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THE APPLICATION OF DOW-INVESTING STRATEGIES TO INVESTMENT PORTFOLIO COMPOSITION

Abstract

The paper discusses the problems of investing into international fund assets. The author substantiates the expediency of using the Dow-investing strategies in composing an effective investment portfolio and analyses the efficacy of these strategies. The author shows how to apply the Dow-investing strategies when composing an international sector of the investment portfolios of national institutional investors.

Key words:

International investments, investment portfolio, dividend yield of stocks, market price, portfolio yield, the Dow Jones Industrial Average Index, the US stock market.

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1. Introduction

The skill of composing an investment portfolio capable of outperforming the market is the most complicated challenge faced by any investment institution (be it a mutual or pension fund or an insurance company). This task becomes even more complicated when an international investment is undertaken. At present, international investments is not as critical an issue as it will appear in the near future when the pension system will have been reformed, world-class joint investment institutes and insurance companies established, and the problem of competent capital investments in foreign fund assets becomes extremely urgent. We expect a great number of joint investment institutes and new-type non-governmental pension funds to appear in a year or two. Russia is going through this process now. The issues of international investments are widely covered in the literature. Among the most popular are the works by I.O.Zakaryan [1], V.V.Darahan [2] and M.V.Chekulayev [3]. V.V. Tvardovskiy and S.V. Parshikov devoted their fundamental research to investing in the Russian securities market [4]. Furthermore, much information on this matter can be found at constantly updated Russian-language websites [5–8, etc.]. In our country, well-known are the works by E. Niyman [9, 10], as well as the series of publications dedicated to investing in the US stock market by A.A.Jusov and I.L.Sazonets [11–13, etc.].

2. Substantiating the Choice of Investment Strategies

This paper is dedicated to several popular principles of investment portfolio composition and its profitability in comparison to a leading stock market index, in particular, the Dow Jones Industrial Average.

Four out of many existing methods were selected, quite simple and based on choosing the stocks of Dow Jones Industrial Average. The rationale for this is the following:

1. The Dow Jones index includes 30 most powerful US companies, leading in their sectors and selling their products all over the world. Therefore, when applying Dow-investing strategies, we avoid dealing with over than 15,000 companies, which are traded at the US stock exchanges, and limit our choice to only 30 largest corporations.

2. The changes in the Dow Jones index composition, contrary to those of the Standard & Poor's 500, are very rare. Thus, once a Dow Jones index stock is chosen, the probability of its exclusion from the index in the nearest year (we will further explain the reason for selecting a one-year period) and a resulting fall of its market price, is very low.

3. In our country there few if any highly qualified specialists capable of composing a portfolio of foreign securities. Therefore, domestic investment institutes need simple methods of portfolio composition based on a limited number of shares from which to select components for a portfolio. In view of this, the following techniques were chosen for testing:

1. Ten best yields;

2. Beating the Dow 5 (BTD 5);

3. Foolish Four – 1 (FF1);

4. Foolish Four – 2 (FF2)[1].

All four methods rest on the comparison of dividend yields of stocks (dividend yield is an overall amount of dividends for the year in dollars divided by current market price of a share).

A share can lose its «attractiveness» to investors due to many reasons, such as competition, court trials, low earnings of a company, etc.

This leads to a decrease in the share's price, since the majority of investors panic and start selling their shares rapidly. As long as the company continues to pay out dividends in their ordinary size, the drops in price result in growth of dividend yield.

At a certain moment, high rates of return start to attract investors, which leads to appreciation of the share. Thus, the current (as of January 03, 2004) dividend yields of Altria Group Inc. (MO), SBS Communications Inc. (SBS) and AT&T Corp. (T), which equal 4.98%, 4.78% and 4.55% per year respectively, seem to be very attractive compared to the 1.5–2% annual yields of the US bank deposits.

Consequently, the gist of these investment portfolio composition techniques is choosing a share at the time when its dividend yield is still high while its price is still low enough to «grasp» it before the price will go up.

[1] The third and the fourth methods got their name thanks to their original source -- «The Motley Fool» web-site (www.fool.com). The name of the site, in its turn, was adopted from the W.Shakespeare's work «How it will please you» (Act 2, Scene 7). In the times of Shakespeare a fool was the only member of a society who could tell all the truth to a king or a queen without running the risk of beheading. The philosophy of the «Motley Fool» name is that the reader of the site is considered to be a king, whereas the authors of the site - David & Tom Gardner – are the «fools» who aspire to tell the «king» «more honest truth» about investing than do the numerous analysts and «gurus» of the Wall Street.

3. The Effectiveness of Dow-Investing Strategies

The algorithm of the first method – «10 best yields» – is the following. The yields of all the Dow Jones index shares are calculated so that to construct a list of shares ranked by yield – from the highest to the lowest one. Then, the first 10 shares out of this list are bought and held in a portfolio for one year. After the year ends, the list is revised and examined. The shares that lost their position among the first ten are sold and a set of other highest-yield shares are bought. The shares which after a year are still rated among the first ten are held in the portfolio.

There exist the data which demonstrate [14] that the portfolios constructed according to this principle generated an average annual income of 17.95% in 1974–1998.

research covered the period from December 1999 till December 2003. It should be noted that 2001–2002 were the hardest years for the US economy in the last few decades. More than two and a half years of the period under study accounted for the «bear» market. But the choice of the observation period was rather forced, since we have managed to access the US stock market data only since the summer of 1999, and accessing a reliable data for the earlier period was a problem. A positive moment, in our opinion, is that we made good use of rare opportunity to test the efficacy of Dow-investing techniques under a protracted «bear» market.

In December 1999, the top ten profitable shares included MO[2], JPM, GM, CAT, EK, MMM, DD, SBC, IP, and HON. These shares made up a virtual investment portfolio, and the value of every type of the shares in it constituted US$10,000. The total value of the so composed portfolio made (in mid-December 1999) US$100,000.

In December 2000, the composition of the portfolio was revised again. The MMM, SBC and HON shares were sold. The gains made US$ 31,181. Instead, new shares, which had better dividend yields at the moment, in particular T, XOM and PG, were bought in value of US$ 10,394 each (31,181 : 3 = 10,394). The other 7 shares remained in the portfolio unchanged. The total portfolio yield for one year – since December 1999 until December 2000 – made 4% (the fall of the Dow Jones Industrial Average for that period was 6.27%).

Likewise, the portfolio composition was revised each year, and by December 2003 the virtual investment portfolio has included the shares of the following corporations: MO, GM, JPM, EK, SBC, DD, HON, CAT, GT, and IP. The total portfolio yield for 4 years made 3.32% (the average variation of the Dow

[2] Here and onwards stock exchange symbols are shown in tables. Full names of relevant companies are given at the end of this article (Table 5).

Jones for this period made – 9.81%). It should be noted that in the last year (i. e. from December 2002 to December 2003 – the «bull» year), the portfolio yield reached +23.12%.

In more detail the yearly transformations of the portfolio and the variations in its yield are presented in Table 1.

Table 1

Annual Composition and Major Parameters of the Investment Portfolio Composed Using the «10 Best Yields» Method

December 1999			December 2000			December 2001			December 2002			12.2003
Ticker symbol	*Y**	Value	Ticker symbol	*Y*	Value	Ticker symbol	*Y*	Value	Ticker symbol	*Y*	Value	Value
MO	8.31	10000	MO	5.44	16887	MO	4.97	20199	MO	6.21	17840	23590
JPM	3.09	10000	JPM	2.55	12226	JPM	3.65	4355	JPM	5.44	2931	4170
GM	2.76	10000	GM	3.88	7115	GM	4.02	6872	GM	5.46	5059	6955
CAT	2.75	10000	CAT	3.21	8940	CAT	2.89	10225	CAT	3.08	9670	17661
EK	2.74	10000	EK	4.45	6171	EK	5.69	4931	EK	4.82	5831	3677
MMM	2.40	10000	**T****	4.29	10394	**SBC**	2.70	11709	SBC	3.92	12232	11238
DD	2.15	10000	DD	3.34	6417	DD	3.18	6724	DD	3.18	6744	6842
SBC	1.89	10000	**XOM**	2.09	10394	XOM	2.40	9271	**GE**	2.92	8596	10215
IP	1.89	10000	IP	2.66	7074	IP	2.49	7539	IP	2.88	6571	7885
HON	1.88	10000	**PG**	2.03	10394	**HON**	2.25	11709	HON	3.12	8438	11085
Portfolio value		100000	96012			93535			83912			103316
Changes in portfolio value as against previous year,%%					–3,99	–2.58			–10.29			+23.12
Total change in the portfolio value for the period from 12.1999 till 12.2003,%%												+3,32

* *Y* – dividend yield of a share;
** here and onwards the new components of the portfolio will be typed in bold.

Another method of composing an investment portfolio is known as «Beating the Dow 5» (or BTD5) suggested by Michael O'Higgins in his book «Beating the Dow». This technique focuses at purchasing the cheapest 5 out of selected 10 most profitable shares. According to the economic literature [14], the investment portfolio composed using the BTD5 method would have generated 19.39% in average for the period of 1974–1998.

The portfolio composed with BTD5 in December 1999 included the next 5 securities: MO, CAT, SBC, IP, and HON. The virtual portfolio was opened just as in the first experiment – in value of US$100,000 ($20,000 per each position). For four years, i.e. from December 1999 to December 2003, the total yield of this portfolio made 4.42%. More specific research outcomes are presented in Table 2.

Table 2

Annual Composition and Basic Parameters of the Investment Portfolio Composed Using «Beating the Dow 5» (BTD5) Method

December 1999			December 2000			December 2001			December 2002			12.2003
Ticker sym-bol	*Y*	Value	Ticker sym-bol	*Y*	Value	Ticker sym-bol	*Y*	Value	Ticker sym-bol	*Y*	Value	Value
MO	8.31	20000	MO	5.44	33774	**HON**	2.25	22701	HON	3.12	16347	21474
CAT	2.75	20000	**T**	4.29	18540	**JPM**	3.65	22701	JPM	5.44	15262	21474
SBC	1.89	20000	**EK**	4.45	18540	EK	5.69	14825	**GE**	2.92	19297	22898
IP	1.88	20000	IP	2.66	14149	**SBC**	2.70	22701	SBC	3.92	16502	15161
HON	1.88	20000	**DD**	3.34	18540	**XOM**	2.40	22701	**IP**	2.88	19297	23151
Portfolio value		100000	103544			105629			86705			104424
Change in the portfolio value as against previous year, %%					+3.54	+2.01			–17.91			+20.43
C Total change in the portfolio value for the period from 12.1999 to 12.2003, %%												+4.42

The third and the fourth strategies, as was mentioned above, were named after the source of their origin – the Internet web-site «The Motley Fool» (www.fool.com). It appeared that, for the most part, the cheapest share, out of the first ten, performed rather weakly [15] since it really incurred financial troubles which resulted in a subsequent fall of its price. A share next to it rarely appeared in similar position, and its low price ensured sufficient potential for perceptible growth in the future. To maximize the advantages of the first two models, the «Foolish Four» technique was created. At that, the «Foolish Four 1» (FF1) consists of the same steps as does the BTD5, but excludes from purchase the cheapest share and increases the weight of the second cheapest one, distributing the purchase money in the following proportion: for purchase of the first share – 7/25, and for purchase of the other three shares – the remaining 18/25 (6/25 per each stock) of total portfolio composition funds is spent. For example, assume that MO, CAT, SBC, IP, and HON were the five shares selected using the BTD5 method in December 1999, and the total portfolio value equaled 100,000 $US. When applying the FF1 method, however, the MO share would have been excluded from the list, while US$28,000 (100,000 × 7/25 = 28,000) would have been invested in the CAT share, and the remaining US$72,000 (US$24,000 per each type of the shares) would have been used to open the positions in SBC, IP, and HON.

In accordance with the available data [15], the portfolio composed with the FF1 method would yield 22–23% per annum for the period from 1974 to 1998. Under the market conditions of 1999–2003, the application of this method to portfolio composition would result in an overall four-year loss of 23.41%.

The second version of this technique, the «Foolish Four 2» (FF2), presumes the following steps:

1. Calculating a correlation between the dividend yield of a share and its current market price for all of the 30 Dow Jones Index stocks according to the formula:

$$K = Y / \sqrt{P},$$

where K – stock yield coefficient;

Y – yield, calculated as a ratio of annual dividends in dollars to current price of a share, in%;

P – current price of a share.

2. Devising a list of all the 30 shares according to the principle of diminishing K.

3. Selecting four shares to be included in an investment portfolio – starting with the second and to the fifth one in the list (the first share, just as in the FF1 method, is not included).

The data in the specialized economic literature estimates an average annual yield of the portfolio composed using the FF2 method at 24.55% for the period from 1974 to 1998.

Similar to all aforementioned techniques, the FF1 and FF2 assume a one-year investment with a subsequent revision and, if needed, a re-composition of the portfolio.

The results of annual transformations and the portfolio yields of the experimental portfolios composed using the FF1 and FF2 methods are presented in Tables 3 and 4.

Table 3.

Annual Composition and Basic Parameters of the Investment Portfolio Composed Using the Foolish Four-1 Method (FF1)

December 1999			December 2000			December 2001			December 2002			12.2003
Ticker symbol	*Y*	Value	Ticker symbol	*Y*	Value	Ticker symbol	*Y*	Value	Ticker symbol	*Y*	Value	Value
CAT	2,75	28000	IP	2,66	20673	**HON**	2,25	25084	JPM	5,44	20723	24378
SBC	1,89	24000	**MO**	5,44	22210	**JPM**	3,65	21500	**GE**	2,92	15871	18825
IP	1,88	24000	**EK**	4,45	22210	**SBC**	2,70	21500	SBC	3,92	15621	14351
HON	1,88	24000	**DD**	3,34	22210	**XOM**	2,40	21500	**IP**	2,88	15871	19041
Portfolio value		100000	87302			89585			68086			76595
Change in portfolio value as against the previous year, %%					–12,7	+2,.62			–19,26			–12,50
Total change in the portfolio value for the period from 12.1999 to 12.2003, %%												–23,41

Table 4.

Annual Composition and Basic Parameters of the Investment Portfolio Composed Using the Foolish Four-2 Method (FF2)

December 1999			December 2000			December 2001			December 2002			12.2003
Ticker-sym-bol	*K**	Value	Ticker sym-bol	*K*	Value	Ticker sym-bol	*K*	Value	Ticker sym-bol	*K*	Value	Value
CAT	0,400	28000	**MO**	0,871	24031	MO	0,728	28736	MO	0,967	25379	33560
EK	0,342	24000	EK	0,707	14795	**JPM**	0,598	11822	GM	0,906	12134	16682
GM	0,324	24000	GM	0,540	17066	GM	0,570	16484	**EK**	0,788	14800	9334
JPM	0,273	24000	**DD**	0,516	20596	DD	0,480	21579	**SBC**	0,747	14800	13591
Portfolio value		100000	76488			78621			67113			73167
Change in portfolio value as against the previous year, %%					–23.51	+2.79			–14,64			+9,02
Total change in portfolio value for the period from 12.1999 to 12.2003, %%												–26,83

* *K* – dividend yield coefficient.

Table 5.

Ticker Symbols and Full Names of the Corporations in the Dow Jones Industrial Average Index mentioned in this work

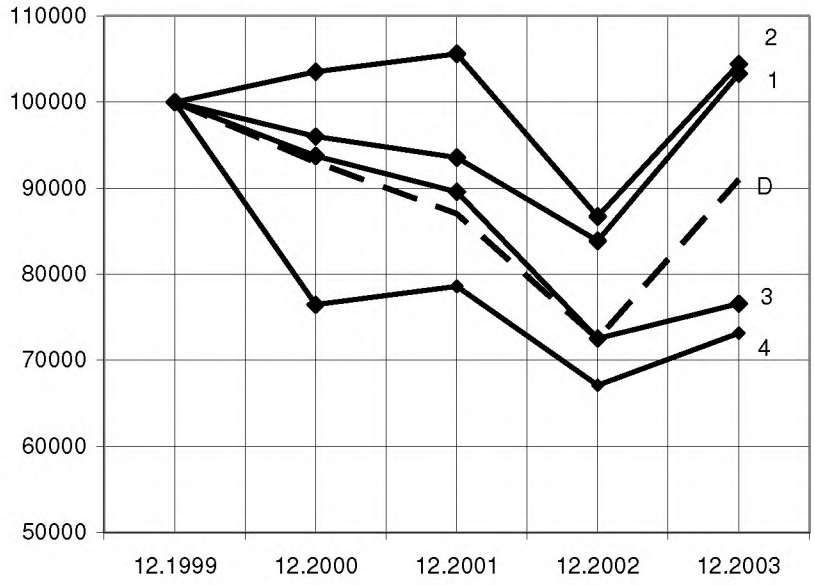
#	Ticker Symbol	Full Name of a Corporation
1	CAT	Caterpillar Inc.
2	DD	E. I. DuPont de Nemours
3	EK	Eastman Kodak Company
4	GE	General Electric Company
5	GM	General Motors Corp.
6	HON	Honeywell International
7	IP	International Paper Co.
8	JPM	J. P. Morgan Chase & Co.
9	MMM	3M Company
10	MO	Altria Group, Inc.
11	PG	The Procter & Gamble Co.
12	SBC	SBC Communications Inc.
13	T	AT&T Corporation
14	XOM	Exxon Mobil Corporation

Table 5 below presents the ticker symbols and full names of the corporations in the Dow Jones index mentioned in this paper.

Figure 1 presents graphically the yields of the virtual portfolios composed according to the four above-mentioned methods in comparison with the dynamics of the Dow Jones Index for a period from December 1999 to December 2003. Thus, it is possible to demonstrate how the techniques presented in this paper perform compared to ordinary investing in the Dow Jones-based index fund (that is, if all the US$100,000 were invested into the securities of such a fund).

Figure 1

Annual Changes in the Yields of Investment Portfolios Composed Using the Dow-Investing Methods
(the ordinate axis – the value of an investment portfolio in US$; the abscissa axis – years)



1 – «10 Best Yields»;
2 – «Beating the Dow 5» (BTD 5);
3 – «Foolish Four-1» (FF1);
4 – «Foolish Four-2» (FF2).
D – ordinary investing in the Dow Jones-based fund.

4. Conclusions

1. The discrepancy in the virtual portfolio yields and those presented in the literature can be explained by the fact that the observations were conducted during the crisis periods in the US economy, which occurred in 2001–2002. The data in specialized literature are based upon the longer period of time, on the one hand, and upon the most significant in the US stock market history «bull market», which dominated in the 90-s, on the other.

2. The best results during the observation period were obtained for the «10 Best Yields» and «BTD5» methods.

3. Since the market movement for the coming year cannot be closely predicted, the application of FF1 and FF2 methods should be rejected because they outperform the Dow-Jones index only in the «bullish» markets. In case the market turns out to be «bearish», the application of FF1 and FF2 techniques could cause significant losses, as they performed negatively under the depressed market.

4. National investors, which prefer investing at minimum risk, are recommended to apply the «10 Best Yields» and «Beating the Dow 5» methods to composing the international sector of an investment portfolio. These techniques outperformed the Dow Jones Industrial Average both in the falling and in the rising markets.

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