Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Humanities (FEM)

Bachelor Thesis

The healthcare system in Kazakhstan and it's future perspectives in (comparison with Sweden)

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BACHELOR THESIS TOPIC

Author of thesis:	Altynay Abdusheva
Study programme:	Economics and Management
Field of study:	Economics and Management
Thesis supervisor:	doc. Ing. Vladimír Krepl, CSc.
Supervising department:	Department of Humanities
Language of a thesis:	English

Thesis title: **The healthcare system in Kazakhstan and it's future perspectives (comparison with Sweden)**

Objectives of thesis: AIM is to describe and characterize Kazakhstan's healthcare system by using a statistical database and a legal documentation to find out future perspectives and opportunities for the development of country's economy. Also, the thesis will include a systematic comparison of Kazakhstan (as a developing country) with Sweden (as a developed country) to identify key differences in healthcare system and define advantages of health insurance for future implementation within Kazakhstan.

To achieve the main aim of diploma thesis will be set up few research questions:

- What are the main differences in healthcare systems in Kazakhstan and Sweden?
- What future perspectives Kazakhstan can face to improve healthcare?

Methodology: As main methodological tool will be used comparative statistical analysis of Kazakhstan and Sweden by using economic VARIABLES such as:

- GDP GROWTH;
- MORTALITY RATE;
- PUBLIC HEALTH CARE EXPENDITURES;

- INVESTMENTS IN HEALTHCARE FIELD;
- UNEMPLOYMENT RATE (HEALTHCARE FIELD)
- LIFE EXPECTANCY.

The descriptive statistical analysis will be used to show the current condition of care system in countries that will be used in comparative analysis.

For analysis will be used data among the period 2017-2021.

Sweden (developed country) will be used to contrast and challenge Kazakhstan (developing country) healthcare insurance system. The study will use public documents, literatures and case studies. Data will be collected from public documents and literatures as the methods to collect data/information about Kazakhstan and Sweden healthcare system.

The proposed extent of the thesis: 40 - 50

Keywords: Insurance, healthcare system, Kazakhstan, statistical analysis, Sweden, perspectives.

Recommended information sources:

1. Ahmedov M, Haan SD et al. (2017). Strengthening health research systems in Central Asia. A system mapping and consultative process. Geneva, Council on Health Research for Development (COHRED).
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Expected date of thesis defense: 2021/22 SS - FEM

Declaration

I declare that I have worked on my bachelor thesis titled "The healthcare system in Kazakhstan and it's future perspectives (comparison with Sweden)" 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 any copyrights.

In Prague on 15/03/2022 _____

Acknowledgement

I would like to thank doc. Ing. Vladimír Krepl and all other people, for their advice and support during my work.

The Healthcare system in Kazakhstan and it's future perspectives (comparison with Sweden)

Abstract
This bachelor thesis deals with the study of healthcare system in Kazakhstan and its future perspectives in comparison with Sweden. The theoretical part of the thesis acknowledges some significant segments of the healthcare industry and presents information required to understand this industry. The practical part of the thesis introduces the reader to the economic variables like GDP, population, private and public health care spending, life expectancy rate, unemployment rate, inflation etc., and shows the direct or indirect relationship between the fluctuations of any of these variables in relation with the improvement or degradation of the healthcare system. At the same time, we will also see the dissimilarities between the healthcare system of both the countries and how they are able to function. In the end, results and conclusion tells us the future perspectives and how the effectiveness of this infrastructure can be improved.

Keywords: Insurance, healthcare system, Kazakhstan, statistical analysis, Sweden, perspectives, SWOT analysis

Zdravotní systém v Kazachstánu a jeho budoucí perspektivy (srovnání se Švédskem)

Abstrakt

Tato bakalářská práce se zabývá studiem zdravotnického systému v Kazachstánu a jeho budoucími perspektivami ve srovnání se Švédskem. Teoretická část práce přibližuje některé významné segmenty zdravotnického průmyslu a uvádí informace potřebné k pochopení tohoto odvětví. Praktická část práce seznamuje čtenáře s ekonomickými proměnnými, jako je HDP, populace, výdaje na soukromé a veřejné zdravotnictví, míra naděje dožití, míra nezaměstnanosti, inflace atd., a ukazuje přímou či nepřímou souvislost mezi fluktuacemi kterékoli z nich v souvislosti se zlepšením nebo degradaci systému zdravotní péče. Zároveň také uvidíme rozdíly mezi zdravotnickým systémem obou zemí a tím, jak jsou schopny fungovat. Z výsledku a závěru budeme moct odvodit, jak lze budoucnu zlepšit efektivitu teto infrastruktury.

Klíčová slova: Pojištění, zdravotní systém, Kazachstán, statistická analýza, Švédsko, perspektivy, SWOT analýza

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List of abbreviations

SARS Severe Acute Respiratory Syndrome
GDP Gross Domestic Product
NATO North Atlantic Treaty Organization
EU European Union
COVID Corona Virus Disease
SEK Swedish Krona
HIV Human Immunodeficiency virus
OECD Organisation for Economic Cooperation and Development
UN United Nations
WHO World Health Organization
SGBP State Guaranteed Benefit Package
MOH Ministry of Health
NHA National Health Authority
PHC Primary Health Care
CIS Commonwealth of Independent States
OOP Out of Pocket
KAZ Kazakhstan
SWE Sweden
CVD Cardiovascular Diseases
SWOT Strengths Weaknesses Opportunities Threats
CPMHI Comprehensive Programme for the Modernization of Healthcare Infrastructure
COHRED Council on Health Research for Development
SMA Swedish Medical Association
CSMI Compulsory Social and Medical Insurance
SRPI Swedish Planning and Rationalizing

1. Introduction

As said by Allan Wolf, "The obligation of the government is to protect the public health, safety, morals and general welfare."[1] A successful economy is only when it can allocate its resources in such a way that all its individuals are able to access public healthcare and lead a sustainable life. An economy is majorly the state of a region in terms of production or consumption of goods and services including the supply of money. These goods and services are to be used in the best way by the people and entities in a particular region or whole. The world economy was seen crushing under the pressure of worldwide lockdowns due to the spreading of the contagious and deadly virus NARS Covid 19. There are three types of economy: free market, command, and mixed. Sweden and Kazakhstan, both, are both mixed economies.

In this thesis, we will be exploring the healthcare system of these two countries and relating some economic variables to inspect the healthcare system of the above-mentioned countries while comparing them with one another to perceive an idea of how developed these economies are and what can be done for their betterment.

There are microeconomic variables that describe individual economic units like a family or a company. Examples: price, consumption, quantity produced, individual expenditure, and investment. There are macroeconomic variables that are related to the economic aggregates like a country's population or all companies. Examples: GDP, inflation, unemployment, interest rate, nominal exchange rate, and government spending. It is important to study these variables as directly or indirectly they play a significant role in uplifting or lowering down the level of effectiveness of the healthcare system of any economy. Economic growth enables us to check the actual status of a country and its citizens. It can affect social shifts by generating new opportunities and transforming the human way of living which can only be done when a country's productivity increases with higher value goods and beneficial investments. This is the only way a country can overcome its economic issues while creating opportunities for everyone. The ever-evolving economies and the boom in population instigated the need for an increase in healthcare expenditures. It is not only required for the stability of financial systems but also for the need to execute adaptable policies specifically in a time of need like right now in the pandemic era whether it is a developed or developing country.

With a population of 10,402,070 expanded over 4,50,295 km^2, Sweden is the 55^{th} largest country in the world, the fifth-largest country in Europe, and the largest country in Northern Europe, respectively. It has 25.5 inhabitants per square km i.e., it has a low population density. Sweden broke Switzerland's peace record in 2014 by celebrating 200 years of peace but is now cooperating with NATO. It has a Nordic Social Welfare system that provides a universal health care system for its citizens. It ranks 11^{th} in the world's highest per capita income and is the 16^{th} richest country in terms of GDP with a very high quality of life, health, education etc.[18]

Kazakhstan, also known as the Republic of Kazakhstan, is the ninth-largest country and largest landlocked country in the world. With one of the lowest population densities in the world, at fewer than 6 people per square km, its total population is somewhere near 19 million expanded in its 2,700,000 square km of area in its two territories which is divided by the Ural River. It dominates Central Asia economically and politically, generating 60% of the region's

GDP. It has a diverse cultural heritage and is officially a democratic, secular, unitary, constitutional republic. Since 1973 this beautiful country has attracted 40 billion dollars or 35.3 billion euros investment via foreign countries which means 13% of GDP with a ranking of 11th largest reserve of natural gas and fossil fuels.[1]

2. Objectives and Methodology

2.1.Objectives

The aim of this thesis is to descriptively analyse the data of the two chosen nations; a developed nation i.e., Sweden and a developing nation i.e., Kazakhstan to show their healthcare infrastructure and insurance system by comparing their data from the year 2017 to 2021.

2.2.Methodology

Methodology for the literature overview is based on data collection from the relevant legal framework, specialized publications and other written or online sources. The practical part of the thesis will be based on the information gained from varied published articles, books etc. and then compared to assess. To facilitate comparisons between countries, the profiles are written in and then in graphs for some indicators which are revised periodically. The analysed data is of nations Sweden and Kazakhstan, respectively. The analysis covers the years 2017 to 2021.

The data for all the below mentioned indicators for the above-mentioned countries are not available at one website or published under one author and hence, are taken from multiple resources that I will share in the references below. Here, you will see comparison of statistical data between Kazakhstan and Sweden from the relevant sources as per varied economic variables such as:

1. Gross Domestic Product or GDP is a monetary measure of the market value of all final goods and services produced in a specific period by countries. It helps in evaluating the growth of a country by determining the values of the prices of all goods and services. [16]
2. Mortality rate is a measure of the number of deaths in a population from a given because which is scaled by the population in a given set of time. It along with the fertility or birth rate helps in determining the growth of a country as this calculates the number of available human resources that eventually affect the GDP of an economy. Therefore, it reflects on how education is more important for the youth of any country. [29]
3. Public health care expenditures are generic government expenditure on health as a percentage of total government expenditure. It results in better health opportunities that strengthen human capital and improve productivity. Hence, it is important to determine health care spending in a country. [30]
4. Investment is the purpose of investing it to gain from the asset in which one invests. Its value may or may not increase or decrease over a period. Investment in health care is not only important but also a necessity. At some point in life, everyone needs medical assistance for either regular check-ups or other health services. A human requires these services from birth till after death as well. Many healthcare stocks have had large earnings and this pandemic has had a huge impact. [30]
5. Unemployment is basically when people who are not working or not being paid but can contribute to the GDP i.e., the percentage of the labour force without a job which generally rises or falls. An economy's status leads to falling or rising of this indicator's status. [17]
6. Life expectancy is basically a statistical unit to measure the average time a living being survives or is expected to survive which is based on a lot of factors such as birth year, age, sex, access to clean water or health care or food, pollution etc. [29]

In this thesis, we will be using descriptive statistical analysis of data of these two countries namely Sweden and Kazakhstan using the above-mentioned variables to summarize and organize characteristics of a data set. A data set is a collection of observations from a sample or entire population of an area.

We will also conduct a SWOT analysis to analyze the health care system of the countries namely Kazakhstan and Sweden. We will study the strengths, weaknesses, opportunities and threats of their health care system in a competitive landscape. A SWOT analysis helps to prepare us to deal with the futuristic issues while remembering the strengths of an institution or an individual and working on its weaknesses. It not only helps us to understand the forthcoming problems but also to analyze the opportunities that can be useful for its betterment. It is also an objective analysis to strategize the path for development.

3. Literature Review

The literature review is a theoretical background for the thesis and focuses on the characteristics of the selected data according to Sweden and Kazakhstan. The literature review also deals with selected methods of statistical analysis as a base for the practical part of the thesis and outlines the characteristics of the healthcare system in Sweden and Kazakhstan.

3.1.Sweden in context

The Swedish healthcare system is a mix of public and private systems. It is a decentralized system which is majorly funded by its government and accessible to their citizens. This country has 290 municipalities and 21 regional councils. The public sector plays an important role and is financed mostly by the taxes payable by the people living in Sweden which are levied by the 21 county councils and municipalities which are responsible for the hospital care within the country. Its care is divided in three major sectors: national, regional, and local. It is one of the top five countries with a very low infant mortality rate. This country not only ranks high in life expectancy but also in clean drinking water.
A county council is a political body which is elected every four years. The hospital board of any county council are responsible for management and ensure efficient health care facilities. They not only regulate prices but also the services offered by private health care providers as they are to enter a contract before providing any services to the public. As per the Swedish health and medical care policy, each county council should provide their residents with good quality health and medical care. Their goal is to work towards promoting good health for the entire population of the nation. However, post discharge care for the disabled and elderly, and long-term care for psychiatric patients was decentralized to the local municipalities. This was a recent step taken by the Ministry of Health and Social Affairs.[18]
The regional variations are informally divided into 7 sections: "Close-to-home care" (primary care clinics, maternity care clinics, out-patient psychiatric clinics, etc.), emergency care, elective care, in-patient care, out-patient care, specialist care, and dental care. [9]
All the residents receive their health records online via digital sources from 2020.

3.1.1. Aging population

The Swedish have an average life expectancy of 84.29 years for women and 80.6 years for men which is very high as compared to many other countries. This is an achievement for this country, but it also leads to the need to increase facilities for the care of their elderly generation. It also has a high birth rate as compared to other EU countries i.e., 1.7 per woman versus 1.5 in the EU.

3.1.2. Financing

County councils collect income tax from the citizens which funds 70% of health care while overall 85% of the total health budget comes from public funding. Most of the health care costs i.e., around 97% of it are taken care of by the state and a patient is required to only pay a nominal fee for examination. However, the bills are not

reimbursed for a patient if that private care facility is not affiliated by a county council. It is also required for an employer to pay a percentage of an employee's wages for the first 14 days if he/she/they are declared to be ill or unfit. After these 14 days, the state pays the amount until he/she/they recover or are declared fit to work. In 2018, health and medical care represented around 11% of GDP.[19]

Public spending on healthcare in Sweden

Just like most European countries, Sweden's health and medical care costs are secure. It represents at most 11 percent of its total GDP. Mostly these costs are taken care of by the regional and municipal taxes that are controlled by the county councils. The national government also contributes a fair share to help with these costs. The citizens are charged a nominal fee and rest is covered by these taxes etc. the government spent almost 102 billion or so during the year 2020 but this is also because the pandemic had its own effects on the health care departments all over the world.

3.1.3. Public and private healthcare in Sweden

As discussed above Sweden has both public and private providers of healthcare with the same rules and regulations. The healthcare is financed by the county councils even when a regional council buys the services from private health care providers. The pandemic along with urbanization have led to an increase in the usage of digital apps for health care to increase efficiency and to reduce the contact of patients with others to stop the spreading of this deadly virus COVID 19.

Details and patient cost

A user must pay for any drugs if prescribed and once the bill reaches 2350 SEK, the government covers any further expenses for the rest of the year. This funding system is automated and connected over the Internet. All prescriptions are stored in the pharmacy network along with information on all patients' medical histories. If any patient's medical bills exceed the limit set by the government, then he, she or they receive the medication free of charge at the point of sale but only upon producing identification.

Regardless of a healthcare facilities' nature, public or private there is a limit on health care fees, and it is 150-400 SEK for each visit to a doctor. The entrance fee covers all services including an ambulance or an x-ray if required. The government pays once the bill reaches 1150 SEK. [31]

However, dental care is not included in the general health care system but is partly subsidized by the government and is free for anyone who is 23 years old. From 24 years of age a citizen's bills for dental care are subsidized by the government/state.

The Swedish mortality rate is low as it is a peaceful country with an ever-evolving economy on rise and also because Swedish have good hygiene practices. Another factor contributing to this indicator is good midwives that help during delivering children. It has significantly reduced the number of deaths of females while delivering their children. Today, Sweden's maternal mortality rate is the lowest in the whole world which is a great achievement. Current situation is that fewer than 3 out of 1,000 babies and 4 women out of 100,000 dies in birth.[19]

3.1.4. Mental health

With the increased digitalization and the movement for mental health awareness has had a substantial development in the mental health care sector in many developed and developing countries such as the chosen countries for this research, Sweden and in

Kazakhstan. However, in Sweden mental health care falls under the same jurisdiction of county councils and has the same process for fees as mentioned above in the research. The patients with major mental health issues are taken care of by the psychiatric care in hospitals but the minor cases are attended by primary health care settings.
The Swedish are trying to reduce their costs by reducing the sick leave hours for the employees and are in the top for privatized pensions. Their pension funding problems are relatively small compared to many other Western European countries.
In Sweden, patients with needs for urgent care are attended to before as compared to those with less urgent needs. One needs to wait for less than 7 days for a visit to a primary care doctor and even less than 90 days to visit a specialist doctor for specialized issues. These rules and regulations are taken care of by Vårdguiden 1177. It is a telephonic service care provider with online services as well.[28]

3.1.5. Criticism

The Swedish health care system is one of the most effective health care systems of the world, but nothing is flawless and even it has some problems. Most citizens of this country go for routine check-ups to the hospitals and access to primary care is one major issue here. The Swedish need a more accessible system for them to let the minor issues be solved at the primary level which would increase efficiency and reduce waiting hours as well. Due to decentralization. Sweden's health care system is very flexible and hence hampers the coordination amongst the county councils and municipalities. Thus, increasing the waiting hours and confusion amongst the needy patients. The pandemic era highlighted this issue globally as Swedish citizens of varied ethnicities or working-class mortality rate was more due to the lack of accessibility to all.

3.2.Kazakhstan in context

In 1991 after its independence, Kazakhstan as an economy had collapsed but due to its abundant natural resources, it was able to rise and come out of poverty while becoming debt free very quickly as compared to many other countries. However, in this country not all areas are equally developed in terms of productivity, education, technology etc. Kazakhstan's population is relatively young as compared to Sweden and other developing countries, but it is also undergoing a transition since its post-independence time. A shift in its death rates, birth rates, technology advancement etc. was noticeable. Its healthcare system's quality had declined in the post-soviet era because of the loss of human resources due to immigration, limited funding etc. It has been under reform since then and was mostly under the control of the state. The number of doctors including hospital beds were very low as back then (post-independence) there was less than 3% of GDP being used for healthcare services. Since then, several government health reform practices have been launched for the betterment of this situation by improving accessibility of medical care and products to the patients. They are focused on improving the coordination between different level of providers; reducing relying on inpatient care; development of primary health care; restructuring the hospitals to balance out delivery of service; enabling patients to choose their providers to increase competition for the betterment of service amongst providers; adoption of the 'State Guaranteed Benefits Package' which is a basket of free service

provided to the entire population to make the system financially sustainable etc. One such reform programme was launched in the year 2010 to increase this number to at least 4%. Along with this, mandatory health insurance has been in planning stages for several years. Despite these improvement programmes, Kazakhstan's health care system still lags if compared to other countries. [18]

3.2.1. Healthcare Network

The medical care facilities in Kazakhstan are owned mostly owned by the public sector i.e., MOH (Ministry of Health). The Ministry of Health of Kazakhstan is one of executive branches in Kazakh government to control, regulate and organize the delivery of social National Medical Holding. Its aim is to provide new technologies across the nation. Mostly individual healthcare personnel, facilities and medical products are taken care of by these healthcare providers in Kazakhstan. From the total of public and private hospitals, 70% capacity is of the public hospitals which has remained stable for now since years. There is a nationwide system of government-owned medical facilities open to the public along with some private for-profit hospitals as well. Hospitals main key function is to provide inpatient care, but it also provides some outpatient care in their emergency rooms and specialty clinics.
Kazakhstan provides subsidized services for the terminally ill patients with cancer etc. who are expected with a life expectancy of six months or less. The government also funds gynaecological and obstetric services for family planning and prenatal requirements for mothers along with nurses who practice or help during the delivery of babies. There are several NGOs that are very helpful in the healthcare department and are affiliated to varied regional and international or private health care providers. There are these polyclinics and ambulatories which cover a vast area of expertise by providing medical care to many. In the coming years the healthcare system should be focused on modern arrangements, with a clear focus on improving health to maximize efficiency.

3.2.2. Crisis or criticism

However, since the main source of medical equipment is Japan there is always shortage or wastage of resources. Health workers receive quite less wages. In the Soviet system, people prefer outpatient care instead of hospital care. Due to industries, there's a lot of pollution and rural areas are the most affected with ever evolving crises. The most common diseases that people suffer from are respiratory infections, cardiovascular conditions, tuberculosis, cerebrovascular and chronic obstructive pulmonary disease. Since 2000, human immunodeficiency virus (HIV) and environment-linked cancers started to get diagnosed frequently and leading to an increase in deaths. There is a high risk of HIV positive cases in narcotics users and sex workers. There is also a high percentage of suicide cases in Kazakhstan as compared to other countries. It was also found that there were disparities in these rates based on gender since smoking and alcohol consumption amongst men is more leading to liver related diseases and cancer while obesity in females. Out of pocket expenditure for patients is way higher than general OECD standards as only half the assigned percentage is financed publicly or spent. The data and its utilization at all levels are mismanaged and that alone creates a big difference in coordination. [26]

When we will look at the health indicators for both the countries, we will realize that Kazakhstan is way behind as compared to Sweden. Although both the countries have significantly improved over the years, Kazakhstan still has a long way to go.

4. Practical Part

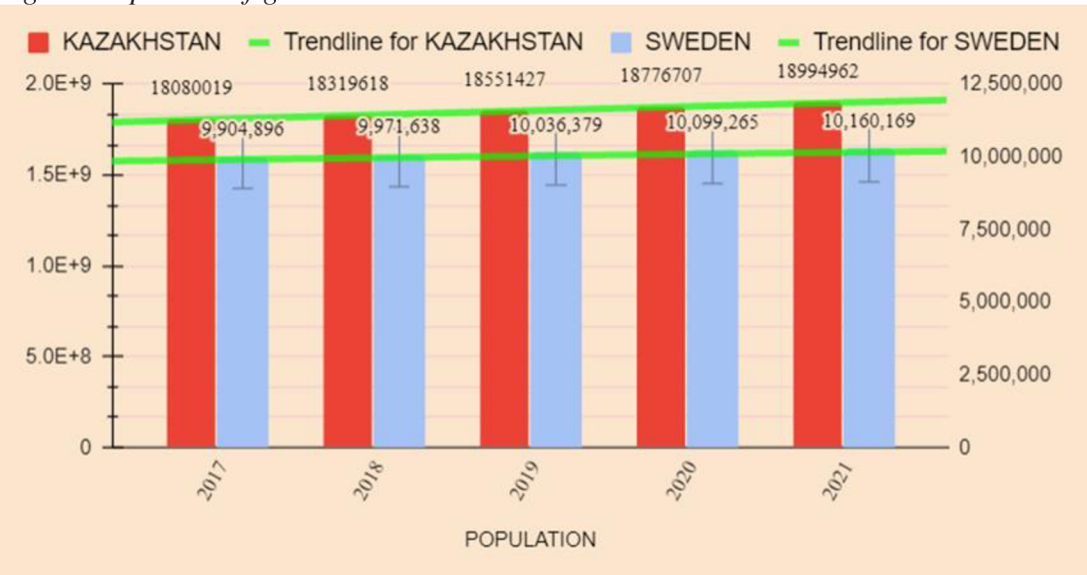
We will be using the below mentioned variables and the data of countries: Sweden and Kazakhstan to compare and analyse their health care and insurance system. We will also be doing a SWOT analysis to judge their health care system's strengths, weaknesses, opportunities and threats in order to see if how their medical facilities can become better.

4.1.Population

Population of a country is a key indicator as it is the human capital that drives an economy towards its rise or fall. Delivering health services to dense populations is more practical than to scarce populations. This means that population density positively affects coverage rates of health services. Countries with dispersed or scarce populations face higher burdens to achieve multinational coverage targets such as the United Nations' Millennial Development Goals. If we keep the health care resources constant, then an area with dense population requires its citizens to travel lease as compared to those with scarce population. Therefore, countries with scarce populations are better with polyclinics or clinics on wheels instead of huge hospitals as it will reduce traveling and costs related to it for the patient including reduction in distance as well. Rapid growth of population as seen lately in most countries is not only a global crisis but also leads to financial crisis and poverty due to lack of resources and this in turn affects health care systems specifically in the developing world. More number of people means a greater number of resources like number of beds or accessibility to these resources which is practically not possible in general.

As we move forward, we will notice how many people have access to hospitals, clean water or are affected by pollution etc. during this set period i.e., 2017 to 2021. Sweden and Kazakhstan both have low population density. However, Kazakhstan's population is just double that of Sweden's but is dispersed more than that of Sweden. However, only comparing population will not work and hence, you will see more data from different indicators down below.

Fig 1.1 Population figures in KAZ and SWE 2017-21



Source: https://www.worldometers.info/world-population/sweden-population/

Table 1.1 Population figures in KAZ and SWE 2017-21

POPULATION	2017	2018	2019	2020	2021
SWEDEN	9,904,896	9971638	10036379	10099265	10160169
KAZAKHSTAN	18080019	18319618	18551427	18776707	18994962

Chart and graph of Sweden's and Kazakhstan's population comparison from 2017 to 2021. There has been a 0.5% increase in Sweden's and a 1.11% in Kazakhstan's population on average. The above-mentioned graph shows a comparison of the statistical data of the two countries' population.

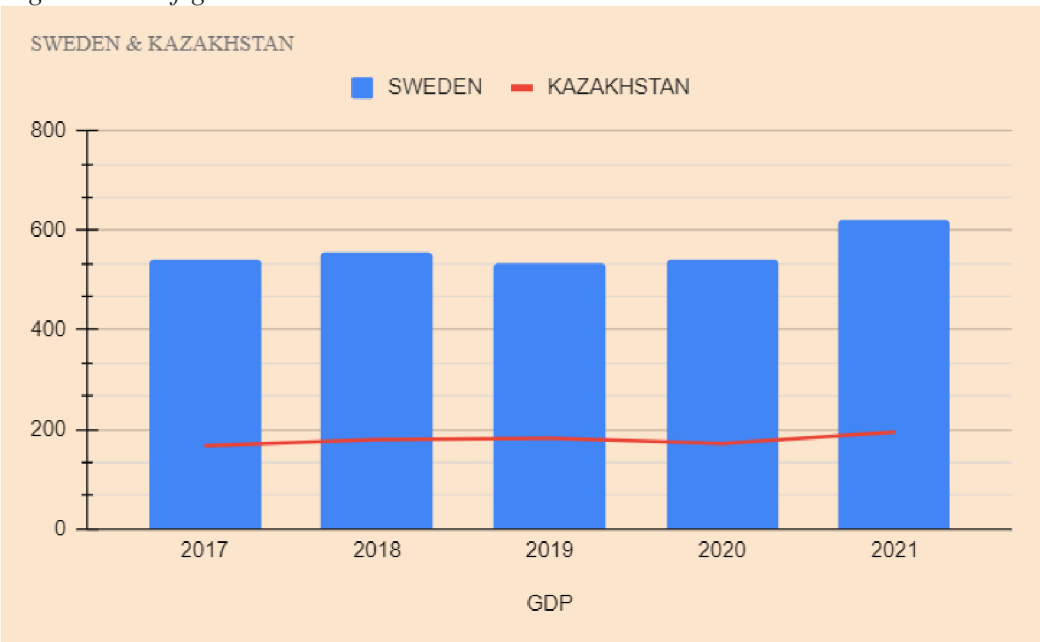
4.2.Gross Domestic Product

Recession or the world war or hyperinflation did not stop Kazakhstan from evolving. It came out stronger and covered the loss very quickly. Its GDP[11] grew tremendously; around 10% per year since the 2000s. It was hence the fastest growing economy. Its major contribution is from its natural resources and international relations. However, this also poses a threat for its future as one day the natural sources will perish due to the excessive mining etc. The data are in current U.S. dollars. In 2020, GDP for Sweden was $537.61B, a 1.19% increase from 2019 while for Kazakhstan it was $169.84B, a 6.51% decline from 2019. In 2019, GDP for Sweden was $531.28B, a 4.35% decline from 2018 and for Kazakhstan it was $181.67B, a 1.3% increase from 2018. In 2018, GDP for Sweden was $555.46B, a 2.67% increase from 2017 and for Kazakhstan it was $179.34B, a 7.51% increase from 2017. In 2017 GDP for Sweden was $541.02B, a 4.92% increase from 2016 and for Kazakhstan it was $166.81B, a 21.51% increase from 2016. Economy was struck hard globally, and it affected both, developed and developing nations. Kazakhstan's economic growth for 2020 was $169.84B, a 6.51% decline from 2019. In 2019, Kazakhstan economic growth was $181.67B, a 1.3% increase from 2018. In 2018, Kazakhstan economic growth for 2018 was $179.34B, a 7.51% increase from 2017. In 2017, Kazakhstan economic growth for 2017 was $166.81B, a 21.51% increase from 2016. However, in 2020, Sweden's economic growth was $549.99B, a 1.64% increase from 2019. Sweden economic growth for 2019 was $541.11B, a 0.2% increase from 2018. In 2018, Sweden's economic growth was $540.05B, a 1.03% increase from 2017. Sweden's economic growth for 2017 was $534.53B, a 1.17% increase from 2016 these changes were seen due to the ever-evolving economy that was hit by a banking crisis and then by the financial global crisis. Kazakhstan also faced difficulties due to the depressed oil prices that led to a cut down export revenue creating deficits in the account balances. Kazakhstan needs to promote economic diversification to reduce the country's reliance on the natural resource sectors (OECD, 2016-21).

Table 1.2 GDP figures in KAZ and SWE 2017-21

GDP	2017	2018	2019	2020	2021
SWEDEN	541.02	555.46	533.88	541.06	622.37
KAZAKHSTAN	166.81	179.34	181.67	171.24	194.02

Fig 1.2 GDP figures in KAZ and SWE 2017-21



Source: https://data.oecd.org/sweden.htm

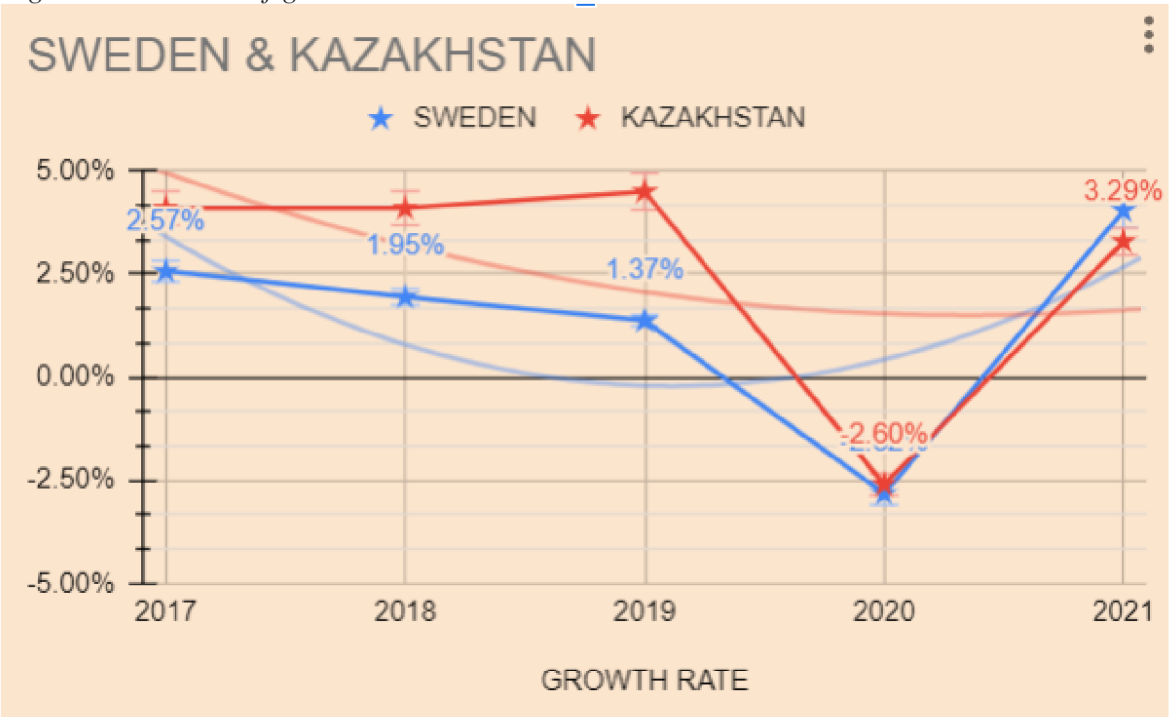
4.2.1. Gross Domestic Product Growth Rate

It is sure that Kazakhstan outgrew as the strongest economy amongst the OECD nations and hence, it led to a huge change in the real income wages which in turn led to the emergence of middle-class families or individuals. In the ten years post its independence, real wages were seen to have increased by 280% as compared to the OECD average of 17% only.
In 2021, Sweden's GDP growth rate was 4.04% and a 6.12% increase from 2020 while Kazakhstan GDP growth rate was 3.29%. In 2020. Sweden's GDP growth rate was -2.82%, a 4.19% decline from 2019 while Kazakhstan GDP growth rate was -2.60%, a 7.1% decline from 2019. In 2019, Sweden GDP growth rate was 1.37%, a 0.58% decline from 2018 while Kazakhstan GDP growth rate was 4.50%, a 0.4% increase from 2018. In 2018, Sweden GDP growth rate was 1.95%, a 0.62% decline from 2017 while Kazakhstan GDP growth rate was 4.10%, a 0% increase from 2017. In 2017, Sweden GDP growth rate was 2.57%, a 0.5% increase from 2016 while Kazakhstan GDP growth rate was 4.10%, a 3% increase from 2016. (OECD, 2016-21)

Table 1.3 GDP growth rate figures in KAZ and SWE 2017-21

GROWTH RATE	2017	2018	2019	2020	2021
SWEDEN	2.57%	1.95%	1.37%	-2.82%	4.04%
KAZAKHSTAN	4.10%	4.10%	4.50%	-2.60%	3.29%

Fig 1.3 Growth rate figures in KAZ and SWE 2017-21



Source: https://www.statista.com/statistics/375277/gross-domestic-product-gdp-growth-rate-in-sweden/

4.2.2. Gross Domestic Product per Capita

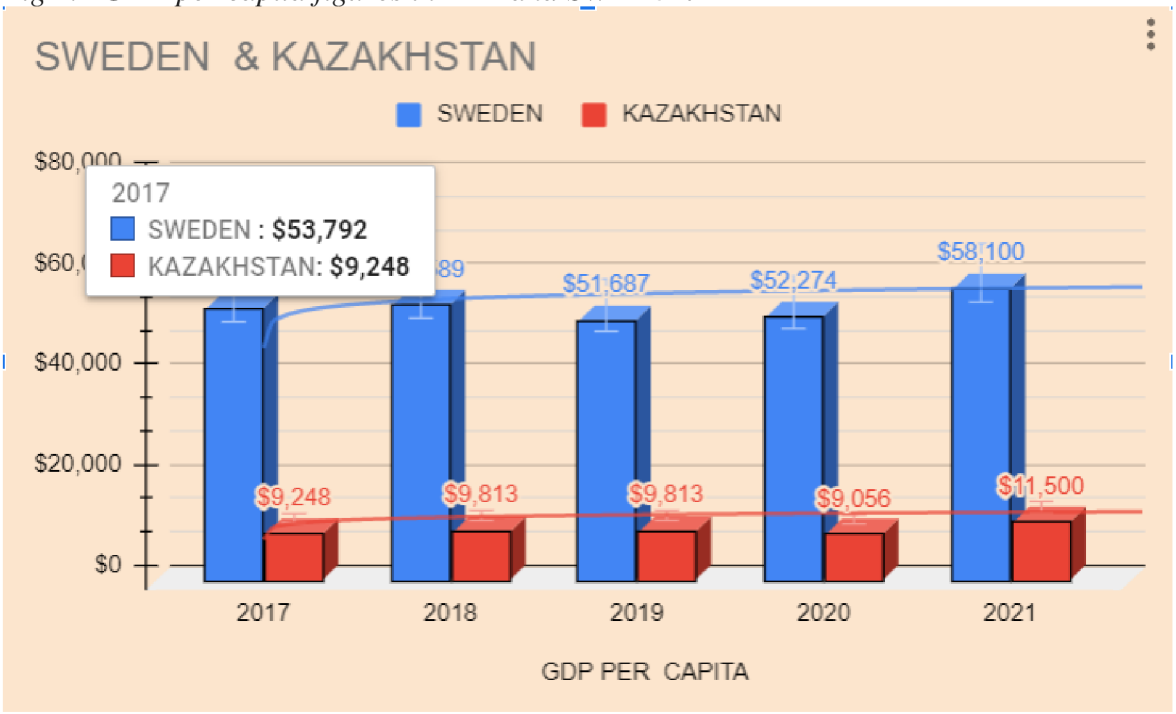
GDP per capita is basically GDP divided by mid-year population. Now, income of an individual or a company is one of the most important indicators to understand a health care system and expenditures of a country or region. Kazakhstan was indeed growing rapidly but this economy has had a major issue that is allocation of its natural resources. These resources are not divided evenly and hence, lead to disparities amongst the whole nation leading to a wide gap in the economic growth of the nation as a whole. Kazakhstan's one of the leading problems related to GDP is that its resources and income allocation is not equal. It is so significantly huge that it beats even Canada and USA and of course Sweden. Over time, it is expected that the country would be able to come through by laying its pioneer foundation for a better and diversified development path for its economic growth. This will also depend on the middle class that emerged due to increase in wages as discussed earlier as it will increase the demand of consumer goods and services in the domestic market, too (World Bank, 2016-21).

Table 1.4 GDP per capita figures in KAZ and SWE 2017-21

GDP PER CAPITA	2017	2018	2019	2020	2021
SWEDEN	$53,792	$54,589	$51,687	$52,274	$58,100
KAZAKHSTAN	$9,248	$9,813	$9,813	$9,056	$11,500

In 2020, Kazakhstan GDP per capita was $9,056, a 7.71% decline from 2019 while Sweden's was $51,926, a 0.46% increase from 2019. In 2019, Kazakhstan GDP per capita for 2019 was $9,813, a 0% increase from 2018 while Sweden GDP per capita was $51,687, a 5.32% decline from 2018. In 2018, Kazakhstan GDP per capita was $9,813, a 6.11% increase from 2017 while Sweden's was $54,589, a 1.48% increase from 2017. In 2017, Kazakhstan GDP per capita for 2017 was $9,248, a 19.87% increase from 2016 while Sweden's was 2017 was $53,792, a 3.51% increase from 2016.

Fig 1.4 GDP per capita figures in KAZ and SWE 2017-21

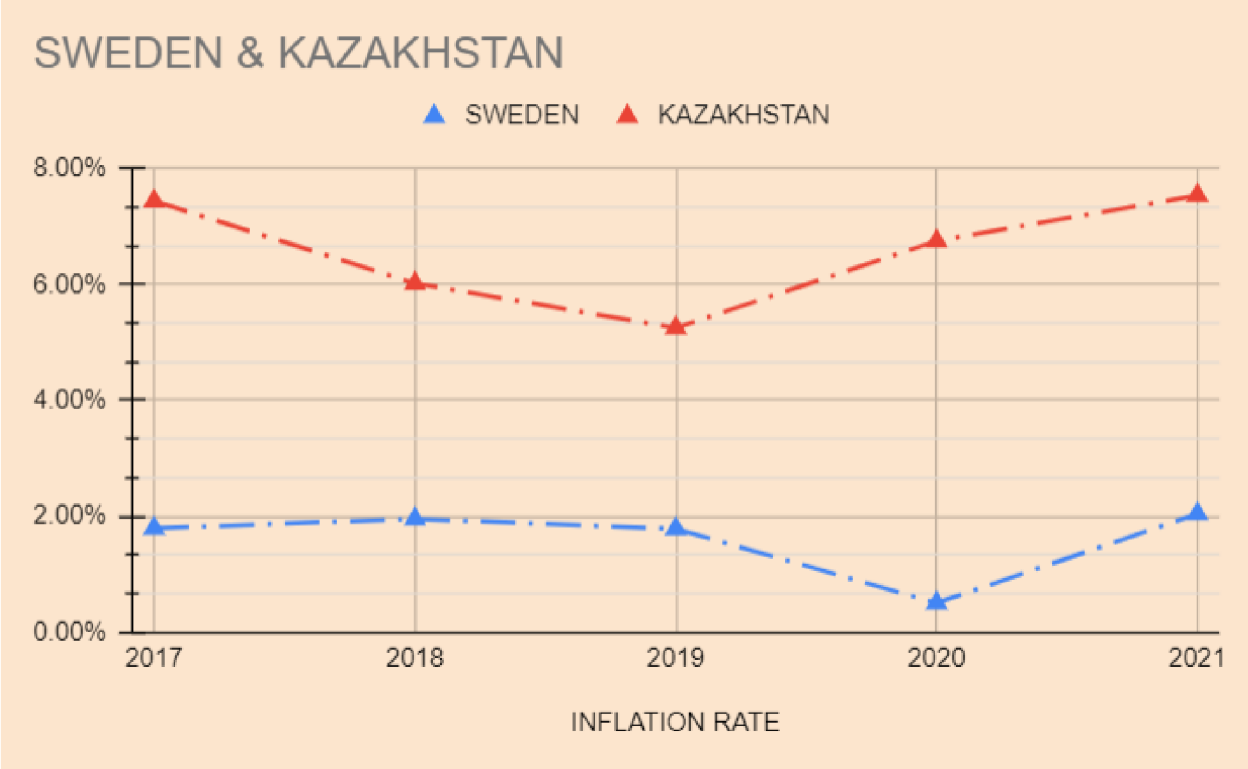


Source: https://www.macrotrends.net/countries/SWE/sweden/gdp-per-capita

4.2.3. Inflation rate

As seen many times, an economy is never always stable. There are fluctuations and when we need more money to buy the same product or a service then that means that the purchasing power of the currency has fallen. Like for example, buying a house or even onions have become more expensive over the period and here inflation means that now I need more money to buy a house or onions. This fluctuation is what determines the inflation rate which is basically the purchasing power of a currency over set time.

Fig 1.5 Inflation rate figures in KAZ and SWE 2017-21



Source: https://www.statista.com/statistics/375283/inflation-rate-in-sweden/

In a year, a person consumes some products or services and the prices for which vary over time. Inflation rate varies for medical supplements or services over time as well and not just FMCG products. In Kazakhstan, the health care system is not equal to all; not all patients receive reimbursements for their medicines or visits to the doctors. Hence it does benefit the medical health care or supplement providers. Their stocks also increased during the pandemic season. Inflation rate also affects the policy and insurance care providers. Technological developments or breakthroughs or sometimes scarcity of a medicine like in the case of covid 19: inflation rate can go up or down based on these factors. In 2020, Kazakhstan's inflation rate was 6.75%, a 1.5% increase from 2019 while Sweden's was 0.50%, a 1.29% decline from 2019. In 2019, Kazakhstan's inflation rate was 5.25%, a 0.77% decline from 2018 while Sweden's was 1.78%, a 0.17% decline from 2018. In 2018, Kazakhstan's inflation rate was 6.02%, a 1.42% decline from 2017 while Sweden's was 1.95%, a 0.16% increase from 2017. In 2017, Kazakhstan's inflation rate was 7.44%, a 7.11% decline from 2016 while Sweden's was 1.79%, a 0.81% increase from 2016. High volatility is induced in the market once inflation increases the prices. (World bank 2016-2021)

Table 1.5 Inflation rate figures in KAZ and SWE 2017-21

INFLATION RATE	2017	2018	2019	2020	2021
SWEDEN	1.79%	1.95%	1.78%	0.50%	2.04%
KAZAKHSTAN	7.44%	6.02%	5.25%	6.75%	7.54%

4.2.4. Unemployment rate

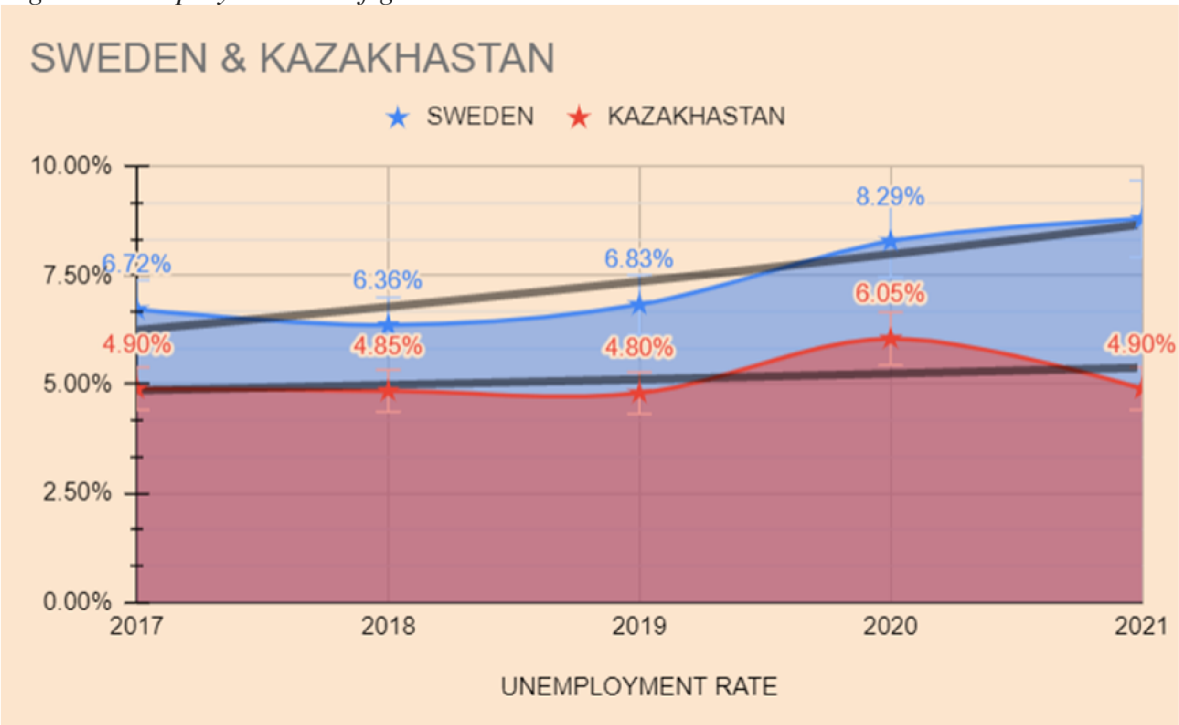
Employment empowers humans directly. It allows better income and improvisation of living standards. This chart shows a comparison of data from Sweden and Kazakhstan of the number of people that were unemployed from the year 2017 to 2021. The pandemic era has had its own effects for the people. Many lost their loved ones while some were standing tall in the front line as warriors to fight this deadly disease. The whole world had taken different measures to fight and survive. In Sweden, there were not any lockdowns or curfews or stay at home regulations etc. their schools and offices along with restaurants etc. remained open. The same effect was also seen in Kazakhstan just like all around the world. (World bank 2016-2021)

Table 1.6 Unemployment rate figures in KAZ and SWE 2017-21

UNEMPLOYMENT RATE	2017	2018	2019	2020	2021
SWEDEN	6.72%	6.36%	6.83%	8.29%	8.80%
KAZAKHASTAN	4.90%	4.85%	4.80%	6.05%	4.90%

Out of the whole population of a region, the number of people that are not working even when they are available to work or willing to work is calculated as the unemployment rate. In 2020, Kazakhstan's unemployment rate was 6.05%, a 1.25% increase from 2019 while Sweden's unemployment rate was 8.45%, a 1.62% increase from 2019. In 2019, Kazakhstan's unemployment rate was 4.80%, a 0.05% decline from 2018 while Sweden's unemployment rate for 2019 was 6.83%, a 0.46% increase from 2018. In 2018, Kazakhstan's unemployment rate was 4.85%, a 0.05% decline from 2017 while Sweden's unemployment rate for 2018 was 6.37%, a 0.35% decline from 2017. In 2017, Kazakhstan's unemployment rate was 4.90%, a 0.06% decline from 2016 while Sweden unemployment rate for 2017 was 6.72%, a 0.27% decline from 2016. (World bank 2016-2021)

Fig 1.6 Unemployment rate figures in KAZ and SWE 2017-21



Source: https://www.statista.com/statistics/375284/unemployment-rate-in-sweden/

As per OECD standards, the unemployment rate is less than that of Sweden and even than other OECD countries but most of the population do not find standard working conditions and end up in situations with low-income employment or many times they are also undeclared self-employed. Many times, the conditions to work are not only unsafe but also lacking social security coverage. There are policies to help the declared employees such as the Social Health Insurance that is funded by the payroll contributions. If we talk about Sweden, then there is a huge health related gap in between the employed and the unemployed. It is mainly due to the unequal allocation of economic and social resources. Some people also do not trust the institutional systems. The Swedish working population faces a lot of mental health issues due to the social and political scenario that leads to unequal access to the resources, and this can also be avoided by proper management.

As compared to the OECD standards, Kazakhstan as an economy is quite healthy. It has an exceptional employment rate and less unemployment rate. The global financial crisis and the worldwide economic recession did not have much of an effect on Kazakhstan. It remarkably came through all these issues as compared to the other OECD countries

4.3.Life expectancy

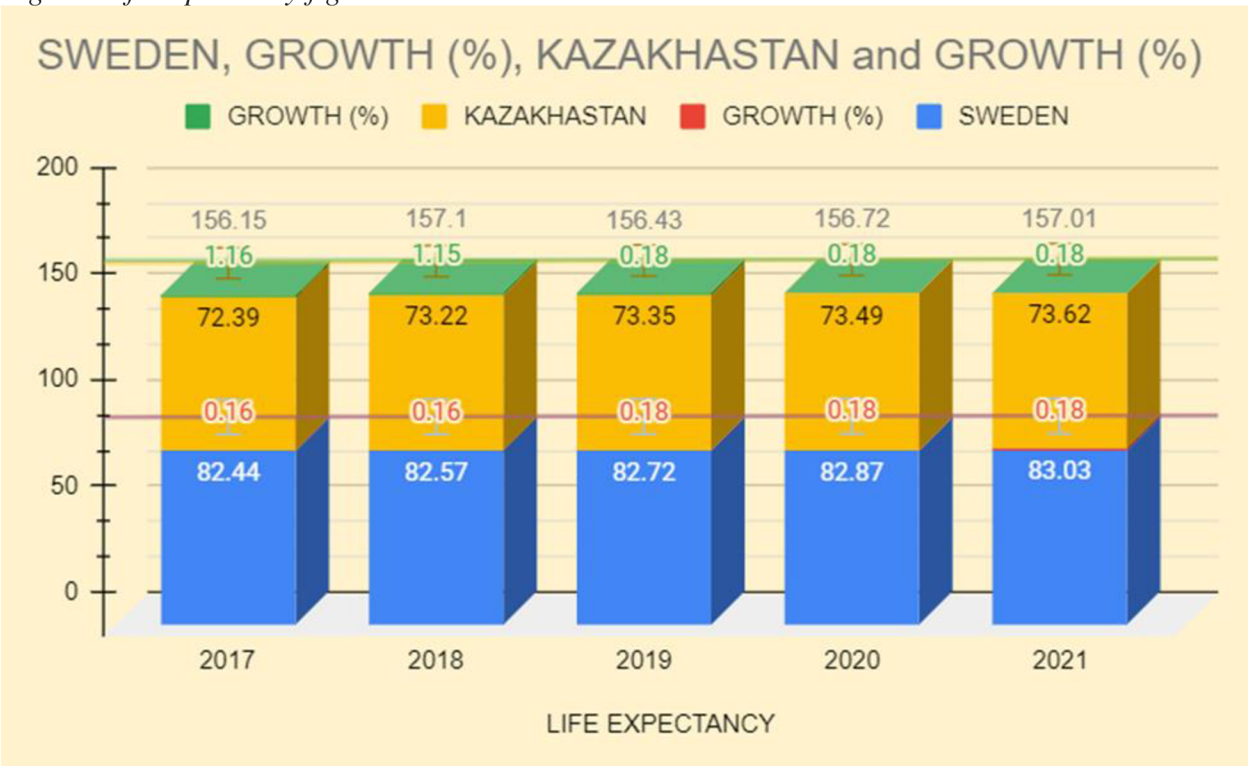
With the increased medical facilities and advancement in this field, life expectancy has almost doubled in most countries since the last century. Increased life expectancy has not only affected us in a good way but if we see this as whole then reduced mortality rate has had its own effects on the economy and hence on the health care industry.

Table 1.7 Life expectancy in KAZ and SWE 2017-21

LIFE EXPECTANCY	2017	2018	2019	2020	2021
SWEDEN	82.44	82.57	82.72	82.87	83.03
GROWTH (%)	0.16	0.16	0.18	0.18	0.18
KAZAKHASTAN	72.39	73.22	73.35	73.49	73.62
GROWTH (%)	1.16	1.15	0.18	0.18	0.18

In Kazakhstan, life expectancy is much lower than compared to the other OECD countries. The younger generation reflects a significantly shorter life expectancy at birth as compared to the other countries. In the last three decades, there has been only a gain of 2.5 years as cumulative life expectancy gained while other OECD countries had seven years and 8 years for other EU countries. Kazakhstan's highest death rate, however, is due to circulatory and respiratory diseases. These two diseases alone are more than the deaths caused by cancer. There are also high death rates from diseases related to the digestive system and liver. Alcohol consumption is relatively low but still is a major problem along with smoking.

Fig 1.7 Life expectancy figures in KAZ and SWE 2017-21



Source: https://www.macrotrends.net/countries/SWE/sweden/life-expectancy

The parasitic or infection-related diseases are significantly less than in other OECD countries or tuberculosis is also another major cause of death in Kazakhstan. Kazakhstan has a huge number of deaths due to external factors which is 15 times more than that of Sweden which in turn has a major toll on the healthcare system. Here, deaths related to diseases of the nervous system and genitourinary are also quite high as compared to Sweden. Women of Kazakhstan are more prone to obesity than men and is also a significant cause of health-related diseases. Hence, the policies should include inducing healthy behaviour amongst their citizens to reduce the death rate and increase the efficiency of the health care system. They can also add public health and mental awareness campaigns like other countries. Elaborate labelling and packaging of food with proper information of contents in food might be of help in increasing awareness. This is because it is always noticed that correct information has always proven to be helpful and encourages humans to make better choices.
A question arises in my mind as I write here that Kazakhstan's life expectancy at birth is much lower than that of many other developing nations even though its economic growth has been spectacular over the years. We will probably find the reason for this question as we move further while discussing health care expenditure.

Sweden Life Expectancy 2017-2022 All 2020 and later data are UN projections and DO NOT include any impacts of the COVID-19 virus.
Chart and table of Sweden life expectancy from 2017 to 2021. In 2022, life expectancy for Sweden in 2022 is 83.18 years, a 0.18% increase from 2021. In 2021, life expectancy for Sweden was 83.03 years, a 0.18% increase from 2020 while Kazakhstan's was 73.62 years, a 0.18% increase from 2020. In 2020, life expectancy for Sweden was 82.87 years, a 0.18% increase from 2019 while Kazakhstan's was 73.49 years, a 0.18% increase from 2019. In

2019, life expectancy for Sweden was 82.72 years, a 0.18% increase from 2018 while Kazakhstan's was 73.35 years, a 0.18% increase from 2018. [29]

4.3.1. Mortality rate

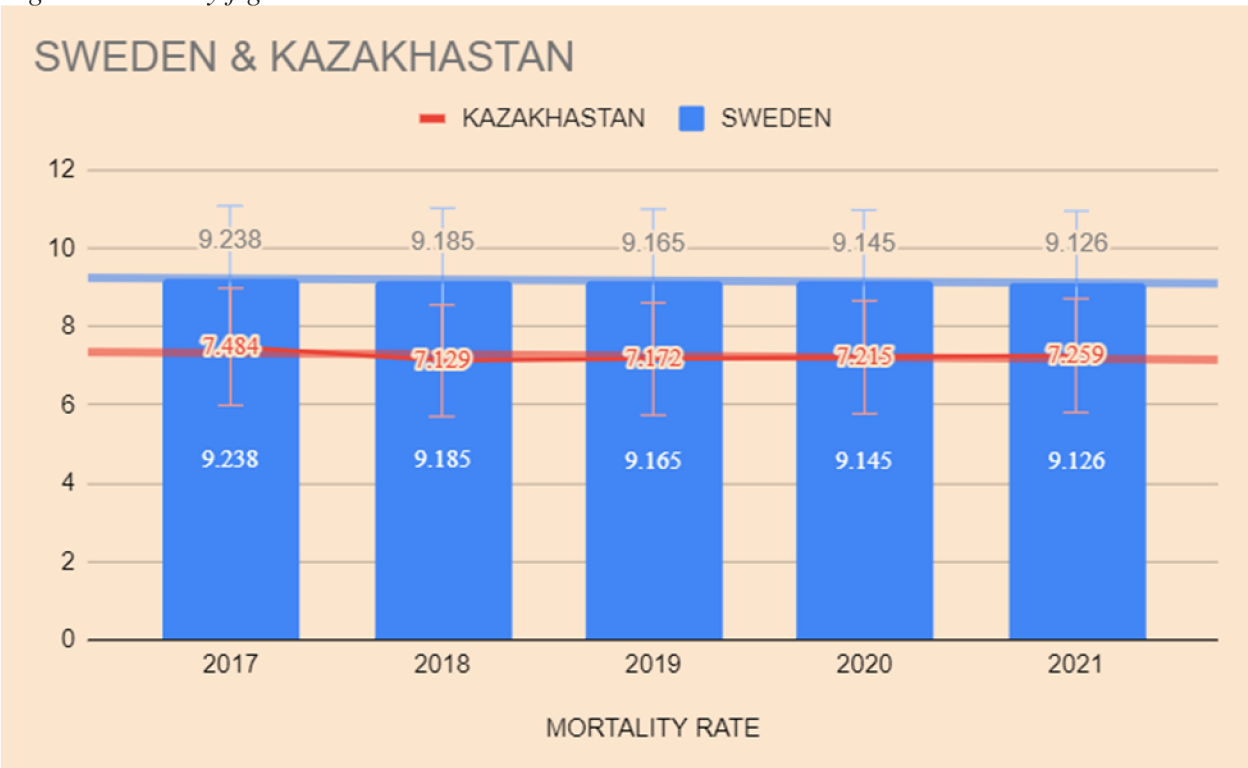
Human capital is the most important for a country. Hence, mortality and birth rate are very important indicators. At the same time, life expectancy of a child and an adult also determine the growth of a country. Hence, these indicators altogether are interrelated. A nation's citizen's health is directly proportional to the nation's economy as unhealthy humans reduce the human capital for a nation. Like what has been happening during the pandemic era. Lots of personnel were stuck in quarantine or were suffering from severe symptoms of the virus due to which all the manufacturing units and factories had to close, and supply of goods went down drastically increasing their prices and making them unavailable in the market. Sweden had dealt maybe in a more efficient way than Kazakhstan due to its better healthcare infrastructure. As a result, parents and the government should invest in their young generation to increase the output. Regular check-ups and vaccinations are also important to take care of the children. It would lead to an increase in the healthy adult human capital.

Table 1.8 Mortality figures in KAZ and SWE 2017-21

MORTALITY RATE	2017	2018	2019	2020	2021
SWEDEN	9.238	9.185	9.165	9.145	9.126
KAZAKHASTAN	7.484	7.129	7.172	7.215	7.259

In a year, the number of deaths by suicide per 100000 population is the suicide rate of a country. In 2019, Kazakhstan suicide rate was 17.60, a 7.37% decline from 2018 while in 2019 Sweden suicide rate was 14.70, a 1.34% decline from 2018. In 2018 Kazakhstan suicide rate was 19.00, an 8.65% decline from 2017 while in 2018 Sweden suicide rate was 14.90, a 0.67% decline from 2017. In 2017 Kazakhstan suicide rate was 20.80, a 4.15% decline from 2016 while in 2017 Sweden suicide rate was 15.00, a 2.74% increase from 2016. In 2016 Kazakhstan suicide rate was 21.70, a 6.47% decline from 2015 while in 2016 Sweden suicide rate was 14.60, a 7.01% decline from 2015. Therefore, both the countries need to invest in better mental health care programmes to raise awareness amongst their citizens and open hotline services for the people who are dealing with mental health issues.
In Sweden, the highest number of deaths were caused due to suicide which is a total of 31 percent. The rates of death due to suicide in Sweden was seen more in the rural areas as compared to the urban areas. Education does play an important role in such cases along with better transportation facilities as an educated person dealing with mental health issue with access to medical care along with certain benefits will be more aware and might reduce the rate of deaths by suicide. In most cases, suicides are reduced by awareness and educating humans to reduce stigma around mental health. Service animals or birds have also helped in many cases. [29]

Fig 1.8 Mortality figures in KAZ and SWE 2017-21



Source: https://www.macrotrends.net/countries/SWE/sweden/death-rate

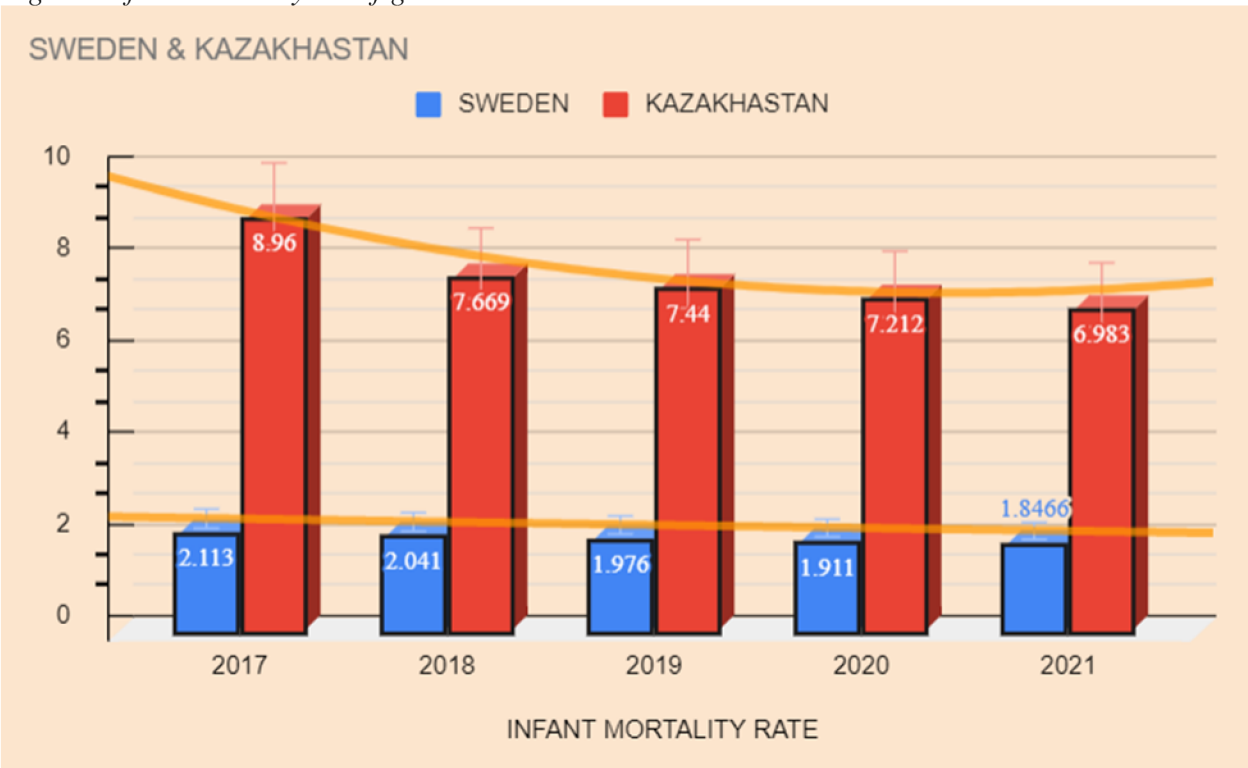
4.3.2. Infant mortality rate

Chart plus a graph of the Sweden and Kazakhstan infant mortality rate from 2017 to 2021. In 2022, the infant mortality rate for Sweden in 2022 is 1.781 deaths per 1000 live births, a 3.52% decline from 2021 while Kazakhstan's is 6.755 deaths per 1000 live births, a 3.27% decline from 2021. In 2021, the infant mortality rate for Sweden was 1.846 deaths per 1000 live births, a 3.4% decline from 2020 while Kazakhstan's was 6.983 deaths per 1000 live births, a 3.18% decline from 2020. In 2020, the infant mortality rate for Sweden was 1.911 deaths per 1000 live births, a 3.29% decline from 2019 while Kazakhstan's was 7.212 deaths per 1000 live births, a 3.06% decline from 2019. In 2019, the infant mortality rate for Sweden was 1.976 deaths per 1000 live births, a 3.18% decline from 2018 while Kazakhstan's was 7.440 deaths per 1000 live births, a 2.99% decline from 2018. [11]

Table 1.9 Infant mortality figures in KAZ and SWE 2017-21

INFANT MORTALITY RATE	2017	2018	2019	2020	2021
SWEDEN	2.113	2.041	1.976	1.911	1.8466
KAZAKHASTAN	8.96	7.669	7.44	7.212	6.983

Fig 1.9 Infant Mortality rate figures in KAZ and SWE 2017-21



Source: https://www.macrotrends.net/countries/SWE/sweden/infant-mortality-rate

If we talk about maternal mortality rate, then it is the number of women who die from pregnancy-related causes while pregnant or within 42 days of pregnancy termination. The below mentioned data is per 100,000 live births. In 2017, Kazakhstan's maternal mortality rate was 10.00, a 0% increase from 2016 while Sweden's was 4.00, a 0% increase from 2016. Smoking rate is the percentage of human citizens who are aged 15 and over that smoke any tobacco product on a daily or non-daily basis. It excludes smokeless tobacco use. The rates are age standardized. In 2018, Kazakhstan's smoking rate was 24.40%, a 0.9% decline from 2016 while Sweden's was 28.80%, a 2% decline from 2016. It is an important indicator as shared above the number of deaths are significant and smoking tobacco is one of the leading causes of cancer.

4.3.3. Birth rate

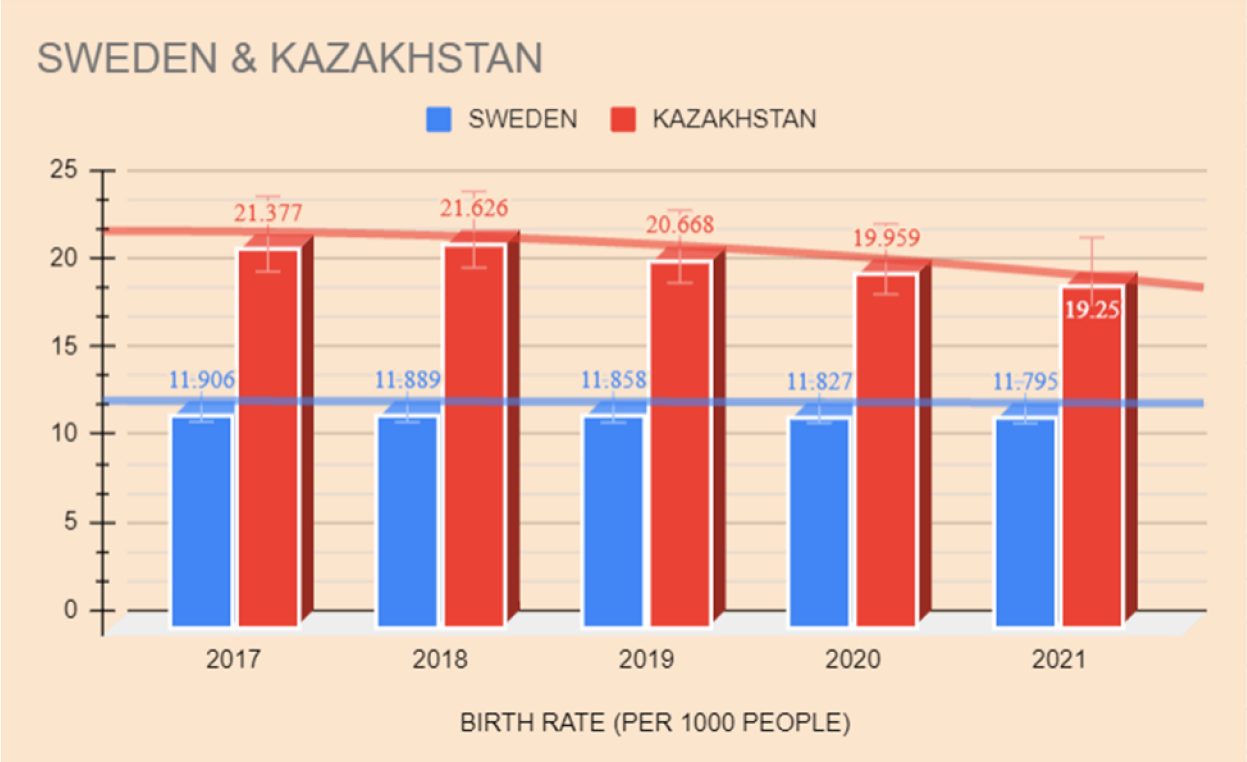
Chart and table of the Sweden birth rate from 2017 to 2021. In 2022, Sweden's birth rate is 11.764 births per 1000 people, a 0.26% decline from 2021 while Kazakhstan's is 18.541 births per 1000 people, a 3.68% decline from 2021.The birth rate for Sweden in 2021 was 11.795 births per 1000 people, a 0.27% decline from 2020 while Kazakhstan's was 19.250 births per 1000 people, a 3.55% decline from 2020.The birth rate for Sweden in 2020 was 11.827 births per 1000 people, a 0.26% decline from 2019 while Kazakhstan's was 19.959 births per 1000 people, a 3.43% decline from 2019.The birth rate for Sweden in 2019 was

11.858 births per 1000 people, a 0.26% decline from 2018 while Kazakhstan's was 20.668 births per 1000 people, a 3.32% decline from 2018. The birth rate for Sweden in 2018 was 11.889 births per 1000 people, a 0.14% decline from 2017 while Kazakhstan's was 21.377 births per 1000 people, a 1.15% decline from 2018. The birth rate for Sweden in 2017 was 11.906 births per 1000 people, a 0.14% decline from 2016 while Kazakhstan's was 21.626 births per 1000 people, a 1.13% decline from 2016.

Table 1.10 Birth rate (per 1000 people) figures in KAZ and SWE 2017-21

BIRTH RATE (PER 1000 PEOPLE)	2017	2018	2019	2020	2021
SWEDEN	11.906	11.889	11.858	11.827	11.795
KAZAKHSTAN	21.377	21.626	20.668	19.959	19.25

Fig 1.10 Birth rate (per 1000 people) figures in KAZ and SWE 2017-21



Source: [Sweden Birth Rate 1950-2022 | MacroTrends]

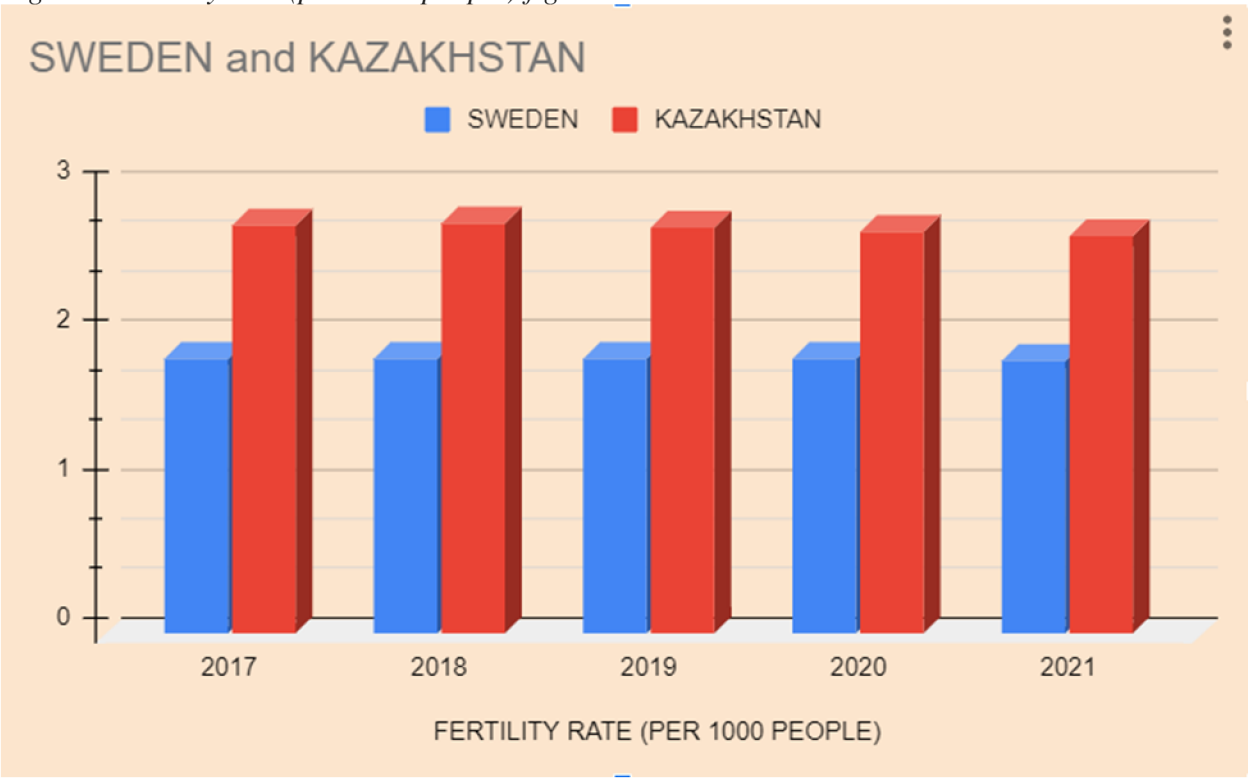
4.3.4. Fertility rate

Chart and table of the Sweden fertility rate from 2017 to 2021. In 2022, Sweden's fertility rate is 1.844 births per woman, a 0.11% decline from 2021 while Kazakhstan's is 2.650 births per woman, a 1.08% decline from 2021. In 2021, fertility rate for Sweden was 1.846 births per woman, a 0.05% decline from 2020 while Kazakhstan's was 2.679 births per woman, a 1.03% decline from 2020. In 2020, fertility rate for Sweden was 1.847 births per woman, a 0.11% decline from 2019 while Kazakhstan's was 2.707 births per woman, a 1.06% decline from 2019. In 2019, fertility rate for Sweden was 1.849 births per woman, a 0.05% decline from 2018 while Kazakhstan's was 2.736 births per woman, a 1.01% decline from 2018.

Table 1.11 Fertility rate (per 1000 people) figures in KAZ and SWE 2017-21

FERTILITY RATE (PER 1000 PEOPLE)	2017	2018	2019	2020	2021
SWEDEN	1.86	1.85	1.849	1.847	1.846
KAZAKHSTAN	2.746	2.764	2.736	2.707	2.679

Fig 1.11 Fertility rate (per 1000 people) figures in KAZ and SWE 2017-21



Source: https://data.worldbank.org/indicator/SP.DYN.TFRT.IN?locations=SE

4.3.5. Hunger statistics

Many developing and underdeveloped countries have a large population that is malnourished and have almost null access to nourishment. Below mentioned data shows the percentage of undernourished population in Sweden and Kazakhstan. In 2018, Kazakhstan's hunger statistics was 2.50%, a 0% increase from 2017 while Sweden's hunger statistics for 2018 was 2.50%, a 0% increase from 2017.

Clean water access

For many years and especially after the boom in population, a large number of people have had no access to clean drinking water. Dirty or infected water is one of the major leading issues of the world. Clean drinking water has become a scarcity and we are all running out of it. Most of the water bodies are now contaminated by faecal and industrial waste. Hence, the need for improvement of techniques to make clean water accessible to as many people as possible irrespective of their status in society. This data is from Sweden and Kazakhstan to show the percentage of people who have access to clean drinking water. In 2017,

Kazakhstan's 89.51% population had clean water access which is a 2% increase from 2016 while Sweden's 99.94% population had clean water access which is a 0% increase from 2016.

4.3.6. Pollution

Urbanization and industrial revolution along with the boom of access to vehicles are a major cause of pollution all over the world. Carbon dioxide generated by burning of fossil fuels such as coal or petrol or diesel are the leading causes of global warming. It not only leads to global warming but is also responsible for many diseases such as cancer. In 2018, Kazakhstan's carbon dioxide emissions were 220,450.00 which is a 2.27% decline from 2017.

4.4.Private and public spending

We all have heard of varied insurance schemes to help us during the time of financial crisis. It basically protects one during the times of financial losses. There are private and public insurance plans providers. The health care insurance helps the beneficiary by covering some amount of the bills along with some other benefits in case of emergencies such as a car accident. A nation's total health care expenditure is also inclusive of payment for health care via funding for private insurance providers.

As compared to other countries all over the world or even Sweden, Kazakhstan's expenditure in the health care sector has been very modest. Since the last decade post-independence, the country's government has tried to introduce various reforms to help their citizens as discussed above. They need to desperately increase their funds in order to meet the needs of their people. Even though Kazakhstan is a rapidly growing economy, its health care expenditure is lagging. As per the WHO data, total spending has been almost the same and very less since the past twenty years. It spends less than 25% of the total of OECD countries' expenditure on health care. Other OECD countries spend more than 60 % on their health care expenditure per capita.

The below mentioned data is in US dollars and is an estimate of health expenditures that include healthcare goods and services consumed during each mentioned year. In 2018, Kazakhstan's healthcare spending was $276, a 2.05% decline from 2017 while Sweden's was $5,982, a 2.46% increase from 2017.

This answers my question that was raised while analysing the data for Kazakhstan's low life expectancy rate at birth. The increment in their health care expenditure will solve this issue.

4.5.SWOT Analysis

As we can see, Sweden's health care industry is one of the leading nations with innovative solutions and good infrastructure i.e., updated technology. Its goal has always been One can notice the possible threats its healthcare system has. Data mining will help the health care personnel to coordinate properly and having a patient's data stored would do no harm but only increase efficacy while dealing with a patient. A patient's history is the most significant while getting treatments. Also, precision medicine will help the advancement of medical care by reducing suffering of a patient as it would increase survival rates and, decrease costs for treatments

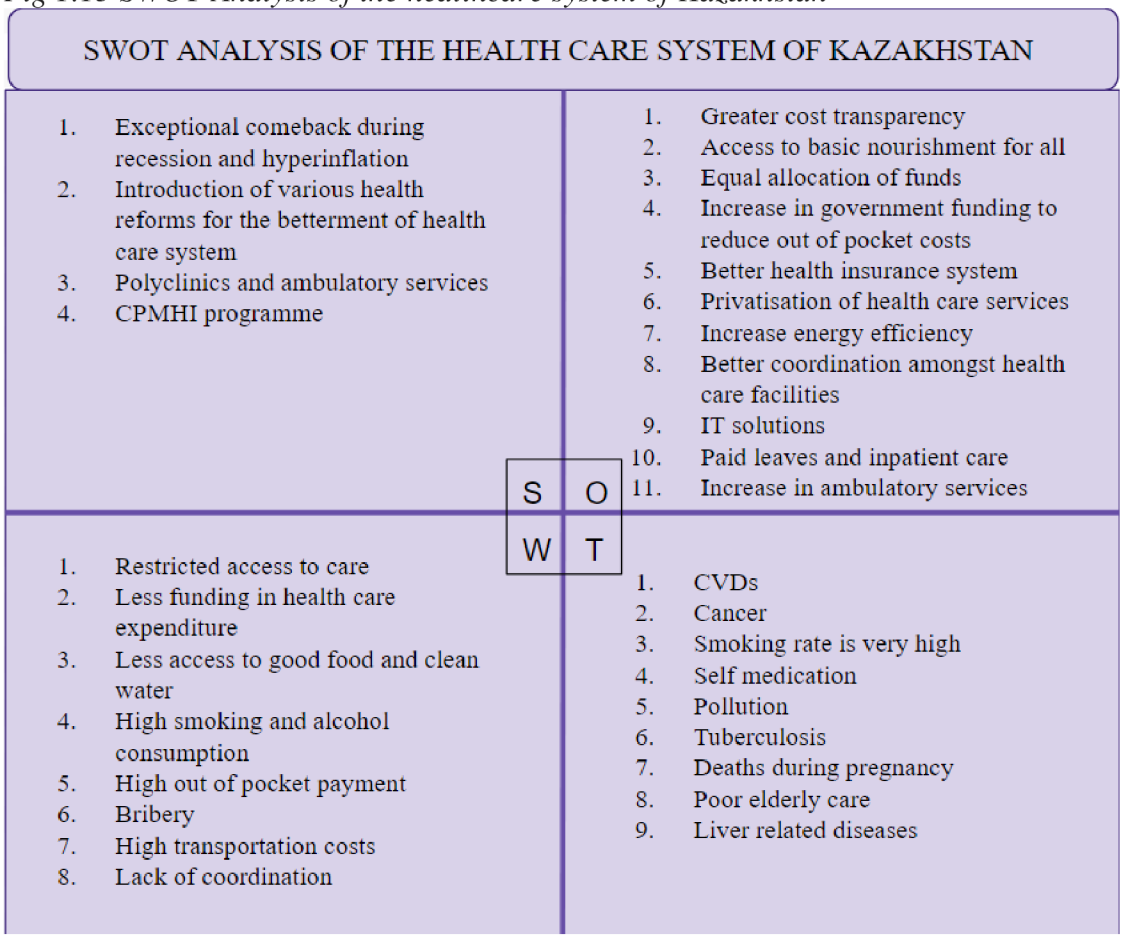
There is an excellent health and welfare system for the Swedish citizens. The Swedish not only have a compulsory insurance system but are also required to pay only a very small amount for their treatment and medicines. They also have paid sick leaves and maternity care. The prescribed meds and care for the chronically ill (diabetic, cancer, CVDs etc.) are all free of cost. Hence, the Swedish health care system not only helps the patients recover or go through the best treatments possible but also, provides for their economic well-being. However, this requires the citizens to pay the highest taxes as compared to all the other countries all over the world.
As per the guidelines by SRPI, the Swedish government has been implementing rationing of medical care, education and employment of doctors, allocation of their resources and diffusion of medical technologies. They also reduce the burden on the medical care by reducing demand with the help of low copayment or fees for the services. It is to reduce the wastage of resources and induce better treatments in time. However, waiting times are still an issue that they need to solve. The reason for this delay is due to insufficiency of supply in services as there is not a proper way to book an appointment and thus, waiting queues are long and tiring for the people in need. As per the SMA, the waiting period varies from 16 to 146 days or more depending on the service required. They have also put high taxes on tobacco and alcohol to reduce its consumption. They have also tried to divide the medical care into four tiers in order to achieve allocation of resources, but this system needs to be revised such that all its citizens have access to the new technologies and not just a few.

Fig 1.12 SWOT Analysis of the healthcare system of Sweden

SWOT ANALYSIS OF THE HEALTH CARE SYSTEM OF SWEDEN	
S 1. Innovative solutions and investment in best technology 2. 60 hospitals with 24 hours emergency services along with a hotline service for medical advice 3. Good insurance schemes 4. Free of cost medical care for children upto 19 years of age 5. Government ensures paid leaves for the sick employees 6. Primary choice system to allow patients to choose facility of their choice	O 1. Electronic based health care for safer practices 2. Precision medicine for less suffering 3. IT solutions 4. Implementation of existing approved reforms sustainably 5. Cost controlling
W 1. Storage of data and sharing it within hospitals is not allowed 2. Upgradation of infrastructure for better treatments 3. Waiting times and coordination are some of the major issues 4. The number of patients with mental health issues have increased 5. Physical inactivity	T 1. Heavy and binge alcohol consumption 2. Smoking rate is increasing with time 3. Alzheimer's and dementia related death toll has increased 4. Obese patients have increased 5. Increase in life expectancy and decrease in mortality rate has increased burden for elderly care

Kazakhstan's health care system is adversely affected by their industrial pollution and lack of resources. Malnutrition is mostly due to inequality of income, less access to nutritious food and clean water which are the necessities of life. They also need to provide intervention and better health care facilities with insurance systems to provide aid to their citizens and specifically the pregnant females to prevent deaths of children.
Kazakhstan also needs to implement high taxes to aid these policy reforms and then execute them efficiently. Just like Sweden even their government can levy more taxes on tobacco and alcohol to reduce its consumption. Chronic diseases need to be diagnosed at grass root level to reduce pressure on their health care system. This is the only way to combat chronic ailments. There is an urgent need to increase healthcare spending and provide insurance to reduce pressure on the citizens for copayments or OOPs. However, the CSMI program was introduced to regulate the healthcare quality and create a single payer health care system. A strategy namely Country Partnership Framework was introduced to increase economic support to the health care system and reduce the unequal allocation of resources in rural and urban areas. Organizations like the World Bank have provided funds to Kazakhstan to aid its health care system. The government, however, should focus on increasing the health care expenditure from its total GDP to expand their reach to the citizens and come up with efficient ways for transportation, education and personalized medicine. They also need to increase production of innovative medical equipment to reduce cost for imports. There is a lot of scope for improvement in Kazakhstan's health care system. [24 ,25]

Fig 1.13 SWOT Analysis of the healthcare system of Kazakhstan



5. Results and Discussion

As mentioned before, human capital plays an important role in a country's economic growth and is also an important part of the health care system. Without good doctors or nurses or the people who coordinate the services for the patients there would not be an efficient health care system at all. A missing link can create a lot of problems even with the best skilled human capital available and hence, coordination and efficiency are a must. The number of health care workers declined during the pandemic era in a lot of countries but also post-independence in Kazakhstan. Various reforms were enacted to strengthen the workforce in both the private and public sectors.

Overall, the services in Kazakhstan in the healthcare sector are averagely adequate Kazakhstan can do the following for the betterment of its health care system in their rural and urban areas both:

Invest more in their children's education along with policies to ensure their health is at par
Increase the funding to take care of the mothers during pregnancy to reduce the maternal and infant mortality rate
Make all the facilities accessible to all their citizens including those in remote areas. Services under SGBP should be accessible to all citizens throughout the country. Their uniformity is another issue to be resolved.

A key factor in all this is related to the payment of the bills by the patients. Unlike Sweden, Kazakhstan's population pays large sums of money to pay their bills out of their own pockets. The government needs to ensure financial protection for their citizens and that would require effective reform or policies to be enforced in order to reduce the burden on the patients. This in turn would reduce the burden on the health care personnel by treating illnesses at the grass-root level instead of waiting for the patient to come only when their ailments increase and become a chronic problem. These insurance policies should be for all the population instead of only specific people as it would ensure broader coverage and hence, make sure that everyone has access to the basic medical health care facilities. Thus, solving the issues at the primary level. This would not only be beneficial for the citizens but also for the economic growth of a country as only healthy people can participate to increase the GDP of their country by working. Kazakhstan's health care system does not meet the WHO criteria for adequate financial protection according to which the OOP or Out of Pocket payment should be less than 20% for a patient and not more.
As per the (National Health Account) NHA data, Kazakhstan's medical coverage i.e., access to the public for medicines is very poor. The patients pay more than 84% of their medicine bills which is a large share as compared to other OECD countries whose citizens pay not more than 40% of their medicine bills. One of the reasons why patients prefer being admitted to a hospital instead of a PHC is because prescribed drugs at a hospital are free of cost as compared to a primary care where the bills are paid to the patients and are only free for those with SSDs. the government, however, has been trying to execute their outpatient benefits packages to reduce the burden of costs on the patients.
As per the 2013 Global Corruption Barometer of Transparency International. Kazakhstan's citizens had to pay 28% bribes to the health personnel which is way more than that of the OECD countries like Sweden that accounted for 7% bribery. As per the

sources, around 28.4% of the interviewed Kazakhstan's population that do not have enough financial resources end up choosing self-medication in order to avoid private payments for visits to the doctors and medicines. It was even suggested that 40% patients' issues also include the long duration of waiting along with no access to medical health care.

Kazakhstan's efforts to deal with its cancer patients have grown positively over the years. They have increased the pap smear tests or screening tests (like in cervical cancer cases). However, it still needs a lot of improvement and equal access to all the people. The monitoring, surgical practices, and chemotherapy services should be accessible to all the people and should be available at a feasible price with the help of government funding as this would detect the diseases at an earlier stage while reducing the burden on their health service and insurance providers.

Government spending on healthcare departments can be allocated efficiently such that the basic resources needed to provide health care services such as hygienic consultation rooms, waiting rooms, qualified staff and other medical related personnel etc. can be introduced efficiently to reduce further contamination and induce happy hormones that will lead to satisfied patients being sent home.
The impediment of allocation of healthcare resources such as hospital beds or ambulatory services leads to further issues that can be resolved with better coordination and increment in the health care spending.
During data collection from various sources, it was seen that there is a need to improve inconsistencies in data collection, data quality, and validity. For a better health care system, only increasing funds is not feasible but also, the need to ensure that these policies or reforms are being executed properly. There is also a need to develop a monitoring process to keep a track of this data to ensure proper implementation by increasing competition. The main target of their policies should also be focused on diagnosis, identification, treatment, management, and prevention of chronic diseases to reduce the burden on the health care system. Facilities such as counselling intervention, maternal therapy, physiotherapy, and mental health therapy sessions by certified therapists will also help improve the health care system by educating the population about the risk factors involved.

5.1.Overall performance of the health system

As per the above shared data, Kazakhstan needs to introduce better policies and reforms while increasing the funds per capita in its healthcare system. Overall, it has grown tremendously but still requires more efforts to make the health and medical care more accessible to its citizens irrespective of their ethnicity. Their government has tried to introduce reforms post-independence but due to demographic inequalities more changes are needed to be made if compared with the rest of the EU countries such as Sweden. Kazakhstan does have free health care services as per the State Guaranteed Benefits Package i.e., SGBP. As per OECD data, the number of inpatient and outpatient services are like that of other OECD countries. However, the number of outpatient visits by the public is slightly less than the average ratio of other EU countries. Post-independence the number of outpatient visits declined a little but was at par in mid 2000s and had again declined in the later years. Hospital visits were almost equal to that of other OECD countries, but the declining outpatient visits is questionable. Hospital

discharges were also at par with the OECD average. However, discharging of patients from the hospitals was also at par with the OECD standards.

6. Conclusion

The aim of this thesis was to describe and characterize Kazakhstan's healthcare system by using a statistical database and a legal documentation to find out future perspectives and opportunities for the development of these countries' economy. Also, the thesis includes a systematic comparison of Kazakhstan (as a developing country) with Sweden (as a developed country) to identify key differences in their healthcare systems and define advantages of health insurance for future implementation within Kazakhstan.

As per our descriptive statistical and SWOT analysis of the health care and insurance system of Sweden and Kazakhstan, the countries have introduced many reforms in years 2017 to 2021. However, both the countries have a huge scope of further developing their health care and medical facilities for the betterment of their citizens. Kazakhstan's government needs to enforce mandatory insurance policies along with an increase in their funding with proper execution of these reforms to deal with the chronic diseases to help battle these at early stages. They also need to focus on their child development and maternal health care services. Their health care industry needs to be more updated with innovative technologies and accessible to all individuals with a minimal copayment system as Sweden. However, due to its low population density the hospital infrastructure cannot be the same or like that of Sweden as the demographic results suggest that they need more polyclinics and ambulatory services to reduce transportation time. On the other hand, Sweden's health care system needs to be more focused on further development by sharing data and can use sharing of data to avoid delayed treatment results. They are however, the most developed amongst all countries including Kazakhstan in terms of their health care system.

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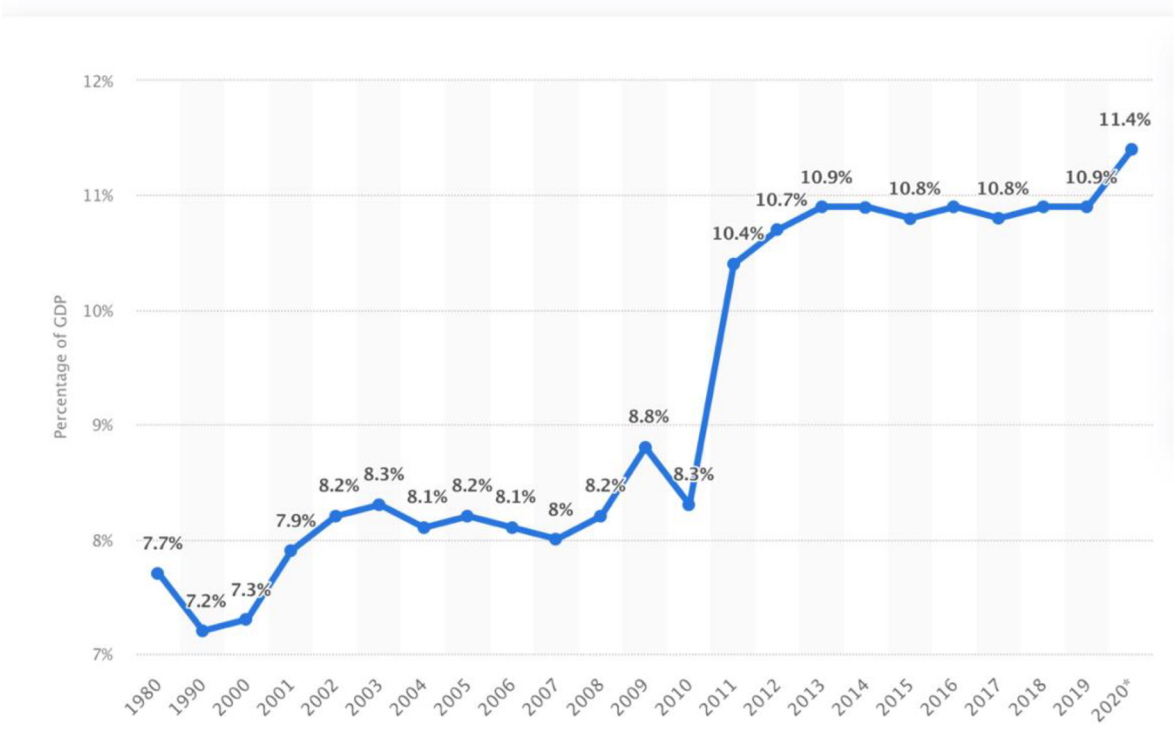
8. Appendix

Appendix 1 Table showing historical data of Kazakhstan's healthcare spending over past two decade

Kazakhstan Healthcare Spending - Historical Data		
Year	**Per Capita (US $)**	**% of GDP**
2018	$276	2.92%
2017	$282	3.13%
2016	$263	3.42%
2015	$319	3.04%
2014	$381	2.97%
2013	$370	2.66%
2012	$377	3.04%
2011	$304	2.60%
2010	$249	2.74%

Source: https://www.macrotrends.net/countries/KAZ/kazakhstan/healthcare-spending

Appendix 2 Graph showing healthcare spending as a percentage of GDP in Sweden



Source:https://www.statista.com/statistics/429229/healthcare-expenditure-as-a-share-of-gdp-in-sweden/#:~:text=The%20per%20capita%20expenditure%20on,thousand%20Swedish%20kronor%20per%20capita

Appendix 3 Historical data of life expectancy of Sweden

Sweden - Historical Life Expectancy Data		
Year	Life Expectancy	Growth Rate
2022	83.18	0.180%
2021	83.03	0.180%
2020	82.87	0.180%
2019	82.72	0.180%
2018	82.57	0.160%
2017	82.44	0.160%
2016	82.31	0.160%
2015	82.18	0.160%
2014	82.05	0.160%
2013	81.92	0.210%

Source: www.tradingeconomies.com

Appendix 4 showing Life expectancy of Sweden

					Year	2017	2018	2019	2020
Variable		**Measure**	**Country**						
Life expectancy	Females at birth	Years	Sweden			84,1	84,3	84,8	84,2
		Difference female-male (years)				3,3	3,4	3,3	3,5
	Females at age 40	Years				44,8	45	45,5	..
		Difference female-male (years)				2,9	3	3	..
	Females at age 60	Years				25,9	26	26,5	..
		Difference female-male (years)				2,5	2,6	2,6	..
	Females at age 65	Years				21,5	21,6	22,1	21,4
		Difference female-male (years)				2,3	2,4	2,5	2,5
	Females at age 80	Years				9,8	9,9	10,3	..
		Difference female-male (years)				1,4	1,4	1,5	..
	Males at birth	Years				80,8	80,9	81,5	80,7
		Difference male-female (years)				-3,3	-3,4	-3,3	-3,5
	Males at age 40	Years				41,9	42	42,5	..
		Difference male-female (years)				-2,9	-3	-3	..
	Males at age 60	Years				23,4	23,4	23,9	..
		Difference male-female (years)				-2,5	-2,6	-2,6	..
	Males at age 65	Years				19,2	19,2	19,6	18,9
		Difference male-female (years)				-2,3	-2,4	-2,5	-2,5
	Males at age 80	Years				8,4	8,5	8,8	..
		Difference male-female (years)				-1,4	-1,4	-1,5	..
	Total population at birth	Years				82,5	82,6	83,2	82,5

Source: OECD Life expectancy, Sweden 2017-2021