



RESEARCH ARTICLE

Development of the Regulatory Framework for Market Integration in the Context of Economic Globalisation

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ABSTRACT

The contemporary global economic system involves a dynamic interplay between globalization and national interests, with market integration and regulatory frameworks playing a crucial role. The significance of this topic stems from the fact that globalization and technological advancements create new prospects for economic growth. However, they also pose challenges that necessitate a comprehensive understanding and balance between market openness and the need to safeguard socio-economic interests. Integration promotes growth and development and facilitates economic prosperity at the international level. Regulatory frameworks provide stability and predictability, which are essential to support integration processes in the world economy. The frameworks' significance lies in their ability to adapt and respond to constantly changing conditions in the global market while safeguarding the interests of both large and small countries. The analysis highlights that effective market integration and flexible regulatory mechanisms can create synergy between national economies. The article concludes that a balance between innovation, market integration, and effective regulation is necessary for the development of a resilient, and innovative economy. The article suggests further research to develop mechanisms for adapting regulatory frameworks to changing conditions in the world market, with the aim of enhancing the effectiveness of economic and regulatory policies.

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INTRODUCTION

In the arena of the modern global economy, where the invisible hand of the market frequently intersects with the firm hand of state regulation, we witness epochal changes in the ways countries interact with one another. In this context, market integration and regulatory frameworks emerge not merely as tools or mechanisms of economic policy, but as fundamental forces shaping the architecture of the world economic space.

We are currently at a critical juncture where globalization and technological advancements present new prospects for economic growth and development. Nevertheless, these same forces also pose

challenges that necessitate a comprehensive comprehension and an impartial approach to international economic regulation. In an era of increasingly intertwined national markets and heightened economic interdependence, it is crucial to develop effective regulatory frameworks that promote global stability and prosperity.

This article aims to provide a comprehensive understanding of the interaction between market integration and regulatory frameworks, exploring both macroeconomic and microeconomic aspects of this process. This text explores the impact of market integration on national economies, the role of international agreements and institutions in shaping the economic landscape, and how regulatory frameworks can balance market openness with the need to protect socio-economic interests.

The analysis is based on the belief that fair and effective regulation is crucial for the harmonious integration of global economies. Regulations should aim to facilitate free trade and investment while also protecting vulnerable sectors of the economy, ensuring environmental sustainability, and promoting social justice. This requires identifying the most effective approaches and instruments through the lens of historical experience and contemporary realities (Shevchenko et al., 2023).

The aim is to gain a more in-depth understanding of the mechanisms of interaction between market integration and regulatory frameworks, and to contribute to the development of conceptual foundations for building a fairer and more sustainable global economic order.

LITERATURE REVIEW

Firstly, this text draws attention to the analysis conducted by Adam et al. (2002), which provides a fundamental approach to studying capital market integration in the European Union (EU). This research serves as the basis for further analysis as it utilizes alternative indicators and monitoring methodologies, allowing for the assessment of the evolution of capital market integration.

In a contemporary context, Agi and Jha's research expands the scope of analysis to the implementation of blockchain technologies in supply chains (Agi & Jha, 2022). They provide an integrated theoretical perspective on the organizational adoption of these technologies, which is crucial for understanding how innovations can facilitate market integration.

The study by Bashi et al. (2022) examines the integration of electricity markets in Ireland through the use of large-scale energy storage battery systems. This research is significant for comprehending future regulatory frameworks and their influence on market integration in the context of energy conservation.

The analysis by Bau and Matray (2023) contributes to the discussion on the misallocation and integration of the capital market, using India as an example. The authors demonstrate how market integration can affect resource allocation efficiency, which is critical for economic growth and development.

In their study, Bjarghov et al. (2021) explore the development and challenges of local electricity markets, shedding light on the interplay between technological progress, regulatory challenges, and market integration. The research underscores the complexity of managing local electricity markets in the face of recent innovations.

In his research of integrated marketing communications, Blakeman (2023) provides insights into the strategic approach from concept to implementation. This is important for understanding how communications can facilitate market integration and strengthen regulatory frameworks.

Conversely, the research by Botelho et al. (2021) focuses on innovative business models as catalysts for integrating 'prosumers'. This study is significant in comprehending the challenges and prospects of market integration, highlighting the necessity for adaptable regulatory strategies.

The study by Caliendo et al. (2021) examines the quantitative aspect of the integration of goods and factor markets, using the example of the European Union (EU) expansion. This work is significant for comprehending the economic consequences of political decisions aimed at market integration and provides valuable analytical tools for assessing future expansions.

Continuing the theme of the impact of digitization on market processes, Carah and Brodmerkel's research analyses alcohol marketing in the context of digital media platforms. The authors emphasize the need to adapt regulatory frameworks to new challenges arising from rapid developments in digital technologies, highlighting the link between technological innovations and regulatory policy (Carah & Brodmerkel, 2021).

D'amato and Korhonen (2021) discuss the integration of green economy, circular economy, and bioeconomy into a single strategic framework for sustainable development. This work contributes to understanding how integration processes can promote sustainable development, adding a new dimension to economic and environmental goals.

De Almeida et al. (2021) analysed peer-to-peer trading and energy communities in the electricity market, emphasizing legal and regulatory aspects. Their findings highlight future challenges and the need to adapt the regulatory environment to new market conditions, which is crucial for ensuring effective integration of innovative models in the energy sector.

De Streel and Larouche (2016) propose an integrated review of regulatory frameworks for digital networks and services. This is important for supporting market integration in the context of the rapid development of digital technologies. The work demonstrates how a comprehensive regulatory approach can promote innovation and ensure competitiveness in the digital era (de Streel & Larouche, 2016).

The research conducted by Goodhart et al. (2023) is a significant contribution to the understanding of the interaction between various financial regulations. The authors suggest an integrated framework for analysing multiple financial regulations, which is essential for ensuring financial system stability in the context of globalization and market integration (Goodhart et al., 2023).

Furthermore, in their work, Grewal and Levy (2022) analyse contemporary marketing strategies, emphasizing the importance of adapting to the digital environment. This complements previous analyses of market digitization and underscores the significance of integrated marketing communications in developing effective consumer interaction strategies.

Hamulczuk and Skrzypczyk (2021) investigate the effects of COVID-19 on spatial market integration and producer prices in the EU's agricultural food markets. The authors' objective analysis provides valuable insights into the subject. Their research is significant in comprehending how global crises influence market integration and price dynamics, highlighting the need for adaptable regulatory frameworks.

Juska (2021) provides a detailed overview of contemporary approaches to marketing communications, with a focus on the use of digital channels. The work underscores the importance of integrating different forms of communication to achieve marketing objectives in the modern digital environment.

Kerscher and Arboleya (2022) analyse the key role of aggregators in the energy transition within the context of the latest European regulatory framework. The authors emphasize the significance of new market entrants in facilitating the integration of renewable energy sources and enhancing energy system efficiency. This complements the discourse on innovation and regulation in the energy industry.

In his work from Oxford University Press, Moloney (2023) examines the regulation of securities and financial markets in the EU, providing a profound analysis of the European regulatory approach. This work is crucial for understanding how European regulation impacts financial markets and contributes to their integration and stability. Panoutsou et al. (2021) examine the challenges and policies impacting the implementation of advanced biofuel markets for decarbonising European transport by 2030. The study highlights the significance of innovative energy solutions in sustainable development and the interplay between policy and market mechanisms. Piroška et al. (2021) examine the impact of macro prudential policy on an uneven playing field, with a focus on supranational regulation and domestic policies in dependent market economies within the EU. The authors highlight the difficulties of integrating regulatory frameworks in the context of global economic inequality.

Piton and Ruysen (2022) examine the effects of integration policies on labour market outcomes and immigrant flows. Their research provides valuable insights into the effectiveness of policy instruments in the field of labour integration. This work complements the analysis of the impact of globalization on labour markets and migration processes. Quach et al. (2022) discuss the tension between innovation and privacy in the context of digital technologies, highlighting the importance of balancing technological progress with personal data protection. The authors draw attention to issues of confidentiality and data processing.

Reis et al. (2021) analyse business models for energy communities, highlighting key issues and trends. This work is important for understanding how innovative models can contribute to the sustainable development of the energy sector in the transition to renewable energy sources. Rivero et al. (2015) investigate the future roles of distribution system operators (DSOs), market architectures, and regulatory frameworks for integrating distributed renewable energy sources. The study emphasizes the need to adapt the regulatory environment to new challenges associated with the energy transition.

Toufaily et al. (2021) developed a framework for the adoption of blockchain technology, exploring challenges and expected value. Their work complements Taherdust's analysis, focusing on the practical aspects of blockchain implementation and its impact on business processes. Valarezo et al. (2021) analysed new flexibility market models in Europe. This study is significant for comprehending how innovative market models can aid in the more efficient integration of renewable energy sources. It highlights the importance of flexibility in modern energy systems.

Van Dijck (2021) analyses the process of platformization and its management, highlighting the impact of digital platforms on society and the economy. The author emphasizes the need for critical analysis and visualization of the role of platforms in the current digital landscape. Venegas et al. (2021) investigate the integration of electric vehicles into distribution grids, identifying barriers and frameworks for providing flexibility services. This work is important for understanding how innovations can contribute to the transformation of energy systems and ensure sustainable development.

In their 2021 study, Vijayakumar and Bozward (2021) analyse the integration and competitiveness of the Indian sugar market at the international level. The research highlights the significance of global integration for national producers and the role of regulatory policies in ensuring competitiveness in international markets. In their 2021 study, Yildizbasi explores the challenges of integrating blockchain and renewable energy within the circular economy. The research highlights the potential of blockchain technology in promoting a sustainable energy transition and addressing issues of efficiency and transparency (Yildizbasi, 2021).

The above considerations, which relate to the interaction of markets and regulatory frameworks, present a fascinating array of intellectual inquiries. Scholars examine a wide range of challenges and opportunities facing the modern economy (Bazaluk et al., 2020; Atstaja et al., 2022; Kulikov et al., 2022; Yankovyi et al., 2023; Koval et al., 2023). Topics include the integration of biofuels into European transport, the impact of blockchain technologies on global markets, macro prudential policy in the context of the EU, and new flexibility models in European energy markets.

According to Taherdoost (2022), blockchain technologies are important not only for their potential to revolutionize traditional business models but also for their ability to promote the creation of more resilient and transparent economic systems. Blockchain serves as a key tool for achieving effective integration of markets and regulatory frameworks, providing the necessary foundation for creating a new economic reality. Valarezo et al. research demonstrates how new flexibility models in energy markets can contribute to the efficient integration of renewable energy sources. This highlights the importance of innovative market solutions in addressing current energy challenges (Valarezo et al., 2021).

Our research topic is therefore relevant. We are currently living in an era where economic systems and regulatory bodies are required to be flexible, adaptable, and innovative due to technological progress and globalization. During this time, the economy must address the complex challenges of sustainable development, energy security, and digitalization while also maintaining stability and

promoting prosperity. Therefore, our research aims to contribute to the academic dialogue and provide valuable insights for policymakers, businesses, and the public. It emphasizes the importance of balancing innovation, market integration, and effective regulation. In this context, the role of an economist is similar to that of a gardener. It involves analysis, observation, and careful cultivation of conditions that promote the development of a resilient, sustainable, and innovative economy.

The aim of this research is to comprehensively analyse the interaction between market integration and regulatory frameworks in the context of globalization, technological progress, and sustainable development. Special attention is given to identifying key mechanisms and instruments that facilitate effective market integration, determining the role of regulatory institutions in creating a conducive environment for innovation and sustainable development, and developing strategies capable of ensuring harmonious interaction between market openness, consumer protection, and environmental preservation. The aim of this research is to enhance the effectiveness of economic and regulatory policies in the context of contemporary global challenges by contributing to a comprehensive understanding of the challenges and opportunities associated with market integration and regulation.

METHODS

The research methodology is comprehensive and employs descriptive analysis to identify dominant trends, models, and concepts in the field. This provides a foundation for further analytical and critical review. Additionally, comparative analysis will be used to compare regulatory frameworks and market integration models across various countries and regions. This text identifies effective practices and tools that can enhance integration processes and regulatory policies. The analysis compares approaches to regulating the digital economy, energy markets, and other key sectors.

Systems analysis is applied to examine market integration and regulatory frameworks as a complex system consisting of interconnected elements. This approach aims to identify and evaluate the key components, processes, and connections that shape the dynamics of integration and regulation. Special attention will be paid to determining the impact of both external and internal factors on the effectiveness and resilience of the system. Recommendations for optimizing systemic interactions will also be developed.

The aim of structural-functional analysis is to study the structural aspects of market integration and regulatory frameworks, as well as the role that each structural element plays in the overall functioning of the system. This approach helps to identify the main functions that support integration processes and regulatory activities, as well as evaluate the effectiveness of different structural elements in performing these functions.

The use of methodological tools to analyse functional and structural relationships can identify opportunities to improve coordination and efficiency within regulatory and integration initiatives. This approach provides a profound understanding of the complexity and multidimensionality of the interaction between market integration and regulatory frameworks. This text enables the formulation of well-founded conclusions and recommendations to support the development of effective strategies for ensuring stable and sustainable market integration in the face of modern challenges.

RESULTS

In the current era of globalization, market integration has become a crucial aspect of the modern economic landscape. This process has been gaining momentum with each passing decade, transforming the way businesses operate, shaping new consumption patterns, and defining geopolitical realities. Firstly, it is important to acknowledge that market integration is not a uniform process. It encompasses various aspects of economic life, including the trading of goods and services, as well as the movement of capital and labour.

To illustrate the dynamics of market integration, we will use the example of changes in trade flows between Ukraine and other countries (NISS, 2023).

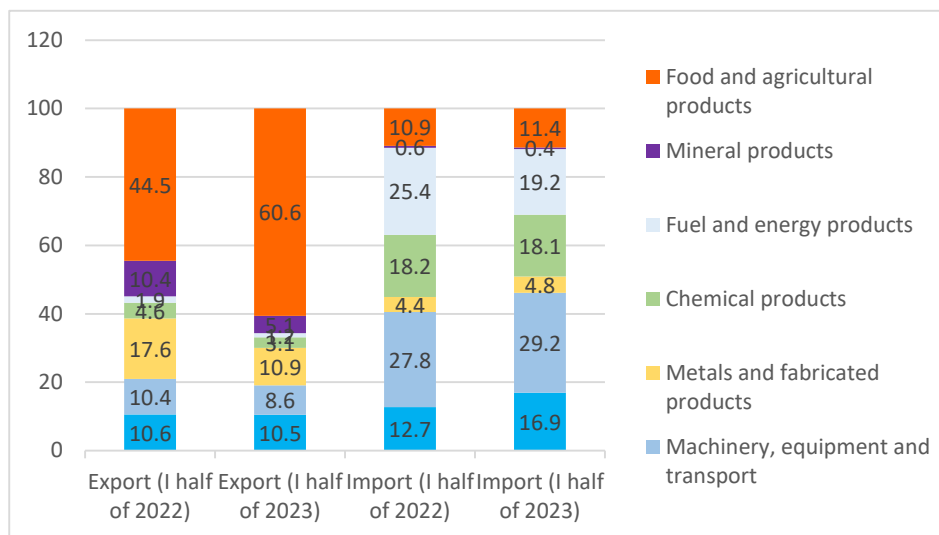


Figure 1: Commodity structure of foreign trade in goods in the first half of 2022 and 2023, % (value)

Source: Diagram based on data from the State Customs Service

The graph suggests changes in trade structure, indicating shifts in consumer trends and international trade relations, as well as the influence of global economic processes such as market integration.

This paper will explore the impact of globalization on market integration. Globalization refers to the interdependence and interconnectedness of world economies. It contributes to the removal of trade barriers, thereby stimulating the growth of international trade. This, in turn, leads to convergence in prices of goods and services among countries, which is a key feature of market integration.

Additionally, the digital revolution also plays a significant role in integration processes. The internet and other digital technologies have enabled businesses to operate globally with unprecedented ease, overcoming geographical and time barriers. Digitization has also fostered innovation in logistics and supply chain management, further enhancing the efficiency and integration of global markets.

Innovative technologies, such as blockchain, offer new opportunities to enhance trust and transparency in international trade. Blockchain technology has the potential to revolutionize financial transactions by ensuring their security and immutability. This undoubtedly contributes to further market integration (Europäische Union, 2023).

However, it is important to acknowledge that the process of market integration is accompanied by certain challenges. Issues such as differences in regulatory standards, protection of national interests, and concerns about job losses in certain sectors require attention and resolution.

Given the continuous evolution of global markets, it is important to carefully analyse the role of regulatory frameworks in supporting market integration. These frameworks consist of a set of rules, norms, and standards aimed at ensuring transparency, fairness, and efficiency of market mechanisms. They are not merely constraints on the free market but rather its foundation, ensuring stability and effectiveness.

When examining regulatory frameworks in terms of their impact on market integration, it is found that they serve a dual purpose. Firstly, they facilitate integration by providing uniform conditions for all market participants and simplifying international trade and investment. However, excessive or inconsistent regulation can act as a barrier to integration, restricting market access and inhibiting innovative development (EuroHPC, 2021).

To achieve harmonious market integration, it is necessary to balance the protection of market participants' rights and interests with the stimulation of innovation and technological development. This requires harmonizing regulatory standards at the international level, streamlining administrative procedures, and fostering competition. These measures will contribute to the creation of efficient and resilient market mechanisms.

Therefore, in a world where globalization is accelerating integration processes, regulatory frameworks should act as defenders of consumer and business interests, as well as catalysts for sustainable development and innovation. Legislators and regulators must understand contemporary economic realities and be prepared to flexibly respond to new challenges. This ensures a harmonious combination of the free market and effective regulation in the interests of all participants in the global economy (Wertschöpfung nach Sektoren, 2021).

When analyzing the issues of market integration and regulatory frameworks within the global economic space, it is useful to consider specific contemporary aspects of the EU's experience in general and Germany in particular—as one of its most developed member countries—especially in the field of integrating digitalization into economic processes and its regulation.

Over the past decade, the EU has demonstrated significant achievements in the digitalization of its economic and industrial sectors both within the Union and in individual member countries. A key factor that contributed to the acceleration of this process was Germany's initiative in April 2011, known as the “Fourth Industrial Revolution”. The “Industry 4.0” strategy, which encompasses various aspects of digital transformation, significantly affects practically all aspects of economic development in the EU and its member countries. This includes the use of various digital technologies and aspirations for global leadership in digitalization, particularly artificial intelligence, quantum computing, microelectronics, the Internet of Things, virtual reality, and cybersecurity.

Within the EU, Germany continues to be a leader in the digitalization of its economic and industrial sectors, and the industrial sector's share of its GDP is one of the highest among EU member countries. According to the World Bank data for 2022, this share was 26.7%, which significantly exceeds the average for the EU, which was 23.5%. This indicator has remained virtually unchanged over the past ten years. In other major European economies, this share is also significantly lower, for example, in France – 19.5%, Italy – 23%, and Spain – 20.8% (Europäische Union, 2022). While Germany and these countries are surpassed by several smaller countries such as Ireland (41%), the Czech Republic (30.7%), Poland (29.8%), Slovenia (29%), Romania (28.8%), and Slovakia (28.6%) (Wertschöpfung nach Sektoren, 2021).

In 2018, the European Joint Undertaking for High-Performance Computing identified six so-called national hubs for the development of Europe's first quantum computing devices in October 2022. These hubs are located in Germany, Spain, France, Italy, Poland, and the Czech Republic, where scientific centers have a network of supercomputers that allow for working with quantum technologies and equipment. Furthermore, at the end of June 2023, corresponding agreements were signed that allowed the initiation of work in this key area of regulation for the digital future of humanity. With the projected funding of 100 million euros, half is provided by the DIGITAL program, and the other half by the member states of the EuroHPC JU. The developing infrastructure of quantum computers supports the creation of various applications available to a wide range of European users from all spheres and sectors of the economy (One step closer to European quantum computing. 2023). These applications include tasks such as optimizing transport flows, organizing the interaction of intelligent networks, and developing new products and materials based on quantum-mechanical models in chemistry and physics (Sparling & Caswell, 2006).

In the spring of 2021, two of the three founders of “Industry 4.0”, Kagermann and Wahlste, reviewed the decade-long anniversary of the digitization of economic processes and their regulation in Germany and other EU countries. They noted significant achievements, including the creation of “smart factories” that implement the principles of the “Industry 4.0” strategy (Kagermann & Wahlster, 2021). 4. These principles, such as “plug and produce”, allow for the virtual implementation of new system components using digital twins, which significantly increases production flexibility and reduces retooling time. This is particularly important in the context of managing economic processes in real-time and in conditions of high levels of product customization.

The entrepreneurial community of countries with a developed industrial sector continues to actively support and promote the concepts of “Industry 4.0”, eliminating barriers to the implementation of cyber-physical systems and artificial intelligence elements in the management of economic processes. In Germany, the Federal Association of IT Companies (German: Branchenverband der deutschen Informations- und Telekommunikationsbranche, Bitkom) plays a leading role in this

process, conducting research and surveys to identify opportunities for digital transformation at the level of individual economic entities. Along with other associations, such as “VDMA” (German: Verband Deutscher Maschinen- und Anlagenbau) and ZVEI (German: Verband der Elektro- und Digitalindustrie), Bitkom is an active participant in the “Industry 4.0” platform, which was established in 2013 with state support (in the form of the Ministry of Economy and the Ministry of Education and Research). This platform brings together six working groups, one of which deals with the development of management business models in the context of the digital transformation of the economy (BMWK, 2023).

Therefore, Germany continues to remain a leader in the digitalization of the economic and industrial sectors in the EU, with a high share of industry in GDP. Although this share has been stable over the last ten years, it remains one of the highest among other EU states. In other major European economies, such as France, Italy, and Spain, this share is lower, although it also demonstrates stability.

Furthermore, in recent years, the importance of a value-based approach in the processes of economic digitalization has become increasingly evident. Digital transformation is seen as a key factor in the successful transition to a climate-neutral economy and as a necessary condition for protecting civil rights in the field of public safety and ensuring a socially just status for workers in the context of automation and robotization of production processes. While the first requirement corresponds to the general goal of a dual transition to a new economic model, the second often contradicts this goal and may slow down the processes of digitalization of economic development.

DISCUSSION

In the realm of market integration and regulation, economists and analysts often hold different and sometimes opposing positions. When examining these issues, it is important to consider various arguments that require profound understanding and analytical assessment (Klessmann et al., 2008).

The first discussion we will analyse concerns the relationship between free trade and protectionism. Arguments in favour of free trade are based on classical comparative advantage theory (BMWK, 2023). This theory asserts that the absence of trade barriers promotes efficient resource allocation, increased production, consumer choice, and overall economic prosperity. Protectionist positions, on the other hand, stem from the assumption that tariffs and quotas are necessary to protect young domestic industries from international competition, preserve jobs, and ensure national security (Nicolosi, 2012).

Although economic theory supports free trade, it often overlooks the short-term social costs, such as unemployment, that may result from sudden market integration. While free trade may be an ideal to strive for, it is important to protect vulnerable sectors of the economy and ensure social stability. A strategy that balances the benefits of free trade with the interests of the national economy may be the most rational (Sahin Mencutek & Nashwan, 2021).

The second area of debate concerns regulation and innovation. Some argue that regulation stifles innovation by introducing complexity and costs that inhibit creativity and entrepreneurship. On the other end of the spectrum are those who believe that regulatory frameworks provide the necessary foundation for innovation by ensuring standards of safety, quality, and ethics. I am inclined to adhere to the latter view, believing that regulatory frameworks should be developed in a way that stimulates innovation while also protecting societal interests. Regulation should not be a burden; rather, it should serve as a pillar of stability upon which growth and development are possible (Fasani et al., 2022).

The third discussion concerns the centralization and decentralization of power in regulatory frameworks. Some argue that centralized authority can more effectively coordinate regulation, ensuring equal conditions for all and avoiding a “race to the bottom” in the regulatory environment. Others believe that decentralization offers greater flexibility, allowing regions or countries to adapt to unique local conditions and needs. The approach should be tailored to the context and specific conditions of each market. While centralization can ensure unity and coordination on an international scale, the value of local knowledge and initiative from decentralized sources must also be recognized.

To resolve these dilemmas, a pragmatic synthesis of various ideas and strategies is necessary, rather than relying on rhetorical approaches (Egan, 2001; Potwora et al., 2023). Effective market integration and regulation require flexibility and the ability to adapt to rapidly changing conditions in the global economy. It is important to maintain stability and predictability, which are fundamental to trust and cooperation at the international level (Dudjak et al., 2021). This approach requires economists, policymakers, and regulators to have a thorough understanding of economic theory and to think creatively and innovatively to tackle present-day challenges.

CONCLUSION

In conclusion, this article has discussed the interaction between market integration and regulatory frameworks. It is important to highlight the key ideas presented and their significance.

Market integration is a crucial component of the modern global economy, promoting growth and economic prosperity. Technological innovations, particularly in digitization and blockchain, offer new opportunities to enhance trust and transparency in international trade, promoting deeper market integration. Regulatory frameworks are identified as a critical element that ensures stability and predictability necessary to support integration processes.

Regulatory frameworks serve as a foundation for the stability and efficiency of free markets. Revising these frameworks requires balancing between protecting national interests and promoting international competition. This balancing act should evolve in accordance with changing conditions of the international economic environment.

Our research shows that government regulation can encourage innovation while also safeguarding consumers and ensuring fair conditions for all market participants. To achieve this, regulators must not only comprehend current economic realities but also anticipate future trends.

However, our research has limitations, including the challenge of fully covering all aspects of market integration within a single analytical document. Therefore, we recommend further research on specific integration aspects, such as the impact of market integration on microeconomic structures of enterprises, dynamics of changes in the field of labour and social relations, as well as the effectiveness of various regulatory strategies in the context of growing integration. Additionally, it is important to conduct research on developing mechanisms for adapting regulatory frameworks to rapidly changing conditions of the global market environment and ensuring their compliance with international standards. The results of such research can contribute to the development of effective policy strategies and regulatory initiatives aimed at supporting sustainable development and competitiveness in the face of constant transformation of the global economy.

Author contributions

L. K.: Conceptualization, Methodology, Data Curation, Writing – Original draft, Writing – Review & Editing.

V. M.: Conceptualization, Methodology, Resources, Formal analysis, Writing – Original draft, Writing – Review & Editing.

N. B.-K.: Conceptualization, Methodology, Data Curation, Writing – Original draft, Writing – Review & Editing.

O. R.: Conceptualization, Methodology, Formal analysis, Project administration, Writing – Original draft, Writing – Review & Editing.

I. Sh.: Conceptualization, Methodology, Formal analysis, Project administration, Writing – Original draft, Writing – Review & Editing.

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