

# **Market Efficiency of Listed Companies: Kazakhstani Case of Investment in the Public Limited Company vs Deposit in the Second-Tier Bank**

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## **Abstract**

The paper examines the attractiveness of two different investment alternatives for individual investors. It involves purchase of KAZ Minerals PLC shares versus placement of investor's funds in second-tier bank's (Kaspi Bank JSC) deposit in the Republic of Kazakhstan.

KAZ Minerals PLC (hereinafter the "KAZ Minerals") takes origin from 1930 and as for now it is leading international company for extraction and processing of natural resources. KAZ Minerals is the biggest Kazakhstani company that produces copper in Kazakhstan and one of the biggest producers in the world. KAZ Minerals is making business in Kazakhstan and it is registered in London and Hong Kong Stock Exchanges.

The second-tier bank, which time deposits will be considered for investment as an alternative to investment in the shares of KAZ Minerals is JSC Kaspi Bank. JSC Kaspi Bank (hereinafter "Kaspi Bank") started its operations in 1991, and today it is the one of the market leaders in

provision of banking services and other financial products to large and medium-sized corporations, as well as individual clients, in all sectors of Kazakhstani economy. The choice of the bank is based on results of third quarter of 2019, which showed that Kaspi Bank is not merely one of the largest private banks in CIS, but also has a leadership position as a lender in Kazakhstan by total assets. One more reason for comparing the deposits of this particular bank to the investment in stocks of KAZ Minerals is the low risk level, as the bank's management emphasizes the importance of asset quality and liquidity management, as well as maintenance of high operating efficiency.

Thus, the paper compares the attractiveness of investment in the stocks of KAZ Minerals PLC versus investment of money in deposit of Kaspi Bank JSC in terms of their profitability and risk level.

*Key words:* analysis of market performance, investment, banks, joint stock company, deposit, comparison, finance, market.

## Introduction

The scope of the study covers mainly the estimation of profitability (rate of return) and risk level of two investment alternatives. The interest rate of bank's deposits is already known; hence the research focuses on assessing the riskiness of deposits and adjustment of return on investment for the level of inflation. All necessary information is retrieved from financial reports placed on official website of the company, Kazakhstan Stock Exchange and website of National Bank of Kazakhstan.

For evaluation of second investment alternative (purchasing shares of KAZ Minerals), Capital asset pricing model (CAPM) and estimations of beta and standard deviation are applied. All information for assessing financial performance of KAZ Minerals is obtained from financial statements given on KASE and data provided on website of the company. Moreover, the data for estimation of such variables as beta and market risk premium and figure of risk free rate was obtained from yahoofinance.com, KASE and National Bank (NBRK) website.

## Literature Review

The issue of alternative investments in shares of the companies versus savings accounts in banks is widely discussed in today's financial world. Actually, any ordinary investor knows that return on firm's shares, especially successful one, usually is greater than return on the money placed on bank's deposit. However, still majority of Kazakhstani individuals prefer to open savings account, rather than analyze performance of stock market and purchase shares of the companies. One of the reasons can be the level of risk aversion of people. To explain, the higher the expected return on the investment, the higher is the level of risk as risk and return

variables always move together. Hence, many individuals, who prefer lower level of risk for a given level of return, will put money on savings accounts (Bodie, Kane & Marcus, 2018).

However, with regard to Asyl-Invest, the major barrier for people to participate in stock operations is low financial literacy. According to the results of the survey conducted by Kazakhstan Institute of Political Solutions in 2018, many respondents said that they consider investing in stocks of company only if government is going to provide some kind of assurance for their investment (Central Asia Online, 2018). Our research examined the performance of KAZ Minerals and trends in customer accounts development in Kaspi Bank during the last 5 years.

### ***KAZ Minerals PLC***

KAZ Minerals PLC is considered to be the largest copper producer in Kazakhstan and one of the leading copper producers all over the world. The shares of the company are traded in London stock exchange, Hong Kong and Almaty. Due to fully integrated company's operations, KAZ Minerals is not merely highly profitable company, but also one of the copper producers, which has the lowest costs and flexibility to serve many different customers. As the copper is one of the key metals, which can be found in every new apartment or office block, vehicle and electrical appliance, the demand for it is not falling, meaning the stable supply for the corporation.

KAZ Minerals operates 16 underground and open pit mines across Kazakhstan. In 2019, company mined 37.5 million tonnes of copper ore and processed it in 10 concentrators. Company also operates three coal-fired

plants and heating plants that generate the necessary level of power for copper production and market excess capacity for commercial aims. KAZ Minerals is also the largest domestic power provider in Kazakhstan with 20% of market share. In addition to corporation's 3 captive power plants, company owns 50% of the country's largest power station, Ekibastuz GRES-1, which produced around 14,368 GWh of power in 2019, 13% above the previous year.

*Analysis of company' performance.* According to the information provided on Kazakhstan Stock Exchange, KAZ Minerals shareholders are represented by following entities:

- Cuprum Holding Limited – 135 944 325 shares, 25.39%
- Fund of National Welfare “Samruk-Kazyna” JSC – 58 876 793 shares, 11%
- Harper Finance Limited – 29 706 901 shares, 5.55%
- Committee of State Property and Privatization, Ministry of Finance of the Republic of Kazakhstan – 80 286 050 shares, 15%
- General public – 230 603 892 shares, 43.06%

Total number of stated shares equals to 750 000 000, out of them 535 417 961 shares are outstanding. More than 43% of KAZ Minerals shares are in hands of the public, it means that there is interest from the general public toward investment in equity of the company. Some portion of people prefers investment in stocks which is more risky in comparison with placement of deposits in second-tier banks.

Moreover, even though the key financial indicators, which are illustrated below, show that company's earnings are fluctuating indicating the riskiness of investment in company's shares, still 29 polled investment

analysts examining the KAZ Minerals PLC advise to investors to hold their position in the corporation. To be more precise, according to the analysts' forecasts company is going to outperform the market in the nearest future (Financial Times, 2018).

Table 1. Alternative performance measures of Kaz Mineral PLC

	2014	2015	2016	2017	2018	2019
EBITDA (\$m)	2,336	2,056	1,634	2,835	2,925	1,912
EPS (\$)	3,02	2,27	1,13	2,79	2,80	0.,
Free Cash Flow (\$m)	895	715	579	718	824	85
Cash Cost of Copper (US cents/lb)*	33	116	72	89	114	174
Maintenance spend per tonne of copper (\$/t)	672	1,038	644	1,075	1,237	2,065

Furthermore, local analysts of Asyl Invest give the advice for investors on shares of KAZ Minerals PLC to buy and hold securities of this company due to strong operating results and prospects for a recovery in demand for copper from China and KazMunaiGas. Analysts also draw the attention of investors on the strong characteristics of the issuer in terms of its efficiency, profitability and balance sheet indicators and lagging stock price indicators of the company from the overall market (Prodengi.kz, 2018).

In accordance with analysis of related literature, investment in shares of KAZ Minerals has following pros and cons respectively:

- KAZ Minerals is engaged in the cyclical business, consequently, its revenue and earnings are heavily influenced by aggregate business activity. In terms of stocks, this company has high beta and its rate of return has greater changes than the overall market rate of return. This is

negative side of the industry, it adds risk, but at the same time return increases.

- KAZ Minerals has differentiation competitive strategy which is explained by the fact that company is unique in the industry, that's why it is extremely important for the buyers of their product. This factor contributes to high revenues. There is also influence of the cyclical business, but nevertheless this factor may positively affect the dividend policy in the future.

### *Customer accounts in Kaspi Bank JSC*

Kaspi Bank JSC is one of the largest banks in Kazakhstan and Central Asia. It was founded in January 1991 as Al-Baraka Kazakhstan Bank and was re-established as Kaspi Bank in November 2008, Kaspi Bank was planning an IPO in GDR on the London Stock Exchange in 2019 in a deal totaling \$5 billion. Today, Kaspi Bank is one of the leaders in Kazakhstani banking sector with total assets of KZT 2,026.807 billion as of 01 October 2019 (Financial report of Kaspi bank, 2019) The Bank's shares are listed on the Kazakhstan Stock Exchange.

As the paper focuses mainly on individual investors, retail banking performance results are examined and presented below:

- *Retail banking*

In accordance with latest financial reports of Kaspi Bank, individual customers' deposits grew 37.8% to KZT 451.4 billion at 31 December 2015 from KZT 327.6 billion as at 31 December 2016 and 4% or KZT22.6 billion at 31 December, 2018. Since the beginning of 2012, the share of retail deposits in the total customer accounts increased to 40.8% vs 38.9% as at the end of 2018 (Consolidated financial statements of Kaspi Bank, 2019).

So, the results show that number of people saving money in the bank is increasing despite of the low rates of return. Hence, the next sections of the research paper focuses on analysis of profitability and risks of two investment alternatives, and try to reveal whether people are going the right way by putting money in savings accounts and not purchasing the shares of the KAZ Minerals PLC.

## Methodology

### Valuation of return and risk level of KAZ Minerals PLC stock

At the start, in order to measure the profitability of investment in KAZ Minerals share, data is obtained from finance.yahoo.com regarding the historical prices of company's stock over the period from January 1, 2015 to December 31, 2019 on a monthly basis for application of CAPM model.

***Capital Asset Pricing Model.*** One of the models that can be used to project the expected return from a common stock, or any type of asset, is the capital asset pricing model or CAPM. In general, the capital asset pricing model describes the relationship between the risk of a particular asset or stock, its market price, and the expected return to the investor.

**Capital Asset Pricing Model (CAPM)** is the most widely known and used model to estimate the expected rate of return on stocks, or any type of asset. Basically, it depicts the relationship between the risk of specific stock, market price and expected return to the investor.

$$\text{CAPM: } E(R) = R_f + \beta (R_m - R_f)$$

Hence, it clear that the CAPM is based on following key variables:

- $R_f$  -the risk-free rate of an investment
- $R_m$  - the overall stock market risk

- B - the stock's beta

The main idea of CAPM is that investors need to be compensated in two ways: time value of money and risk level (Fama & French, 2004). In the formula of CAPM, the time value of money is represented by the risk-free ( $R_f$ ) rate, which compensates the investors for investing money in any investment alternative over a period of time. The risk-free return is consists of a real return component and an inflation premium. The real return is the basic investment compensation that investors demand for forgoing current consumption (Farrell, 1985). One more factor, on which CAPM is based is risk premium ( $R_m - R_f$ ), which is constituted of such elements as made up of the following elements-interest rate risk, purchasing power risk, business risk and financial risk (Peavler, 2018). Finally, stock's beta, which is a measure of systematic risk, is highly important for applying CAPM.

Risk free rate is a rate of return on government securities, hence, this data is available and is obtained from [www.Bloomberg.com](http://www.Bloomberg.com) (0.69 % as on 24<sup>th</sup> April, 2013 for 5-year UK Government bond). Beta of the KAZ Minerals stock and return on market (FTSE 100) were estimated using [www.finance.yahoo.com](http://www.finance.yahoo.com).

Then, research focuses on calculation of standalone risk of KAZ Minerals stock, which is represented by its standard deviation. Using the information regarding historical prices of the stock, the expected return on the stock  $E(R)$  is estimated, which is the mean of all prices over the period of January 1, 2016 and December 31, 2019. After that the standard deviation for the stock is calculated by the following formula:

$$s = \sqrt{\frac{\sum(x - \bar{x})^2}{n - 1}}$$

### Estimation of return and risk of money placed on deposit

For the investment in deposit of Kaspi Bank, the risk is estimated as the standard deviation of the returns for the period of 2015 to 2019. Necessary data is retrieved from the official website of the bank and financial reports provided on the Kazakhstan Stock Exchange.

Moreover, the risk of money placed on deposit involves the level of creditworthiness of the bank itself, that is the ability of financial institution to repay investor's money back. Hence, the analysis of financial statements is applied, which is helpful in determining the extent to which the bank is reliable borrower. Financial statements analysis part of this project focuses on estimation of the following types of ratios:

- Profitability ratios assess the ability of a company to generate an adequate level of earnings and cash flows relative to the amount of money invested (Peavler, 2018). These ratios assist to measure how efficiently Kaspi Bank uses its assets and how effectively it manages its operations. By virtue of this reason, return on assets (ROA) and return on equity (ROE), using the DuPont approach, are estimated.
- Another category of financial ratios calculated are called Liquidity ratios. This type of ratios shows the ability of the firm to repay its short-term obligations as they are due. Owing to the fact that customers' accounts or deposits can be placed for a short term period, it is useful to assess the extent to which bank is ready to meet its obligations. So,

measures of bank's liquidity are represented in this paper by working capital and acid-test ratios.

- Finally, Financial leverage or debt ratios are assessed to reveal the extent to which bank relies on the use of debt rather than equity financing. This type of ratios measure the ability of the business to meet its long term debt obligations involving interest payments on debt, principal amount and all other fixed obligations [9, p.32]. Current paper concentrates on evaluation of debt to equity and interest coverage ratio.

## **Findings and Analysis**

### **Estimation of return and risk on KAZ Minerals PLC**

The research starts with estimation of beta and return on market using the information obtained from finance.yahoo.com, which involves historical prices of KAZ Minerals stock and FTSE 100 Index (as KAZ Minerals PLC stock is listed on FTSE).

Hence, with respect to this data (using the Excel sheet), the figures of standard deviation, variance and covariance are estimated:

Variance ( $\sigma^2$  of stock)= 0,033= 3.3%

Standard deviation of KAZ Minerals stock=  $\sqrt{0,033} = 0,182 = 18.2\%$ - which represents unsystematic risk of the stock.

Variance of market return= 0,0023

Formula for covariance is the subsequent:

$$\text{Cov}(X, Y) = \frac{\sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{n - 1}$$

So, in accordance with calculations, covariance between return on KAZ Minerals stock and market's return is equal to 0,0062.

Consequently, beta of the stock is calculated using the formula below:

$$\beta_i = \frac{\text{Cov}(R_i, R_m)}{\text{Var}(R_m)}$$

where,

Cov ( $R_i$ ,  $R_m$ )- covariance between returns on KAZ Minerals stock and on market

Var ( $R_m$ )- variance of market return

$$\beta = 0,006 / 0,002 = 2,7$$

For calculation of Return on market the data is retrieved from finance.yahoo.com and is illustrated in Table 2 (attached in Appendix). So, Return on market is estimated as an arithmetic mean of market returns, and is estimated to be subsequent:

$$R_m = 5\%$$

Therefore, the required return on equity according to CAPM is calculated as follows:

$$R = 0.69\% + 2,7(5\% - 0.69) = 12,33\%$$

So, with regard to the estimated figures, it is clear that the stock of KAZ Minerals bears significant risk for the investor as its standard deviation is 18.2%, while required return by the investor is calculated to be lower, 12,33%. Basically, high beta of 2.7 can serve as a strong evidence of high riskiness of the company's stock relative to the market.

Moreover, although KAZ Minerals PLC stock was one of the worst performers in the FTSE 100 Index over the last year, still with regard to the Bloomberg data, company also has the potential for the biggest returns in the coming year based on the difference between their current share price

and the average 12- month price target of analysts tracking the stocks (Bloomberg.com). However, in accordance with the latest news, that potential of the biggest Kazakhstani copper producer was not reached, as KAZ Minerals stock was excluded from the FTSE 100 on March 6, 2016 after losing almost 750 million pounds (\$1.1 billion) of market value over 10 days. Today, KAZ Minerals stock is included in the FTSE 250 Index, which covers mid-cap companies not covered by FTSE-100 and represents about 15% of the total market capitalization of the London Stock Exchange. It is obvious that exclusion from FTSE 100 is negative sign for the company's stock, because the index provided for stock liquidity as index tracking funds had to own the stock. Hence, the results of our research paper correspond to the Halyk Finance analysts' recommendation to sell the stock of KAZ Minerals stock due to its high risk and rapidly falling return.

### **Analysis of investment in JSC Kaspi Bank deposit**

The deposit of Kaspi Bank which offers the highest return and has an annual effective interest rates of 9,5%, 1,0% and 1,0% for deposits in KZT, USD and euro respectively, which was approved by the decision of Retail Management Meeting of Kaspi Bank on April 2, 2019. Obviously, even the deposit offering highest rate of return is less beneficial than the stock of KAZ Minerals PLC yielding 12,33%. Therefore, in case of comparison of two investment alternatives under consideration based merely on the return, purchase of KAZ Minerals stock seems to be more attractive.

However, every rational investment decision should be based on two major factors represented by return and risk. Hence, even though, the stock of the company offers higher return, still the paper focuses on evaluation of deposit's risk level. The riskiness of placing money on deposit in our term

paper is measured by standard deviation of the returns on the deposit over the period of 2015 to 2019. Data regarding historical rates of returns on Kaspi Bank's deposit is illustrated in the table 2.

Table 2. Historical rates on deposits of Kaspi Bank

Year	Tenge	USD	Euro
2015	12,0	2,0	1,0
2016	10,5	1,5	1,0
2017	10,0	1,0	1,0
2018	9,5	1,8	1,0
2019	9,5	1,0	1,0

With regard to this data, standard deviation of returns for deposit in each currency is estimated, using the following formula:

$$s = \sqrt{\frac{\sum(x - \bar{x})^2}{n - 1}}$$

Therefore, the standard deviation for the deposit is equal to:

- In tenge:  $\sigma = 0,95\%$
- In USD:  $\sigma = 0,4\%$
- In euro:  $\sigma = 0,0\%$

So, as we can observe, the results of standard deviation vary among deposits in different currencies, however, still they are much lower than standard deviation of the stock, meaning much lower level of deposit's risk relative to the KAZ Minerals PLC stock.

In addition to the prior estimations, at the present time, Kazakhstan Deposit Insurance Fund guarantees the repayment of deposits in amount up to 10,000,000 tenge in case of bank's bankruptcy, meaning that risk of

placement of money on deposit for the ordinary individual is even lower than calculated standard deviation figure. However, due to the fact that some people put on deposits more than insured amount, it is necessary to assess the risk of the bank more carefully.

The risk of investor's deposit in the bank is represented mainly by the level of creditworthiness or reliability and stability of the bank's performance. Therefore, performance of Kaspi Bank is evaluated over the period starting from 2015 to 2019 in terms of examination of financial statements of organization and estimating financial ratios.

### 1) *Profitability ratios*

ROA= Net Income/Average Total Assets

ROE (DuPont formula) = (Net profit / Revenue) \* (Revenue / Total assets) \* (Total assets / Equity)

$$= \text{Net profit margin} * \text{Asset Turnover} * \text{Financial leverage}$$

Table 3. Standardized financial measures and reatios of Kaspi Bank

In millions	2015	2016	2017	2018	2019
Sales/Revenue	380 777	291 105	291 515	246 853	172 392
Net Income	20 164	14 604	21 988	23 520	19 611
Total Assets	2 614 805	2 787 065	2 688 108	2 565 689	2 559 195
Shareholders' Equity	313 862	384 484	413 746	436 632	458 242
ROA	0,008	0,005	0,008	0,009	0,008
ROE	0,064	0,038	0,053	0,054	0,043
NPM	0,053	0,050	0,075	0,095	0,114
EM	8,3	7,2	6,5	5,9	5,6
TAT	0,146	0,104	0,108	0,096	0,067

With regard to the estimated data in the table below, it can be observed that bank's returns on assets are very low (below than 1%), which can be

associated with low Net income and high interest and other operating expenses. Moreover, return on shareholders' equity has fallen from 6.4% in 2015 to 4.3% in 2019, which indicates decreasing profitability of Kaspi Bank and declining returns for bank's investors. Use of Du Pont Approach illustrates that the major reason for deteriorating company's performance is a significant decline in Total assets turnover from 14.6% to 6.7%, which indicates inefficient use of assets by bank in generating its revenue. Moreover, the figure of equity multiplier, which shows the use of debt by the company, also has fallen from 8.3 to 5.6. Although, the amount of debt used by the bank decreased, still equity multiplier index of almost 6 is very high and serves as a negative signal for the investor, especially for the risk-averse one, as it increases the risk carried by the bank.

## 2) Liquidity ratios

Current ratio= Current Assets/Current Liabilities

Quick ratio= (Current Assets- Inventory)/Current Liabilities

Table 4. Financial position measures of Kaspi Bank

	2015	2016	2017	2018	2019
Current Assets	2 559 328	2 732 390	2 635 028	2 510 811	2 502 601
Current Liabilities	1 330 383	1 469 836	1 689 986	1 593 063	1 588 433
Cash and cash equivalents	90 478	62 702	61 216	105 067	77 432
Inventory	23 808	20 017	28 145	80 522	77 192
<i>CR</i>	1,9	1,9	1,6	1,6	1,6
<i>QR</i>	1,9	1,8	1,5	1,5	1,5
<i>Cash ratio</i>	0,068	0,043	0,036	0,065	0,049

Examination of such ratios as current, quick and current liabilities to total assets ratios are common tools to determine the working capital policy accepted by the company. As you can see from the table above, the ability

of the bank to repay its current obligations with cash only is weak as cash ration is decreasing and is equal merely to 4.9 %. The percentage of current liabilities out of total assets did not change over the last three years, and amount of current assets exceeds current obligations almost by two times, which is an ideal ratio. The figure of quick ratio has fallen slightly during 2016, however did not alter at all since 2017 and is equal to 1.5. Such results can serve as a good signal for the investor or an individual who wants to open a deposit in Kaspi Bank, due to the fact that the bank has highly liquid assets and, consequently, low risk of not being able to meet obligations when they are due.

### 3) Financial leverage ratios

Debt to Equity ratio= Total Debt/Total Shareholders' equity

Interest coverage ratio= EBIT/Interest expense

Table 5. Financial position measures of Kaspi Bank

	2015	2016	2017	2018	2019
Total Liabilities	2 300 943	2 402 581	2 274 362	2 129 057	2 100 953
Total assets	2 614 805	2 787 065	2 688 108	2 565 689	2 559 195
Shareholder's equity	313 862	384 484	413 746	436 632	458 242
EBIT	192 739	156 161	180 299	164 708	100 466
Interest expense	181 265	136 372	152 091	133 531	80 855
<i>Debt to Equity ratio</i>	7,3	6,2	5,5	4,9	4,6
<i>Interest Coverage ratio</i>	1,06	1,15	1,18	1,2	1,2
<i>Debt to Total Assets</i>	0,88	0,86	0,85	0,83	0,82

With regard to the obtained results, although the debt to equity ratio declined over five years, still amount of debt used by the company is almost 5 times higher than its own resources and 82% of banks' assets are financed by debt, meaning higher risk of the bank of not being able to repay this huge amount of debt. Such capital structure is highly risky and

should alert investor willing to put his or her money on the deposit. On the other hand, the second ratio shows that the bank is able to repay the interest expense on the debt and coverage of the interest is increasing, which reduces the risk of Kaspi Bank and acts as a positive sign for investor.

Summing up findings and analysis part of our research paper, it is clear that both investment opportunities have their own strength and weaknesses in terms of return and risk level. However, even though stock of KAZ Minerals has higher return than the rate offered by deposit in Kaspi Bank, still it does not compensate significant risk carried by the investor represented by standard deviation of 18.2%, while the risk of the deposit is much lower. Moreover, as beta of the stock illustrates, it is highly volatile relative to the market, justifying the high riskiness of the stock. Hence, the overall recommendation based on the results of the research paper is to invest money in the deposit of Kaspi Bank offering an annual effective interest rates of 8.3%, 4.8% and 3.8% for deposits in tenge, USD and euro respectively, rather than purchasing the stock of Kaspi Bank.

## **Limitations**

The major limitation for this research paper is the lack of necessary information. As a result, important data was obtained from variety of sources, which is not merely official web site of the companies, but also KASE, NBRK web site and reports of different investment companies. Moreover, some information presented on KASE is not available to the general public and should be paid for. The example of such serious limitation is lack of historical as well as current prices of stocks. All these factors cause a challenge to make a careful analysis of the companies and the overall stock market.

## **Significance of the issue**

The significance of this study lies in illustrating to the general public how well local companies perform on the stock market and whether it is beneficial to invest in corporate stocks of Kazakhstani Company or it is more beneficial and less risky to place money in second-tier bank's deposit. The ultimate findings of this project are important for potential investors who consider investing in local companies as it will allow them to learn about new investment opportunities and compare investment attractiveness of KAZ Minerals versus deposit alternatives of Kaspi Bank.

## **Summary and Recommendations**

In conclusion, based on the research of return and risk of both investment opportunities, we could state that both bear some portion of risk and it is the choice of investor which one is more attractive.

According to the obtained results, we would recommend to select an investment alternative of putting money on deposit of Kaspi Bank JSC versus purchase of KAZ Minerals PLC stock for two major reasons:

- less riskier (standard deviation for USD deposit equals 0,4%, while standard deviation for KAZ Minerals stock is 18.20%);
- guaranteed return (return for USD deposit equals 1.0% and return for stocks is 12.33%). With regard to the standard deviation, if investors put money on deposit we will receive at least 2.92% return. While investor of stocks will be in loss in case of negative scenario.

For investor who is interested in increase of the return and who is not paying attention to the risk involved it would be interesting to earn 13.95% on stock rather than 1.0% on deposit. However, here it is important to

mention that starting from 2019 KAZ Minerals has negative tendency in financial terms, moreover, business reputation of the Company is suffering from cases about fraudulent activities and corruption. Therefore, at the present time purchase of company's stock is considered to be irrational investment decision, which may result in significant losses for the investor in nearest future, whereas putting money on Kaspi Bank deposit with guaranteed return, lower risk and good reputation of the bank is more beneficial investment alternative.

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