



Section 1.

DOI:10.29013/EJEMS-23-5.6-3-13



A WESTERN BALKANS REGRESSION ANALYSIS ON RELATIONS BETWEEN ECONOMIC GROWTH, ISO STANDARDS, AND INTELLECTUAL PROPERTY

*Dr. Enriko Ceko*¹

¹ Institute of Technology, Street “Xhanfize Keko”, No 12, Tirana, Albania

Cite: *Dr. Enriko Ceko. (2023). A Western Balkans Regression Analysis on Relations Between Economic Growth, Iso Standards, and Intellectual Property. European Journal of Economics and Management Sciences 2023, No 5-6. <https://doi.org/10.29013/EJEMS-23-5.6-3-13>*

Abstract

With this paper research, I wanted to demonstrate the significance of connections between economic growth and ISO standards and Intellectual property, which is missing in Western Balkans economies, while issues related to economic growth, quality, quality management, ISO standards, and intellectual property have recently attracted more attention than other topics globally.

The methodology of the research involved collecting data and information about economic growth, ISO standards, and intellectual property for Western Balkan economies, building tables, and handling a regression analysis for these three factors.

The main finding of this study is that there is no strong relationship between economic growth, ISO standards, and Intellectual property in the Western Balkans.

The main conclusion of the study is that economic growth, besides other factors, especially hard factors like labor, land, and capital, should be considered as a pattern for growth using soft factors of production like entrepreneurship and innovation, both of them dependent hardly by intellectual property and ISO standards application, as a way on achieving more competitive advantage, exceeding customer expectations by enhancing the quality of goods and services, as well as protecting unique values of business entities and individuals.

Keywords: *Western Balkans, Economic growth, ISO standards, intellectual property, quality management, quality culture, factors of production*

Western Balkans economy

The current geopolitical environment presents the Western Balkans with unparalleled problems. This involves the integration of Western Balkan nations into the EU, with

significant progress achieved in 2022: the start of EU accession discussions with Albania and North Macedonia in July, and the awarding of EU candidate status to Bosnia and Herzegovina in December. Furthermore,

significant progress on visa liberalization for Kosovo with a definite schedule is a very encouraging step. These measures revive the accession process and provide fresh dynamics to the Western Balkans (Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia).

An uncertain external environment continues to be a burden for the Western Balkan economy, putting people's homes, companies, and governments under great stress. The Ukraine-Russia conflict, along with rising oil costs and declining global development, is harming the economies of all six nations. As a result of growing food and energy prices, inflation has reached previously unheard-of levels. The first half of 2022 had stronger economic growth than predicted. Investment and private consumption were the primary drivers of growth. Rising incomes, remittances, and private credit expansion have supported private spending. There was a lot of investment in North Macedonia, Serbia, and Bosnia and Herzegovina.

Building on the successes of 2021, certain nations saw employment levels reach all-time highs by mid-2022. Since mid-2021, all nations' employment rates have increased by 3 percentage points. The labor market rebounded across all industries, although services, notably tourism, contributed significantly. By mid-2022, the Western Balkans' unemployment rate had dropped to a record-low 13.5 percent, with 151,000 fewer people out of work. While poverty continues to fall in 2022, the future of poverty reduction is jeopardized owing to rapidly rising inflation.

Without government support, the severity of the energy and food price shocks might raise the number of underprivileged people in the region by 13%. The rises in energy and food costs have offset the increase in revenue brought on by high inflation and precluded budgetary retrenchment. Increased nominal revenue has been facilitated by excessive inflation, particularly for indirect taxes like the VAT. On the other hand, state expenditure has substantially grown as a result of the government's responses to the oil crisis and rising inflation.

A convergence of supply- and demand-side factors caused the inflation rate in the Western Balkans to soar throughout 2022.

All Western Balkan nations expect inflation to stay in double digits in 2022, with Albania being the lone outlier. Food costs rose by up to 25% in North Macedonia, Montenegro, and Bosnia and Herzegovina. Even while increases in commodity prices have historically been the primary drivers of inflation, price pressures are spreading more widely.

Although the banking industry has remained steady, it will unavoidably be put to the test if GDP growth slows and inflation rises. Non-performing loans are still falling (at 4.4 percent on average in March 2022) and the banking sector in the area has not been directly impacted by the conflict in Ukraine. However, tighter global financial conditions, a downturn in both local and global demand, and a decline in corporate and consumer confidence will surely affect the region's financial industry.

The region's export boom has begun to slow down, and rising food and energy costs have caused imports to rise sharply, resulting in bigger current account deficits. Deficits are rising in every Western Balkan country, and in some, like Kosovo, Montenegro, and Serbia, they have hit double digits. It is expected that the region's current account deficit will widen, going from 54.9 percent of GDP in 2021 to 8.7 percent of GDP in 2022. Although the rate of growth has started to slow down, the region's exports of both goods and services have remained strong.

Although growth was quite strong in the first half of 2022, it is clear that another storm is coming to hit the region. A confluence of indirect supply and demand shocks that will keep prices high and erode investor and consumer confidence will likely seriously hinder the region's future. The winter COVID-19 flare-up is still a threat, credit restrictions are tightening, and supply chains globally are still under stress. The growth rate for the Western Balkans has been further decreased (by 0.3 percentage points) to 2.8 percent for 2023.

Short-term policy support for the most vulnerable should be given top priority by governments, who should also ensure that their actions are targeted and restricted in time to minimize financial risks. Reforms that would boost medium-term growth at minimal fiscal cost should be put first by policymakers.

Table 1. Western Balkans Key Performance Indicators, 2021

| Wb6 Key Economic Indicators (2021) | Real GDP Growth (%) | Consumer Price Inflation | Public Expend. & GDP | Public Revenues (%GDP) | Fiscal Balance (%GDP) | Public Debt (%GDP) | Goods Exports (%GDP) | Trade Balance (%GDP) | Current Account Balance (%GDP) | External Debt (%GDP) | Unemployment Rate (%) |
|------------------------------------|---------------------|--------------------------|----------------------|------------------------|-----------------------|--------------------|----------------------|----------------------|--------------------------------|----------------------|-----------------------|
| Albania | 8.5 | 2.6 | 31.6 | 27 | -4.5 | 74 | 8.2 | -13.3 | -7.7 | 62.7 | 11.5 |
| B&H | 7.5 | 2 | 43.3 | 43 | -0.3 | 37.6 | 34.1 | -12.3 | -2.6 | 65.4 | 17.4 |
| Kosovo | 10.5 | 3.4 | 29.3 | 27.9 | -1.3 | 21.9 | 9.3 | -30.7 | -8.3 | 37.3 | 18 |
| NRM | 4 | 3.2 | 37.7 | 32.3 | -5.4 | 60.8 | 51.1 | -16 | -3.5 | 81.4 | 15.7 |
| Mntngr | 13 | 2.4 | 45.9 | 44 | -1.9 | 86.8 | 10.6 | -19.4 | -9.2 | 214.9 | 16.6 |
| Serbia | 7.4 | 4 | 47.4 | 43.3 | -4.1 | 57.1 | 38.9 | -8.5 | -4.4 | 68.5 | 11 |
| WB6 | 8.48 | 3.3 | 39.2 | 36.3 | -2.9 | 56.4 | 31.8 | -12.7 | -4.9 | 88.4 | 15.03 |

Source: WB. Western Balkans Regular Economic Report. No.22. Fall 2022

Table 2. WB Country profiles

- | | |
|---------------------------------|--|
| Albania | <ul style="list-style-type: none"> Following robust growth in early 2022, GDP is likely to decelerate in the remaining part of the year, as rising inflation affects real disposable income, and a slow-down in the global economy translates into tighter financing conditions and lower foreign demand. High food and energy inflation have prompted additional government support to households and SMEs, which are already benefitting from regulated electricity prices. This adds to the fiscal pressures. Medium-term prospects hinge on the global recovery and structural reforms, and the launch of fiscal consolidation. Poverty is expected to continue declining but the continuation of inflationary pressures will decelerate the recent gains. |
| Bosnia & Herzegovina | <ul style="list-style-type: none"> Robust economic activity continued in the first half of 2022. Nevertheless, employment improved only marginally; unemployment remains elevated and is especially high among youths. Headline inflation accelerated, fueled by food and transport prices, raising inflation to 12 percent by July 2022. Fiscal revenues benefited from strong growth and inflation, with the deficit expected to reach 1 percent of GDP in 2022, on election year. Real output growth is expected to decelerate in the second half of 2022 as private consumption slows due to the erosion of real disposable income caused by high inflation, and a deterioration in net exports. Elections took place on October 2, 2022, potentially setting the scene for a return to much-needed and delayed structural reforms to boost potential growth in the medium term. |
| Kosovo | <ul style="list-style-type: none"> Kosovo's economic growth moderated in early 2022, with activity affected by broad-based price increases. Risks to the outlook remain high as the country continues to grapple with rising inflation pressures. The price shock will inevitably continue affecting demand and economic activity in 2022, and growth is expected to moderate to 3.1 percent, mainly on account of higher real exports. |

- | | |
|------------------------------------|---|
| Kosovo | <ul style="list-style-type: none"> • Strong tax revenue collection continues to favor the fiscal position, supported by higher inflation and tax compliance measures. The fiscal deficit is expected to reach 0.8 percent of GDP in 2022, amid significant capital underspending. • In a context of high uncertainty, maintaining buffers to respond to the changing macroeconomic environment, particularly in the context of an ongoing energy crisis, is vital. Over the medium term, it is imperative to advance structural reforms to enhance competitiveness and private sector development in support of the current export growth momentum. |
| Montenegro | <ul style="list-style-type: none"> • While still recovering from the pandemic, the economy is facing renewed headwinds. Growth remains very strong, estimated at 6.9 percent in 2022, led by private consumption and tourism recovery. • Inflation surged to new highs, but its adverse impact on the cost of living was largely mitigated by an increase in real disposable income. • The fiscal deficit is estimated to widen to 4.9 percent of GDP in 2022, due to the forgone revenues of the recent tax reform and increased social spending. • High public debt and the deteriorating global environment require near-term fiscal consolidation. |
| Republic of North Macedonia | <ul style="list-style-type: none"> • As the war in Ukraine and the energy crisis dim growth prospects, inflation is racing toward an all-time high, disproportionately eroding the real income of the poor. • With limited fiscal space, elevated public debt, and increased cost of financing, fiscal support needs to target the most vulnerable households and firms. At the same time, monetary policy tightening needs to strike a balance between containing inflation and avoiding stifling economic activity. • Disruptions related to the war in Ukraine, overstretched global supply chains, mounting inflationary and wage pressures, and the intensifying energy supply crisis continue to weigh on the outlook and the economic prospects of the country. • Growth continued to be strong in H12022, despite major domestic and external challenges. |
| Serbia | <ul style="list-style-type: none"> • Inflation accelerated more rapidly than projected, and in line with developments in the region, reaching 13.2 percent y-o-y in August, driven by food and energy prices. • The fiscal deficit turned lower than anticipated, thanks to a strong performance of revenues, while public debt is around 57% of GDP. • While growth projections over the medium term (2022–2024) remain unchanged, risks to the outlook are tilted to the downside. • The most significant deterioration is expected on the external side, with the CAD widening to around 10% of GDP due to the major increase in imports. |

Source: WB. Western Balkans Regular Economic Report No.22. Fall 2022

Factors of production and their relations with ISO standards and intellectual property

In economic sciences, factors of production are divided into four categories: (1) land, labor, and capital in classical theory (Adam Smith, etc.); (2) labor, labor subjects, and labor tools in Marxist theory (Karl Marx, Frederik Engels, etc.); (3) fixed capital, labor capital, and financial capital in neoclassical theory; and (4) environmental economics the-

ory. Many academics have seen innovation as a component of this production factor inside entrepreneurship, but it is presently thought of as a separate factor of production as it is not just a characteristic of entrepreneurs. Since personnel also possess the quality of innovation, topics or organizations must foster such circumstances for innovation to occur.

Even during the pandemic and post-pandemic periods, when the traditional view of factors of production where labor, land, and

capital have been treated as the most important factors almost was over, and discusses how the combination of early factors of production (land, labor, and capital) with modern factors of production (entrepreneurship and technological innovation) made it possible for many entities operating in different sectors of the global economy to succeed, and especially when humans are left unchecked (Malthus, 1798).

Because they are also taken into account in this study, the variables of production that have lately received attention include labor, land, capital, entrepreneurship, and innovation. Economic downturn from 2008 to 2012. Natural catastrophes and pandemic crises, like the most recent one brought on by COVID-19, have demonstrated day by day how important it is to establish a culture of innovation and quality management to gain a competitive edge in a volatile environment.

When we talk about innovation, we immediately consider new combinations that produce improved and/or novel goods and services, novel processing, manufacturing, and assembly techniques, novel market entry strategies, novel resource utilization strategies, novel or enhanced business models, etc. In most cases, this has to do with the enhancement, expansion, and novelty connected to/related to improved effectiveness and efficiency of processes, procedures, rules, orders, products, services, methodologies, methods, tools, technologies, etc., that people involved in the process of innovation, creativity, and quality management bring to the market and offer for economic agents, individuals, families, businesses, and governments. When we talk about innovation, we also talk about creativity, which is something new and beneficial in ideas, creations, and so on. As individual or group activity-based ideas, creativity and innovation are directly linked to intellectual property. This is especially true in the humanities and social sciences, economics and business studies, education, technology and engineering, theory, and philosophy.

A strong culture is required once innovation and creativity are in place. A set of ideals known as “quality culture” provides a guide on how to continuously improve everyday operations and the outcomes, goods, and/or

services related to them. All employees, not just quality controllers, are responsible for the organization’s or organizations’ quality culture.

The current working environment of both public and private organizations around the world has been centered on quality of work, “doing right the first time,” through quality management, corrective and preventive actions, and being clear, about the same or similar problematic issues that show up often and/or again, which can be experienced and expressed through (1) individuals development, (2) active respect, and tolerance, (3) responsibility, and (4) entrepreneurship, as main values, bringing finally competitive advantage(s).

In ISO standards, the fundamental principle of quality culture is embodied. The public and commercial sectors worldwide are increasingly interested in and in need of these international quality management standards, particularly for certain of them, to gain a competitive edge internationally. Instead of focusing on the notion of how and why products and services meet consumer expectations, the ISO standards are primarily concerned with management and process quality.

To increase the quality of goods and services daily, businesses adopt managerial functions, specify quality policy, strategic/operational objectives, and responsibilities, and put them into practice via planning, budgeting, leading, inspiring, and controlling.

A quality management system, which is codified in ISO standards, is useful for this.

Key benefits of using standards

According to the Organization of Standards, there are three main types of benefits to using standards:

Key benefit 1: Streamlining internal operations

One important conclusion is that standards may be utilized to speed up internal business operations inside a company, for instance by decreasing the time spent on particular tasks while carrying out different business functions, cutting waste, lowering procurement prices, and boosting productivity. According to the case studies, standards contribute between 0.15 and 5 percent of yearly sales to a company’s gross profit.

Key Benefit 2: Innovation and Expansion of Operations

A few case studies give instances where standards have been the foundation for creative business procedures that allow businesses to grow their supplier networks or successfully launch and manage new product lines. In other instances, standards assisted in lowering the risk associated with businesses launching new goods into domestic markets.

Key Benefit 3: Creating or entering new markets

Standards have served as a foundation for the creation of new markets, as well as new local and international markets, as well as for the development of new goods. In extreme circumstances, the influence of standards is much beyond the amount mentioned above, with businesses producing gross profit contributions of up to 33% of their yearly sales, which enabled them to establish themselves as market leaders for at least a while.

Intellectual property

Inventions, literary and creative works, designs, symbols, names, and pictures utilized in business are all examples of intellectual property (IP). IP is legally protected by things like patents, copyrights, and trademarks, which allow people to profit financially or gain notoriety from their inventions. The IP system seeks to provide an environment where creativity and innovation may thrive by striking the correct balance between the interests of inventors and the larger public interest. Intangible works of human creativity are included in the category of property known as intellectual property (IP) (WIPO, 2016).

Different nations recognize different kinds of intellectual property to varying degrees (WIPO, 2021). The most well-known categories include trade secrets, patents, copyrights, and trademarks. In the 17th and 18th centuries, England was where the modern idea of intellectual property first emerged. Although the phrase “intellectual property” first appeared in the 19th century, it wasn’t until the late 20th century that it was widely accepted in most of the world’s legal systems (Lemley, 2009). Promoting the production of a wide range of intellectual commodities is the primary goal of intellectual property law (Paul & Anthony, 2008). To do this, the law

often grants people and corporations temporary property rights to the knowledge and creative products they produce.

This provides an economic incentive for their production by enabling individuals to profit from the knowledge and intellectual products they produce and by enabling them to safeguard their ideas and avoid piracy (Paul, Anthony, 2008). Depending on the level of protection provided to innovators, these economic incentives should encourage innovation and advance technology in nations (UNIDO, 2009).

Economic Growth ISO Standards, and intellectual property

To enable the free interchange of goods and services, standards are necessary. They also aid in reducing the expense of adjustments. Standardization is crucial for the economy’s health as well as for everyday living. The state of the art for the standardized object or industry is also informed by the rules created throughout the standardization process. Anyone who adheres to standards is doing so by advice given by global experts. They are acknowledged technical norms because of their history and use.

The free exchange of products and services is made possible by common norms and standards without the need for additional adjustment expenses. Norms promote rationality and ensure high standards in administration, research, technology, and economics. A classic area of industrial strategy is standardization. From an economic standpoint, norms and standards notably promote market freedom and corporate innovation capability. Standardization helps innovations and technological know-how proliferate more swiftly. The competitiveness of businesses is increased.

International Standards are the unseen driving force behind the growth of our economy. Global business leaders look to ISO standards for improved economic performance, monetary stability, and fresh local and foreign sources of development. According to studies released by ISO members, standards were responsible for 28% of the increase in GDP in the Nordic nations and the UK. Another research from France revealed that over 66 percent of businesses (including SMEs) polled said that standards boost their revenues and

that 69 percent believe standardization would benefit their company (Naden, 2021). The importance of preserving intellectual property rights is emphasized by the WIPO treaty and numerous other relevant international accords. Two justifications for intellectual property laws are provided in the WIPO Intellectual Property Handbook. The first is to provide legislative expression to the moral and financial rights of authors in their works as well as the rights of the public to access such works. The second is to actively foster invention, as well as its distribution and implementation, as well as fair commerce, which would support both economic and social growth (WIPO, 2020). According to the Anti-Counterfeiting Trade Agreement (ACTA), “effective enforcement of intellectual property rights is critical to sustaining economic growth across all industries and globally”.

According to economists, intangible assets make up two-thirds of the value of big enterprises in the United States (Shapiro, Pham, Blinder, 2007). IP-intensive businesses are predicted to produce 72% higher value-added per employee than non-IP-intensive industries (price minus material cost).

An analysis of the effects of IP systems on six Asian nations conducted jointly by the WIPO and the United Nations University revealed “a positive correlation between the strengthening of the IP system and subsequent economic growth” (WIPO, 2007).

Research framework, the purpose of the case study

The framework of the research has been economic growth, ISO standards, and intellectual property during 2012–2021 in WB6.

This study has been intended to adopt a theory-building mode, aiming to clarify research questions, given the lack of numerical, statistical, and algebraic arguments on relations between economic growth and ISO standards, the lack of numerical, statistical, and algebraic arguments on relations between economic growth and intellectual property, and the lack of numerical, statistical, and algebraic arguments on relations between ISO standards and intellectual property, too (Wróbel, 2019).

1. RQ: There is any relation between economic growth and ISO standards and Intellectual property?

Methodology

In particular, prior empirical research does not explain how economic growth, ISO standards, and intellectual property influence and connect, even though several serious theoretical studies are showing a strong connection between them, but not numerical, statistical, and algebraic studies. This is true even though it acknowledges the importance of economic growth, ISO standards, and intellectual property. As a result, theory development is necessary before analysis, proof, and facts. A case study technique is necessary to thoroughly investigate the phenomena since it enables examination based on theory and statistics findings.

Besides that, differently with the traditional model of assuming about economics, in this research, (1) labor has been considered as it is in reality, not homogeneous, (2) land has been considered as it is in reality, not homogeneous (there are particular kinds of soil or mineral deposits (Robinson, 1953) which influences on production and flow of capital and human resources), (3) it is considered as naturally, all households don't consume goods and services in the same proportions (Robinson, 1953), (4) is taken as normal, and regardless of whether their relative prices change, changes in average incomes and how they are distributed have a major effect because it affects supply and demand for end products (Robinson, 1953), (5) is taken as such because an experienced entrepreneur has an advantage over a young person (Robinson, 1953), (6) is understandable as skills, knowledge and competencies are not evenly distributed and at this point managerial skills are very important and (7) it is understandable that having sufficient capital is not the only employment opportunity (Robinson, 1953). These are the characteristics that bring this search very close to reality.

3.1 Selection of case

Three main criteria have been taken into consideration in this research: (1) a theoretical approach, (2) suitability of relations, (3) practical positive impacts on relations between economic growth and ISO standards, between economic growth and intellectual

property, and between ISO standards and intellectual property.

Based on this, research questions were built. The research question is:

RQ: There is any relation between economic growth and ISO standards and Intellectual property?

Based on these research questions three couples of hypotheses were built:

And based on this research question a couple of hypotheses have been developed.

H00 – There is any relation between economic growth ISO standards, and Intellectual property in WB6?

H01: There is not any relation between economic growth and ISO standards, and intellectual property in WB6?

Collection of data

Data for economic growth – WB reports.

Data for ISO standards – ISO website.

Data for intellectual property – Intellectual property website

In preparing this research, only have from international indexes and websites have been used.

Analysis of data

1. By WB website drowned the WB6 economic growth for the period 2012–2021.

2. From the ISO website drawn the number of ISO certificate issues for the period 2012–2021 for WB6 (Kosovo was not listed).

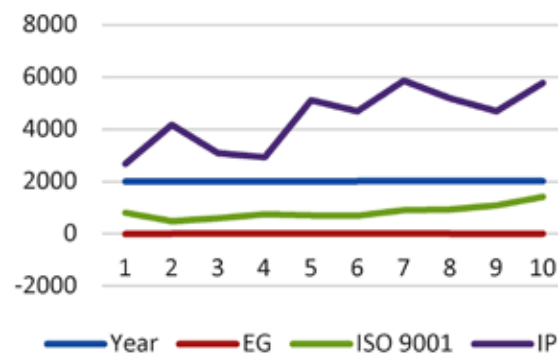
3. From the Intellectual property website, the number of IP issued for WB6 between 2012 and 2021

4. A regressive analysis between economic growth and ISO standards and Intellectual property was performed.

Table 3. Economic growth, ISO standards, and intellectual property (2012–2021)

| Year | EG | ISO 9001 | IP |
|------|-----------|----------|--------|
| 2012 | - 0.65322 | 806.2 | 2687.6 |
| 2013 | 2.54375 | 480.2 | 4178 |
| 2014 | 1.350323 | 601.6 | 3094.8 |
| 2015 | 3.117156 | 744.6 | 2947.6 |
| 2016 | 3.138662 | 710.8 | 5116.2 |
| 2017 | 2.98922 | 693.6 | 4702 |
| 2018 | 4.06009 | 912 | 5868.2 |
| 2019 | 3.456031 | 934 | 5192.6 |
| 2020 | - 5.72764 | 1092.8 | 4696.6 |
| 2021 | 8.479914 | 1411.8 | 5786.2 |

Graph 1. Economic growth, ISO standards and intellectual property (2012–2021)



Regression analysis results:

SUMMARY OUTPUT

| Regression Statistics | |
|-----------------------|----------|
| Multiple R | 0.623561 |
| R Square | 0.388829 |
| Adjusted R Square | 0.187432 |
| Standard Error | 3.607693 |
| Observations | 10 |

| ANOVA | df | SS | MS | F | Significance F |
|------------|----|----------|----------|----------|----------------|
| Regression | 2 | 66.24373 | 33.12186 | 2.544812 | 0.147706 |
| Residual | 8 | 104.1236 | 13.01545 | | |
| Total | 10 | 170.3673 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% | Lower 95.0% | Upper 95.0% |
|-----------|--------------|----------------|----------|----------|-----------|-----------|-------------|-------------|
| Intercept | 0 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| ISO 9001 | -0.00159 | 0.005073 | -0.31355 | 0.761879 | -0.01329 | 0.010107 | -0.01329 | 0.010107 |
| IP | 0.000854 | 0.000974 | 0.876591 | 0.406261 | -0.00139 | 0.0031 | -0.00139 | 0.0031 |

Research result:

As per the $R^2 = 0.388829$, lower than 0.50, the H01 hypothesis: There is no relation between economic growth and ISO standards, and intellectual property in WB6, has been proved.

Summary output

This research produced important main results and provided insight into the not strong connection between economic growth, quality management, and intellectual property in WB6 economies and serves not only in the theoretical aspects but what is more importantly this research produced for the very first time the statistical results through regression analysis for missing of relations between economic growth, ISO standards and intellectual property in WB economies.

Research's context

The era of treating labor, land, and capital as the three primary components of production in the conventional sense is virtually finished. Since fashion is no longer the fourth component in production, it also touches on entrepreneurship. The value of intellectual property, quality management, innovation, and creativity as a combination that may offer a competitive advantage in a shifting environment has been demonstrated day by day by economic crises, natural disasters, and pandemic scenarios, particularly the most recent one produced by COVID-19–19. It doesn't require any commentary or interpretation that certain nations are more competitive than others when quality management concepts, intellectual property, innovation, and creativity are integrated into every aspect of public and private enterprises' operations.

In particular, earlier research, which has mostly been empirical, acknowledges the significance of intellectual property and quality management in economic growth but does not explain how IP and QM impact and link to economic growth.

Prior empirical studies have revealed a lack of numerical, statistical, and algebraic studies on the subject and a lack of studies on connections between them in terms of theoretical approach and terms of numerical, statistical, and algebraic studies, in addition to several serious

theoretical studies showing the strong connection between economic growth, IP, and QM.

Discussion

Economic growth, intellectual property (IP), and quality management (ISO standard certificates provided globally) have served as the research's guiding principles.

The major findings of a regressive examination of the relationships between economic growth, IP, and QM in the Western Balkans are that there is not a substantial relationship or correlation between these variables.

- Considerations for practice and theory

According to the study's final findings, a new avenue for further study in the still-unknown domain of the relationships between economic growth, intellectual property, and quality of life has been opened.

In terms of application, the research highlights the significance of seeing the relationships between economic development, intellectual property, and quality management as a triangle since doing so helps enterprises and a nation's economy as a whole develop stronger competitive advantage strategies.

Limitations and Avenues for further research

To address these concerns, this article aims to highlight persistent issues with comprehending the connections between economic growth, intellectual property, and quality of life. Since we are now much closer to being able to design studies that will be able to provide better answers to such questions, this paper's research opens a window for other academics and practitioners in these fields. Questions of the processes that facilitate these relations are the subject of further investigation, but there is currently enough information available to provide some definitive answers to questions of these relations.

This study, the first of its kind examining linkages between economic growth, intellectual property, and quality of life in WB economies, was conducted utilizing a wealth of information about economic growth, IP, and quality of life for the years 2012 to 2022. However, more research is needed to determine whether these relationships continue.

Future study, in my opinion, should:

- Include pertinent questions about methods and data collection that

would highlight connections between economic growth, intellectual property, and quality of life at the level of countries and economies;

- Correlational study data should be specific enough to point to real organizational aspects of business, such as human resources, strategic management, organizational behavior, supply chain management, marketing strategies, digital economy, etc., that demand a complete eclipse of required changes regarding IP and QM;
- Consider probable interactions between variables that could be especially pertinent to the topics being studied, but bear in mind that researchers don't need to take into account every conceivable interaction; instead, they should focus their data-collecting efforts on testing expressly stated interactions.

Conclusions and recommendations

1. This research produced a main result and gave an overview of the connections and missing links between intellectual property, quality management, and economic growth in the economies of the Western Balkans. However, what is most significant is that this research produced statistical results through a regression analysis of the missing links between them for the first time.

2. The main findings of regression analysis on the relationships between economic growth and quality management, between economic growth and intellectual property, and between intellectual property and quality management in the Western Balkans are that there is not a significant relationship between any of these three variables.

3. Statistical evidence demonstrating the missing links between economic growth and quality management, economic growth and

intellectual property, and intellectual property and quality management demonstrates that to achieve competitive and comparative advantage, it is necessary to promote economic growth, quality management, and intellectual property as a nonfixed factor of production, concurrently with the effective and efficient use of other factors of production (labor, land, and capital).

4. Because natural resources are unchangeable (fixed), they continue to be a barrier to the Western Balkans' ability to experience economic progress. There are two ways to overcome resource limitations to increase productivity: first, by raising productivity to help get around the limitations of fixed factors of production, like steadily raising revenue, and second, by using quality management and intellectual property to get around the problem of scarce resources. To save fixed and finite resources, there is a tendency to innovate and develop via quality management and intellectual property. Therefore, if we create technology to conserve fixed and finite manufacturing factors, these obstacles might not be a barrier to Western Balkan economies' growth and progress.

5. The cycles of these elements' use are tied to the history of production factors across the world. Utilizing permanent factors of production like land, labor, and capital is one cycle; utilizing flexible factors of production like innovation and entrepreneurship is another. In certain stages of economic development, the cycle of fixed and/or limited factors of production (capital, labor, and land) predominates, while in other stages of development, the cycle of non-fixed factors of production – such as innovation, creativity, intellectual property, ongoing quality improvement through ISI standards, and entrepreneurial skills – predominates.

References

- Clare Naden, 24 February 2021, Studies show standards contribute to economic growth. The new ISO Library features evidence-based research on the impact of standards. Retrieved 25th February 2023.
- Joan Robinson. 1953. The Production Function and the Theory of Capital. *The Review of Economic Studies*, – Vol. 21. – Issue 2. 1953. – P. 81–106. URL: <https://doi.org/10.2307/2296002>. <https://academic.oup.com/restud/article-abstract/21/2/81/1555416?redirected->

- From=fulltext/ URL: <https://www.scribd.com/document/87188046/Joan-Robinson-the-Production-Function-and-the-Theory-of-Capital>
- Malthus, Thomas. 1798. *Essay on the Principle of Population*. Oxford: Oxford University Press (1993 printing).
- Mark A. Lemley, Property, Intellectual Property, and Free Riding Archived 26 February 2009 at the Wayback Machine, *Texas Law Review*, 2005. – Vol. 83. – 1031, – 1033 p. footnote 4.
- Shapiro, Robert J., Pham, Nam D., Blinder, Alan S. (July 2007). “Economic Effects of Intellectual Property-Intensive Manufacturing in the United States” (PDF). *Sonecon.com*. *World Growth*. – 29 p.
- UNIDO, 2009. “The Role of Intellectual Property Rights in Technology Transfer and Economic Growth: Theory and Evidence”.
- Wróbel, A. E. 2019. *Creative Facilitation in Innovation Management: Facilitator’s Role in Shaping Team Processes*. The Technical University of Denmark.
- WB. *Western Balkans Regular Economic Report No. 22. Fall 2022*
- WIPO. September 2007. “Measuring the Economic Impact of IP Systems”. WIPO.
- World Intellectual Property Organization (WIPO) (2016). *Understanding Industrial Property*. World Intellectual Property Organization. Doi:10.34667/tind.36288. ISBN9789280525939.
- WIPO, 2021. “Understanding Copyright and Related Rights” (PDF). World Intellectual Property Organization. – 4 p.
- WIPO. “The Concept of Intellectual Property”. – 3 p.

submitted 22.08.2023;

accepted for publication 20.09.2023;

published 8.10.2023

© Enriko Ceko

Contact: enriko.ceko@cit.edu.al, enrikoceko@yahoo.co.uk