How to work in the uncertain market conditions

Dmitry Baryshevsky

Research Institute of Nuclear Problems,
Minsk, Belarus
e-mail: dmitry_baryshevsky@inp.minsk.by

Abstract

The restrictions dealt with application of traditional methods of the analysis of equities are considered. It is shown that the methods of analysis, which have recommended themselves well in natural sciences, cannot be directly used in financial market study. The objective of this article is to show the opportunity of successful management of the equity portfolio by applying of complex multifacror strategies.

1 Introduction

The beginning of the new millenium was marked out by the deep fall of the stock market. The portfolios of many institutional and individual investors became cheaper. Pessimism of market participants has increased. And this pessimism is justified. The era of the easy profit reception from the stock market based on the " buy and hold " strategy is finished. Recently I have read common recommendations one of the institutional investors concerning work at the stock market. *We suggest that they maintain a conservative, quality-oriented approach that emphasizes diversification and dividend yield and that they consider the possibility that the bear market is on its last legs.* The institutional investors also offer various methods of estimation of equities cost such as DDM (Discount Dividend Model or Discount Cash Flow Model), the models based on forward Price/Earning, Price/EBITDA ratios and so on.

In the present article the restrictions dealt with application of traditional methods of the analysis of equities are considered. It is shown that the methods of analysis, which have recommended themselves well in natural sciences, cannot be directly used in financial market study. The objective of this article is to show the opportunity of successful management of the equity portfolio by applying of complex multifacror strategies.

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2 Discussion

Now the potentialities of application of standard equity evaluation methods should be discussed. It is known that application of market models, which proved themselves well before, during last 2.5 years has given rise to negative results.

One of the reason of failure of a number of models during last 2.5 years is the attempt to apply directly the analysis methods, which well recommended themselves in natural sciences, directly to the analysis of financial market.

As Vladimir Baryshevsky discussed in [1] the description and study of financial market behavior are similar to the natural phenomena analysis in physics at their initial perception when the intrinsic fundamental laws were not revealed and correspondent basic equation were not formulated. *"And now the most significant concept can be formulated as principle of complementarity at development of theories for forecast of market prices:* **the more thorough and accurate theory of stock market prices motion we will develop for trader, the more errors it will give.** *This concept can be easily illustrated by the following example. Suppose that somebody develops such theory and all market participants begin to apply it. Then, everybody must get extra-profit that is absolutely impossible* - **somebody must lose.** *Therefor, the more perfect theory will influence the behavior of market participants disturbing the theory operation."* [1]

George Soros [2] also specified that the financial markets follow a principle, which is a little related to a scientific method: the process of acceptance of the decision about the investments is similar to a formulation of a scientific hypothesis and representation one on practical test. *"The true that successful investment activity is some kind of alchemy. The majority of the participants of market process do not consider the markets in such light. It means, that they do not know, what hypotheses are tested; it also means, that the majority of hypotheses represented on market testing, are rather banal. Usually it no more than statement that any stock can exceed an average market level."*

So individual investor should take the decisions based on offered estimations, which are initially incorrect and can simply stop to work.

In conditions of the "uncertain" market when the standard methods of estimation yield loss of money idea that in long-term prospect the stocks will grow in any case sounds more and more often.

However, this statement is incorrect.

So, recent years I have been observing for the recommendations of the analysts of several large investment companies. And I have concluded that they have a vague idea of the market phase concept.

In many respects it happens because a lot of analysts apply the models, which have been worked well during last decade and ignore market prehistory. It is not surprising because the period of active work of one man in historical prospect is rather limited.

So analysts referring to the "New era" concept assert that forward P/E ratio for S&P 500 (on the basis of the time weighed average of the earning for the current and next year) at a level 16-18 represents a "unique" opportunity for purchase. However, history testifies that during the last century the real value of P/E (in contrast to expected that) more than once fell below 9. Therefore, there is a natural question: if the specified event repeatedly took place in the past, why it could not take place in the future?

Despite of obvious existence of various market phases a lot of strategies of portfolio management ignore their presence.

For example, as it is shown in the chart below, the P/E ratio for the S&P 500 index (monthly base) oscillates during the century approximately between 7-8 and 22-25 marks. The yellow line is a 30-year moving average, which value during one century was about 13. Thus, still there is "irrational exuberance" in the stock market price. Moreover, as you can see, the multiple expansion phase reverses to the multiple contraction with approximately 30-year periodicity; black line of 4-year moving average moves in the same direction as 10-year (red) moving average. It will be interesting to note that Kondratiev cycle is a 50-60 year cycle in prices, interest rates and other economic variables (for more information see [4]).

As it is shown in [5] there have been 14 secular trends since 1800: seven secular bull markets and seven secular bear markets. Table below shows a plot of the S&P500 and its precursors on a constant-dollar basis over the past two centuries.

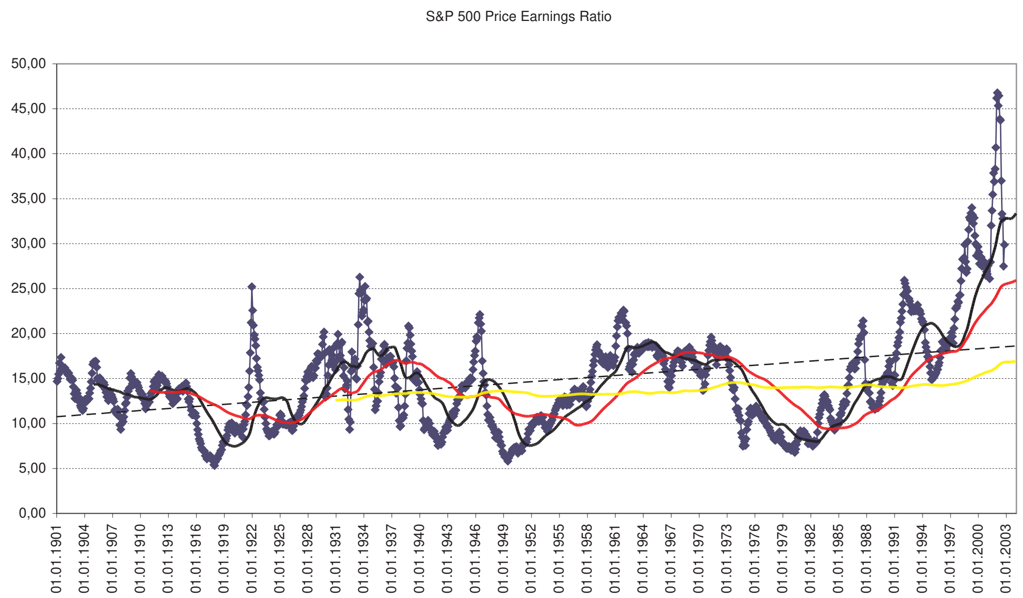

Fig. 1.

(Secular Bear Markets) (Secular Bull Markets)

Period	Duration	Annual Real Return	Period	Duration	Annual Real Return
1802-1815	13	+2.8%	1815-1835	20	+9.6%
1835-1843	8	-1.1%	1843-1853	10	+12.5%
1853-1861	8	-2.8%	1861-1881	20	+11.5%
1881-1896	15	+3.7%	1896-1906	10	+11.5%
1906-1921	15	-1.9%	1921-1929	8	+24.8%
1929-1949	20	+1.2%	1949-1966	17	+14.1%
1966-1982	16	-1.5%	1982-2000	18	+14.8%
Overall	95	+0.3%	Overall	103	+13.2%

Note that despite being invested for nearly a century in lengthy chunks of time running from 8-20 years, the overall return in a bear phase is less than 1% per year in real terms. In a bull phase the average real return is about 13% during 103 years. The current secular bull market had lasted about 18 years until the beginning of 2000. The average duration of a secular bull market is about 14 years, so duration of this secular bull market exceeds the average value.

So it is visible that in nearest 10 years the " buy and hold " strategy could fail to provide profit return.

What is necessary to do in conditions of instability of the market when the standard methods of investment do not work?

The answer can be the following: to use instability and uncertainty of the market as a corner stone of the strategy.

One of the basic approaches for elimination (or essential restriction) of the market risk is the construction of a portfolio containing both long and short positions. So for example Market Neutral portfolio is constructed by inclusion in it both the long and short positions of equities as well as contracts on equities derivative. The shares of investment in long and short positions are identical, and the sum of beta coefficients for "long" and "short" portfolios is equal to zero. The task of the portfolio manager is to choose the long positions for market outperform companies and short positions for market underperform companies. It means that the alpha coefficient of the long portfolio should exceed the short portfolio alpha. Then at any movements of the market the portfolio manager will receive profit equal to the difference in alpha coefficients of the "long" and "short" portfolios.

However, in practice such portfolio construction is not an easy task. It is conditioned by the fact that the "best" companies can turn into the "worst" and vise versa.

As it was mentioned above such transformations are connected with both the uncertainty of the estimation methods and existence of various market phases.

The approach based on the quantitative analysis of the behavior of the different factors in various market phases allows overcoming substantially the given uncertainties.

What factors should be examined? Certainly those, which are connected with the profit, money flows, liabilities, emotional involvement of the market participants and so on. So the adherents of Value approach prefer, for example, stocks with low Price/Earning, Price/Book ratio and so on. On the other hand the supporters of Growth approach prefer such factors as Estimate Revision and Earnings Surprise. There are also models based on DDM, which try to estimate Intrinsic Value of the stocks.

However, it would be naive to assume that it is possible to create successful equity strategy based only on a few factors (for example Price/Earning, Price/Sale, Price/Debt and so on). As it is shown in [2] common methods of measuring return effects, such as quintiling or one-parameter regression, are "naive" because they assume, naively, that prices are responding only to the single variable under consideration - low P/E, say. But a number of related variables may be affecting returns.

The equity market is what scientist would call a complex system. Random systems, such as Brownian motion and white noise (static), are the product of a large number of variables, cannot be modeled, and are inherently unpredictable. Ordered systems, such as structure of diamond crystals or the dynamics of pendulums are definable by a relatively small number of variables and predictable by relatively simple rules. Complex systems, such as weather and the workings of DNA, can be at least partly comprehended and modeled, but only with great difficulty. The number of variables that must be modeled, and their interactions, are the beyond of capacity of human mind alone. Only with the aid of advanced computational science can be mysteries of complex systems be unraveled.

Thus, only application of complex strategies allowing to use both rises and falls of the market can lead to the successful result.

3 Conclusion

It is shown that the methods of the analysis, which recommending themselves well in natural sciences could not used "directly" in the financial market. The strategies of an equity portfolio management should allow to be adjusted on various phases of the market. For achievement of success it is necessary to use instability and uncertainty of the market as a corner stone of the strategy. Application of complex strategies allowing to use both rises and falls of the market can lead to successful result.

References

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