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Evaluating the Performance of Contrarian Portfolios During the Covid-19 Pandemic: Applied Study in the Iraq Stock Exchange

Luay Ali Mahmood[1], Hashim Jabbar Hussein[2] and Mohammed Faez Hasan[3]
[1]Financial and Banking Sciences Dept., Tikrit University, Iraq
[2,3]Financial and Banking Sciences Dept., University of Kerbala, Iraq

ABSTRACT

The current study aims to evaluate the performance of the inverse portfolio during the Covid-19 pandemic, through a comparative study of the effectiveness of strategies with and without taking into account the transaction cost in the Iraq Stock Exchange for the period from 2020 to 2023. The effects confirmed that the triumphing portfolio throughout the pandemic period, while considering the value of the transaction, accomplished a superb fee on the alpha scale in 31 out of 36 strategies, so it was cited that the portfolio outperformed the general market index. In evaluation, the values have been negative in 35 strategies before the pandemic, highlighting the effectiveness of the strategies at some stage in the excellent instances imposed by using the pandemic, and their low effectiveness in normal instances. The effects additionally confirmed that the winning portfolio via the pandemic, without or with the expenses of transactions, executed wonderful values inside the Information Ratio (IR) metric in 31 out of 36 approach types. These consequences mirror the excellent performance of investment managers and their efficiency in delivering returns in excess of the benchmark, reinforcing the potential of active management to add value in turbulent financial conditions. These findings highlight the significance of adapting funding techniques to converting market and economic situations, specifically in times of crisis. This study confirms that the investment strategies analyzed had been greater effective in the course of the Covid-19 pandemic, which calls for a focused attempt to enhance those techniques and adapt them to destiny conditions to ensure ultimate overall performance always.

Keywords: Contrarian Portfolios, Covid-19, Iraqi Stock Exchange, Performance

INTRODUCTION

The COVID-19 epidemic has brought on extraordinary volatility in economic markets by means of drastically changing the global monetary and monetary environment. Under these situations, contrarian trading strategies—buying property that have dropped in fee and selling ones that have formerly proven strong overall performance—have emerged as a huge region of examine. These tactics are predicated at the idea that markets ultimately correct themselves, providing a threat to generate earnings by way of taking gain of unexpected price adjustments. This research examines how a different portfolio completed for the duration of the COVID-19 epidemic, concentrating on the Iraq Stock Exchange among 2016 and 2023. A particularly interesting context for researching the effects of contrarian buying and selling techniques is the Iraqi Stock Exchange, one of the vicinity's growing markets. This examine examines the contrarian portfolio's overall performance at some stage in the pandemic and contrasts it with situations wherein transaction charges are removed. Transaction prices are a crucial characteristic that may substantially affect the actual performance of buying and selling strategies, particularly in markets which can suffer from low liquidity or excessive volatility. A thorough comprehension of the efficacy of contrarian trading methods in volatile marketplace conditions is favorite by means of comparing portfolio performance with and without transaction costs.

Additionally, the check will have a look at how transaction expenses effect the contrarian portfolio's widespread profitability and provide suggestions for higher buying and selling techniques to use throughout these turbulent instances. The goal of this empirical have a study is to provide important insights for investors and decision makers in emerging economic markets with the aid of way of losing moderate on how contrarian trading strategies have developed to satisfy the particular demanding situations provided by way of the Covid-19 pandemic. The predicted findings of this have a look at might be crucial for enhancing making an investment strategies in comparable markets and which include to the frame of facts regarding how Covid-19 affects shopping for and selling techniques in monetary markets.

The main mission is identifying how much transaction costs impacted the contrarian portfolio's performance in the course of the pandemic and contrasting the portfolio's real overall performance with its calculated overall performance that did not modify transaction fees. Although the use of contrarian buying and selling strategies can yield positive returns, it's miles vital to recognize the way those expenses affect the techniques' efficacy in the placing of monetary downturns because they are able to have an enormous effect at the final results.

LITERATURE REVIEW

The Concept of the Contrarian Strategy

The contrarian investment strategy, also known as the contrarian investment strategy or contrarian trading, which takes positions against the prevailing market trend. Instead of adopting the traditional approach of buying when the price rises, and selling when prices fall, the contrarian strategy involves buying when the price falls and selling when prices rise (AL Abdullah et al., 2023). This prevents investors from making unwise decisions during a collapse, which exacerbates their mistakes (McDowell, 2008: 128). The contrarian investor is the one who tries to make profits by investing in a way that differs from the traditional idea, believing that the way to higher returns on stocks lies in buying what others are selling and selling what they are buying, as he believes that the behavior of a certain herd of market participants can lead to exploitable mispricing (Petersen & Arnstedt, 2010: 14) as great pessimism towards a certain stock leads to a decrease in its price in addition to overestimating the company's risks and reducing the possibility of making profits, which represents an investment opportunity for contrarian investors who seek opportunities to buy and sell assets when it seems that the herd of market participants are doing the opposite, to the point that the securities have been mispriced, as both high and low stock prices are temporary and must return to their average price over time, so when the financial market price is lower than the average price, the stock is attractive to buy because of the expectation of a price increase over time and vice versa (Abd Halim, 2019: 25). Inverse investing is similar to value investing because both value and inverse investors look for stocks whose share price is below the intrinsic value of the company. Value investors generally believe that the market overreacts to good and bad news, so they believe that short-term stock price movements are out of line with the company's long-term fundamentals (Damodaran, 2012: 2; Ansari et al., 2022).

Indicators for Evaluating the Performance of Investment Portfolios

In the process of portfolio investment, there must be measures to judge the success of the approach followed in portfolio management. These measures should be referred to from time to time to know the performance of the portfolio that contains our money and compare it to a specific Benchmark reference, as portfolios are ranked according to their investment performance in light of return and risk indicators (Gupta et al., 2022).

The following is a review of the three most important models for evaluating the performance of optimal portfolios.

Sharpe Model

The Sharpe Ratio model is one of the most famous models used to evaluate the performance of an investment portfolio. It bears the name of economist and researcher William Sharpe, who presented this model in 1966. The aim of the model is to measure the performance of the portfolio comprehensively by comparing the achieved return with the risk carried. The difference between the portfolio return (return on investment) and the safe interest rate (such as the return on Treasury bonds) is divided by the portfolio's standard deviation to determine the Sharpe coefficient. The excess return on investment relative to the unit of risk is represented by the Sharpe coefficient (Bodie et al., 2021: 816), The portfolio's additional return depending on the risk taken is shown by the Sharpe model value; the greater the Sharpe value, the higher the excess return per unit of risk, making the portfolio more appealing to investors (Zhang, 2020: 4). It can be stated using the following formula (Acma, 2014: 196):

$$S_p = \frac{R_p - R_f}{\sigma_p} \quad (1)$$

Where:
Sharpe measure: S_p
Portfolio return: R_p
Risk-free return: R_f
Portfolio standard deviation: σ_p

Treynor Model

One model used to assess an investment portfolio's performance is the Treynor Model. Based on the risks taken, this model is used to calculate the portfolio's added value. The model bears the name Jack L. Treynor, a financial counselor and economist who first presented it in the 1970s. The Treynor Ratio is the tool that the model uses to calculate the extra return on the risks that are taken. The portfolio's excess return (portfolio return less the risk-free return) can be divided by the portfolio's beta to get the Treynor Ratio (Vysniauskas & Rutkauskas, 2014: 403).

The degree to which the performance of the portfolio varies in relation to the overall performance of the stock market is indicated by the beta coefficient. The portfolio's performance moves in concert with the market if its beta value is 1. The portfolio will be more volatile than the market if the value is larger than 1, and less volatile than the market if the value is less than 1. The portfolio's effectiveness in generating a return on investment in relation to the risk it assumes relative to the overall market is gauged by the Treynor coefficient. The performance of the portfolio is more effective in relation to the risk taken when the Treynor coefficient is larger (Zhang, 2023: 480). The Treynor ratio is calculated according to the following equation (Marios, 2014: 31):

$$T_R = \frac{R_p - R_f}{\beta_p} \quad (2)$$

Where:
Treynor measure: T_R
Portfolio return: R_p
Risk-free return: R_f
Portfolio beta: β_p

Jensen Model

A popular metric given in by Michael Jensen calculates the Alpha coefficient, which increasing indicates that portfolio returns are higher than market returns. The model's concept is centered on calculating the difference between the market risk premium and the additional return (Jones, 2013: 603-604). The difference between an investment's actual return and its

projected return, as determined by a particular model, is known as the extra return (Alpha) based on a specific model. The difference between an investment's actual return and its projected return, as determined by a particular model, is known as the extra return (Alpha). Based on the chosen analysis and methods, the additional return is seen as a measure of the investment manager's capacity to provide returns that either surpass or fall short of expectations. In the event that the additional return is positive, the portfolio is outperforming expectations. If it is negative, the portfolio has not achieved the expected return and its performance is below expectations. Jensen's Market Risk Premium expresses the difference between the additional return of the investment and the expected return based on the Capital Asset Pricing Model (CAPM) (Kantos, 2020: 585).

Jensen's Market Risk Premium can be calculated using the following relationship (Liu & Lee, 2021: 7):

$$\alpha_p = (R_p - R_f) - (R_m - R_f)\beta_p \quad (3)$$

Where:
Portfolio Alpha: α_p
Portfolio Return: R_p
Risk-Free Return: R_f
Market Return: R_m
Portfolio Beta: β_p

Information Ratio

The information ratio is a popular measure of performance-adjusted returns for active investors or portfolio managers (Chincarini & Kim, 2007: 284). The information ratio (IR) is also called the variance or modified version of the Sharpe ratio. The return results from the amount of excess risk compared to the benchmark. It is often used by investors to set limits or portfolio goals for their managers (e.g., tracking risk limits or achieving a minimum information ratio (active return) and the variance of the excess return (active risk with a passive portfolio) is calculated by dividing the average excess return of the portfolio compared to its reference by the tracking deviation according to the following equation (Christopherson et al., 2009: 101):

$$IR_P = \frac{E(R_p - R_b)}{\sigma(R_p - R_b)} = \frac{ERj}{\sigma ER} \quad (4)$$

Where:
$E(R_p - R_b)$: Excess return (R_p represents the portfolio return for the time period being measured and R_b represents the benchmark return)
$\sigma(R_p - R_b)$: Tracking Error (fluctuations in the relative performance of the portfolio compared to a benchmark)

Erj can be considered as the average alpha of the investor if the average return of the benchmark is considered the expected return, and σer is called the tracking error of the investor's portfolio, which is the "cost" of active management in the case where fluctuations in Erj values represent random noise that can negatively affect performance, so the IR ratio can be considered a benefit-cost ratio of assessing the quality of information enjoyed by the investor while reducing the unsystematic risk generated by the investment process (Reilly et al., 2019: 704).

The positive information ratio indicates that the decision to exceed the reference resulted in a higher return, i.e. the higher the historical information ratio, the higher the additional return (alpha) for the same risk (in terms of tracking error) (Brentani, 2004: 46). Sharma (2018) also identified two factors that lead to a high information ratio, the first is the manager's skill in correctly forecasting the residual return for each security in the investment universe. The

second is the number of independent investment decisions made annually, called breadth, which also helps to clarify whether active management adds value at the level of the overall portfolio (Sharma, 2018: 9).

METHODOLOGY

Data and Sample

The study community was represented by all shares in the Iraq Stock Exchange, amounting to (103) shares, and the current study sample was represented by (31) companies listed on the Iraq Stock Exchange. The sample duration and study data that were used were daily closing price values for the Iraq Stock Exchange index and the stocks of the study sample companies for the period from March 2020 to December 2023. Besides, the risk-free rate of return, which is represented by the interest rate for Iraqi treasury transfers for the same period (March 2020 to December 2023).

RESULTS AND DISCUSSION

This section deals with the evaluation of the performance of the contrarian portfolio during the Covid-19 pandemic, focusing on a comparative study between the actual performance when calculating the transaction cost and the theoretical performance without calculating it. This evaluation reflects the importance of understanding how the transaction cost affects the effectiveness of contrarian trading strategies in light of economic crises (Arora et al., 2022). Through an applied study in the Iraq Stock Exchange during the period from 2020 to 2023, this section seeks to provide insights into the extent to which these strategies succeed in achieving the desired returns and to identify the factors affecting their performance in volatile market conditions. First: Evaluating the performance of the inverse portfolio during Covid-19 with and without transaction costs Table (1) and Table (2) show a summary of the results of the inverse portfolios for each strategy. Through the table, we discover that (20) strategies out of (36) had achieved an active return (i.e. outperformed the market portfolio return). It is clear that all of these active portfolios had poor performance according to the Sharpe ratio, as the return was less than (1) as it could not outperform the market portfolio. This explains that the additional return is the result of taking more risks as a result of investing in papers with a higher return, and not the result of a distinctive investment decision. In contrast, all active portfolios achieved a Treynor ratio higher than the market except for the strategies (JW/K1), (JW/K9), (JW/K12), (J1/KW), (J1/K1), (J1/K6), (J3/KW), (J3/K1), (J6/KW), (J6/K1), (J6/K6), (J6/K9), (J9/KW), (J9/K1), (J9/K6), (J9/K9), (J9/K12), (J12/K6), indicating that the returns of these portfolios are higher when adjusted for systematic risk compared to the Sharpe ratio, which indicates that the unsystematic risk of the inverse portfolios was high(Nanda et al., 2024). That is, the mentioned portfolios provided a good return compared to the systematic risks, but when looking at the total risks (systematic and unsystematic), the performance appears to be relatively lower, meaning that these portfolios have high unsystematic risks and negatively affect the Sharpe ratio but do not significantly affect the Treynor ratio.

The results of the study indicate significant changes in the effectiveness of the inverse strategies before and after the Covid-19 pandemic. Before the pandemic, all strategies showed negative Alpha values, indicating that the actual returns were lower than the expected returns. In addition, the information ratio (IR) achieved positive values in only 14 out of 36 strategies, indicating the inability to effectively exploit the available information to achieve active returns that outperform the index portfolio. The scenario has virtually modified after the pandemic, with 14 out of 36 strategies showing a fine alpha price, displaying that their actual returns passed their predicted returns. These techniques include (JW/KW), (JW/K1), (J1/KW),

(J1/K1), (J1/K3), (J3/KW), (J3/K1), (J3/K3), (J6/KW), (J6/K1), (J6/K3), (J9/KW), (J9/K1), and (J12/KW). Although Alpha values confirmed a substantial improvement, the Information Ratio (IR) remained static, with nice values simplest received in 14 out of 36 methods. This shows that in an effort to reap lively returns that outperform the index portfolio, the applicable information is nonetheless no longer being effectively utilized. The predominant locating of the research is that a full-size performance gap was observed between the bulk of the techniques that had been looked at. The implication is that making an investment techniques should be delicate that allows you to optimize the usage of accessible records, reap returns surpassing the marketplace index, and enhance hazard control. Furthermore, there at the moment are extra strategies with fantastic Alpha values, indicating that the Covid-19 pandemic has progressed a few techniques' capability to generate returns that are higher than anticipated. The Information Ratio (IR), on the other hand, has now not progressed concurrently, underscoring the ongoing difficulties in successfully using the facts this is now to be had. This indicates that more trading strategy development is needed on the way to acquire extra lively outperformance of the index portfolio.

Table 1. Contrarian during Covid-19 and with no transaction cost

J/K	Return	Sharp	Treynor	Alpha	IR	Active R.	Market	Sharp	Treynor	Beta
JW/KW	0.0032	-2.5349	2.6957	-0.0172	0.4019	0.0368	-0.0336	-0.3948	-0.0536	-0.0074
JW/K1	0.0001	-7.7820	-3.7019	-0.0204	0.0310	-0.0997	0.0998	-0.2978	0.0798	0.0054
JW/K3	-0.0004	-14.3888	749.8226	-0.0204	-0.2569	0.0024	-0.0027	-0.4003	-0.0227	0.0000
JW/K6	-0.0003	-22.2225	35.5989	-0.0203	-0.2862	-0.0148	0.0146	-0.3830	-0.0054	-0.0006
JW/K9	-0.0001	-28.9856	-8.1884	-0.0201	-0.1808	-0.0002	0.0001	-0.3975	-0.0199	0.0024
JW/K12	-0.0001	-33.3334	-8.5780	-0.0200	-0.1344	0.0078	-0.0079	-0.4054	-0.0279	0.0023
J1/KW	0.0024	-2.4883	-1.6530	-0.0170	0.2983	0.0339	-0.0315	-0.4291	-0.0515	0.0121
J1/K1	0.0001	-7.0175	-1.8319	-0.0197	0.0187	0.0057	-0.0057	-0.4033	-0.0257	0.0109
J1/K3	0.0001	-15.1514	14.3639	-0.0198	0.1018	-0.0615	0.0616	-0.3359	0.0416	-0.0014
J1/K6	-0.0001	-19.8021	-8.5453	-0.0198	-0.0810	0.1032	-0.1033	-0.5009	-0.1233	0.0023
J1/K9	-0.0001	-23.8097	63.3765	-0.0201	-0.1669	-0.1877	0.1876	-0.2100	0.1676	-0.0003
J1/K12	-0.0001	-25.9741	229.6633	-0.0201	-0.0750	0.1222	-0.1222	-0.5198	-0.1422	-0.0001
J3/KW	0.0012	-2.2845	-0.5816	-0.0190	0.1427	-0.0274	0.0287	-0.3689	0.0087	0.0343
J3/K1	0.0003	-7.6920	-2.0179	-0.0187	0.1040	0.0832	-0.0829	-0.4805	-0.1029	0.0099
J3/K3	0.0000	-14.0845	4.0105	-0.0199	0.0154	-0.0414	0.0415	-0.3561	0.0215	-0.0050
J3/K6	-0.0001	-20.4083	18.8295	-0.0202	-0.1394	0.0013	-0.0014	-0.3990	-0.0214	-0.0011
J3/K9	-0.0001	-26.3159	98.1465	-0.0201	-0.1611	-0.0294	0.0293	-0.3683	0.0093	-0.0002
J3/K12	-0.0002	-31.7462	32.9957	-0.0202	-0.2547	0.0429	-0.0430	-0.4406	-0.0630	-0.0006
J6/KW	0.0024	-2.6431	-0.5995	-0.0172	0.3163	-0.0067	0.0091	-0.3885	-0.0109	0.0332
J6/K1	0.0002	-8.4032	-1.4742	-0.0187	0.0782	0.0597	-0.0595	-0.4571	-0.0795	0.0136
J6/K3	0.0001	-16.1290	35.6012	-0.0199	0.0424	-0.0920	0.0920	-0.3056	0.0720	-0.0006
J6/K6	-0.0001	-24.3904	-14.6244	-0.0201	-0.1647	0.0163	-0.0165	-0.4140	-0.0365	0.0014
J6/K9	-0.0002	-28.5717	-16.7281	-0.0202	-0.3553	-0.0180	0.0177	-0.3798	-0.0023	0.0012
J6/K12	-0.0002	-33.3335	165.0642	-0.0202	-0.3535	0.0318	-0.0320	-0.4296	-0.0520	-0.0001
J9/KW	0.0008	-2.5340	-0.5530	-0.0181	0.1041	0.0104	-0.0096	-0.4072	-0.0296	0.0361
J9/K1	0.0000	-8.5837	-1.1394	-0.0193	0.0063	0.0193	-0.0193	-0.4168	-0.0393	0.0176
J9/K3	-0.0002	-13.4230	1.9413	-0.0201	-0.1494	-0.0300	0.0297	-0.3678	0.0097	-0.0103
J9/K6	-0.0003	-25.0003	-16.3595	-0.0203	-0.3821	0.0042	-0.0045	-0.4021	-0.0245	0.0012
J9/K9	-0.0004	-27.3976	-10.8679	-0.0204	-0.4876	-0.0273	0.0269	-0.3706	0.0069	0.0018
J9/K12	-0.0003	-32.2583	-15.4122	-0.0203	-0.4459	-0.0098	0.0095	-0.3881	-0.0105	0.0013
J12/KW	0.0004	-2.9582	0.5211	-0.0221	0.0560	0.0446	-0.0442	-0.4418	-0.0642	-0.0384
J12/K1	-0.0001	-8.3683	1.4514	-0.0205	-0.0580	0.0090	-0.0092	-0.4068	-0.0292	-0.0138
J12/K3	-0.0004	-18.5189	11.4593	-0.0204	-0.3509	-0.0209	0.0205	-0.3771	0.0005	-0.0017

J12/K6	-0.0004	-25.3169	-48.0724	-0.0204	-0.5253	-0.0437	0.0433	-0.3543	0.0233	0.0004
J12/K9	-0.0004	-27.0274	14.0730	-0.0204	-0.5180	0.0024	-0.0028	-0.4004	-0.0228	-0.0014
J12/K12	-0.0003	-30.3033	87.6681	-0.0203	-0.4175	0.0333	-0.0336	-0.4311	-0.0536	-0.0002

Soure: Based on close prices by ISX

Table 2. Contrarian during Covid-19 after transaction cost

J/K	Return	Sharp	Treynor	Alpha	IR	Active R.	Market	Sharp	Treynor	Beta
JW/KW	0.0031	-2.3835	2.7505	0.0031	0.3703	0.0367	-0.0336	-0.3948	-0.0536	-0.0073
JW/K1	0.0001	-7.9364	-3.7775	0.0001	0.0310	-0.0997	0.0998	-0.2978	0.0798	0.0053
JW/K3	-0.0004	-14.7062	765.1251	-0.0004	-0.2626	0.0024	-0.0027	-0.4003	-0.0227	0.0000
JW/K6	-0.0003	-22.7275	36.3254	-0.0003	-0.2869	-0.0148	0.0146	-0.3830	-0.0054	-0.0006
JW/K9	-0.0001	-29.4119	-8.3555	-0.0001	-0.1798	-0.0002	0.0001	-0.3975	-0.0199	0.0024
JW/K12	-0.0001	-33.8984	-8.7530	-0.0001	-0.1339	0.0078	-0.0079	-0.4054	-0.0279	0.0023
J1/KW	0.0023	-2.5389	-1.6868	0.0023	0.2983	0.0339	-0.0315	-0.4291	-0.0515	0.0118
J1/K1	0.0001	-7.1428	-1.8693	0.0001	0.0187	0.0057	-0.0057	-0.4033	-0.0257	0.0107
J1/K3	0.0001	-15.5037	14.6570	0.0001	0.1020	-0.0615	0.0616	-0.3359	0.0416	-0.0014
J1/K6	-0.0001	-20.2021	-8.7197	-0.0001	-0.0810	0.1032	-0.1033	-0.5009	-0.1233	0.0023
J1/K9	-0.0001	-24.0965	64.6699	-0.0001	-0.1655	-0.1877	0.1876	-0.2100	0.1676	-0.0003
J1/K12	-0.0001	-26.6667	234.3503	-0.0001	-0.0755	0.1222	-0.1222	-0.5198	-0.1422	-0.0001
J3/KW	0.0012	-2.3298	-0.5935	0.0012	0.1427	-0.0275	0.0287	-0.3689	0.0087	0.0336
J3/K1	0.0003	-7.9997	-2.0591	0.0003	0.1060	0.0832	-0.0829	-0.4805	-0.1029	0.0097
J3/K3	0.0000	-14.3885	4.0924	0.0000	0.0154	-0.0414	0.0415	-0.3561	0.0215	-0.0049
J3/K6	-0.0001	-20.8335	19.2138	-0.0001	-0.1394	0.0013	-0.0014	-0.3990	-0.0214	-0.0010
J3/K9	-0.0001	-26.6668	100.1495	-0.0001	-0.1599	-0.0294	0.0293	-0.3683	0.0093	-0.0002
J3/K12	-0.0002	-32.2582	33.6691	-0.0002	-0.2537	0.0429	-0.0430	-0.4406	-0.0630	-0.0006
J6/KW	0.0023	-2.6967	-0.6119	0.0023	0.3162	-0.0067	0.0091	-0.3885	-0.0109	0.0326
J6/K1	0.0002	-8.5835	-1.5043	0.0002	0.0783	0.0597	-0.0595	-0.4571	-0.0795	0.0133
J6/K3	0.0001	-16.3934	36.3277	0.0001	0.0423	-0.0920	0.0920	-0.3056	0.0720	-0.0006
J6/K6	-0.0001	-25.0001	-14.9228	-0.0001	-0.1655	0.0163	-0.0165	-0.4140	-0.0365	0.0013
J6/K9	-0.0002	-28.9858	-17.0695	-0.0002	-0.3533	-0.0180	0.0177	-0.3798	-0.0023	0.0012
J6/K12	-0.0002	-33.8985	168.4329	-0.0002	-0.3523	0.0318	-0.0320	-0.4296	-0.0520	-0.0001
J9/KW	0.0008	-2.5865	-0.5643	0.0008	0.1041	0.0104	-0.0096	-0.4072	-0.0296	0.0354
J9/K1	0.0000	-8.7719	-1.1627	0.0000	0.0063	0.0193	-0.0193	-0.4168	-0.0393	0.0172
J9/K3	-0.0002	-13.6988	1.9810	-0.0002	-0.1494	-0.0300	0.0297	-0.3678	0.0097	-0.0101
J9/K6	-0.0003	-25.6413	-16.6934	-0.0003	-0.3841	0.0042	-0.0045	-0.4021	-0.0245	0.0012
J9/K9	-0.0003	-27.7781	-11.0897	-0.0003	-0.4844	-0.0273	0.0269	-0.3706	0.0069	0.0018
J9/K12	-0.0003	-32.7872	-15.7268	-0.0003	-0.4441	-0.0098	0.0095	-0.3881	-0.0105	0.0013
J12/KW	0.0004	-3.0208	0.5317	0.0004	0.0560	0.0445	-0.0442	-0.4418	-0.0642	-0.0376
J12/K1	-0.0001	-8.5471	1.4810	-0.0001	-0.0580	0.0091	-0.0092	-0.4068	-0.0292	-0.0135
J12/K3	-0.0004	-18.8683	11.6931	-0.0004	-0.3503	-0.0209	0.0205	-0.3771	0.0005	-0.0017
J12/K6	-0.0004	-25.6414	-49.0535	-0.0004	-0.5214	-0.0437	0.0433	-0.3543	0.0233	0.0004
J12/K9	-0.0004	-27.7782	14.3603	-0.0004	-0.5218	0.0024	-0.0028	-0.4004	-0.0228	-0.0014
J12/K12	-0.0003	-30.7695	89.4573	-0.0003	-0.4154	0.0333	-0.0336	-0.4311	-0.0536	-0.0002

Soure: Based on close prices by ISX

The results showed that the winning portfolio during the Covid-19 pandemic with transaction costs achieved positive ratios in the Alpha measure in 31 strategies out of 36, which means that the portfolio performed better than the benchmark (the general market index). While it was negative in 35 strategies before the Covid-19 pandemic with and without transaction costs. Based on this result, it can be concluded that the investment strategies that were effective during the Covid-19 pandemic benefited greatly from the exceptional circumstances caused by the pandemic, while the same strategies were less effective during normal times. This confirms

the importance of adapting investment strategies to changing market and economic conditions, especially in times of crisis.

The observe observed that the winning portfolio in 31 out of 36 strategies during the Covid-19 epidemic, with and without transaction charges, carried out superb ratios in the IR degree. This shows that the investment manager carried out high-quality work and sheds light on how efficiently the portfolio outperformed the market index in phrases of returns. According to this locating, the prevailing portfolios for the duration of the Covid-19 pandemic confirmed strong managerial abilities and robust investment overall performance, imparting a model for a hit making an investment strategies in turbulent instances. It shows that active investing may be more successful throughout times of disaster due to the fact that investment managers can generate extra price via more skillfully utilizing marketplace intelligence. The look at determined that the very best go back changed into for the (JW/KW) method all through the Covid-19 pandemic by (0.00317), whilst the lowest return was for the (J9/K1) approach by using (0.00001). These findings display that the (JW/KW) approach turned into the best at producing fantastic returns at some point of the pandemic, demonstrating its capability to take advantage of erratic market conditions so that it will produce the greatest consequences. In comparison, the (J9/K1) technique indicates a incredible decline in returns, which is indicative of its negative performance in assessment to different techniques. These findings lead to the conclusion that, in order to generate returns during the Covid-19 pandemic, choosing the best approach and time horizon became critical. These consequences assist the notion that choosing the proper approach and time variety turned into crucial to making money in the course of the Covid-19 pandemic. These consequences help the notion that deciding on the proper strategy and time variety became essential to producing income for the duration of the Covid-19 pandemic. Under various temporal conditions, a thorough exam of inverse portfolio methods is advisable. Investors and analysts need to verify these strategies' efficacy both all through recessions and throughout durations of financial boom. By inspecting overall performance in numerous eventualities and creating techniques that prioritize generating high quality returns and continuously enhancing overall performance beneath shifting occasions, contrarian methods may be made greater adaptable and responsive to market fluctuations.

CONCLUSIONS

It is usually recommended to broaden bendy funding techniques which can be adaptable to changing the marketplace and financial situations. It is recommended for buyers and investment budgets to periodically examine their techniques to make certain they align with the winning financial situations. Additionally, they should layout techniques which can capitalize on anomalies and crises. It is recommended for traders and investment funds to periodically verify their strategies to make sure they align with the prevailing monetary conditions. Additionally, they should design methods that could capitalize on anomalies and crises. To optimize profits and enhance the capacity to successfully navigate monetary limitations, this necessitates acting regular performance analyses and modifying techniques in reaction to adjustments inside the market and economic environments. The necessity of concentrating efforts in attempting times to broaden lively funding plans and enhance managerial abilities. To outperform the marketplace index, investment managers must use state-of-the-art analytical strategies and more efficiently utilize marketplace records. In order to generate introduced cost in the course of uncertain monetary times and marketplace turbulence, traders and funding price range should maintain to refine their evaluation and analysis abilities so as to assure powerful investment overall performance. When comparing and studying investing strategies, it's critical to exercising excessive caution and choose ones that have proven relatively successful in the course of unstable marketplace instances. To assure best overall performance, analysts and buyers have to often verify funding plans and

adjust them in light of the kingdom of the market. To reap fantastic returns and steer clean of poorly appearing techniques, funding techniques must be advanced and chosen based totally on beyond performance in addition to the capability to take benefit of moving economic conditions. It is preferable to conduct a comprehensive analysis of inverse portfolio strategies in different time contexts. Analysts and investors should assess these techniques' efficacy in both normal and crisis-ridden economic circumstances. To enhance their flexibility and adaptability to market fluctuations, contrarian tactics must to be refined through performance analysis across many settings and the development of methods that prioritize generating positive returns and perpetually enhancing performance in fluctuating circumstances.

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