

INSTITUTIONAL REGULATION OF ECONOMIC GROWTH IN SMALL EU COUNTRIES IN THE CONTEXT OF GLOBALIZATION AND DIGITALIZATION

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Abstract. The institutional-sociological approach views the economy as a system in which the relationships between economic entities are shaped by economic and non-economic factors. Technical and economic factors play an exceptional role in this system. The concept of 'institution' is interpreted very broadly and includes the state, corporations, trade unions, competition, monopolies, taxes, sustainable ways of thinking and legal norms. Those who subscribe to the institutional approach are united by a characteristic methodological principle: an expansive interpretation of the subject of economic theory, otherwise known as the interdisciplinary approach. Unlike the classical school, this school of economic thought focuses not on the processes of production and circulation, but on the system of economic organisation and management, as well as social and historical aspects. According to its proponents, the economy is a playing field. The final outcome of this 'game' is determined by the 'institutions', or parameters, that exist within it. By adjusting these parameters, it is possible to influence the behaviour of the 'players' (who make economic decisions independently). Using the example of the Baltic states and other small European economies, the authors use neo-institutional theory to substantiate the problems associated with the macroeconomic development of small countries. This is because the conditions for economic growth have changed, with intangible costs becoming the most important and determining factor in the development of many EU countries.

Keywords: digital platforms, institutional regulation, technology, GDP, bank system.

JEL Classification: O43, R11

1. Introduction

Against the backdrop of globalisation and rapid digital transformation, the role of institutions in shaping economic development has become increasingly significant, particularly for small European Union economies. The transition towards a digital economy, characterised by the increasing importance of intangible assets, digital platforms and distributed ledger technologies, has fundamentally changed traditional mechanisms of economic growth and regulation. As emphasised in institutional and neo-institutional economic theories, economic performance is not solely determined by production factors, but is largely dependent on the quality of institutional

frameworks that define the 'rules of the game' for economic actors.

Small EU countries face unique challenges and opportunities in this evolving environment. On the one hand, they are highly dependent on external economic conditions, multinational corporations and supranational regulatory systems. However, their flexibility and ability to implement institutional innovations means they can adapt more quickly to global changes, particularly in the fields of financial technology, digital platforms and cross-border economic integration. Ireland, Malta and the Baltic states, for example, have demonstrated that effective institutional regulation can significantly boost

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economic growth, attract foreign direct investment and stimulate the development of intangible assets.

At the same time, digitalisation is introducing new risks and complexities. These include the growth of decentralised finance (DeFi), the emergence of stablecoins and the potential restructuring of the global financial system through central bank digital currencies (CBDCs). These transformations necessitate the development of new regulatory approaches that can balance innovation, financial stability and national economic interests. In this context, the institutional capacity of small states is crucial for ensuring their competitiveness and resilience in the global economy.

This article aims to analyse the role and effectiveness of institutional regulation in promoting economic growth in small EU countries in the context of globalisation and digitalisation. Particular attention is given to the transformation of financial systems, the increase in intangible assets and the development of digital technologies.

The research focuses on the institutional frameworks and regulatory mechanisms that influence economic development in small European Union countries. This includes financial systems, digital platforms and emerging technologies, such as distributed ledger technologies and digital currencies.

2. Materials and Methods

The degree to which the rules of the game developed by society are perfect determines the level of prosperity of individuals, firms and society as a whole. Moreover, the nature of scientific publications

in this area (Buchanan, Rowley, Tollison, 1987; Furubotn, Richter, 2000) suggests that this is precisely how neoinstitutionalism will continue to develop in the near future. In a number of publications, the authors of the article have devoted significant attention to the institutional development of multinational corporations (MNCs) in the context of developing the capacity of small European countries with populations of approximately 5–6 million to defend their economic strategies and the interests of their populations (Baltgailis, Simakhova, Buka, 2024, 2025).

Ireland and Malta had the highest economic growth rates. The largest EU countries were at the bottom of the table, and Ireland took the leading position in absolute figures (Fig. 1).

Foreign direct investment in Ireland and the subsequent rapid growth in GDP are often distorted by American digital platforms shifting their corporate profits to the country, where they have based their European headquarters, and exploiting the local holding regime to their advantage. Adjustments to absolute figures as a percentage of GDP are required for 'phantom' investments, while the most effective growth in value added in Europe requires auditing of possible intra-holding transfers by corporations optimising the tax regime. International BEPS procedures have been implemented to monitor this process and allow for the assessment of intra-company prices and revenue generation in the various countries in which MNCs conduct business and have representative offices.

Although Latvia introduced a holding regime and the corresponding legislation in 2013, it has not found international holdings attractive. Both Ireland

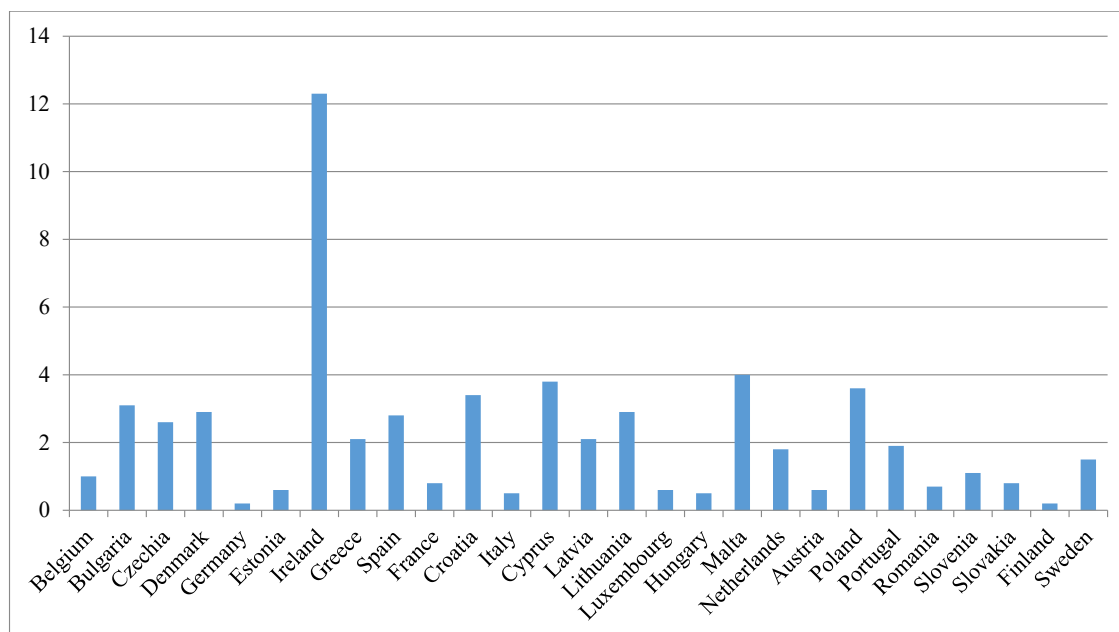


Figure 1. Growth rate of GDP in EU countries in 2025

Source: Eurostat, 2026

and Latvia offer EU holding company regimes with dividend and capital gains tax exemptions, access to EU directives and double taxation treaty networks. However, their respective approaches, levels of attractiveness and outcomes vary significantly due to differences in tax rates, infrastructure, reputation and ecosystem factors. In principle, any country can implement a holding company regime to attract foreign investment and create favourable conditions for investors in the context of the digital economy and emerging digital finance.

Neo-institutional theory overcame the shortcomings of the 'old school' by revealing the most important economic and social function of institutions: their ability to reduce uncertainty and transaction costs. Coase (1960) introduced a new type of cost to economic theory: 'transaction costs'. Within a firm, transactions result from administrative decisions.

In other words, a firm's main purpose is no longer production or profit maximisation, but rather the minimisation of transaction costs – that is, the costs involved in concluding a transaction. Thus, Coase's (1960) theorem revealed the mechanism of market formation: the market will work as soon as property rights are differentiated and there is an opportunity to conduct transactions at mutually acceptable prices.

The 'overhaul' of the Latvian financial sector is a clear example of the realities and problems of institutional theory. This took place between 2018 and 2021. The main goal of the reform was to protect Latvia's reputation following scandals involving foreign non-resident funds, and to prevent the country from being placed on the 'grey list' of the Financial Action Task Force on Money Laundering (FATF).

3. Results

From an institutional theory perspective, transactions with non-residents and the export of banking services were highly beneficial to customers and banks alike, as they involved minimal transaction costs. Banks earned high commission income and faced low risk compared to operations such as lending and investment. This was supported by the Latvian regulator. For bank customers involved in offshore schemes, it provided opportunities to reduce their tax base and evade national control over their assets.

During the period in which offshore schemes involving non-residents were in high demand, the Latvian bureaucracy provided substantial support for such initiatives. However, in response to the global financial system's shift towards asset transparency, Latvia rapidly modified its stance on the formation of non-resident assets. Institutional adjustments to achieve this goal commenced, with the Latvian Minister of Finance demanding that banks reduce their share of business with non-residents from 40% to 5% within

a few months (IR, 2018). The country stopped opening accounts for non-residents and introduced geographical criteria when making decisions regarding non-residents and foreign partners of resident companies. Additional 'transaction' costs were imposed on business development with non-residents, and strict procedures were introduced for providing numerous documents that were impossible to find or prepare in a short period of time. Accounts were closed for both residents and non-residents in cases of non-compliance with these procedures, often without any explanation. As a result, the business climate in the country has lost its attractiveness, and direct investment and banking assets have begun to decline.

The significant decline in bank assets following the financial sector reorganization of 2018–2021 deserves special attention when examining credit transmission mechanisms and their impact on labour productivity. Non-resident deposits fell by around 74%, causing an estimated loss of up to 10 billion EUR in total bank assets (Latvijas Banka, 2025). This outflow triggered persistent, regulation-induced risk aversion among Latvian banks (Rupeika et al., 2025). Despite high liquidity levels, credit institutions tightened lending standards significantly, leading to substantial increases in collateral and margin requirements for loans.

Even before the onset of the COVID-19 pandemic in 2018, Latvia began losing billions of euros in banking assets as both residents and non-residents actively switched to foreign banks (Fig. 2).

Latvian banks are still unable to lend to the country's economy at a level comparable to that of their Baltic neighbours. For instance, Estonian credit institutions have lent up to 60.5% of GDP to their domestic private sector, while Lithuanian institutions have lent up to 36.0%. In contrast, Latvian institutions have only lent up to 29.5% (World Bank, 2024). The Basel Institute on Governance publishes the Basel Anti-Money Laundering Index (AML Index) annually. This remains the only independent, research-based index compiled by a non-profit organisation that ranks countries according to their risk of money laundering and terrorist financing (ML/TF). In 2020, the institute ranked Latvia 97th in this rating, placing it between Switzerland and the United States and confirming that Latvia's position on this issue was not as severe as some might have thought. By 2025, Latvia had risen to 159th place (Basel Institute on Governance, 2020, 2025). The IMF has provided significant assistance to Latvia in combating money laundering. In collaboration with the eight Nordic and Baltic countries – Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway and Sweden – a pioneering technical assistance project was implemented in this area. The findings show that no single country can combat money laundering alone. Countries must collaborate and innovate to find solutions (IMF, 2023).

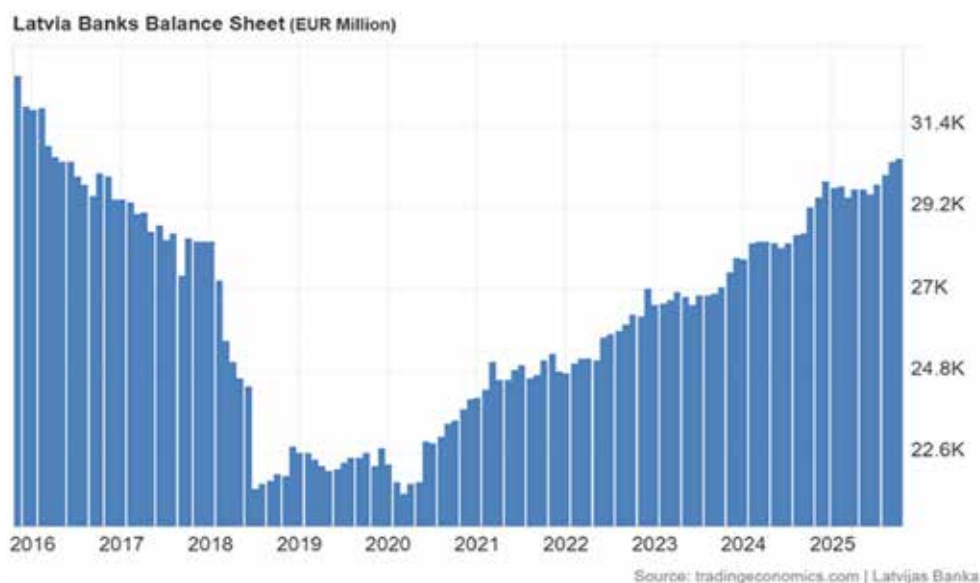


Figure 2. Latvia Banks Balance Sheet (million EUR)

Source: Trading economics, 2025

Traditionally, financial market infrastructure relied on centralised systems for processing and settling payments and securities transactions through a central database. However, significant advances have recently been made in this area, including the introduction of innovative solutions such as tokenisation and distributed ledger technology (DLT). These technologies have the potential to transform wholesale markets by providing improved methods of settling financial transactions.

These innovations present both opportunities and challenges for central banks, particularly with regard to ensuring the security and efficiency of financial transactions involving tokenised assets, and the feasibility of using central bank money for secure settlements. The Eurosystem conducted exploratory work testing the settlement of transactions based on distributed ledger technology (DLT) using central bank money, for which three interoperability solutions were provided by the Eurosystem. This initiative involved 64 participants, including central banks, financial market participants and DLT platform operators, and involved over 50 trials and experiments.

Decentralised finance (DeFi) is an umbrella term for a range of blockchain-based applications and projects. DeFi essentially disrupts traditional finance, which relies on banks, brokers, lenders and other intermediaries to manage money and assets. This area of finance encompasses financial instruments such as investments, equity financing (for instance, selling part of one's business for cash), loans, grants and overdrafts. With the advent of smart contracts on Ethereum, DeFi's main purpose is now to eliminate intermediaries from the transaction process. In traditional finance (TradFi),

intermediaries typically require users to relinquish control of, and provide information about, the transaction. Users must also provide collateral or rights as a condition of securing a loan. In DeFi, however, such access or rights are not required for lending and borrowing. DeFi is a more open system. Stablecoins are the most popular cryptocurrency in DeFi. The stablecoin market has grown rapidly in recent years to reach a market capitalisation of around 300 billion USD, driven by increasing demand for digital settlement assets and the expansion of crypto-asset trading ecosystems (ECB, 2025).

The aim of stablecoins is to maintain a stable value in relation to a fixed reference point. They are intended to address the price volatility inherent in other cryptocurrencies, which could make them a more attractive means of payment or store of value. This fixed value can be a specific asset, such as USD, which is the most popular, or a basket of assets. Issuers always claim that stablecoins can be redeemed at par value.

Although a unified programmable ledger or multi-asset distributed ledger technology (DLT) platform could technically support cross-border payments using central bank digital currencies (CBDCs), stablecoins and Bitcoin, practical implementation faces significant challenges related to design, regulation, interoperability, governance and risk. Currently, there is no fully operational unified system that can achieve this on a global scale. However, ongoing pilot projects and proof-of-concept architectures demonstrate the high feasibility of this technology, particularly for wholesale or tokenised cross-border use cases. A multi-currency DLT platform for cross-border CBDC payments is already demonstrating real-time

settlement and the potential for integration with other tokens.

Stablecoins have already been widely adopted and are in common use on both public and permissioned blockchains (e.g., USDC and USDT on Ethereum and Solana). Private sector platforms support tokenised deposits or stablecoins alongside other assets. As for Bitcoin, being its own cryptocurrency on its own public blockchain, a multi-asset DLT processor could treat it as a transferable token or use it for liquidity/bridging in mixed payments. Nevertheless, its volatility makes it less suitable for pure payments than stable assets.

While technically feasible, the use of a single DLT processor for all three faces obstacles. Central banks often issue CBDCs on permissioned private DLTs to ensure privacy, compliance, and monetary sovereignty. Stablecoins, on the other hand, typically operate on public chains. Bitcoin uses its own proof-of-work blockchain. Connecting these systems requires secure mechanisms, such as time-locked contracts, which create risks such as hacks or delays. Full active support on a single ledger would require standardised tokenisation and consensus rules.

A well-designed DLT processor, or unified ledger platform, could process international payments involving central bank digital currencies, stablecoins and Bitcoin, using tokenisation, smart contracts and interoperability features. Prototypes are being developed at a rapid pace, driven by the need for faster and cheaper cross-border transactions. While real-world implementation will require overcoming institutional barriers and technical hurdles, the technology is already mature enough for a phased hybrid approach. Full integration of Bitcoin is unlikely due to its volatile and decentralised nature; it is more often used for speculation and as a store of value. The world is currently moving towards a fragmented yet internationally integrated system.

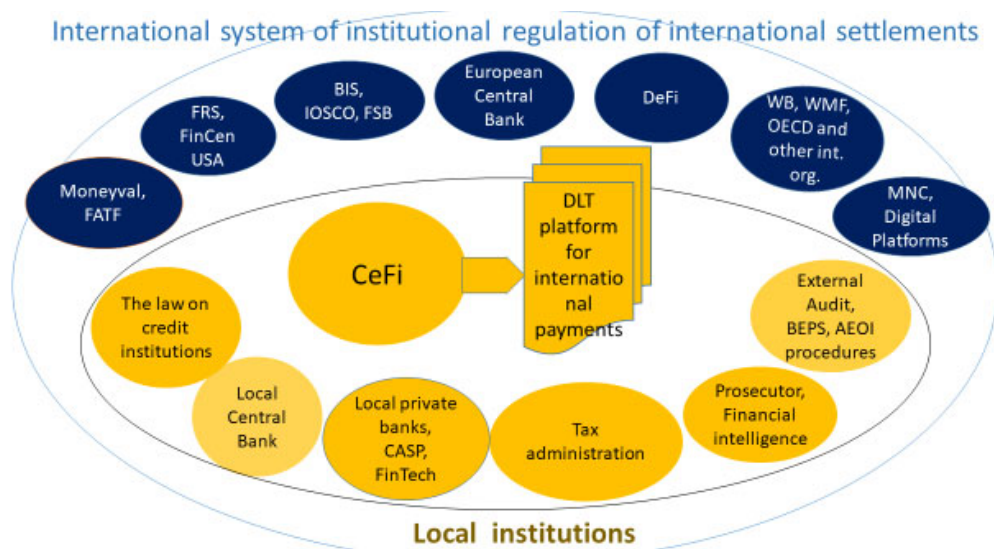
This is where small countries can play a key role in shaping the institutional regulation of DLT systems. Currently, this is the main opportunity for countries to defend their interests in the global system, including whether they are ready to preserve the competitive participation of fiat, state-owned and private cryptocurrencies for businesses. As in Ireland and Malta, one must go against the grain here to be recognised as full-fledged players. The figure illustrates the institutions that are willing to influence the formation of settlements in state and private digital currencies. Large digital platforms tend to disregard the interests of smaller states, and it is often only the institutions of major influential countries, such as those in the EU, that are willing to combat and regulate them (Baltgailis, Simakhova, Buka, 2025). It is important to consider the interests of each state when developing and designing DLT platforms, and to ensure their

technical implementation. DLT platforms are becoming the key political, technical and institutional link in the new digital economy. Figure 3 shows the main international and local institutions that actively influence the activities of the banking system through regulation and can introduce elements into designed DLT systems to ensure their activities and interests are met.

Another important source of resources for business growth and labour productivity is direct investment in corporate capital. Latvia has never been particularly attractive to foreign investors (see Fig. 4). The highest level of direct investment in the country averaged 3–5% of GDP, and no breakthroughs were achieved in this area during the 'restructuring'. By comparison, this figure often exceeded 10% in Estonia, reaching 30% and 40% of GDP (see Fig. 5). Although Estonia is currently experiencing an outflow of direct investment due to changes in the business climate, accumulated investments will help the country to turn the situation around.

After the establishment of institutional 'rules of the game' and the subsequent earning of international trust in Malta's tax system, 2023 saw a virtual explosion in foreign direct investment, reaching over 400% of the country's GDP in 2024 (Fig. 6).

In his work, the American economist and Nobel Prize winner J. Buchanan developed the proposition that, by participating in the electoral system to create legislative bodies, the population establishes a functioning set of state institutions. At the same time, voters also create a system of bureaucracy through their decisions. Buchanan assumes that any state structure invariably acquires its own set of interests that do not always coincide with those of society. Society should also recognise that, in order to gain the support of voters, politicians seek to secure state budget expenditure that will improve their image. By pressuring financial and budgetary institutions to demand appropriate expenditure, politicians inevitably fuel inflation in the economy. The logical consequence of this is the state needing to tighten its regulation and control over the economy. The end result is therefore further growth in bureaucratic management methods. According to Buchanan, the institution of bureaucracy (defined as the generalised concept of the internal interests of the state apparatus) primarily serves the interests of the various echelons of the legislative and executive branches. In this regard, he notes the difference between earning the budget through taxes and forming public debt: 'The most elementary prediction from public choice theory is that in the absence of moral or constitutional constraints democracies will finance some share of public consumption from debt issue rather than from taxation and that, in consequence, spending rates will be higher than would accrue under budget balance' (Buchanan, Rowley, Tollison, 1987). Despite the fact



FinCEN (Financial Crimes Enforcement Network). FRS – The U.S. Federal Reserve System (the Fed). MONEYVAL (Committee of Experts on the Evaluation of Anti-Money Laundering Measures and the Financing of Terrorism) functions as a FATF-style Regional Body (FSRB). (CeFi) Centralised Finance refers to financial services and cryptocurrency trading that are managed by a central entity. DeFi (Decentralised Finance) is a blockchain-based system using smart contracts to offer financial services without traditional intermediaries like banks. MNC (Multinational Corporation). BIS (Bank of International Settlements in Basel). AEOI procedures (Automatic Exchange of Information). BEPS procedures (Base erosion and profit shifting). CASP (Crypto Asset Service Providers) are entities offering services related to crypto assets. IOSCO (International Organisation of Securities Commissions). The global standard setter for securities markets regulation. It brings together securities regulators from over 130 jurisdictions (covering most of the world's capital markets). FSB (Financial Stability Board). An international body that monitors and makes recommendations about the global financial system. It coordinates national financial authorities and standard-setting bodies (like IOSCO, Basel Committee, etc.) at the G20 level.

Figure 3. International system of institutional regulation of international settlements

Source: developed by the authors



Figure 4. Foreign direct investments in % of Nominal GDP in Latvia

Source: CEIC Data, 2026 a

that the public debt of Ireland and Malta is growing in absolute terms, real GDP growth in these countries, driven by direct investment and the production of intangible services, has enabled Malta to reduce its public debt from 60% to 47% over the past ten years. In Ireland, meanwhile, public debt has fallen from 99% to 32.9% of GDP over the same period. By contrast,

Latvia has increased its public debt from 37.9% to 46.6% in the last five years (IMF, 2025).

Applying James Buchanan's public choice theory helps to explain how bureaucratic expansion and debt accumulation can distort institutional incentives in Latvia. According to Buchanan, government structures exhibit self-interested behaviour, favouring debt-



Figure 5. Foreign direct investments in % of Nominal GDP in Estonia

Source: CEIC Data, 2026 b

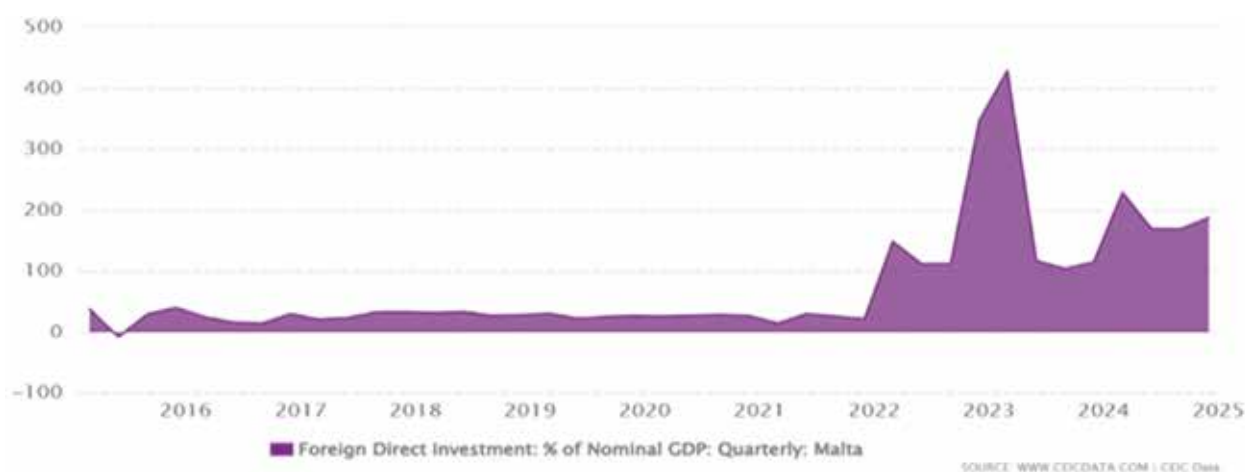


Figure 6. Foreign direct investments in % of Nominal GDP in Malta

Source: CEIC Data, 2025 c

financed expenditure over taxation and resulting in budgetary bias and inefficiency (Buchanan et al., 1987). In Latvia, the proportion of people employed in the public sector reached 21.1% in 2023, which is above the OECD average of 18.6% (OECD, 2024). The public sector, including state-owned enterprises, employs significantly more people than OECD norms, which strengthens incentives to preserve jobs and resist efficiency-enhancing reforms. In 2024, the public administration performance index was 0.74 (World Bank, Worldwide Governance Indicators), which is a respectable figure for the region, but lower than in leading EU countries. This reflects challenges in policy implementation and high staff turnover. Fiscal data confirms the budgetary bias: the deficit equalled 1.8% of GDP in 2024 and is expected to rise to 3.1% in 2025, while public debt has increased (IMF, 2025). Tax exemptions remain high, accounting for around 8.6% of GDP (OECD, 2024). These trends are consistent with Buchanan's predictions: bureaucracy supports

debt-fuelled spending, which restricts private sector lending and productivity growth while perpetuating structural inefficiencies.

Digitalisation always implies transformation. Global production chains, e-commerce, social networks and digital platforms have all become possible thanks to technological and business innovation. The scale of the global changes occurring ranges from the automation of manual production and waves of outsourcing and offshoring to the rise of smartphones and new communication standards and technologies that allow one to be constantly online.

One of the first changes brought about by digital technologies was the decentralisation and globalisation of production within transnational supply chains. Starting with manufacturing and then moving on to trade, MNCs began outsourcing low-value operations, often to poorer countries. Meanwhile, they continued to perform high-margin operations in the area of intangible assets. As MNCs' activities took place

across national borders, intangible assets could be easily transferred to low-tax countries. The separation of knowledge and production processes was made possible by three factors: lower communication and transportation costs, and trade liberalisation. Consequently, the traditional corporate structure has evolved from a corporate hierarchy into a network of transnational companies, which have in turn given rise to various digital platforms.

All this has occurred against the backdrop of global organisational changes, with a shift from manufacturing to an increasingly service- and knowledge-based economy. The digital economy has transformed the way we consume. An increasing number of purchases are being made online. Griliches long ago proposed distinguishing between economic sectors that are easily measurable and those that are not. According to his calculations, the 'measurable' share of the US economy has been steadily declining. Almost 30 years ago, the service sector accounted for nearly 62% of US GDP, which is, of course, difficult to measure (Griliches, 1998).

Digital platforms can regulate the markets they create. Many economic activities are characterised by high initial costs and very low, or even zero, marginal costs. Examples include software systems, television shows, trading platforms and exchanges. Software is a prime example of this: it's expensive to develop a program, but inexpensive to copy and distribute it. Interdependence is becoming an increasingly important factor in all areas of the digital economy. Due to economies of scale and the increasingly important role of large platforms, no company can afford to ignore the strategic interactions it has with competing firms and ecosystems. The expansion of any digital company affects all its competitors and suppliers. Network effects mean that individual consumer decisions inevitably influence other firms' and individuals' decisions.

Research shows that persistent growth in intangible investment has partly offset what would otherwise have been a more severe investment shortfall. This has helped to support productivity growth. The International Monetary Fund's World Economic Outlook for April 2025 points to chronic underinvestment as a key reason for the slowdown in labour productivity since 2010. The report states that: 'Capital shallowing because of chronic investment weakness can explain roughly half of the productivity growth slowdown in advanced economies and about a third of that in emerging market and developing economies' (IMF, 2025). The World Intellectual Property Organisation (WIPO), in partnership with Luiss Business School (LBS), has demonstrated that while investment in machinery, equipment and buildings stagnated, companies continued to invest in research and development (R&D), software, databases and management processes.

These intangible assets contribute not only to capital growth, but also to increased labour productivity, particularly in the service sector and in industries that make intensive use of artificial intelligence. Figure 7 illustrates the paradigm shift from tangible to intangible capital in numerous countries. Given the slowdown in productivity, investment in intangible assets played a mitigating role (see Fig. 8).

Even during a decline in intangible assets, tangible assets can mitigate the impact on the investment process and support overall growth.

In today's world of information technology, there is an abundance of everything and the concepts of supply and demand are becoming irrelevant. Only intellectual property laws and content encryption still limit the exchange of information to some extent. Using the traditional economic model, the market mechanism of price determination will eventually reduce the marginal cost of some goods to zero, thus eliminating profit, upon transitioning to the information economy. The emergence of free software and the open-source movement has encouraged the development of free access to information. Interestingly, neo-institutional theory can help to explain how market forces are weakened through the dialectical influence of transaction costs, which are determined by new digital institutions in the context of the information revolution.

In economics, there is a well-known phenomenon whereby the value of a network product or service increases as its user base grows. This concept is crucial for understanding the dynamics of many digital platforms and fintech companies, and is particularly relevant for the Visa–Mastercard duopoly. Essentially, when Visa or Mastercard adds another bank to their payment network, the value to merchants increases, and vice versa. This creates a vicious cycle, making it increasingly challenging for any digital platform to compete as it expands. Payment processing is remarkably scalable. Large numbers of transactions on digital platform networks lead to increased revenues without a proportional increase in costs. This is combined with network effects and advantages in the distribution and control of any monetary asset. These three factors are key to the emergence and growth of many digital monopolies. As is well known, however, any monopoly limits competition and does not pursue labour productivity. It should also be noted that the financial power and technological expertise of digital monopolies pose a genuine threat to the independence of countries without the same intellectual capabilities, which are effectively held hostage by such monopolies (Baltgailis, Simakhova, Buka, 2025).

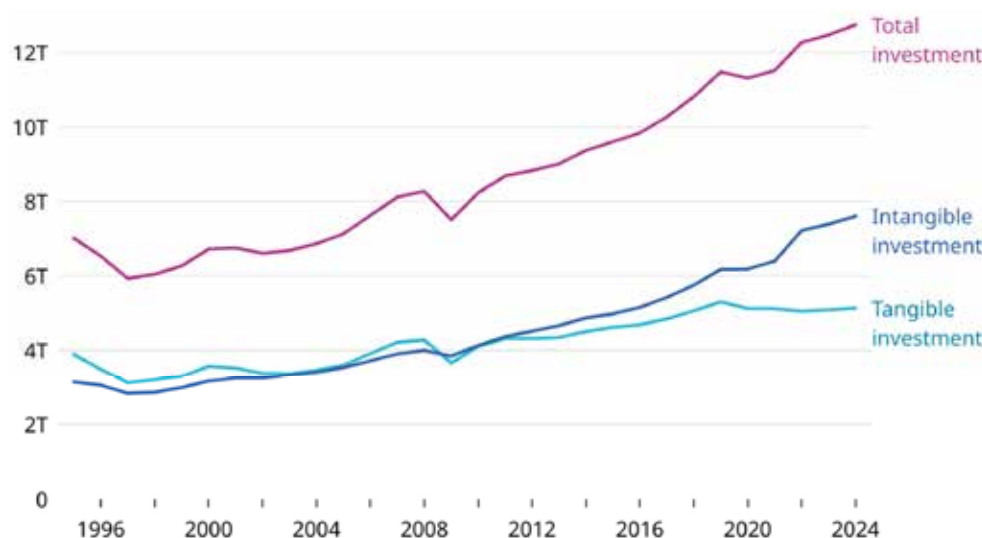
Paul Romer began publishing research on the role of knowledge in economic growth in the mid-1980s, for which he later won a Nobel Prize. According to his knowledge-based economic theory, economic growth is like a snowball, increasing in mass as it



Total intangible and tangible investment, 1995–2024, indexed (1995=100). Investment figures are expressed in PPP-adjusted constant 2020 prices and aggregated across the following economies: Brazil, EU-22, India, the UK and the US. Throughout this report, estimates in 'constant 2020 prices' refer to estimates in terms of volume, computed as chain-linked series. Data coverage varies by country: Brazil (2010–2021) and India (2011–2022). Japan is excluded from this chart due to the unavailability of estimates in PPP-adjusted constant 2020 prices. The EU-22 economies are Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Kingdom of the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.

Figure 7. The processes of the paradigm shift from tangible to intangible capital in dozens of countries

Source: WIPO–LBS, 2025.



The cushioning effect: intangible investment drives overall investment growth despite a slowing tangible investment. Investment figures are expressed in terms of constant 2020 prices to reflect trends in real terms and have been aggregated across the sample countries: Brazil, EU-22, India, the UK and the US. Japan is excluded from this chart, because of the unavailability of estimates in constant 2020 prices in PPP terms. Data availability for Brazil is for the period 2010–2021 and for India 2011–2022.

Figure 8. Given the slowdown in productivity, investment in intangible assets played a mitigating role

Source: WIPO–LBS, 2025

rolls downhill. He demonstrated that knowledge transforms economic processes. Sectors such as information technology and biotechnology are experiencing increasing returns to scale. Small changes in the economic policies of international and local

institutions can lead to significant differences in outcomes. Different entities can start out small and then suddenly reach gigantic proportions, occupying key positions in the global economy. For example, a digital platform can start out small and then grow

to become a major player in the global economy. For instance, Romer's theory of endogenous growth has recently been used to explain the economic dynamics of artificial intelligence and large-scale digital infrastructure (Romer, 1994). The central idea of Romer's theory – that ideas are non-rival goods – provides a useful explanation for the rapid expansion of investment in AI and its long-term economic consequences. According to this interpretation, significant investment in computing hardware, data centres and model training can be viewed as an investment in the development of new ideas and technological capabilities. As ideas persist through use, these investments generate spillovers that enhance productivity across firms and sectors. The analysis also shows that, while developing AI models incurs significant fixed costs, the marginal costs of inference decrease sharply as the scale increases. This cost structure reflects Romer's theory of high initial investments followed by widespread economic benefits, suggesting that public or shared AI infrastructure could generate substantial social returns by disseminating new knowledge.

In a classic article, Olson (1996) noted that differences in average productivity levels across countries are too large to be explained by factor endowments and flows. Instead, he argued that the quality of policies and institutions across countries explains most of the differences. This is an important consideration. A country's level of productivity and development should primarily depend on the authority, policies and efforts of its local authorities (see Fig. 3). However, institutional regulators often lack the resources and data needed to understand trends in the industries they regulate. Many governments have low capacity in important areas such as open data development, investing in vocational education, and understanding new innovative players entering traditional markets.

In a growing economy, the gap between leading and lagging firms is largely due to the increasing significance of intangible assets rather than companies violating antitrust regulations. A strong state can coexist with strong companies in order to prevent processes from devolving into digital neo-feudalism, which is the world's new age (Baltgailis, Menshikov, 202). Maximising competition in the economy may require state institutions to avoid initiating a wave of monopoly-breaking policies and instead give challenger firms the best chance of displacing incumbents. The growing importance of intangible assets intensifies competition among workers and highlights the issue of costly and ineffective education, a problem that state institutions often fail to recognise. This analysis is crucial for small economies to develop their own strategies for growth and protect their interests. Endogenous growth theory (Romer, 1994) posits that the diffusion of knowledge plays a central role in economic development.

The primary responsibility of any state is to ensure the continuous development of human capital and scientific and engineering personnel. The number of Latvian university students has generally declined over the last 20 years, hitting a peak of over 131,000 around 2005 and a low of around 74,000 in 2023/24 due to population shifts. However, recent years (2024/25) have shown a small but promising rebound in new entrants, suggesting a potential stabilisation or slight increase after decades of decline (LSM.lv, 2024; Stat.gov.lv, 2025). The number of students in Ireland has grown by around 10% per year over the past ten years. This increase has seen the number rise from 13,700 to a record high of 45,000 in 2025, despite the fact that staff are mainly trained in neighbouring Britain. (ICEF, 2026). In this regard, the influential British newspaper *The Guardian* published an interview with Professor Kapur of King's College London about the role of domestic and international students in the country's future development. According to him, international students are not an oddity or an excess of British universities. They are now an integral part of the British system. This benefits not only international students, but also UK students and the country as a whole in terms of the national productivity. Nevertheless, according to Kapur, technology and productivity growth in manufacturing have run their course. In order to drive the next technological revolution, people must become creators rather than consumers, and universities will play a central role in this (*The Guardian*, 2025).

4. Results and Discussions

Thanks to research by the IMF, WIPO and LBS, it is possible to clearly identify the main trend in productivity growth. This growth is made possible by intangible assets, with the main dominant factors being support for and development of education and science, free access to information for the population, development of digital technologies, and support for and improvement of patent law by the state and businesses. Research centres claim that artificial intelligence (AI) will positively impact future productivity trends if the right policies are implemented. However, its impact is not yet evident in productivity statistics (OECD, 2025).

Latvia has set itself the goal of increasing investment in research and development to 1.5% of GDP by 2027. While investment is set to double, Latvia's target pales in comparison to those of other EU countries. The European Commission (EC) recommends that EU countries invest at least 3% of their GDP in research and development. The issue of low investment in research and development has been discussed in Latvia for many years. In 2022, only 0.75% of GDP was invested, and there have been no significant changes in recent years. Compared to other countries, the investment in

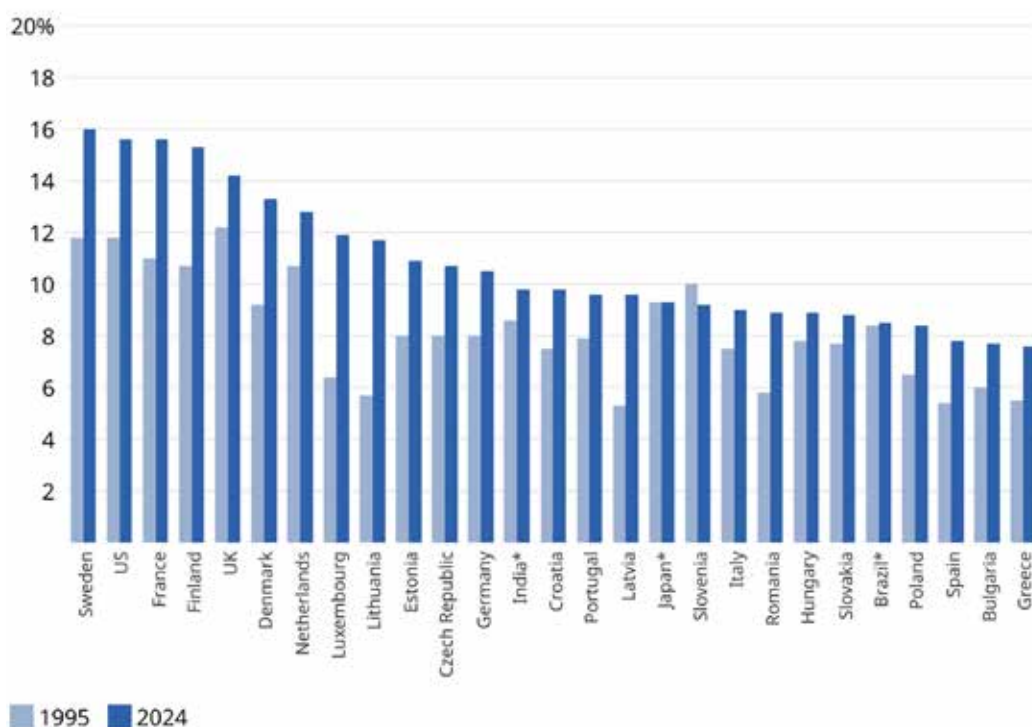
research and development is very low, at a third of the EU average. The difference compared to the average investment in developed countries is even greater (NRA.lv, 2024).

As Fig. 9 shows, the largest investments in intangible assets in the EU over the past 30 years were in Sweden, France, and Finland. Latvia lagged behind even its closest neighbours, Lithuania and Estonia. Research by the World Intellectual Property Organization (WIPO) in partnership with the Luiss Business School (LBS) found that, while investment in machinery, equipment and buildings stagnated, companies continued to invest in R&D, software, databases and management processes. Such intangible assets contribute to capital growth and improve labour productivity, particularly in the service sector and in sectors that are intensive in terms of artificial intelligence. Figure 9 illustrates the transition from tangible to intangible capital in several countries, including Latvia. In the context of slowing productivity growth, investment in intangible assets has played a mitigating role (see Figure 9).

This is a problem that has a greater impact on productivity than a hasty increase in wages or a mechanical reduction in bureaucracy. The following are the reasons why Latvia is lagging behind its neighbours and the rest of the world in the development and implementation of FinTech technologies: the country is unattractive to investors; universities are losing their authority and are unable to cope with

systemic problems; students are not eager to study at national universities; science is stagnating; and, as a result, labour productivity cannot give impetus to economic development. Therefore, it is necessary to urgently change budget policy priorities; this is a genuine solution to the 'systemic problems' in the Latvian economy. In terms of national economic development, Latvia could learn from the experiences of Malta and Ireland. Comparing Latvia's economic policies with those of Malta (which offers R&D tax incentives and low taxes favourable to startups) and Ireland (which offers intellectual property and R&D incentives that attract global digital platforms) could clarify whether similar tax and innovation strategies could reverse systemic stagnation in Latvia. Despite existing tensions within the EU tax regime, these models demonstrate the successful accumulation of intangible assets and productivity growth.

Although Latvia's financial sector reforms between 2018 and 2021 were not the sole cause of the slowdown in productivity growth, they exacerbated existing structural weaknesses. By raising transaction costs, tightening credit conditions and deterring investment in intangible assets, the reforms contributed to an extended period of subdued productivity growth. This suggests that, while regulatory measures are necessary from a compliance perspective, they must be carefully calibrated to avoid having an adverse effect on long-term capital formation and innovation capacity.



Sweden, France and Finland lead in intangible investment intensity.

Figure 9. Intangible investment as a share of GDP (%), 1995 versus 2024

Source: WIPO–LBS. 2025

This is particularly pertinent for small economies, which often depend directly on supranational structures and are heavily influenced by MNCs, global state actors and their own bureaucracies.

5. Conclusions

Overall, the study shows that the quality of institutional regulation plays a negligible role in the economic development transition of EU countries towards globalisation and digitalisation. From a policy perspective, the results emphasise the importance of a more balanced institutional strategy that aligns financial regulation with broader development objectives.

Proposals are increasingly being made around the world for democratic movements to develop new funding mechanisms that are independent of traditional financial systems, which are becoming increasingly subject to oligarchic control. In order to prevent the manipulation of public discourse by algorithms, small economies must develop new antitrust frameworks that address data monopolies and create state-run alternatives to private digital platforms. They must also develop 'rules of the game' within their own territories through licensing, auditing and effective taxation systems.

Many countries will attempt to establish their own rules through the CeFi sphere and monopolise digital technologies using state resources, often in the interests of their bureaucratic elites rather than the country as a whole. In the context of growing competition between states and large technology companies for power and client assets in the global economy, neo-feudal forms of social organisation may emerge as a result of the competitive struggle, in which the winners are usually not held accountable.

Adopting a dialectical approach to maximising competition in the economy may mean that government institutions should avoid breaking up monopolies and instead give challenger firms the best possible chance of displacing incumbents.

Reforming bureaucratic incentives and improving public sector efficiency: According to Buchanan's public choice theory, the persistence of bureaucratic rent-seeking and debt-financed consumer spending can undermine the efficient allocation of public resources. Reducing the size of the public sector relative to GDP, streamlining management and linking public funding to performance could help to redirect resources towards increased productivity. The growing importance of intangible assets is increasing competition among workers and highlighting the issue of wasteful and expensive education, a problem that public institutions often fail to recognise. In order to optimise higher education and focus it on real results, more support should be given to publicly funded private education.

Creating a more dynamic environment for financing intangible assets: stagnation in private-sector lending at around 30% of GDP, coupled with cautious lending practices, limits companies' ability to invest in software, R&D, and organisational capital. However, policy measures such as credit guarantee schemes, tax incentives for innovation and support for alternative financing mechanisms (including venture capital and fintech) can help to mitigate these barriers.

The findings of this research are particularly relevant for Ukraine, which is currently engaged in post-war reconstruction and pursuing European integration. The experiences of smaller EU economies emphasise the importance of strengthening institutional capacity and promoting investment in education, science and digital infrastructure.

A comparative analysis of the prospects for small EU economies clearly illustrates the opportunities and challenges involved in the further development of the European community as a whole. The transition to a digital economy and financial system will transform the economic regulatory landscape of every EU member state.

Future research will adopt a comparative approach to assess the effectiveness of institutional frameworks in EU candidate countries in driving digital transformation, productivity growth and economic competitiveness.

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