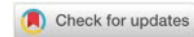


# PUBLIC FINANCE AND THE INTERNATIONAL ECONOMY IN SUPPORT OF THE SMART SPECIALISATION STRATEGY: FOCUS ON THE GREEN AND DIGITAL TRANSITION

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**Abstract:** This paper analyses the role of public finances and the international economy in supporting the implementation of the Smart Specialization Strategy of the Republic of North Macedonia for the period 2024–2027, with a particular focus on the green and digital transition. The main objective of the study is to examine how fiscal policy instruments, public investment, and international economic integration contribute to innovation-led and sustainable economic development. The methodology is based on qualitative policy analysis and comparative assessment, using official data from the Ministry of Education and Science, the Innovation Agency, and relevant European Union documents, complemented by academic literature in the fields of public finance and international economics. The results indicate that public finances play a key role in operationalizing the Smart Specialization Strategy through targeted budget allocations, innovation grants, and support for green and digital projects, while international economic integration enhances access to external funding, markets, and knowledge transfer. The findings further show that alignment with European Union policies significantly strengthens the effectiveness of national strategic interventions. The paper concludes that coherent coordination between fiscal policy, innovation support mechanisms, and international economic frameworks is essential for the successful implementation of the Smart Specialization Strategy. It is recommended that public financing for innovation be made more stable and predictable, that absorption of European Union funds be increased, and that international best practices be systematically integrated in order to accelerate the green and digital transition. Additional data used in the analysis include official budgetary information, innovation grant programs, and comparative indicators related to research, innovation, and sustainability in North Macedonia and the European Union.

**Keywords:** public finance; international economy; smart specialization; green transition; digital transition; innovation policy

**Field:** Social Sciences

## 1. INTRODUCTION

Public finances play a fundamental role in shaping economic development and supporting structural transformation, particularly in small open economies where fiscal capacity and policy coordination are critical for long term growth (Stiglitz, 2019; Musgrave & Musgrave, 1989). Through public expenditure, investment, and targeted financial instruments, governments influence innovation performance, sectoral competitiveness, and the allocation of resources toward priority development objectives.

In parallel, the international economic environment significantly affects national development strategies by shaping access to external markets, capital flows, and innovation networks (Krugman, Obstfeld, & Melitz, 2022). For countries integrated into the European economic space, alignment with European Union policy frameworks further determines domestic policy choices, particularly in the areas of digitalization, green transition, and innovation driven growth (European Commission, 2021).

In this context, the Republic of North Macedonia has increasingly harmonized its fiscal and economic policies with European Union priorities, especially following the adoption of the Smart Specialization Strategy 2024–2027. Smart specialization represents a strategic policy approach aimed at concentrating public resources on selected priority domains with high innovation potential, thereby enhancing competitiveness and sustainable growth (Foray, 2015; Ministry of Education and Science, 2023).

The successful implementation of the Smart Specialization Strategy largely depends on the availability and effective allocation of public financial resources. Budgetary support, innovation grants, and public investment programs determine the scope and intensity of support for research, digital transformation, and environmentally sustainable development (OECD, 2020). At the same time, international financial instruments and European Union programs complement national funding and expand opportunities for innovation and technology transfer (European Commission, 2021).

Recent institutional developments further illustrate this interaction between public finances and innovation policy. The establishment of the INOVA Agency for Innovation, together with the introduction

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of green grant schemes supporting sustainable and digital business models, reflects an increasing commitment to directing public and international resources toward innovation oriented growth (Biznis Vesti, 2026). Such initiatives align with European Union objectives for climate neutrality and digital competitiveness while strengthening domestic innovation ecosystems.

Given these developments, the objective of this paper is to analyze how public finances and the international economy support the implementation of the Smart Specialization Strategy of the Republic of North Macedonia, with particular emphasis on the green and digital transition. By examining public financial instruments, international funding mechanisms, and institutional coordination, the paper aims to contribute to a better understanding of the role of fiscal policy and international economic integration in fostering sustainable, innovation driven growth.

## 2. MATERIALS AND METHODS

This study applies a qualitative and comparative methodological approach to analyze the role of public finances and international economic integration in supporting the implementation of the Smart Specialization Strategy, with particular focus on the digital and green transition. The analysis is based on desk research and a systematic review of secondary data obtained from official and publicly available sources, including strategic documents published by the Ministry of Education and Science (2023), reports of the Innovation Fund of North Macedonia (2022), and relevant documents from European Union institutions (European Commission, 2021).

Budgetary data and information on innovation, digitalization, and green grant programs were examined to assess the allocation and effectiveness of public financial support. In addition, a comparative perspective was employed through the analysis of selected European Union practices related to financing smart specialization, green transition, and digital transformation (Foray, 2015). The methodological framework was further supported by academic literature in public finance and international economics, providing a conceptual basis for examining the interaction between public funding mechanisms and international economic integration.

## 3. RESULTS

The results of the analysis indicate that public financial instruments have played a significant role in supporting the implementation of the Smart Specialization Strategy in the Republic of North Macedonia. Budgetary allocations and grant schemes aimed at innovation, digitalization, and green development were identified as the main channels through which strategic priorities were operationalized (Ministry of Education and Science, 2023; Innovation Fund of North Macedonia, 2024).

Empirical evidence showed that public funding was predominantly directed toward small and medium-sized enterprises, start ups, and research oriented projects, with a growing focus on environmentally sustainable and digitally driven activities. In particular, national grant programs contributed to increased investment in green technologies, digital solutions, and innovation capacity within priority domains defined by the Smart Specialization Strategy (European Commission, 2023).

The analysis further revealed that international financial support significantly complemented domestic public financing. European Union programs and funds enabled additional investment in innovation, green transition, and digital transformation, thereby expanding the scope of national policy measures (European Commission, 2022). Access to these instruments enhanced the integration of domestic firms into regional and European value chains.

A notable recent development was the establishment of the Agency for Innovation, Technological Development and Entrepreneurship (INOVA), which introduced new grant schemes for green businesses supported jointly by the European Union and the Government of North Macedonia. Initial evidence indicated that these programs strengthened financial support for environmentally sustainable projects and reinforced the alignment between public finances and green transition objectives (INOVA, 2026).

## 4. DISCUSSIONS

The findings confirm that the alignment of public financial frameworks with the objectives of the Smart Specialization Strategy is essential for fostering innovation led and sustainable economic development. The prioritization of digitalization and green transition observed in North Macedonia reflects broader European Union policy trends, where smart specialization serves as a key mechanism for directing public resources toward high value and future oriented sectors (European Commission, 2023).

Although North Macedonia operates with limited fiscal capacity compared to European Union member states, the combination of national funding instruments and external financial support helped mitigate these constraints. The results suggest that international economic integration enhanced the effectiveness of domestic public spending by facilitating access to funding, technology transfer, and innovation networks (Krugman, Obstfeld, & Melitz, 2022).

The establishment of Agency for Innovation, Technological Development and Entrepreneurship (INOVA) represented an important institutional innovation within the national innovation system. By introducing targeted grant schemes for green businesses, the agency strengthened the operational link between public finances and green transition priorities, thereby supporting the practical implementation of the Smart Specialization Strategy (INOVA, 2026). This development underscored the importance of institutional coordination and specialized agencies in improving policy effectiveness.

Overall, the discussion highlights that coherent coordination between public financial planning, innovation support mechanisms, and European Union instruments is a critical determinant of successful smart specialization implementation. These findings are consistent with existing theoretical and empirical literature, which emphasizes the role of public finances and international economic integration in supporting long term competitiveness in small open economies (Musgrave & Musgrave, 2019; Stiglitz & Rosengard, 2020).

## 5. CONCLUSIONS

The analysis demonstrates that public finances and the international economy play a crucial and complementary role in supporting the Smart Specialization Strategy of the Republic of North Macedonia. Public financial instruments facilitate the implementation of strategic priorities, while international economic integration enhances access to funding, markets, and innovation networks.

The findings indicate that the success of the Smart Specialization Strategy depends on effective coordination between public financial frameworks, innovation support mechanisms, and European Union instruments. Stable and predictable public financing, improved absorption of European Union funds, and stronger institutional coordination are essential for accelerating the green and digital transition. In this context, the Smart Specialization Strategy represents a key mechanism for achieving sustainable, innovation-driven growth and strengthening long-term competitiveness.

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