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SCIENTIFIC OPINION

by

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Subject: Dissertation for the award of the educational and scientific degree "Doctor"
in professional direction 3.8. "Economics", doctoral program "Finance, Money
circulation, Credit and Insurance (Finance)"

Author of the dissertation: *Vladislav Lyubomirov Lyubenov*

Topic of the dissertation:

"CURRENT PROBLEMS IN VALUING EQUITY SHARE INSTRUMENTS",

Scientific supervisor: Prof. Stefan Marinov Simeonov, PhD

1. *General characteristics of the submitted dissertation*

The relevance of the study can be defined as undisputed. The dissertation work of Vladislav Lyubenov is dedicated to the study of the importance of the capital market returns, on the one hand, as a factor in the valuation of equity capital assets, and on the other hand, to the expansion of the concept of its importance in the context of a major macroeconomic indicator such as inflation. The relevance of the dissertation research can be defined as evident. We can find a reason for this both in the importance of one of the key issues of capital trading related to the determination of the share price that sufficiently reasonably reflects rational and adequate in time market forecasts, and in the established complexity of the investment process related to the changing environment. Thanks to digital technology, the modern investment environment has expanded access to new markets, instruments and participants,

leading to a significant increase in the potential of capital markets. The increased intensity in capital trading, shaping the complexity of influence and analysis of systemic risk, is also leading to an increase in the diversity of factors and influences shaping investment expectations, and in particular the more complex influence of market dynamics. An influence which this thesis has successfully analysed in the context of the interdependence between capital markets, inflation and consumption.

The dissertation is 254 pages in length and is structured in an introduction, a statement in three chapters and a conclusion. The bibliography used includes 103 sources, mainly titles of foreign authors.

The subject and object of the research defined by the PhD student are in logical unity and set the necessary framework of the dissertation research. Namely, the object is the capital trade related to equity instruments and the indicators of the real economy related to inflation and household consumption. The subject matter of the study brings further concreteness to the object of study by highlighting the capitalized returns of the US S&P 500 stock index and its relationship to inflation dynamics and household consumption in the US over the period 1985 - 2022.

The defended research thesis emphasizes the existence of a persistent relationship between capitalized stock returns and inflationary processes, which interdependence can be exploited to improve short-term inflation forecasts, with this relationship being realized in part through the wealth effect on consumption behavior.

Thus, the research thesis at stake requires the implementation of a reasoned selection of appropriate and reliable econometric tools allowing the highlighting of the relationship between the variables under study in revealing the linking and central role of the factor of equity market returns. It is this need for a comprehensive and in-depth analysis that we see concretely represented in the sequence of research objective and work tasks formulated by the PhD student. The latter make an impression with their realistic concreteness, logical unity and make it possible to very clearly and distinctly outline the sequence of actions forming the doctoral student's research search.

Chapter One focuses on approaches to stock valuation in the context of evolving understandings regarding the place and importance of market returns in this valuation process. It makes a good impression with a clear and consistent presentation of the main valuation methods, their positive aspects and drawbacks leading to an evolutionary development of the following models. The conclusions and generalizations drawn are truthful and supported by the necessary references to relevant empirical studies.

In Chapter Two, the PhD student focuses on the methodology and specifics of the econometric coverage of the research of financial markets, thus further developing the matter discussed in the first chapter with an emphasis on the macro-level related to market dynamics in general. We find the statistical approaches presented by him to be well chosen and the analysis made adequate and supported by the necessary literature references. Seeking to justify the econometric methodology used in Chapter 3, the PhD student presents a wide range of possible econometric approaches, truthfully pointing out their advantages and limitations. In doing so, not only is a

clear understanding of his final choice of econometric methodology achieved, but this choice is also clearly outlined against the background of other alternative approaches. The strong emphasis placed by the PhD student on the application of linear regression and the Generalized Method of Moments (GMM) is understandable and acceptable, but at the same time we cannot fully agree with the categorical nature of his position that more complex models compared to linear regression produce less categorical and difficult to analyze results. We positively appreciate the PhD student's reference to authors from the D.A. Tsenov Academy of Economics, which shows both continuity in the development of scientific knowledge, but also emphasizes the importance and application of specific models, such as Frequency Analysis of Variability and Trend (FAVT).

The third chapter of the dissertation is devoted to proving the validity of the neo-Keynesian view of the Phillips curve, as the PhD student applies an author's approach in this respect using the market yield and the stochastic discount factor (SDF) based on it. Considering the importance and influence of monetary and fiscal policies, it is appropriate to use monthly data for the analysis. We find this decision to conduct the empirical study positive and, as evident from the empirical results generated, fruitful, comparing the results of the application of the econometric methodology used obtained with one-month and three-month data. As a significant contribution of the dissertation research, we can identify the established relationship and predictive ability of market yields to inflation dynamics, which not only proves a neo-Keynesian approach to the meaning of Phillips curves, but also the PhD provides an additional direction of analysis by including the level of consumption by outlining the impact of the wealth effect. In this way, an assessment is reached of the key role of market returns exerting both a direct impact in the process of forecasting inflation dynamics in the short run and an indirect inflationary impact through the operation of the wealth effect leading to an increase in consumption as a consequence of increased market returns. The significance of these empirical results per se is present, but here one can also emphasize the signaling role of market dynamics - to the extent that the formed market expectations of the investment community at moment t , expressed in terms of market returns and the SDF, constitute a basis for successful forecasting of inflation dynamics, at the same time inflation forecasts are also a component of expected future market returns at moment $t+1$, which provides a starting point for analyzing the empirical results obtained by the Ph.D. student also in the context of the Efficient market hypothesis, Adaptive market hypothesis and Adaptive expectations hypothesis.

Summarizing structurally, we can point out that the emphasis in Chapter 1 on the importance of the discount factor for adequate stock valuation, the basis of which is precisely the market return, is further developed with the macroeconomic importance of the market return impact in terms of the dynamics of inflation and consumption indicators established in Chapter 3.

Giving a summary assessment of the doctoral candidate's degree of coping with respect to the objective analysis of the object and subject of research and with respect

to the reasoned defense of the research thesis, we could point out that he has managed to cope with the research tasks set before him and the dissertation has its contributory significance and argumentativeness.

2. Evaluation of scientific and applied contributions

Three scientific and applied contributions reflecting directly the results of the dissertation research are listed. We can agree with their validity and point out that they faithfully reflect and summarize the final results achieved by the PhD student's research activity.

3. Evaluation of the thesis abstract

The abstract to the dissertation is prepared according to the generally accepted requirements and provides the necessary and clearly presented information about the structure, content and results of the dissertation research.

4. Evaluation of the dissertation-related publication activity

In terms of publications in connection with the dissertation research, a total of five publications can be reported, and the publication activity thus presented fully covers the required volumes in this respect.

5. Critical comments, recommendations and questions

As a recommendation for the future research searches of the PhD student, in addition to the adequately formulated and presented by him directions for future research in the abstract, we could suggest the testing of the created author's model for inflation forecasting based on the capital market, and in the conditions of other developed economies, as well as in relation to different periods of study. In this way, the necessary time differentiation of the forecasting potential of market returns with respect to inflation dynamics could be introduced, especially in terms of different phases of the economic cycle. Potential for such a development of the research search is also seen in the empirical results of this dissertation research, where period separation is applied in the selection of the tested models.

Also, the following recommendations can be made regarding the refinement of the thesis presentation:

- In formulating the object and subject of the study, emphasis should be placed on the fact that the market returns used are related to the S&P 500 market index, as the verbal definitions made, while generalizably accurate, when interpreted directly can lead to confusion about the use of market returns by Exchange-traded Funds (ETF's).

- In presenting the selection criteria for a total of 26 monthly inflation forecasting models tested in Chapter Three of the dissertation, quantitative results are presented and adequately interpreted, but a list of the models tested is omitted - the same are presented only as abbreviations.

- A recommendation can be made to pursue more intensive and focused publication activity directly reflecting the immediate empirical achievements of the dissertation;

It should be stressed that the recommendations in question are not of a substantive nature of what is presented, but rather in terms of achieving a more definitive presentation.

The following question can be asked to the PhD student:

If one accepts the assumptions of the Neo-Keynesian theory of inflation, it is influenced on the one hand by the economic factors of labor and production, and on the other hand by the expectations of its dynamics of the general public, as you aptly point out in your dissertation the expectation of inflation is a kind of self-defining prophecy. In this line of reflection, and given the nature of the VIX index, which reflects through the trading of derivative securities investors' expectations of future market dynamics, how do you determine the possibility of extending the author's forecasting model you use to encompass market returns, inflation dynamics and consumption with the VIX index?

6. Conclusion

Summarizing, I could express my positive assessment of the qualities of the dissertation entitled: "CURRENT PROBLEMS IN VALUING EQUITY SHARE INSTRUMENTS". Taking into account the merits of the scientific work I give a positive evaluation of the dissertation and I propose to the esteemed scientific jury to award to Vladislav Lyubomirov Lyubenov the educational and scientific degree "Doctor" in the doctoral program "Finance, Money circulation, Credit and Insurance (Finance)".

29.04.2025
Blagoevgrad

/ Assoc. prof. Vladimir Tsenkov, PhD/