

**WEST UNIVERSITY OF TIMIȘOARA**  
**DOMAIN: FINANCE**

**Multidimensional approaches to sustainable development  
in the context of the performance of public and corporate governance**

**SUMMARY OF HABILITATION THESIS**

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## Summary

This habilitation thesis reviews part of the research activities carried out after the defence of the doctoral thesis in the field of Finance at the West University of Timișoara in March 2015, based on which the candidate obtained the title of Doctor by Order no. 4643 / 30.07.2015 of the Ministry of Education and Research. The approach also highlights the evolution and development of the professional career under three levels: teaching, scientific research and managerial or mentorship skills.

The results of the research activities reflect an interdisciplinary approach focused on corporate finance and finance and public policies, while the bachelor's, master's, doctoral and postdoctoral studies were carried out in the field of Finance and, tangentially, Management, through the studies carried out outside Romania, at Aberdeen Business School within Robert Gordon University (3rd year and 4th year of Bachelor with Honors in Management with Finance).

The habilitation thesis entitled "*Multidimensional approaches to sustainable development in the context of the performance of public and corporate governance*" was structured into three main sections: i) scientific, professional and academic achievements, ii) professional, scientific and career development and planning, as well as iii) bibliographic references.

The first section is the widest as it summarises some of the **most relevant publications** regarding their importance and visibility. Three research directions were approached, from the perspective of corporate finance and that of public finance, converging towards sustainable development, an essential concept in the current economic and social environment, namely:

- A. one thematic direction related to highlighting the means of maximising the performance of companies being structured on the following sub-directions:
  - A.1. the impact of the financial crisis on financing preferences and the performance of companies;
  - A.2. the analysis of factors that influence the performance of companies.
- B. a direction related to highlighting the measures by which the public sector influences the citizens' well-being and the development of entrepreneurship and society, structured on the following sub-directions:
  - B.1. highlighting the differences between the social and economic dimensions in the member states of the European Union by addressing the quality of governance and the citizens' well-being;
  - B.2. highlighting fiscal policies that support the development of the entrepreneurial environment and the citizens' well-being;
  - B.3. measures through which the public sector contributes to the development of the public health system and the national defense system;
- C. a research direction presenting means of evaluating the impact of public policies and business environment on the society from the perspective of sustainable development, structured on:

- C.1. establishing the scientific framework of the connections between public policies and those promoted by companies for the sustainability, performance and development of society;
- C.2. the influence of public governance on entrepreneurship and citizens;
- C.3. the impact of investment and innovation on the environment and the economy.

The **first thematic direction**, highlighting **means of maximising corporate performance**, includes ideas that harmonise with the scientific concerns from the early stages of the candidate's research activity, including those from the periods of doctoral and postdoctoral studies. This research direction has been highlighted by the publication of a significant number of papers in journals indexed in the Clarivate – Web of Science database and other international databases, and participation in international conferences. This thematic direction targeted the candidate's efforts in identifying the financing preferences and the performance of companies (listed on the Bucharest Stock Exchange - BSE or companies from the oil and natural gas industry in Great Britain), including by analysing the impact that the financial crisis from the late 2000s' had on corporate financing decisions and performance.

The empirical approaches were progressively developed according to the importance of the correlations that the analysed concepts generate in the economic and financial field, involving regression analysis, with static and dynamic models, financial and macro-economic indicators, and dummy variables to highlight the absence or presence of certain categorical effects or phenomena that influence the economy and companies. The analysis was based on companies operating in Romania, and the influencing factors for the profitability of large companies and SMEs were highlighted before and after the outbreak of the financial crisis (in the sub-periods 2003-2007 and 2008-2014) with the aim of observing the impact of the financial crisis on the activity of the companies. For large companies, equity had a greater influence on their profitability before the crisis began. The financing decisions of SMEs were extremely sensitive to the economic changes produced during the financial crisis (a high level of equity capital indicated a higher profitability of companies with less than 250 employees until 2007 but, with the crisis emerging, SMEs were less profitable when the capital structure was based on own resources). The analysis of the drivers of company performance continued by highlighting how the price and volume of oil traded affected the profitability of companies in the UK oil and natural gas industry over the 2006–2014 period. High-performing companies rely on quality operational management, efficient use of assets in generating sales, and the ability to generate sales flows on an ongoing basis. In the oil and gas industry, those companies with a high degree of solvency and more equity seem to be performing better.

Research results proved that the phenomenon of the financial crisis has considerably affected the economic performance of all companies listed on the Bucharest Stock Exchange, but SMEs to a greater extent. Although they tried to take minimal risks, they faced a major decline in performance over the entire period, leading to important changes in financing and investment decisions. As for the UK oil companies, they have managed to record steady profits and gains even during the crisis, but over the long term, the solution to maintaining high performance is to go towards green and environmentally friendly alternatives.

Research in the field of corporate performance and good governance has subsequently developed through macroeconomic approaches related to the performance of the public sector. Firstly, we describe the research related to **highlighting the measures by which the public sector influences the development of entrepreneurship, the citizens' well-being and the development of society**, representing the **second research direction** of this habilitation thesis. Empirical approaches concerned data mapping techniques, principal component analysis (PCA), additive aggregation linear method, relative distance method, correlation analysis, regression analysis, including threshold analysis, Granger causality analysis, and the Multiple Indicator Multiple Cause Model (MIMIC).

The analysis of the factors that determine differences between the social and economic dimensions within the EU member states was carried out by building a composite indicator of the government quality and the citizens' well-being and ranking the EU states based on this index. The economic dimension was highlighted by the Employment rate, the Public investment ratio and the Social protection expenditure ratio, while the social dimension was expressed by the Confidence in EU institutions and the Quality of life. Through the PCA analysis, three main components were selected, and the Composite Index for Quality of Government and Citizens' Wellbeing ("Composite Index for Quality of Government and Citizens' Wellbeing" - CIQGCW) was constructed based on these three sub-indicators, through the additive aggregation linear method, referring to data from 2015. In the "Leaders" group we find Scandinavian countries (Denmark, with the highest composite index, of 47, followed by Sweden and Finland), together with Austria, the Netherlands, Luxembourg and Germany. In the "Potential leaders" group, we identify developed countries such as Belgium or France and emerging countries (e.g. Romania - 12th place, with an index of 38, equal to the EU average). The "Dynamic Implementers" group includes, in descending order of the CIQGCW composite index, Bulgaria, Croatia, Italy, Spain, Cyprus and Greece, the lowest value of the index being 28. The performance of the governments of the Nordic countries could be explained by the fact that they are subject to the systematic control from citizens, as information related to the activities of public authorities is available, and the low level of corruption leads citizens to trust the government, paying higher taxes than anywhere else in the EU. The quality of life is among the highest because Scandinavians register the highest levels of public investment and social protection expenditure. Conversely, in countries such as Greece, Spain and Croatia, we find lower levels of employment and, at the same time, a low level of trust in public institutions and government, strongly affecting life satisfaction.

Research has also focused on highlighting the fiscal policies that support the development of entrepreneurship and citizens' well-being, because the effectiveness of public policies and public administration may trigger development by reducing social inequalities and increasing welfare. Fiscal policies can influence entrepreneurs' decisions to start businesses or not, as a high tax burden will constrain entrepreneurial activity. However, fiscal policies can support the private sector by applying special treatment for losses or capital investments. The analysis focused on determining an optimal level of fiscal policy for the promotion of entrepreneurial activity from 2002-2019, in the 27 EU member states. Results indicated a very high threshold, helping us to conclude that the level of tax revenues represents a significant and direct factor for entrepreneurial activity, supporting its development. In addition, fiscal policies usually favour micro-enterprises and start-ups

compared to large companies, offering lower tax rates or tax deductions for business development and the accumulation of fixed assets in new businesses. Government effectiveness has also proven to be a strong factor in supporting entrepreneurial activities. Citizens appear to be more willing to take risks and become entrepreneurs when their perception of the quality of public services is high. In addition, government policies can strongly influence the development of the entrepreneurial ecosystem, supporting education in entrepreneurship, developing research, development and innovation activities and supporting the development strategies of small companies. Increasing government spending and taxes is not always a viable solution and tends to restrain entrepreneurial activity after a certain point. Therefore, the optimal level of fiscal policy must be a key concern for decision-makers: moderate fiscal policies have the power to increase entrepreneurial activity and reduce the costs involved in setting up a business by facilitating their establishment through simplified regulations.

The research also aimed to analyse the relationships between tax revenues and citizens' well-being, focusing on economic growth and human development in different European countries, with data related to 1995-2015. Granger causality analysis proved that, over the short term, happier citizens live in countries with higher levels of taxes collected (the human development index is a cause for total tax revenues). However, over the long run, the study results indicated that regardless of the country analysed, happier citizens will pay higher taxes, with social contributions and consumption taxes having the biggest impact. Fiscal policies also influence economic growth, and policymakers should consider that tax increases have a long-term effect and must be supported by the well-being of citizens, as healthier and more educated taxpayers with an average or above-average standard of living, will be willing to pay higher taxes. Therefore, economies with high tax revenues should invest more in education and health systems, provide the best public services, and ensure societal well-being and long-term sustainable growth.

The influence of taxation on economic development from the perspective of the shadow economy was also highlighted by means of the Multiple Indicators Multiple Causes Model (MIMIC) to discover the causes that lead to work in the informal sector or to a lack of quality of public administration and reduced government efficiency. Results confirmed the influences established by Schneider's MIMIC model, and the variables employed as indicators (average number of hours worked, employment, unemployment and GDP per capita) have high statistical significance. The indicator most affected by the activities of the informal economy is employment since a high level of the shadow economy is associated with an increase in unemployment. By simplifying the tax and social security systems, tax compliance costs will be reduced without reducing tax rates. Therefore, it would also induce economic growth. Reducing administrative costs, simplifying regulations and bureaucracy, encouraging transparency and improving government performance, strengthening tax compliance, automating activities and encouraging online payments are among the most important measures to improve economic development and reduce activities associated with the underground economy.

Continuing the research on the impact of the public sector and services on the development of the economy and society, we will present conclusions from several studies that foresee concrete aspects in the field of the public health system and the national defence

system. To evaluate the quality of public health systems, the composite index of individual health and the composite index of the public health system were created. The first was based on a combination of indicators related to the availability and effective use of technology in each EU member state, and the health care assessed by citizens as unsatisfactory turned out to be the most significant variable in determining the status of the individual health, followed by life expectancy, the adult mortality rate and the infant mortality rate. The second composite index presented public health systems based on the level of the health budget, followed closely by the level of government spending on health and, to a lesser extent, by the number of doctors, nurses and pharmacists. The analysis ended with the establishment of the efficiency of the public health system, based on the relative distance in relation to one's own public health system, divided by the relative distance in relation to the average of the individual health index. Cyprus and the Netherlands lead in the classification of the efficiency of the public health system, while Bulgaria, some Baltic states and even Finland have a low level of public health efficiency. Regarding the importance of e-health system adoption, countries where electronic recording of health-related information is important have citizens with an increased quality of life. e-health could meet some of the key needs in European health systems facing high patient demands, increasing aging rates, the incidence of medical errors and the increased costs involved. Therefore, informing citizens about the role of information technologies in the field of health could lead to a more efficient public health system and increased quality of life, as the results related to the Electronic Health Register also indicated. Although the gap related to the efficiency of the public health system in Romania has narrowed in recent years, we continue to have an alarming infant mortality rate and a low level of the budget allocated to the public health system. Economic development and growth were also analysed based on the increase in military spending over the long term, and results demonstrated that, in Romania, military spending is becoming an important cause for economic growth, which was highlighted based on the positive evolution of the gross domestic product. Although Romania's policy needs to be adapted to support the defence force in the future so that the economy is not affected by increased defence spending, through their efficiency, Romania had the potential to increase the country's military power to strengthen its security in the long term.

For the **third research direction**, the one regarding **means of evaluating the impact that public policies and business environment have on society from the perspective of sustainable development**, we chose first to describe the scientific framework of the connections between public policies and those promoted by companies for sustainability, performance and societal development, and then describe some of the influences that public governance and investment have on entrepreneurship, citizens' well-being and economic and social development and environmental protection. These research results were returned by empirical methods that addressed bibliometric analysis, principal components analysis, regression analysis, including threshold analysis, Granger causality analysis with a rolling window (bootstrap).

A performance analysis from the perspective of sustainability practices promoted by companies is very important, especially since globalisation has increased risks and uncertainties but also accelerated climate change. Countries have become more interconnected, and the risks of natural resource depletion, gas emissions, and other threats

that have a major impact on climate change have increased. Therefore, public policies and those promoted by companies specific to social responsibility represent a key factor for the sustainability of the economy, society and the environment. The relationship between the public sector and the business environment is thus evident, as well as the influences they have on increasing performance and ensuring sustainable development

The examination of the influence of public governance on entrepreneurship in the period 2012-2017 was carried out on a selection of EU states (Belgium, Croatia, Denmark, Finland, France, Greece, Italy, Portugal, Romania, and Spain), based on the value of the development index human and on the criterion of expected years of schooling, therefore sustainable development objectives were considered, linking the role of governments, private sector, civil society and citizens. The six world governance indicators (WGI) have been reduced to two main components or two indices, one related to the public sector and another one reflecting the involvement of citizens in society. The applied regression analysis suggested that public sector governance has a limited impact on the development of entrepreneurship, and good governance is not necessarily related to an environment suitable for entrepreneurship. However, we assume that the standard of living and public services offered in the most developed countries meet the citizens' needs and provide them with sufficient well-being so that individuals are not interested in starting businesses, preferring to be employed with minimal financial risks, compared to those resulted from running a business or maintaining its activity in an uncertain environment. A similar analysis, over a longer period of time (2001-2018), on the G8 countries (Canada, France, Germany, Italy, Japan, Russia, Great Britain, the United States of America) indicated that entrepreneurship is very important for development and economic stability, being driven by government policies, a country's level of development and citizens' behaviour. Although the behavioural component seems to inhibit the level of GDP, an educational system oriented towards entrepreneurial activities could have a positive effect on entrepreneurship while inducing sustainable GDP growth

Since the development of entrepreneurship and the focus of the business environment on maximising the performance of companies have a major impact on society, we also addressed in our research the effects that technological innovation has on the environment and the efficiency of investments in the green economy. The results of the recent studies indicate that the role of technological innovation in improving air quality remains undetermined. Therefore, we set our research to determine the effect of technological innovation on air quality in China from 2012-2022. Over this period, the relationship between technological innovation and air quality has changed depending on specific events. For example, severe air pollution in 2014-2015 led to increased public awareness of environmental protection and made the government invest more in green technological innovation. After 2016, firms invested less in research and development and more in green equipment, which led to a reduction in technological innovation but also reduced pollution. During winter periods or due to low temperatures, the equipment used to generate renewable energy does not work at full capacity, leading to an increase in the use of traditional energy for an efficient expansion of production, resulting in the promotion of an increase in technological innovation and a decrease in quality the air. While green technological innovation can lead to better air quality, it can also induce more pollution if fossil energy



consumption increases. Thus, the exact direction of the influence depends on the pollution's severity and the decision-makers' attitude towards environmental protection. If governments implement an innovation-based development strategy by encouraging green technological innovations, the desired carbon neutrality by 2050 can be achieved.

The last study included in this thesis deepens the understanding of the role of green bonds in the development of renewable energy by defining an investment efficiency model to explain the impact of green bonds on the efficiency of renewable energy investments. Since efficient investment is defined by investment units that increase production capacity, the efficiency of renewable energy investment is associated with new renewable energy technologies that have the potential to expand the production capacity for renewable energy. After the country's commitment to promoting sustainable development was added to China's Constitution in March 2018, green bonds rated AA in the list of accepted guarantees were issued to increase financial support for the green economy. The bootstrap analysis undertaken for the relationship between green bonds and renewable energy investment efficiency indicated both a promoting effect (providing additional funds for renewable energy technological innovation and improving investment projects) and an inhibitory effect (managers may reject favourable projects and may invest in inefficient projects just to use the additional funds from green bonds). Thus, policymakers should be aware that green bond issuance can increase the scale of renewable energy investment and improve investment efficiency if it becomes a means to achieve the goal of carbon neutrality. Therefore, it should guide business actors to invest in efficient ecological projects and, at the same time, have facilities such as tax reductions or subsidies and grants to support profitable investments useful for sustainable development.

The synthesis of the research activities carried out after obtaining the doctorate (according to the Order of the Ministry of National Education no. 4643 / 30.07.2015) includes one book (single author), four book chapters published in international publishing houses and 25 scientific articles, from which 11 were published in journals indexed in the Clarivate - Web of Science. The activity carried out in research teams and in research project implementation teams was developed by participating as a member in six research projects (or projects with activities that had a research component): director of one research project to stimulate young independent teams, member in two teams for projects financed by the Norwegian Financial Mechanism 2014-2021 (EEA grants), member of two teams of Erasmus+ Key Action 203 projects and member of a team within a project financed by the National Recovery and Resilience Plan of Romania (PNRR) – Pillar III, Component C9, Investment no. 8.

The section related to **professional and academic contributions** includes relevant activities and achievements that confirm the importance of the candidate's scientific results. In addition, mentorship and coordination capabilities, essential for mentoring students and young researchers, are highlighted. Specifically, didactic competencies highlight educational quality and the ability to transmit knowledge.

In the **"Planning of professional, scientific and academic career development"** section, the guidelines for scientific research in the field of finance are presented, as well as complementary fields, proving a solid academic perspective for obtaining the certificate of "Atestat de abilitare", which confers the status of PhD supervisor. This status is essential to

contribute to the development of future generations of researchers and to continue research activities at the highest levels.

The thesis ends with a **list of bibliographic references** that refer to the scientific publications made by the candidate in research teams (articles and papers presented in the habilitation thesis or articles and papers used as references in these) after obtaining the PhD degree, more precisely during the period of 2016- 2024. Therefore, the thesis structure is intended to provide an overview of the scientific contributions made during this time frame to support the premises, results and conclusions presented.

This habilitation thesis provides a detailed analysis of the candidate's professional and academic contributions, emphasising the results and impact of her own research, the teaching and research skills acquired and developed over time, and her ability to mentor new researchers. It also establishes future research directions, ensuring the continuity and relevance of the candidate's academic and professional activities.