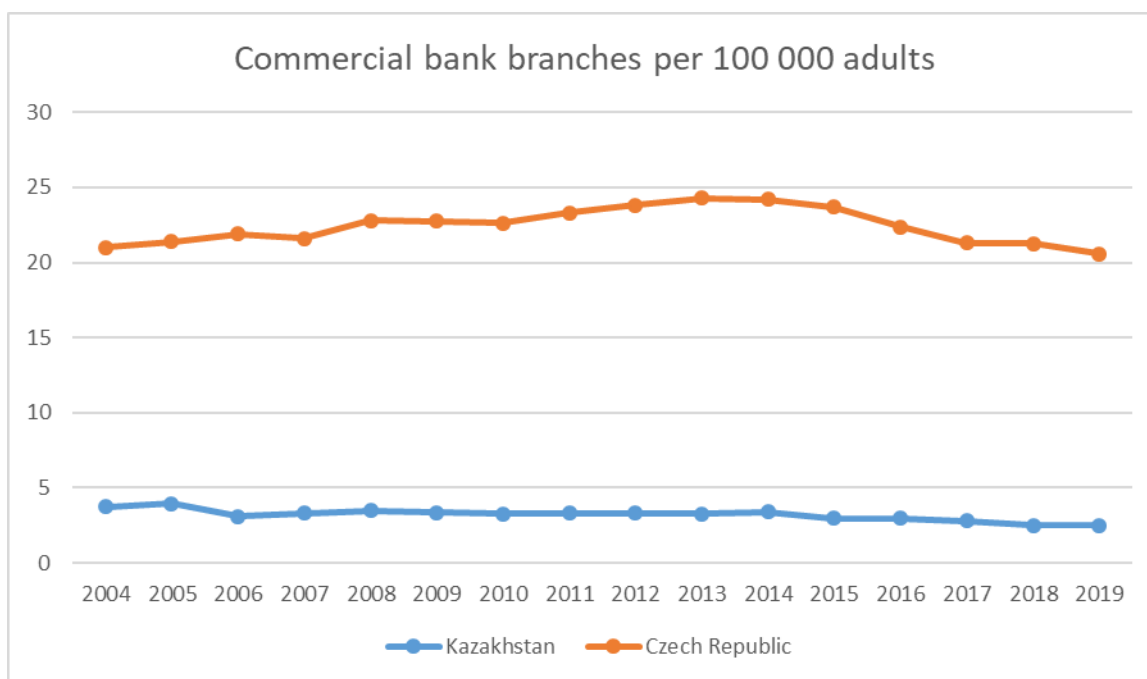


Chart 9 – Commercial bank branches per 100 000 adults. Source: own modelling based on data from worldbank.org

4.9 Comparison of finance indicators of 2 largest banks in Kazakhstan and the Czech Republic

This chapter will describe the conducted comparative analysis of the two biggest banks in the Czech Republic and Kazakhstan – Česká spořitelna (CS) and HalykBank (HB), the primary source of the comparative analysis will be the annual reports of both banks for 2019. This chapter will not compare the indicators with currency amounts because the annual report of CS (due to the Czech Republic being a part of the EU) is available in CZK/EUR. In contrast, the annual report of HB is available in KZT/USD. To avoid

miscalculations during the currency conversion, this chapter will mainly analyse the key financial ratios in %.

The capital adequacy ratio – one of the fundamental indicators proving the financial stability – of both banks is almost the same: CS has 20,6%, and HB has 21,9%. *However, the cost-to-income ratio* differs quite significantly, amounting to 26% for HB and 59% for CS. This indicator puts the Kazakh bank in a more advantageous position than the Czech bank because it shows its profitability. The fewer is the indicator, the more profitable is the bank. Czech bank explains that high indicator is caused by high operating and personnel expenses. *The net interest margin* for the HB is 5,3%, whereas the same indicator for the CS is almost twice lower – 2,1%. The margin is one of the critical indicators in the banking system, reflecting the effectivity of bank operations – the higher, the better. However, it is not always useful to compare the net interest margins of various banks, especially in different countries, since lending and depositing activities vary for each bank. The Return on Equity (ROE) indicator of the given banks is also different. The CS has 14,5%, whereas the HB has the twice higher indicator – 28,8%. In this regard, the HB shows high independence and stability, and CB explains this low indicator by increasing the equity and reduction of profits. The critical long-term ratings from the “Big Three” credit rating agencies (Fitch, Moody’s and S&P’s) is demonstrated below in the table.

| BANK/RANKING | Fitch | Moody’s | Standard & Poor’s |
|---------------------|-------|---------|-------------------|
| Česká spořitelna | A | A2 | A |
| HalykBank | BB | Ba1 | BB |

Table 2. Bank ranking according to Big Three credit ranking agencies. Source: Fitch Ratings, Moody’s, S&P Global Ratings

We can see that CS has A from Fitch, A2 from Moody’s and A from S&P’s; this can be describing the bank as relatively reliable and stable with low credit risk but still vulnerable to the economic crisis and other economic instabilities. We can also see that HB has BB from Fitch, Ba1 from Moody’s and BB from S&P’s. We can understand that the bank has speculative elements, and the bank’s capacity to meet its financial commitments is endangered due to various uncertainties or economic conditions in the country.

Those ratings are significant because it shows perfectly how the external factors can affect the bank despite its own internal indicators and ratios. Thus, the Kazakh bank, while

having some ratios better than the Czech one, remains more prone to changes and less attractive for investors in terms of stability, which can be affected by the economic, political and social environment in the country.

5 Comparison of selected banks in Czech Republic and Kazakhstan

In the practical part, I will compare banks in the Czech Republic and Kazakhstan using a multiple criteria decision analysis. First, I will introduce a model customer, and based on the preferences and financial possibilities, I set the criteria for choosing a bank and their aspiration levels. Subsequently, six alternatives are selected – those are variants that meet the model customer's requirements. Then, from these alternatives, the most suitable or compromise variant is determined using the method of SAW. All calculations are performed in a Microsoft Excel spreadsheet.

5.1 A model customer

To have a fair comparison, we have to set the preferences that would apply to the customer both in the Czech Republic and Kazakhstan. The model customer is a 25yo lady who would like to choose a bank to open a bank account for daily use and savings. She would also have the possibility to get a mortgage from the bank. She works as an IT freelancer.

5.2 Determination of decision criteria

Before choosing a bank, the customer needs to decide what she expects from it. Reliability, profitability, availability, customer support - priorities and combinations of these properties depend on the needs. Besides, some services may not be found in all banks. The model customer selects a bank according to five criteria which are described in the following subchapters. Quantitative criteria are defined by the units of measurement and, and qualitative criteria are defined by their values. I will compare the three leading banks in the Czech Republic and Kazakhstan.

5.2.1 Account maintenance fees

If looking at the long-term perspective, the customer needs to have a zero-fee commission for maintaining the bank account. However, the customer understands that many banks

offer the account (we consider basic or standard ones) only with a monthly fee. That is why the criteria for the customer to find a bank with lower fees for maintaining the bank account.

5.2.2 Fees for money withdrawal in foreign countries

Since the model customer is a young and active freelancer, she will often travel on business trips and holidays. It is crucial to consider the criteria for paying fees for money withdrawal in foreign countries. The fewer is the fee - the better option is the bank for the customer.

5.2.3 Deposit rates

A customer is a working-aged person; that is why she will consider increasing savings and opening a deposit account in the bank. In this regard, it is worth considering the deposit rates that may slightly differ from bank to bank but may differ a lot from country to country. But perhaps this is the least important criteria because the customer considers other forms of savings as well (stocks, cryptocurrency, real estate etc.).

5.2.4 Fees for incoming transactions from foreign countries

Since the model customer is a freelancer, it means that she receives money for her work from companies and individuals from around the whole world. It is necessary to point out this criterion because it often happens that money for her work is sent from abroad. That is why she considers choosing a bank with lower fees for incoming transactions.

5.2.5 Customer support

Perhaps the most important thing the customer expects from a bank is reliability. The customer needs to have the possibility to reach out to the bank via phone or electronically (for instance, when she is abroad and cannot call via phone). That is why she will likely prefer the 24/7 customer support both via phone and online.

5.3 Aspiration levels

Based on the preferences and requirements, the model customer set the aspiration levels of criteria. It means that all alternatives with values of criterion worse than the required

aspiration level are unacceptable to the model customer. It is a conjunctive method of aspiration levels that is described in the theoretical part.

Account maintenance fees, Fees for money withdrawal in foreign countries, Mortgage rates and Bank sustainability (balance sheet profit) are quantitative criteria, i. e. defined in numbers. Therefore, it is possible to distinguish them into maximization and minimization criteria and then to determine the level of aspiration.

The qualitative criterion of customer support is converted according to the ranking method to quantitative, and then the aspiration level is determined. The customer's best customer support option is the 24/7 customer support available both online and via phone, as the customer will be able to get a consultation anytime. This option is assigned a value of 1, so it is a minimization criterion.

| Criteria | Type | Aspiration level |
|---|--------------|------------------|
| Account maintenance fees | minimization | 5 EUR |
| Fees for money withdrawal in foreign countries | minimization | 15 EUR |
| Deposit rates | maximization | 0,1% |
| Fees for incoming transactions from foreign countries | minimization | 5% |

Table 3. Aspiration levels of quantitative criteria. Source: own modelling

| Criteria | Options | Ranking | Type | Aspiration level |
|------------------|--|---------|--------------|------------------|
| Customer support | 24/7 online and via phone | 1 | minimization | 4 |
| | 24/7 either online or via phone | 2 | | |
| | Regular working hours online and via phone | 3 | | |
| | Regular working hours either online or via phone | 4 | | |
| | No customer support available | 5 | | |

Table 4. Aspiration levels of qualitative criteria. Source: own modelling

5.4 Selection of acceptable alternatives

The customer will choose the alternatives based on banks' websites in the Czech Republic and Kazakhstan. After selecting eight options (3 in the Czech Republic and 3 in

Kazakhstan I applied the MCDM method in order to define the best option in both countries.

| Alternatives | Account maintenance fees | Fees for money withdrawal in foreign countries | Deposit rates (Annual) | Fees for incoming transactions from foreign countries | Customer support |
|------------------|--------------------------|--|------------------------|---|--|
| Česká spořitelna | 0 EUR | 4,85 EUR (125 Kč) | 0,2% | 1% | 24/7 online and via phone |
| ČSOB | 0,9 EUR (25 CZK) | 3,88 EUR (100 Kč) | 0,3% | 1 % | Regular working hours online and via phone |
| Komerční banka | 0 EUR | 3,84 EUR (99 CZK) | 0.1% | 0,9 % | Regular working hours either online or via phone |
| HalykBank | 0 EUR | 1,5 EUR (760 KZT) | 8.5% | 0,2% | Regular working hours either online or via phone |
| Sberbank | 0 EUR | 1,5 EUR (750 KZT) | 8,6% | 0,25% | 24/7 online and via phone |
| Kaspi bank | 3,9 EUR (2000 KZT) | 0,95 EUR (450 KZT) | 8,65% | 0,3% | Regular working hours online and via phone |

Table 5. Set of alternatives. Source: own modelling

5.5 Finding a compromise alternative

The model customer has determined five criteria according to which she chooses a bank. The criteria Account maintenance fees, Fees for money withdrawal in foreign countries, Deposit rates (Annual), Fees for incoming transactions from foreign countries are quantitative. Customer support is the qualitative criteria. Several methods can be used to

find a compromise alternative; some methods are better to use if quantitative criteria prevail, others if qualitative ones prevail.

5.6 Determination of criteria weights

According to her subjective preferences, the model customer determined the weights of each criteria using the Saaty method. It is a method of quantitative pairwise comparison, which is explained in more detail in the theoretical part. We compare the criteria in pairs in terms of their relative importance and summarize it in the table below:

| | C1 | C2 | C3 | C4 | C5 |
|----|-----|-----|-----|-----|-----|
| C1 | 1 | 2/1 | 4/1 | 3/1 | ½ |
| C2 | 1/2 | 1 | 2/1 | 1/2 | ½ |
| C3 | 1/4 | 1/2 | 1 | 1/3 | 1/3 |
| C4 | 1/3 | 2/1 | 3/1 | 1 | ½ |
| C5 | 2/1 | 2/1 | 3/1 | 2/1 | 1 |

Table 6. Pairwise comparison of criteria (fractions). Source: own processing

The simple fractions in the table above can be described easily. For example, at the cross-section of the line "C1" with the column "C4" there's a fraction of 3/1. It expresses the opinion of the decision-maker that criteria 1 is three times more important than criteria 4. Then, they are transferred into decimals, and their sums are calculated.

Then it is necessary to normalize the sums so that their sums could be equal to 1. To do this, we need to divide the sum of each row by 52.32 (the sum of the last column, i.e. the sum of the sums). In the same way, we transfer the fractions into decimals and get the sums:

| | C1 | C2 | C3 | C4 | C5 | Sum | Geometric mean | weight |
|-----|------|-----|----|------|------|------|----------------|--------|
| C1 | 1 | 2 | 4 | 4 | 0,5 | 11,5 | 1.741101 | 0,310 |
| C2 | 0,5 | 1 | 2 | 0,5 | 0,5 | 4,5 | 0.757858 | 0,121 |
| C3 | 0,25 | 0,5 | 1 | 0,25 | 0,25 | 2,25 | 0.588040 | 0,060 |
| C4 | 0,25 | 2 | 4 | 1 | 0,5 | 7,75 | 0.378929 | 0,209 |
| C5 | 2 | 2 | 4 | 2 | 1 | 11 | 2.000000 | 0,297 |
| SUM | | | | | | 37 | 5.465928 | 1 |

Table 7. Pairwise comparison of criteria (decimals). Source: own processing

Thus we figured out the weights of criteria: *Account maintenance fees (C1)* – 0,310; *Fees for money withdrawal in foreign countries (C2)* – 0,121; *Deposit rates (Annual) (C3)*– 0,060; *Fees for incoming transactions from foreign countries (C4)* – 0,209; *Customer support (C5)* – 0,297.

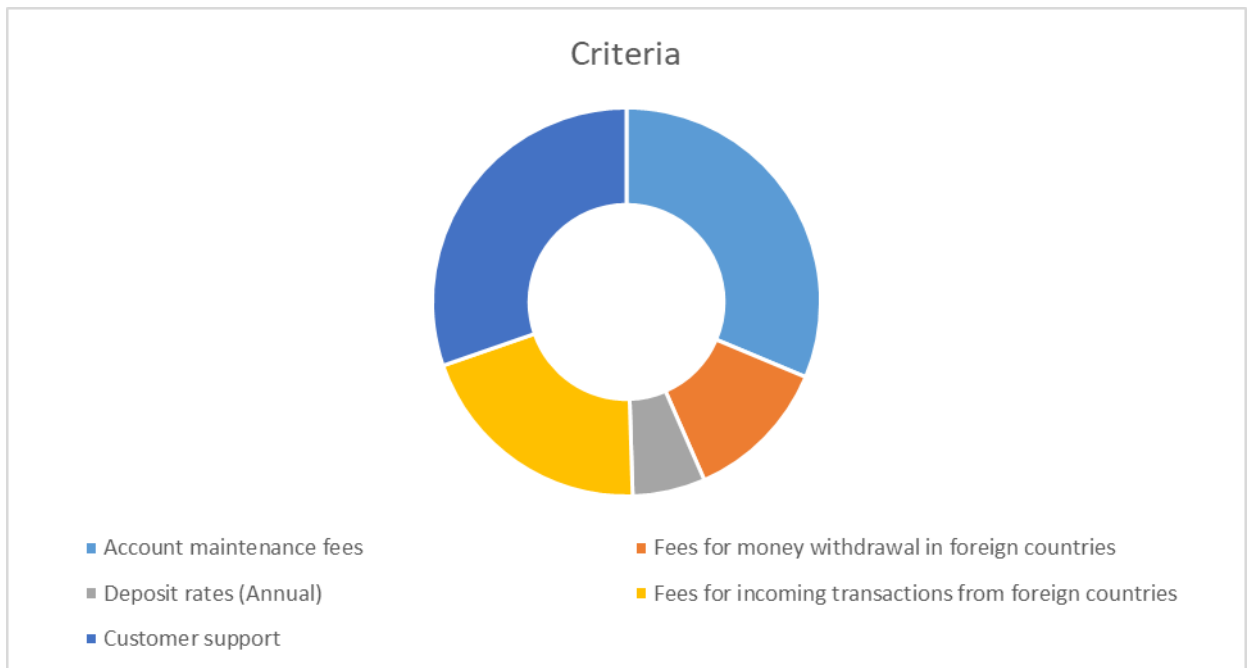


Chart 10. Percentage of weights of criteria. Source: own processing

After determining the weights of the individual criteria, it is necessary to check the consistency of the matrix. To be sufficiently consistent, the consistency index must be less than 0.1. The consistency index I_s is calculated according to formula 3 from the theoretical part.

I_{max} is 1,23108 and I_s is -0.94223 which is less than 0.1

That's why the matrix proved to be consistent.

5.7 Selection of compromise alternative

SAW is a well-known and actively used method. Its widespread prevalence is thanks to its simplicity and convenience for calculations. We first will compile the alternatives, criteria and their weights into a matrix.

| | C1 | C2 | C3 | C4 | C5 |
|------------------|--------------|--------------|--------------|--------------|--------------|
| A1 | 0 | 4,85 | 0,2 | 1 | 1 |
| A2 | 0,9 | 3,88 | 0,3 | 1 | 3 |
| A3 | 0 | 3,84 | 0,1 | 0,9 | 4 |
| A4 | 0 | 1,5 | 8,5 | 0,2 | 4 |
| A5 | 0 | 1,5 | 8,6 | 0,25 | 1 |
| A6 | 3,9 | 0,95 | 8,65 | 0,3 | 3 |
| Character | Min | Min | Max | Min | Min |
| Weight | 0,310 | 0,121 | 0,060 | 0,209 | 0,297 |

Table 8. Matrix for SAW. Source: own processing

The table above shows the quantitative values of each alternative for each criterion. We can see that there is only one criterion of maximization character (C3). Based on this table, we can define the negative ideal and ideal alternatives for each criterion:

| | C1 | C2 | C3 | C4 | C5 |
|---------------------------------------|-------|-------|-------|-------|-------|
| Ideal alternative (H) | 0 | 0,95 | 8,65 | 0,2 | 1 |
| Negative ideal alternative (D) | 3,9 | 4,85 | 0,1 | 1 | 4 |
| Weight | 0,310 | 0,121 | 0,060 | 0,209 | 0,297 |

Table 9. Ideal and negative ideal alternatives. Source: own processing

Now we will create a standardized matrix R using the SAW formula:

$$r_{ij} = \frac{y_{ij} - d_j}{h_j - d_j}$$

| Alternatives | C1 | C2 | C3 | C4 | C5 |
|--------------|-------|--------|--------|--------|--------|
| A1 | 1 | 0 | 0,0116 | 0 | 1 |
| A2 | 0,813 | 0,2487 | 0,0233 | 0 | 0,3333 |
| A3 | 1 | 0,2589 | 0 | 0,125 | 0 |
| A4 | 1 | 0,8589 | 0,9824 | 1 | 0 |
| A5 | 1 | 0,8589 | 0,9941 | 0,9375 | 1 |
| A6 | 0 | 1 | 1 | 0,875 | 0,3333 |

Table 10. Standardized criteria matrix. Source: own processing

The last step of applying SAW is to calculate the aggregate function of trade-off by applying the formula:

$$u(a_i) = \sum_{j=1}^n v_j r_{ij}$$

| Alternatives | Trade-off | Ranking |
|--------------|---------------|----------|
| A1 | 0,6077 | 3 |
| A2 | 0,3808 | 5 |
| A3 | 0,3675 | 6 |
| A4 | 0,6819 | 2 |
| A5 | 0,9665 | 1 |
| A6 | 0.4629 | 4 |

Table 11. Ranking of alternatives. Source: own processing

Table 11 shows the overall ranking of all alternatives. The A5 is the compromise alternative that has 0,9665. A bank in Kazakhstan offers zero commission for maintaining the account; it has a relatively low fee for withdrawing money abroad and quite a low fee for receiving money from abroad. Moreover, it has online and phone customer support, which works non-stop, which was also one of the main priorities for the customer. The deposit rates in Kazakhstan are relatively high for the local currency than in the Czech Republic, but this might be caused due to the volatility of the market and instability of the currency and the exchange rate. Nevertheless, 2 Kazakh banks and 1 Czech bank has high trade-off values.

6 Conclusion

This bachelor thesis's goal was to compare the banking system of the Czech Republic and Kazakhstan on two levels:

- a) providing a comparative analysis of macroeconomic factors
- b) using and applying the multiple criteria decision analysis on chosen banks.

In order to meet the goal, I divided my work into three parts.

The first part provides a theoretical overview of banks as elements of the banking system, describing them from a historical perspective. Further, the methods and procedures of multiple criteria decision making are described, emphasising methods that are then applied in the last part of the work.

The second part presents an analysis of the banking system in both countries on the macroeconomic level. I first successfully collected the necessary macroeconomic data on both countries and put them into comparison charts to see each country's level. Notably, I used data on population, inflation, interest rates, exchange rate and money supply. Overall, from this analysis, it can be stated that they are heavily influenced by external factors that differ from country to country when it comes to macroeconomic indicators. In this regard, the values of particular indicators during the comparison of the two countries' banking system may vary significantly.

In the third part of this thesis, I performed a multiple criteria decision analysis from a customer's perspective. I described the model customer, defined five decision criteria, according to which the model customer can choose the right bank. After mapping the banks' websites in the Czech Republic and Kazakhstan, three banks from the Czech Republic and three banks from Kazakhstan were selected that meet the aspiration level set by the customer. Then I determined the weights of each criteria using the Saaty method. Last but not least, I selected a compromise alternative using the SAW method. The advantage of this method is that it finds a compromise alternative and determines the order of alternatives. I, thus, marked the three best banks (one from the Czech Republic and two from Kazakhstan) in terms of meeting the criteria set by the customer.

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