



Anexa nr.6

SUMMARY OF THE HABILITATION THESIS

The title: **Factors and limits of economic growth in the conditions of the overlapping crises of the last decade**

The field of qualification: **Economics**

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The habilitation thesis entitled *Factors and limits of economic growth in the conditions of the overlapping crises of the last decade* includes a synthesis of the main scientific research and didactic results, which create my activity related to the period 2019-2023, after obtaining the doctorate, in 2019, in the field *Cybernetics and Economic Statistics* within the doctoral school of the *Academy of Economic Studies in Bucharest*, based on the doctoral thesis entitled *Application of Econophysics models on the Romanian market*, under the guidance of Prof. Univ. Dr. Constantin Mitruț.

The habilitation thesis is structured in two sections. In the first section, I presented the main results of the scientific research, which I structured in two main directions, namely: *Economic crises: initiation, evolution, effects and their influence on economic growth from the perspective of sustainability* and *The Financial Market - An indispensable element for a developed durable*. Thus, in the first direction of research, *Economic crises: triggering, evolution, effects and their influence on economic growth from the perspective of sustainability*, I considered the crises that, cyclically, acted and had negative effects on economic development. As a consequence, the pandemic crisis (Covid-19) was a factor that had dramatic effects on the economic growth of countries around the world, but primarily on the health of the population.

In order to be able to highlight the effects, but also the perspectives of recovery and economic relaunch, in the analyzes we used a series of statistical-econometric methods and models that I adapted to the specifics of the analyzed economic phenomenon, such as static and dynamic analysis, structural analysis, spectral analysis, comparative analysis, index method, some analytical methods (uni and multifactorial regression, VAR vector autoregressive estimation) and others. We also used official data series made available by international bodies specialized in statistics, such as the National Institute of Statistics, Eurostat, etc. Of course, the series of data that we collected and centralized, we processed and presented in the form of tables and graphs to be easier to analyze and interpret.

From the data analyzed, it emerged that starting from 2019 and then 2020 and 2021, the pandemic crisis led to the worsening of the health system situation in all countries around the world, in the European Union and in every member country of this union. Global healthcare is an objective necessity and must be seen in close connection with the effects of the health crisis. States in a situation of poverty need resources and support through concrete cooperation. There is talk of resetting the world's population, but I must mention that, first of all, international solidarity should be developed more actively to ensure that existing resources are used as efficiently as possible and directed to ensure better conditions and growth for the population of each countries in the world and in the European Union.

This direction of research has been in my attention during the last four years of activity, studying very carefully the effects that these combined crises have had on the main macroeconomic indicators and the prospects that the world's economies have in these conditions when all branches of economies national economies are affected by these overlapping crises. Thus, we had in mind the perspective of the development of the industry of the future in Romania in the current context imposed by the crises facing humanity, which will no longer be able to rely on the traditional, standard technological level, but on discoveries and especially on the basis of the prospects of new conquests in field, with a huge impact on the industries that will develop (digitalization, robotization, biotechnology, nanotechnology, artificial intelligence and others). We also took into account agricultural production, which, although in absolute numbers, recorded increases, they are insignificant in relation to the growth of the Gross Domestic Product in Romania, which leads to the conclusion that economic development was based on other branches of the national economy.

The pandemic crisis had particularly serious effects in many branches of the national economy. Thus, the measures taken by the authorities to control and control the effects of infecting the population had, in turn, some negative effects on the concrete results that are achieved in the economy. Thus, tourism and HoReCa were practically put into inactivity, which has an immediate effect on the growth in the economy. In industry, construction and other branches of the national economy, some restrictions were also imposed which had the effect of reducing the production of goods and services. All together create difficulties in terms of maintaining macro stability.

Of course, crises, of whatever nature they are, are what create those shocks in macroeconomic evolution, and in this context, we paid attention to the galloping evolution of the last period of inflation, which endangers economic growth and the maintenance of macro-stability. Unemployment was also taken into account, highlighting the fact that January 2020 represented a turning point that marks a new period when the trend becomes strongly upward due to the pandemic crisis combined with the economic-financial crisis we are going through at the moment. We also did not neglect the perspective of the evolution of the situation of the elderly population in the context of the crises, which has worsened a lot, and the increases that were granted in the period 2020-2021 do not have the level that could compensate for the price increases of food, medicine, utilities and many others.

In the last decade, humanity has faced a multitude of crises, beginning in 2019 with the pandemic crisis (Covid-19), which quickly generated the economic-financial crisis with particular effects on economic development, following the food crisis and continuing with the energy crisis in full swing ascension. In this context, I mention the fact that the energy problem is a particularly important one, considering the need to ensure national production in all countries, which are under the spectre of the energy crisis. This crisis, amplified by the sanctions imposed by the European Union as a result of the military conflict (war) between Ukraine and the Russian Federation, leads to a decrease in the standard of living and the quality of life of most people in the world. Energy poverty affects more and more consumers, the increase in energy prices being a constant of the last period.

All the member states of the European Union and not only must guide their research, as well as the imposition of conditions to ensure the increase in energy production from renewable sources (wind, solar, hydro, gravity, etc.), there are natural conditions for this type of renewable energy to develop. It is also important that the states of the world want to effectively dimension their resources and overcome this framework of the negative effects generated by the current crises.

The world economy, that of the European Union, as well as that of each member state, is currently facing, after the period 2008-2010, the biggest and most complex crisis that has ever been felt by the states of the world and, in particular, by the European states, amplified to an unimaginable level by the current crises, acting in concert, with the most profound economic effects, which will be even more difficult to overcome.

The second research direction, *The financial market - An indispensable element for a sustainable development*, assumed a series of studies that targeted the capital market and in this sense, the need for analyzes based on mathematical and statistical-econometric models useful for determining the most appropriate variant of placing assets on the market. Thus, we addressed the practical utility function because there is a risk that must be taken into account when investors choose the option of asset placement.

We took into account the fact that the efficiency of a portfolio can be measured by the profitability with which it is completed and, in this sense, we considered that decision-making regarding the placement of securities portfolios must be based primarily on the elimination of uncertainty. Thus, we considered the possible situations in the case of combining portfolios and those that depend on the constraints imposed on the investor, suggesting that for decision-making one must eliminate the uncertainty expressed in terms of the standard deviation of the return.

Also based on mathematical models, the phenomenon of asset accumulation and portfolio decisions taken under the risk of inflation were studied, considering in this regard a model of intertemporal allocation of assets (taking into account systematic factors of the model regarding intertemporal accumulation of assets at risk of inflation), investment opportunities, dynamic programming and the intertemporal portfolio.

In the second section, I considered the professional and academic development plan, presenting in this sense the professional training and experience, the results of scientific research up to this point and the professional career development plan. As a consequence, I presented with clear examples the results of the research up to this point and I pointed out the desire to continue my research activity, as well as teaching, together with the young researchers (doctoral students), because I believe that it is absolutely necessary for them to be coordinated, taught and helped to identify the factorial variables of the economic phenomenon under study, to use models and statistical-econometric methods of analysis and last but not least to be able to forecast future periods. In other words, I want young PhD students to be able to perform and do quality studies that they can publish in Clarivate Analytics (ISI) or BDI indexed specialist journals.