



ANALYSIS OF STATISTICAL INDICATORS OF CENTRAL ASIAN COUNTRIES IN INTERNATIONAL FINANCIAL AND INVESTMENT MARKETS

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Annotation: The article presents statistical indicators related to cash flows in financial organizations in Central Asian countries, including Kazakhstan and Uzbekistan. And risk management is analyzed and relevant conclusions are given in this regard. Hypothetical projects for the coming years are presented. Calculations were made according to the VAR method.

Key words: VAR method, stock company, monetary policy, bank sector, Monte-Carlo Simulation, financial institutions, investment flows.

Introduction. Processes related to monetary relations, investment potential in organizations and enterprises, and market risk in the developing countries of Central Asia provide an opportunity for regular analysis by scientists and researchers. including the rapidly developing Kazakhstan and Uzbekistan, opportunities in banking and financial institutions and money-related risks remain volatile. In this regard, monetary policy is constantly being reformed. As of my last update, Kazakhstan's financial position can be characterized by its strong resource-based economy, substantial foreign currency reserves, and relatively stable financial system. However, specific details can change, so it's important to consult up-to-date sources for the most current information. Here are some key aspects: Resource-based economy: Kazakhstan's economy depends on the extraction and export of natural resources, including oil, natural gas, and minerals, which account for a significant portion of GDP and exports. This makes the country's financial health vulnerable to global fluctuations in commodity prices. Economic Growth: The country has experienced varying rates of economic growth influenced by global economic conditions and the performance of its major sectors, particularly oil and gas. Investments in infrastructure and efforts to diversify the economy have been a priority for the government. Foreign reserves and sovereign wealth fund:



Kazakhstan has accumulated large foreign exchange reserves and has an important sovereign wealth fund, the National Fund of Kazakhstan, which helps stabilize the economy against fluctuations in oil revenues and finances public projects and economic diversification. Banking sector: The banking sector in Kazakhstan has undergone reforms and restructuring due to the following problems such as non-performing loans. The National Bank of Kazakhstan and other regulatory bodies have taken measures to increase the stability and transparency of the financial system.

Foreign Investment: The country is relatively open to foreign investment, with several international firms operating within its borders. The government has tried to improve the business environment, but problems such as bureaucracy and governance problems remain.

Monetary Policy: In recent years, Kazakhstan has moved to target inflation to stabilize its economy. This includes managing the national currency, the tenge, which has seen volatility in recent years due to external economic pressures. Impact of Global Events: Global economic conditions, including trade relations, geopolitical tensions, and global demand for oil and minerals, significantly affect Kazakhstan's economic stability and development prospects.

As of my last update, Uzbekistan's financial position has been showing signs of progressive reform and development. Since the initiation of substantial economic and political reforms in 2016, Uzbekistan has been working towards improving its financial system, attracting foreign investment, and diversifying its economy. Economic Reforms, GDP Growth, Foreign Investment and Trade, Currency Stability and Inflation, Banking Sector Reforms, Social and Infrastructure Development, Challenges, Economic Diversification, Impact of Global Events. For the latest insights and detailed updates on Uzbekistan's financial position, sources such as the World Bank, IMF reports, and updates from the Government of Uzbekistan's official websites or financial news outlets would provide the most current data and analyses.

Research methodology. There are three methods of calculating Value at Risk (VaR) including the historical method, the variance-covariance method, and the Monte Carlo simulation. Also, the article uses the methods of selecting statistical indicators, analyzing and synthesizing given data, scientific abstraction and mathematical analysis. In the application of the methods, statistical indicators of



financial organizations of Yahoo finance¹ for Kazakhstan and Uzbekistan were calculated using the VaR method.

The results of analysis and discussion. Halyk Bank, officially known as Halyk Savings Bank of Kazakhstan, is one of the largest and most prominent banks in Kazakhstan. It operates as a full-service financial institution offering a wide range of banking and financial services to both retail and corporate customers. Here's a brief overview based on the latest information available as of my last update: As one of the largest banks in Kazakhstan, Halyk Bank holds a significant portion of the country's banking sector's assets. It has historically reported strong financial performance with robust capital adequacy ratios, making it a cornerstone of Kazakhstan's financial system. The bank has been profitable, benefiting from Kazakhstan's economic growth and its dominant position in the national banking landscape. Yahoo finance statistics were given in the evaluation of the financial status of shares of Kazakhstan Halyk Bank Joint Stock Company².

Date	Adj Close		Sorted Returns	Number
03.04.2023	9,653605		-0,033613391	1
04.04.2023	9,989382		0	2
05.04.2023	9,989382		0,008474639	3
06.04.2023	9,905437		-0,023178878	4
11.04.2023	10,140482		-0,003300354	5
12.04.2023	10,17406		0,010000073	6
13.04.2023	10,073326		-0,013157893	7
14.04.2023	10,207637		0,008291836	8
17.04.2023	10,123693		-0,003305809	9
18.04.2023	10,157271		0,008333395	10
19.04.2023	10,073326		0,008403323	11
20.04.2023	9,989382		-0,001677865	12
21.04.2023	10,006171		-0,084485469	13
24.04.2023	10,92956		0,004629756	14
25.04.2023	10,879192		0	15
26.04.2023	10,879192		-0,003076946	16
27.04.2023	10,91277		-0,029850786	17
28.04.2023	11,248548		-0,001490324	18
02.05.2023	11,265337		-0,005925881	19
03.05.2023	11,332492		-0,043909333	20

¹ <https://finance.yahoo.com/>

² <https://finance.yahoo.com/quote/HSBK.IL/history>



04.05.2023	11,852947		0,008571406	21
05.05.2023	11,752214		0,020408138	22
09.05.2023	11,51717		0,001459865	23
10.05.2023	11,500381		-0,018624692	24
11.05.2023	11,718637		0,007215146	25
12.05.2023	11,634691		-0,002877719	26
15.05.2023	11,668269		-0,011379884	27
16.05.2023	11,802581		-0,0028369	28
17.05.2023	11,836159		-0,009831366	29
18.05.2023	11,95368		0,020057196	30
19.05.2023	11,718637		-0,009929066	31
22.05.2023	11,836159		0,00142055	32
23.05.2023	11,819369		-0,001418535	33
24.05.2023	11,836159		-0,001416357	34
25.05.2023	11,852947		0,007132635	35
26.05.2023	11,769003		-0,068907991	36
30.05.2023	12,64		-0,015576324	37
31.05.2023	12,84		-0,00619195	38
01.06.2023	12,92		0,025396825	39
02.06.2023	12,6		-0,009433962	40
05.06.2023	12,72		0,012738854	41
06.06.2023	12,56		-0,012578616	42
07.06.2023	12,72		0,003154574	43
08.06.2023	12,68		-0,006269592	44
09.06.2023	12,76		-0,015432099	45
12.06.2023	12,96		-0,02556391	46
13.06.2023	13,3		-0,004491018	47
14.06.2023	13,36		-0,024817518	48
15.06.2023	13,7		-0,007246377	49
16.06.2023	13,8		0,014705882	50
19.06.2023	13,6		0	51
20.06.2023	13,6		-0,014492754	52
21.06.2023	13,8		0,005830904	53
22.06.2023	13,72		-0,001455604	54
23.06.2023	13,74		-0,004347826	55
26.06.2023	13,8		0,00729927	56
27.06.2023	13,7		-0,031117397	57
28.06.2023	14,14		0,002836879	58
29.06.2023	14,1		0,004273504	59
30.06.2023	14,04		0,001426534	60
03.07.2023	14,02		0,01447178	61



04.07.2023	13,82		-0,019858156	62
05.07.2023	14,1		0,007142857	63
06.07.2023	14		-0,001426534	64
07.07.2023	14,02		-0,009887006	65
10.07.2023	14,16		-0,034106412	66
11.07.2023	14,66		-0,005427408	67
12.07.2023	14,74		-0,017333333	68
13.07.2023	15		0,010781671	69
14.07.2023	14,84		-0,010666667	70
17.07.2023	15		0	71
18.07.2023	15		0,020408163	72
19.07.2023	14,7		0,002728513	73
20.07.2023	14,66		0,005486968	74
21.07.2023	14,58		-0,0135318	75
24.07.2023	14,78		0,001355014	76
25.07.2023	14,76		0,010958904	77
26.07.2023	14,6		0,009681881	78
27.07.2023	14,46		-0,002758621	79
28.07.2023	14,5		0,012569832	80
31.07.2023	14,32		-0,012413793	81
01.08.2023	14,5		0,016830295	82
02.08.2023	14,26		-0,008344924	83
03.08.2023	14,38		-0,005532503	84
04.08.2023	14,46		-0,005502063	85
07.08.2023	14,54		0,008321775	86
08.08.2023	14,42		0,002781641	87
09.08.2023	14,38		0,007002801	88
10.08.2023	14,28		-0,008333333	89
11.08.2023	14,4		-0,01369863	90
14.08.2023	14,6		0,025280899	91
15.08.2023	14,24		-0,004195804	92
16.08.2023	14,3		-0,013793103	93
17.08.2023	14,5		-0,004120879	94
18.08.2023	14,56		0,004137931	95
21.08.2023	14,5		-0,016282225	96
22.08.2023	14,74		0,009589041	97
23.08.2023	14,6		0,004126547	98
24.08.2023	14,54		0	99
25.08.2023	14,54		-0,002743484	100
29.08.2023	14,58		0,009695291	101
30.08.2023	14,44		-0,037333333	102



31.08.2023	15		0,072961373	103
01.09.2023	13,98		-0,001428571	104
04.09.2023	14		0,014492754	105
05.09.2023	13,8		-0,014285714	106
06.09.2023	14		0,023391813	107
07.09.2023	13,68		-0,005813953	108
08.09.2023	13,76		-0,004341534	109
11.09.2023	13,82		0,013196481	110
12.09.2023	13,64		0	111
13.09.2023	13,64		-0,002923977	112
14.09.2023	13,68		0,005882353	113
15.09.2023	13,6		0,007407407	114
18.09.2023	13,5		0	115
19.09.2023	13,5		-0,013157895	116
20.09.2023	13,68		0,013333333	117
21.09.2023	13,5		0,00148368	118
22.09.2023	13,48		-0,001481481	119
25.09.2023	13,5		-0,028776978	120
26.09.2023	13,9		0,037313433	121
27.09.2023	13,4		-0,005934718	122
28.09.2023	13,48		0,010494753	123
29.09.2023	13,34		0,010606061	124
02.10.2023	13,2		0,021671827	125
03.10.2023	12,92		-0,00308642	126
04.10.2023	12,96		0,004651163	127
05.10.2023	12,9		0,02056962	128
06.10.2023	12,64		0,0112	129
09.10.2023	12,5		-0,020376176	130
10.10.2023	12,76		0,003144654	131
11.10.2023	12,72		-0,01088647	132
12.10.2023	12,86		0,02715655	133
13.10.2023	12,52		0,004815409	134
16.10.2023	12,46		-0,015797788	135
17.10.2023	12,66		-0,003149606	136
18.10.2023	12,7		-0,01244168	137
19.10.2023	12,86		0,012598425	138
20.10.2023	12,7		0,007936508	139
23.10.2023	12,6		-0,030769231	140
24.10.2023	13		-0,022556391	141
25.10.2023	13,3		0,026234568	142
26.10.2023	12,96		0,014084507	143



27.10.2023	12,78		0,006299213	144
30.10.2023	12,7		0,016	145
31.10.2023	12,5		0,006441224	146
01.11.2023	12,42		-0,025117739	147
02.11.2023	12,74		-0,007788162	148
03.11.2023	12,84		-0,009259259	149
06.11.2023	12,96		0,020472441	150
07.11.2023	12,7		-0,023076923	151
08.11.2023	13		0,001540832	152
09.11.2023	12,98		0,007763975	153
10.11.2023	12,88		0,00625	154
13.11.2023	12,8		-0,012345679	155
14.11.2023	12,96		-0,018181818	156
15.11.2023	13,2		-0,022222222	157
16.11.2023	13,5		-0,007352941	158
17.11.2023	13,6		-0,031339031	159
20.11.2023	14,04		-0,031724138	160
21.11.2023	14,5		0,006944444	161
22.11.2023	14,4		-0,008264463	162
23.11.2023	14,52		-0,010899183	163
24.11.2023	14,68		0,006858711	164
27.11.2023	14,58		-0,008163265	165
28.11.2023	14,7		0	166
29.11.2023	14,7		0,013793103	167
30.11.2023	14,5		0	168
01.12.2023	14,5		0	169
04.12.2023	14,5		0,006944444	170
05.12.2023	14,4		0,016949153	171
06.12.2023	14,16		0,017241379	172
07.12.2023	13,92		0,001438849	173
08.12.2023	13,9		-0,007142857	174
11.12.2023	14		0,007194245	175
12.12.2023	13,9		0	176
13.12.2023	13,9		-0,027972028	177
14.12.2023	14,3		0,00140056	178
15.12.2023	14,28		-0,001398601	179
18.12.2023	14,3		-0,001396648	180
19.12.2023	14,32		0,001398601	181
20.12.2023	14,3		0,012747875	182
21.12.2023	14,12		0,008571429	183
22.12.2023	14		-0,008498584	184



27.12.2023	14,12		0,007132668	185
28.12.2023	14,02		-0,075197889	186
29.12.2023	15,16		0,017449664	187
02.01.2024	14,9		0,012228261	188
03.01.2024	14,72		-0,006747638	189
04.01.2024	14,82		-0,005369128	190
05.01.2024	14,9		0,00269179	191
08.01.2024	14,86		0,001347709	192
09.01.2024	14,84		-0,004026846	193
10.01.2024	14,9		0,004043127	194
11.01.2024	14,84		-0,001345895	195
12.01.2024	14,86		0,00541272	196
15.01.2024	14,78		0,004076087	197
16.01.2024	14,72		0,006839945	198
17.01.2024	14,62		-0,008141113	199
18.01.2024	14,74		0,029329609	200
19.01.2024	14,32		0,001398601	201
22.01.2024	14,3		0	202
23.01.2024	14,3		-0,011065007	203
24.01.2024	14,46		0,006963788	204
25.01.2024	14,36		-0,001390821	205
26.01.2024	14,38		0,009831461	206
29.01.2024	14,24		0,00140647	207
30.01.2024	14,22		-0,00698324	208
31.01.2024	14,32		-0,015130674	209
01.02.2024	14,54		-0,010884354	210
02.02.2024	14,7		-0,013422819	211
05.02.2024	14,9		0,00269179	212
06.02.2024	14,86		-0,014588859	213
07.02.2024	15,08		-0,005277045	214
08.02.2024	15,16		-0,005249344	215
09.02.2024	15,24		-0,015503876	216
12.02.2024	15,48		-0,026415094	217
13.02.2024	15,9		-0,024539817	218
14.02.2024	16,299999		0	219
15.02.2024	16,299999		0,01747809	220
16.02.2024	16,02		-0,015970576	221
19.02.2024	16,280001		-0,001226871	222
20.02.2024	16,299999		0	223
21.02.2024	16,299999		-0,025119619	224
22.02.2024	16,719999		-0,039080517	225



23.02.2024	17,4		-0,010238908	226
26.02.2024	17,58		0,004571429	227
27.02.2024	17,5		0,017441801	228
28.02.2024	17,200001		0	229
29.02.2024	17,200001		0,005848012	230
01.03.2024	17,1		-0,03280543	231
04.03.2024	17,68		0,007981699	232
05.03.2024	17,540001		0,009206099	233
06.03.2024	17,379999		-0,015855096	234
07.03.2024	17,66		0,001133844	235
08.03.2024	17,639999		-0,018909956	236
11.03.2024	17,98		-0,008820232	237
12.03.2024	18,139999		0,028344673	238
13.03.2024	17,639999		0	239
14.03.2024	17,639999		-0,0022625	240
15.03.2024	17,68		0,007981699	241
18.03.2024	17,540001		-0,013498312	242
19.03.2024	17,780001		0,007936622	243
20.03.2024	17,639999		-0,020000056	244
21.03.2024	18		0,011236012	245
22.03.2024	17,799999		0,01136358	246
25.03.2024	17,6		-0,004524887	247
26.03.2024	17,68		-0,010078443	248
27.03.2024	17,860001		0,003370899	249
28.03.2024	17,799999			

In total, 249 statistical numbers were clearly displayed. The one-year situation of the financial organization was assessed by the VaR method. All three types were used to calculate risk under value, including historical, variance covariance, and Monte Carlo. It was calculated that in the methods, VAR (95%), VAR (99%), VAR (99.9%) showed. In the Monte Carlo method, the risk of risk was expressed as very low. VAR (95) showed a risk level of -8%, VAR (99) showed a risk level of 1%, and VAR (99.9) showed a risk level of -3%. Therefore, the risk under the value in the financial position is low. As of April 2023, this major financial institution of Kazakhstan is at risk.

Analyzing investment flows into Uzbek banks involves understanding various aspects such as foreign direct investment, changes in regulatory frameworks, the impact of economic reforms, and market confidence. Economic Reforms and Openness



1. Currency Liberalization
2. Regulatory Reforms
3. Investment Laws

Conclusion and suggestion. When we look at financial flows in Kazakhstan, the situation is quite stable. A good situation is expected for Uzbekistan. Calculation in MS Excel by VaR method also predicts future hypotheses. It is important for both countries to maintain currency stability. In addition, investment in financial organizations, sale of their securities, including shares, bond issuance, means further advancement in the financial sector.

Economic analyzes have shown that the financial and investment potential of Central Asian countries is developing in a relatively stable manner. The economic situation in the countries is as expected.

As global economic centers gradually shift towards Asian countries, Kazakhstan, Uzbekistan, Kyrgyzstan, Turkmenistan and Tajikistan are claiming increasingly important roles in the current system of global investment flows, resource hubs and supply chains.

The strategies of the Central Asian countries rely on taking advantage of the benefits offered by globalization and regional economic integration. Infrastructure projects are highly capital intensive. The Central Asian countries need to modernize existing and create new infrastructure, and in these conditions an integration-based development path is the optimal solution.

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