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Digitalization versus development

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Abstract: This study examines the bidirectional relationship between tax digitization and levels of economic, political and social development on a global scale. Using bibliometric, regression and clustering methods. The research assesses the evolution of digitalization indicators in 217 countries for the period 2011-2021. The results confirm a direct link between the level of digitization and economic development, showing that countries with higher GDP per capita have higher rates of internet use and more developed digital infrastructure. Although the influence of economic development on digitization has diminished over time, the process of digital transformation continues to make a significant contribution to more efficient fiscal systems and improved governance. The COVID-19 pandemic accelerated digitization, leading to increased tax compliance and public sector transparency.

This article demonstrates that tax digitization is an essential feature of modern tax systems, supporting sustainable economic development.

Keywords: fiscal digitization, economic development, quality of governance, cluster analysis, internet use.

JEL classification: H11, H83, O33, O47, D73

Introduction

The fiscal digital transformation is related to levels of economic, political, social, cultural, etc. development. This relationship is bidirectional:

1. The level of digitization depends on the level of economic development, the quality of the political system and the social and cultural openness to the new. The more developed a country is, the stronger the prerequisites for fiscal digitization. One reason may be that, due to the level of development, the country has the

financial, educational and human means to carry out the process of tax digitization. The quality of governance significantly affects the level of tax digitization. In a country with corrupt governments, where the law is not properly enforced and political stability is low, attempts to digitize tax systems will be of poor quality or even non-existent. But societal approaches and perceptions also play an extremely important role in this process, and they can boost the speed of the tax digitization process or, on the contrary, slow it down.

2. At the same time, tax digitization impacts the company in several ways. The automation of tax processes primarily reduces the burden on the taxpayer. This burden is in fact measured in terms of efficiency - with digital systems in place, taxpayers of all types no longer have to waste valuable time to meet the requirements of their tax system and comply voluntarily. There is therefore a significant reduction in administrative costs for the taxpayer. But the same is also true from the perspective of tax authorities, as the automation of all tax processes reduces bureaucracy and administrative costs for tax administrations. The most important effect is ultimately an increase in the performance and efficiency of revenue collection.

Literature

Using bibliometric analysis, this paper synthesizes the literature dealing with the digitalization of the tax system. Tax digitalization is assessed in relation to the level of development. The aim of the analysis is to reveal which notions and terms are most commonly used in the literature in order to further understand how the issue of tax digitization has been addressed in previous research. Digitization and taxation are strongly related, both in text and keyword analyses. They are put alongside innovation, performance or economic growth. However, in order to be able to assess any of the above-mentioned directions between the level of fiscal digitization and the level of growth, it is necessary to identify the various variables that can be used as proxies to measure the level of digitization and fiscal digitization, respectively.

For this research we used the Web of Science platform, provided by Clarivate in which we limited the search to specialized studies.

To subscribe the search to the purpose of this article we used as keywords in the selection process "fiscal digitalization", "tax digitalization", "digitalization", "taxation" and "development". We then refined the search results to fit the topic of this research. The last query of the Web of Science database was run on January 31, 2025. The final sample of relevant studies consists of 505 papers that are strictly related to tax digitalization by keywords such as "fiscal digitalization", "tax digitalization", "digitalization", "taxation". Of these, 267 relate fiscal digitalization to the level of development, as follows:

- 108 Web of Science indexed studies related to tax digitization referred to as tax digitization in the literature, of which 63 studies relate tax digitization to the level of development.
- 397 Web of Science studies related to tax digitization referred to as "tax digitization" in the literature, of which 204 studies relate tax digitization to the level of development.

The conducted analysis shows that, most of the research on tax digitization deals with the impact of the level of tax digitization on the level of economic development. We can mention the studies by Hanrahan (2021), Lv & Wu (2024) or Novikova et al. (2022)

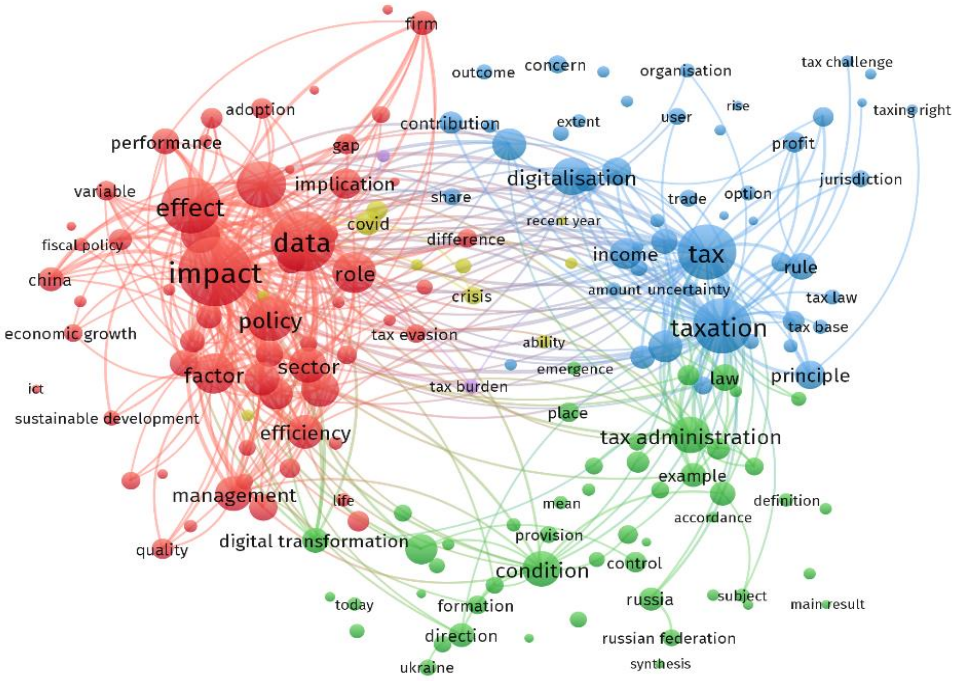
Few studies have been concerned with the first direction of the relationship between the two, i.e. the impact of the level of economic development on the process of fiscal digitization (Milosavljević et al., 2023). One possible explanation may be that most of the actors in a market are interested in how the digitization

process can contribute to the increase of economic and social performance and to the reduction of the burden that exists from different perspectives.

In the first stage we constructed the network graph for analyzing the texts of the studies we considered in the bibliometric analysis. Figure no. 1 reveals that four clusters are formed by relating the terms used. Interestingly, it is not the word '*digitization*' or '*taxing*' but the word '*impact*' that has the highest weight in the studies analyzed. It is part of the red cluster and is strongly connected with the words '*data*', '*effect*' and '*policy*'. Interestingly, a country name, China, also appears in this cluster, indicating that a significant number of studies have been conducted for this country. Terms such as:

- Factors
- Sector
- Economic growth
- Performance
- Adoption
- Efficiency
- Management
- Sustainable development
- Implications.

Figure no. 1. Results of bibliometric analysis - text analysis



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"*Digitization*" is one of the important words in the blue cluster, which has the words "*tax*" and "*taxing*" at its center. This cluster focuses more on the tax and legal side, encompassing notions such as:

- Rule
- Tax law
- Jurisdiction
- Tax rights
- Contributions
- Uncertainty
- Organization or user.

The green cluster has a much lower importance in the network, as can be seen in Figure no. 1. The most frequently mentioned words are "*tax administration*" and "*conditions*".

The term "*digital transformation*" also appears in this group. Interestingly, two other countries are mentioned in this group: Ukraine and Russia.

The last cluster, the yellow one, is made up of very few notions, with '*covid*' and '*crisis*' playing the main roles.

It can be observed, however, that there are intense relationships between the clusters formed, especially between the red and blue clusters.

Figures no. 2 and no. 3 present the results of the bibliometric analyses carried out on the keywords of the analyzed studies, as defined by their authors. In order to assess the robustness of the obtained networks, we ran the analysis with a different number of minimum occurrences: 4 in figure no. 2 and 5 in figure no. 3. In both figures, the term "*digitization*" is the central term, its weight being significantly higher than all other keywords. It is strongly related to '*taxation*', '*digital economy*', '*impact*', '*e-government*', '*efficiency*', '*governance*', '*information*', etc. But we also find other important words related to the political system and its quality, such as '*corruption*', '*law*', or even '*politics*'. At the same time, terms specific to the digital age appear, such as "*blockchain*", "*e-commerce*" or "*industry 4.0*".

The restriction of a minimum of four occurrences leads to the formation of 8 clusters, the two most important being the green one, which also contains the central word '*digitization*', and the purple one, which is centered on '*digital economy*' (see Figure no. 2).

Increasing the number of occurrences to at least 5 leads to a significant decrease in the number of clusters, from 8 to 6 (see Figure no. 3). The composition of the clusters and networks becomes clearer. Thus, for example, the light blue cluster is now much more specific. "*Digitization*" is related within it to other data-related words such as:

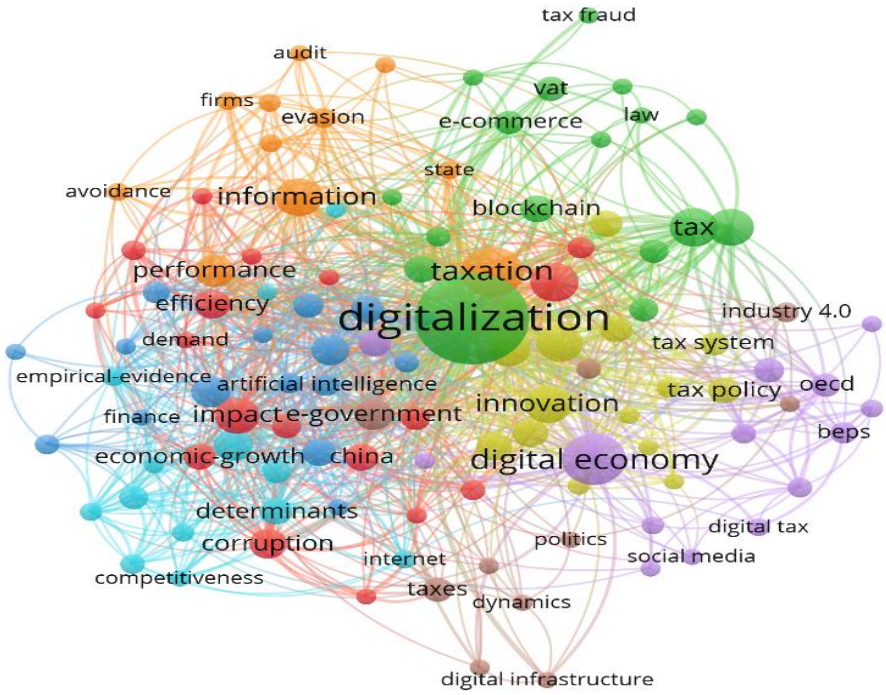
- Blockchain
- Important dates
- Artificial intelligence
- System

"*Taxing*" and "*Digitization*" are included in the red cluster alongside:

- Tax administration
- Digital economy
- Tax policy

- Tax law
- Taxing digital services
- VAT.

Figure no. 2. Results of bibliometric analysis - keyword analysis (network with at least 4 occurrences)



Source: own build in VOSviewer 1.6.20

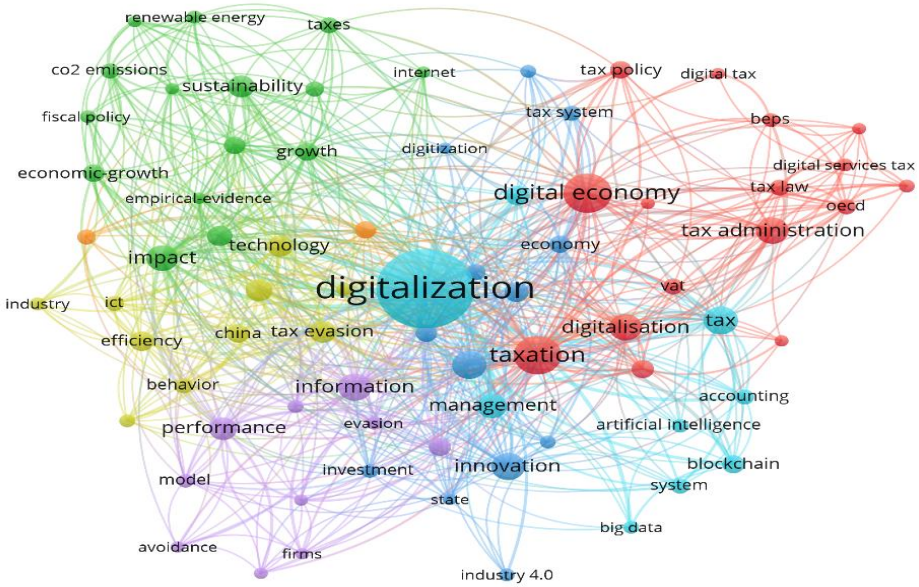
The purple cluster is focused on '*performance*' and '*information*', alongside '*model*', '*system*' or '*avoidance*'.

"*Technology*", "*ITC*" or "*industry*" appear in the yellow cluster, alongside "*tax evasion*" and "*behavior*".

The green cluster is shaped predominantly by factors or effects such as:

- Impact
- Growth or economic growth
- Sustainability
- CO^2 emissions
- Renewable energy
- Tax
- Internet
- Tax policy.

Figure no. 3. Results of bibliometric analysis - keyword analysis (network with at least 5 occurrences)



Source: own build in VOSviewer 1.6.20

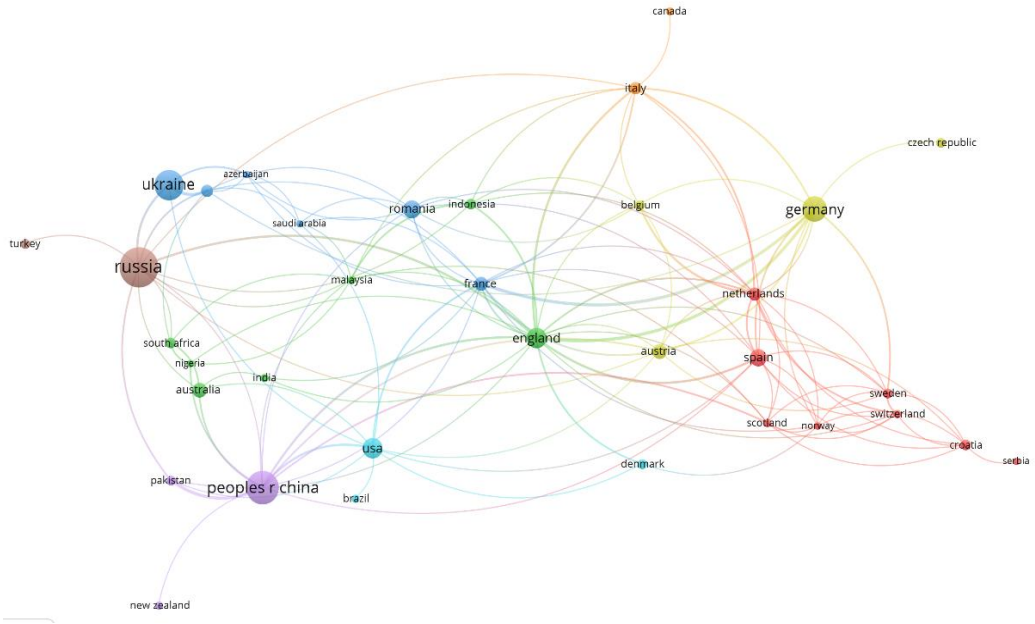
The connections revealed through both text and keyword analysis are logical connections, which can be explained by aspects and characteristics of the current world. As early as the 1980s, the literature spoke of financial (see, for example, Jene, 1980) or economic crime.

Frey & Weck (1983) or Schneider (1986) were already estimating the underground economy. This kind of interest is also relevant in today's economy, because the underground economy means revenue losses for states. Thus, fiscal digitalization is the basic feature of modern tax systems.

Against the backdrop of the Covid-19 pandemic, this has been accelerated, which has led to an increase in the quality of tax regulations, increased taxpayer compliance, and, obviously, higher tax collection.

By taking advantage of technological developments and IT innovation, administrations can build efficient, transparent digital tax systems that lead to better tax collection and thus to economic and social development.

Figure no. 4. Bibliometric analysis - country analysis



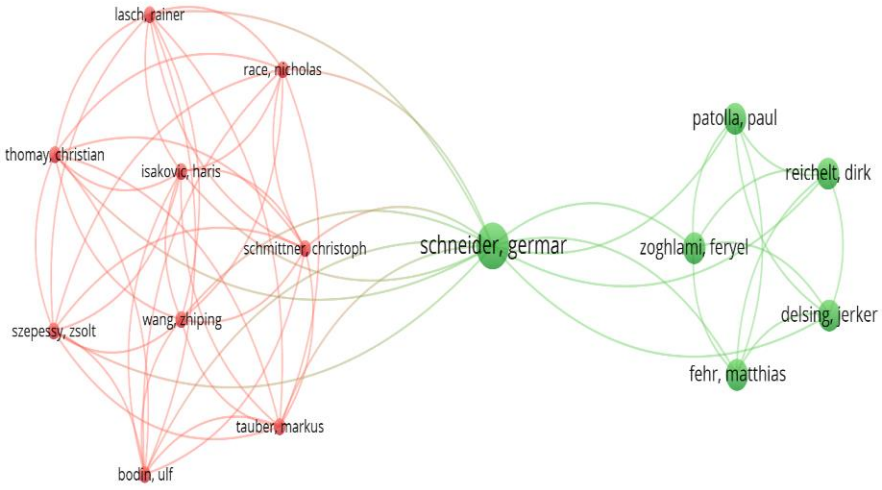
Source: own build in VOSviewer 1.6.20

Given that in the general analysis in Figure no. 1, we noticed that the names of three countries, China, Ukraine and Russia, also appear in the clusters, we also carried out the bibliometric analysis by country to confirm or refute that these countries were the most studied. Figure no. 4 shows these results.

Indeed, China is the country with the highest share in the sample, followed by Russia and Ukraine. Studies have also been done on Germany, USA, Romania, UK, among others.

In the last part of the bibliometric analysis we evaluated the authors and their network. Germar Schneider is the co-author with the most published studies in the field, as shown in Figure no. 5.

Figure no. 5. Bibliometric analysis - authors



Source: own build in VOSviewer 1.6.20

Methodology

In the bibliometric analysis, we revealed the most used terms in the literature and the relationships between them.

Digitization is a complex and much-discussed process, amid all the technological changes that have occurred over the last decades, but also the Covid-19 pandemic (which appeared as a node in the network of the text-based analysis in Figure no. 1), which facilitated the use of online applications and platforms through the restrictions that were imposed at the time.

In the following analysis, we attempt to summarize the most relevant indicators used in the literature as proxy variables to measure the level of digitization and fiscal digitization, respectively. The approach will be progressive, from simple to complex. The assessment of the level of fiscal digitization can be made, according to the literature, through various aspects.

Thus, for example, Antwi & Kong (2023) use the population share of internet users and mobile phone subscribers per 100 population as proxies for digital financial technologies, i.e., fiscal digitization. Hanrahan (2021) uses both the population share of internet users and the number of IPs issued. Also in this study, the author points out that, the commensuration of fiscal digitization is a difficult process due to the many facets it can take. In an attempt to show the impact of digitization on tax revenues, Hanrahan (2021) highlights that there is a need to construct synthetic indices that bring together multiple aspects of the tax digitization process in order to get a more comprehensive picture. There are a number of such indexes presented in the aforementioned study, respectively newer ones constructed either by international fora and bodies such as the OECD, the World Bank, etc., or by companies (such as the Global Digitalization Index constructed by Hauwei).

The variables used are assessed for the period 2011 to 2021, for which there were records of the chosen indicators for most countries in the world.

Simple indicators of fiscal digitization are stand-alone variables, but they cannot measure the digitization process in great detail.

On the other hand, tax digitization also implies the development of another type of security, namely digital security, which means secure servers that provide protection against the new threats brought by tax digitization - cyber attacks (Amzuică et al., 2023)

The European Union, through its statistical office, Eurostat (2025), provides a series of indicators related to the digitization process of the European Union, measured both through the eyes of citizens and economic agents. These can be found in the Digital Economy and Society group (https://ec.europa.eu/eurostat/web/digital-economy-and-society/database). Unfortunately, however, the data are only available for a limited number of countries - the members of the European Union and countries in the process of accession to the European Union.

In order to assess the relationship between digitization and development at the global level, in this analysis we will focus on two simple proxies, namely the ones we have encountered most frequently in the literature:

1. Population internet access as share of population having used the internet in the last 3 months (World Bank, 2025)

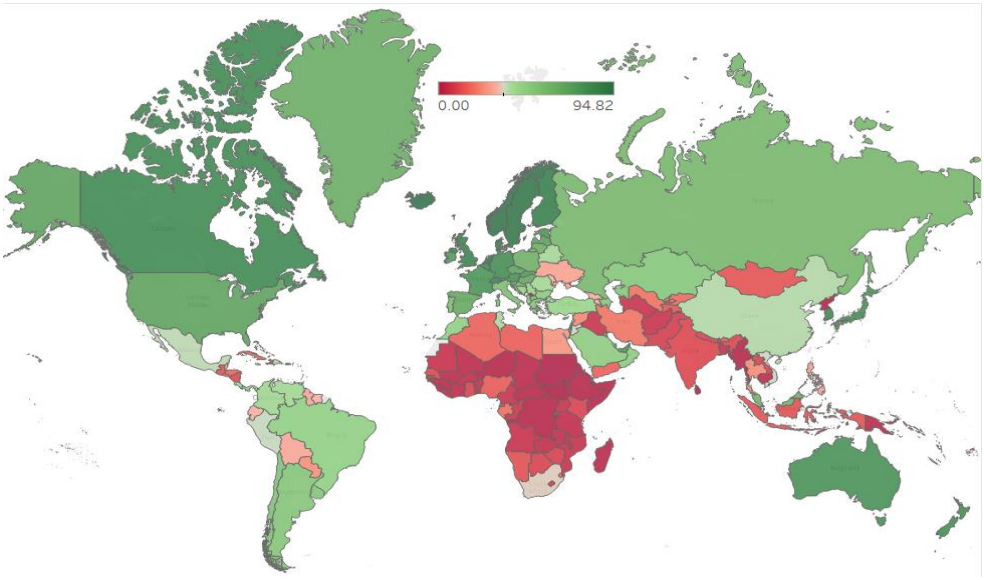
2. Servers with secure Internet access, variable given by the number of TSL/SSL certificates in the Netcraft Secure Server Survey (World Bank, 2025).

These two variables are available for the period analyzed for 217 countries worldwide.

The analyses carried out confirmed the findings of the literature - the number of internet users has increased significantly worldwide, from an average of 37% of the population using the internet in the last 3 months in 2011 to an average of 67.88% in 2021. While in 2011 there were countries with extremely low shares of less than 1% of the population having access to and using the internet, in 2021, the minimum share has increased by about 10 times to 9.64%. The maps in Figures no. 6 and no. 7 highlight the spatial clustering of internet users worldwide, but also the differences over time.

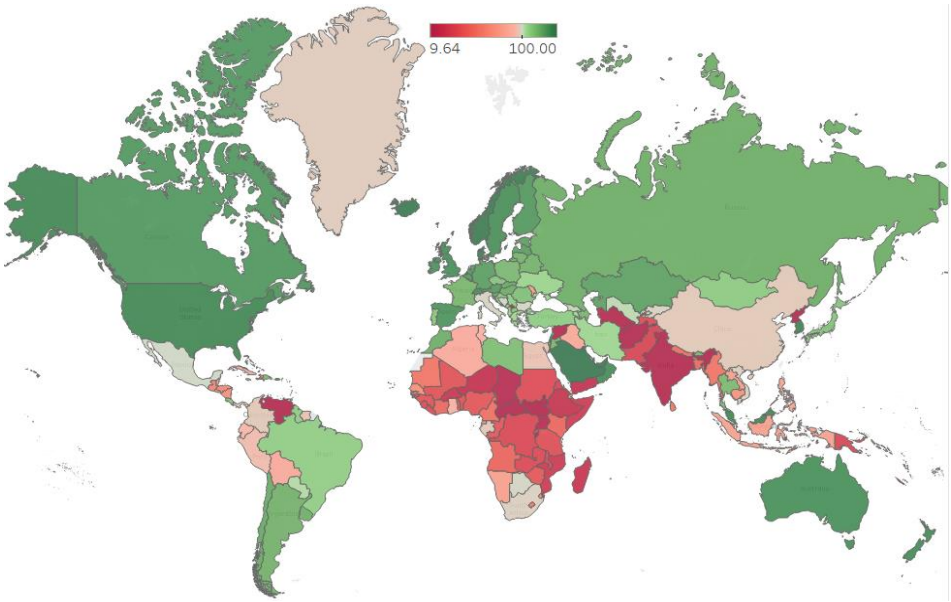
It can be seen that the share of Internet users in the population is, as expected, highest in European countries, Australia and North America, i.e. precisely in those countries that are known as developed countries. Africa and most Asian countries were well below the median. Over time, the level of internet access has increased, even in less developed countries, which is evidenced by the significant increase in the median value from 35% in 2011 to 75.63% in 2021.

Figure no. 6. Spatial distribution of the share of internet users in the population in 2011



Source: own construction in Tableau 2024

Figure no. 7. Spatial distribution of the share of internet users in the population in 2021

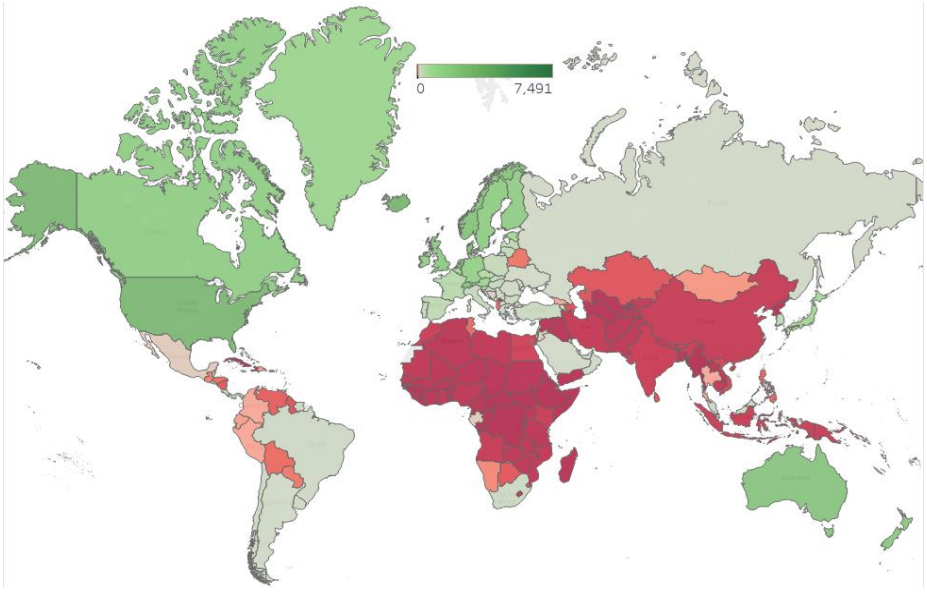


Source: own construction in Tableau 2024.3

The use of servers with secure Internet access, measured as the number per 1 million inhabitants, does not bring major changes in the spatial and chronological characteristics of digitization. Figure no. 8. shows that the situation is even more intensely clustered than for internet access, with Africa and most Asian countries having extremely low values in 2011. Countries such as Algeria, Niger or Mali in Africa and Iran or Turkmenistan in Asia did not have even 1 server with secure internet access per 1 million inhabitants in 2011. Even China and India had on average 2 such servers per 1 million inhabitants.

The Covid pandemic and the extremely intense development of digital solutions have made it necessary to implement secure servers (Figure no. 9). The evolution of the sector is also reflected in the descriptive statistics. The average in 2011 worldwide was 387 servers per country, with a median of 18. In 2021, these figures reached 24075 secure servers on average per country, respectively 625 median value. The most secure servers in 2011 were located in Lichtenstein - 7491 per 1 million inhabitants. In the year 2021, the maximum value was over tens of times higher, located in the British Virgin Islands and Belize.

Figure no. 8. Spatial distribution of servers with secure internet access in 2011



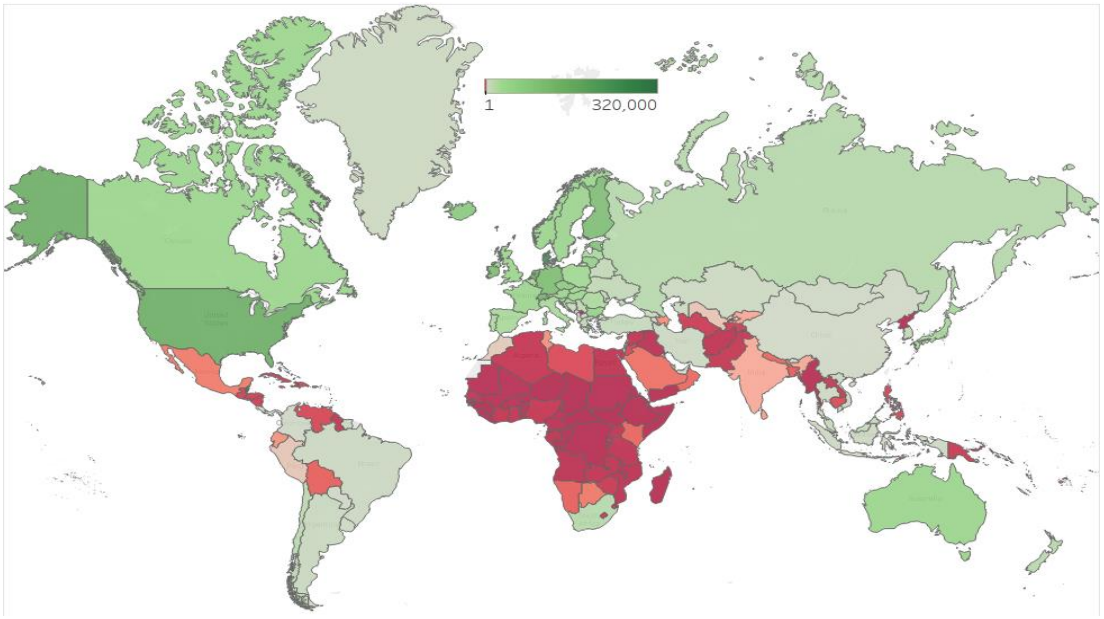
Source: own construction in Tableau 2024.3

Spatial characteristics are preserved, but many of the Asian countries move above the median for this variable.

The analysis of the digitization process based on the population's access to the Internet, i.e. the density of secure servers with TLS/ SSL certificates in the population, reveals a significant and positive link between the level of development of countries and the intensity of the digitization process in general and the fiscal digitization process in particular. Thus through visual analysis based on maps we have been able to confirm, in a simplistic and incipient way, the first direction of the link between fiscal digitalization and development.

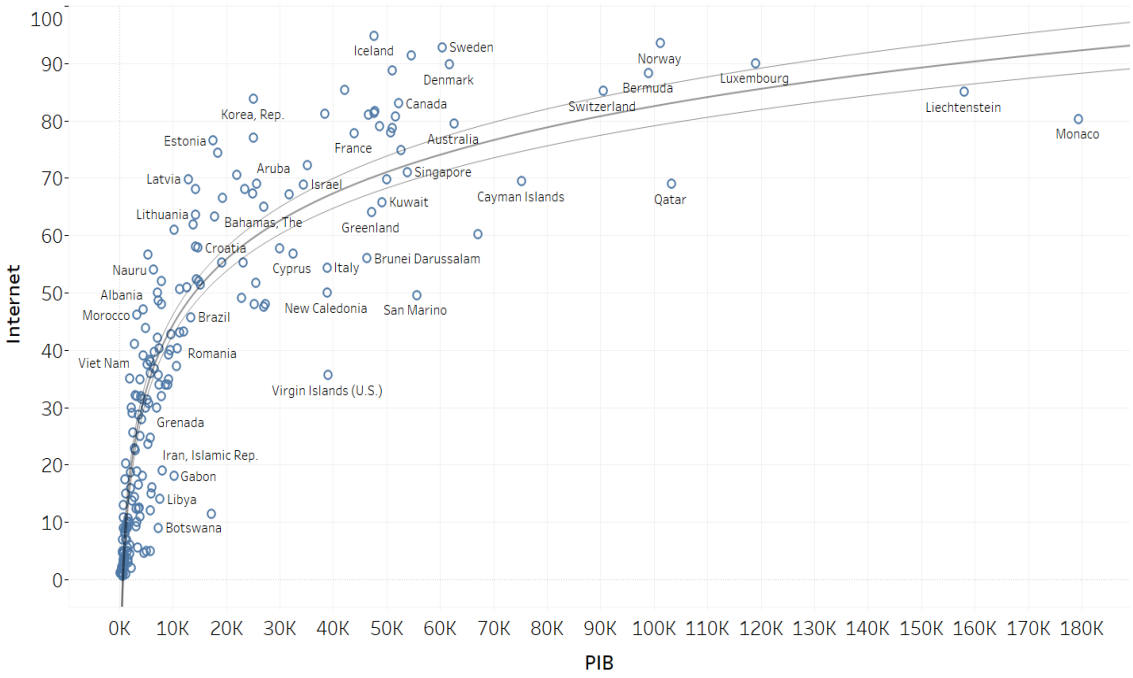
In order to confirm even more concretely the relationship between the level of development and the level of digitization, we present in Figures no. 10 and no. 11 the point clouds between the value of GDP per capita in 2011 and 2021, respectively, and the share of the population that has used the internet in the last 3 months.

Figure no. 9. Spatial distribution of servers with secure internet access in 2021



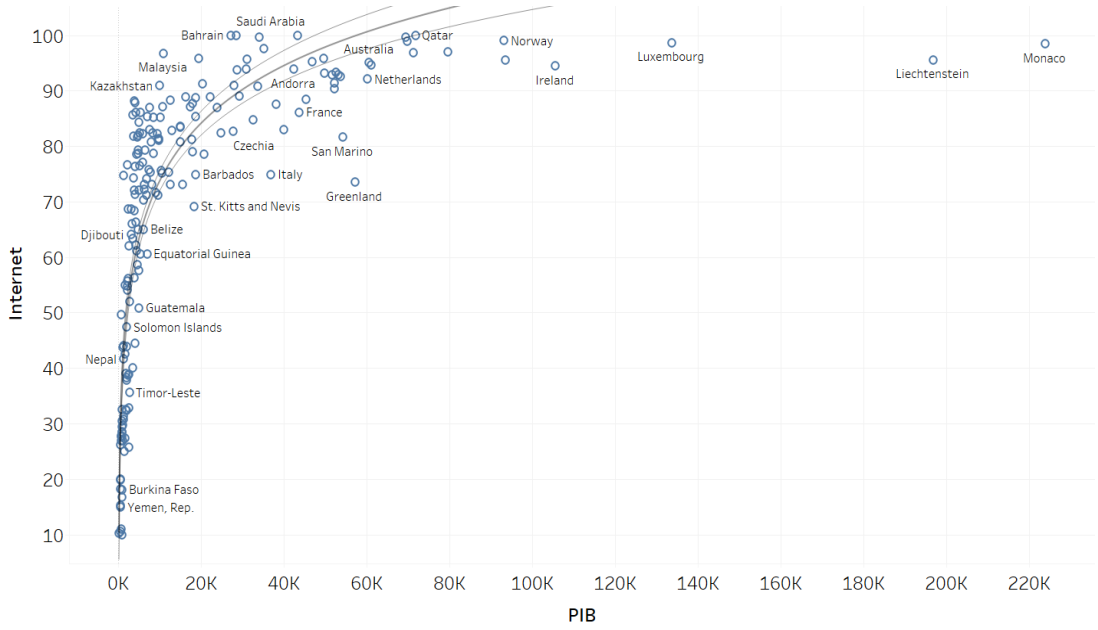
Source: own construction in Tableau 2024.3

Figure no. 10. Internet users versus GDP - 2011 point cloud



Source: own construction in Tableau 2024.3

Figure no. 11. Internet users versus GDP - point cloud for 2021



Source: own construction in Tableau 2024.3

Both Figure no. 10 and Figure no. 11 clearly show a positive relationship between GDP per capita and the share of the population having accessed the Internet in the last 3 months. The relationship is not linear, but log-linear, i.e. log-linear, which means that the factor variable, GDP per capita, is logarithmic. The two figures show both the estimated link function and the confidence interval for it at the 95% confidence level. The estimated equation has the form given by eq. (1), and the results are presented in Table no. 1:

$$Internet = \alpha + \beta * \ln(PIB) + \varepsilon \quad \text{ec. (1)}$$

The results in Table no. 1 show that, over time, the impact of the level of economic development, as measured by GDP per capita, has decreased. Thus, while in 2011, for the 217 countries analyzed, the GDP ratio was 16.59, in 2021 it falls to 14.98. Thus we can say that, on average, in 2011, a 1% increase in GDP per capita led to an increase in the level of internet usage of 0.16%, while in 2021, this average effect decreased to about 0.15%. The fact that the relationship between GDP and digitization given by this proxy weakens over time is due to the effect of other important aspects in the digitization process.

Table no. 1. Results of the regression analysis Internet versus GDP (eq. (1)), respectively Servers versus GDP (eq.(2))

	2011		**2021**	
Equation	**Ec. (1)**	**Ec. (2)**	**Ec. (1)**	**Ec. (2)**
Ln(GDP)	16,59*** (0,55)	1,75*** (0,06)	14,98*** (0,61)	1,64*** (0,08)

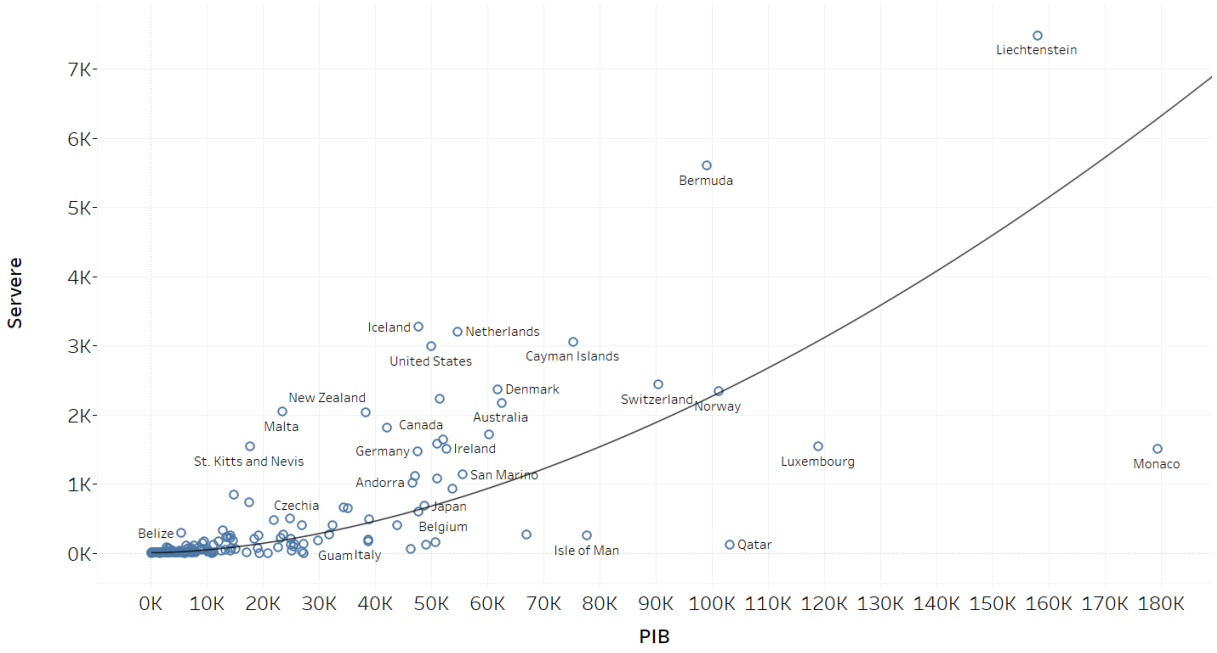
Constanta	-108,55*** (4,95)	-12,4*** (0,56)	-64,27*** (5,45)	-7,89*** (0,69)
R^2	81,73%	79,7%	76,6%	68,92%
N	217	217	217	217

*Coefficient*** (standard error)*

****, **, * significant at 1%, 5%, 10% significance threshold*

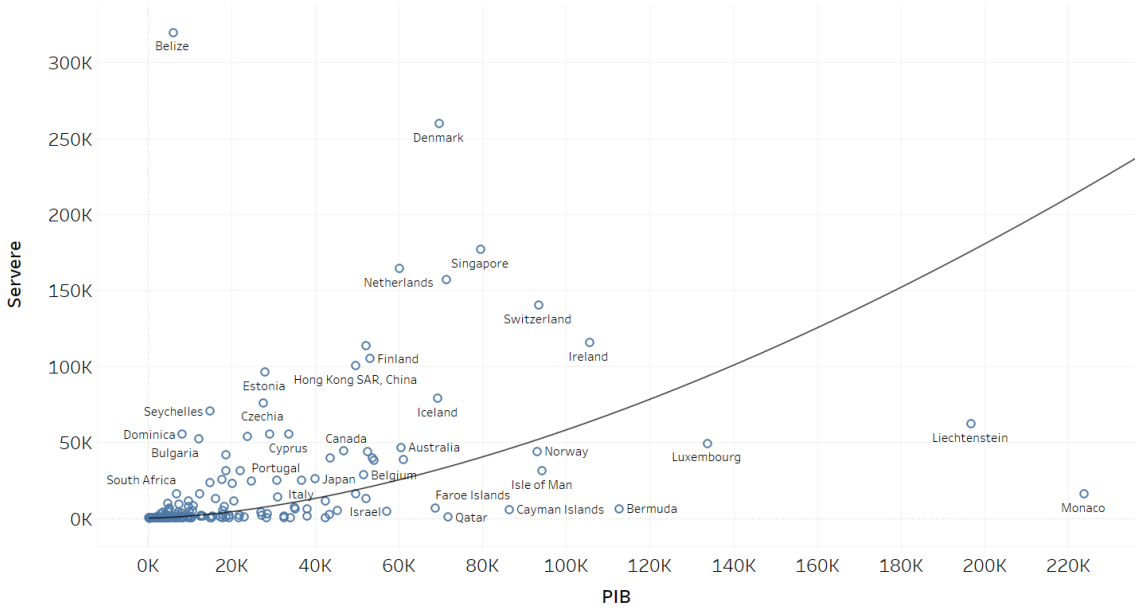
Source: own calculations in Tableau 2024.3

Figure no. 12. Secure servers versus GDP - 2011 point cloud



Source: own construction in Tableau 2024.3

Figure no. 13. Secure servers versus GDP - point cloud for 2021



Source: own construction in Tableau 2024.3

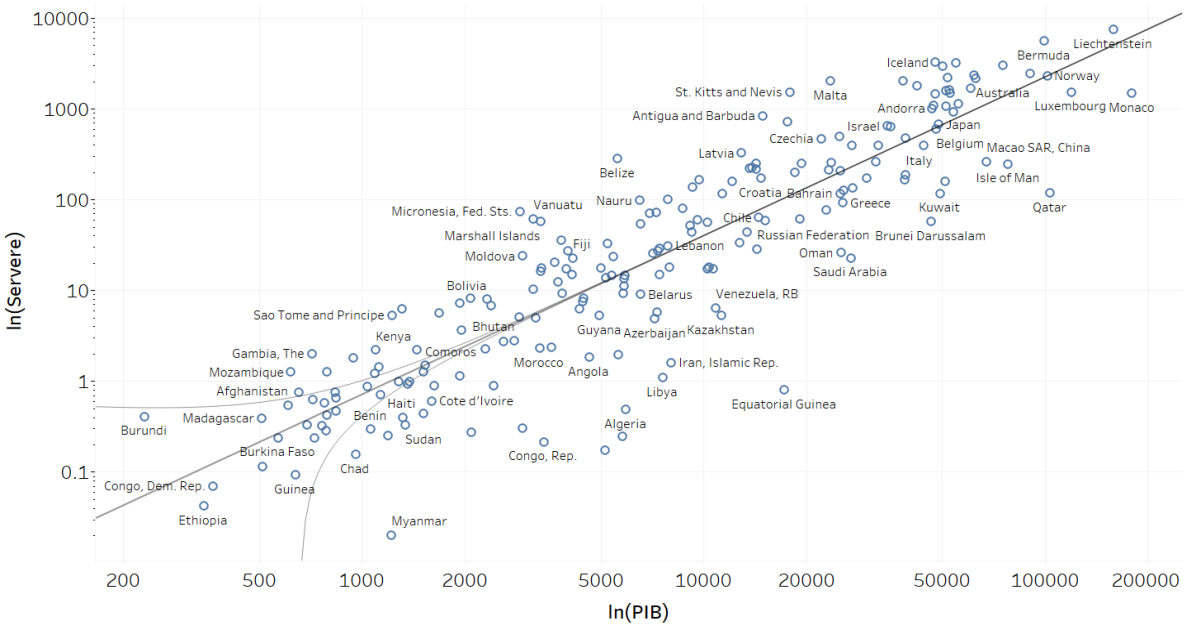
In the case of the second proxy for digitization, Secure Servers with TSL/ SSL certificates per 1 million inhabitants, the level of heterogeneity is even higher, as revealed by the maps in Figures no. 8 and no. 9, respectively, and as can be seen from the point clouds in Figures no. 12 and no. 13. Because of this high level of heterogeneity, the relationship between the two variables has to be evaluated either by a power function or by a linear function, this time applied to the logarithms of both variables. Logarithmization partially handles the value heterogeneity. The efficiency of the applied treatment can be seen in Figures no. 14 and no. 15.

The final estimated model for the impact of GDP/capita on digitization given the number of certified secure servers per 1 million inhabitants is given by eq. (2):

$$\ln(Servere) = \alpha + \beta * \ln(PIB) + \varepsilon \qquad \text{ec. (2)}$$

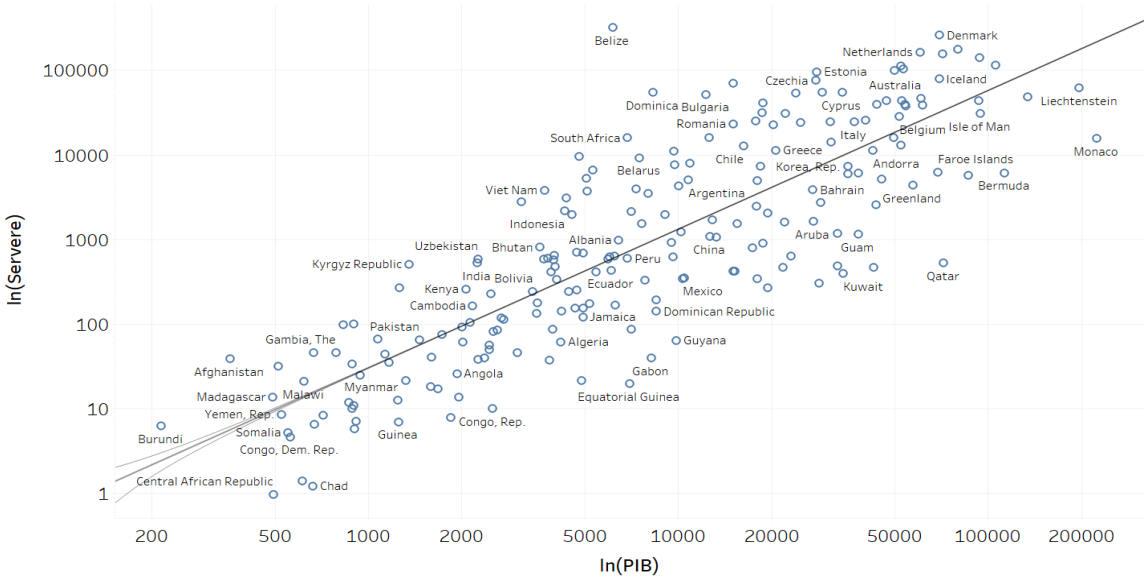
The results are shown in Table no. 1, in the column for this equation.

Figure no. 14. Secure servers versus GDP - 2011 point cloud for log values



Source: own construction in Tableau 2024.3

Figure no. 15. Secure servers versus GDP - 2021 point cloud for log values



Source: own construction in Tableau 2024.3

The same type of positive and statistically significant effect is also reproduced by the estimates run for eq. (2). Both coefficients, for the years 2011 and 2021, are positive and significant, showing that an increase in GDP per capita by 1% leads, on average, to a 1.75% increase in TSL/ SSL certified secure servers in a country in 2011. For the year 2021, the same effect of decreasing the impact of the level of economic development on the digitization process is observed, with the coefficient decreasing to 1.64%.

Table no. 2. Cluster composition for 2011

Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Afghanistan	Antigua and Barbuda	Albania	Andorra	Bermuda
Algeria	Aruba	Argentina	Australia	Cayman Islands
Angola	Bahamas	Armenia	Austria	Iceland
Bangladesh	Bahrain	Azerbaijan	Belgium	Liechtenstein
Belarus	Barbados	Belize	Canada	Luxembourg
Benin	Brunei Darussalam	Bhutan	Denmark	Netherlands
Bolivia	Chile	Bosnia and Herzegovina.	Finland	Norway
Burkina Faso	Croatia	Botswana	France	Switzerland
Burundi	Cyprus	Brazil	Germany	
Cambodia	Czech Republic	Bulgaria	Greenland	
Cameroon	Dominica	Cape Verde	Hong Kong	
Chad	Estonia	China	Ireland	
Comoros	Greece	Columbia	Japan	
Rep. Dem. Congo	Guam	Costa Rica	New Zealand Dollar	
Rep. Congo	Hungary	Rep. Dominican Republic	Singapore	
Ivory Coast	Israel	Egypt	Sweden	
Cuba	Italy	El Salvador	United Kingdom	
Djibouti	South Korea	Eswatini	USA	
Ecuador	Kuwait	Fiji		
Equatorial Guinea	Latvia	Georgia		
Eritrea	Lithuania	Ghana		
Ethiopia	Macao	Grenada		
Gabon	Malaysia	Guyana		
Gambia	Malta	India		
Guatemala	Mauritius	Jamaica		
Guinea	Poland	Jordan		
Haiti	Portugal	Kazakhstan		
Honduras	Puerto Rico	Lebanon		
Indonesia	Qatar	Maldives		
Iran	Slovakia	Mexico		
Iraq	Slovenia	Rep. Moldova		

Kenya	Spain	Montenegro		
Kiribati	Saint Kitts and Nevis	Morocco		
Kyrgyz Republic	Saint Lucia	Namibia		
Laos	Saint Vincent and the Grenadines	Nauru		
Lesotho	United Arab Emirates	North Macedonia		
Liberia	Uruguay	Oman		
Libya	Virgin Islands Amer.	Panama		
Madagascar		Peru		
Malawi		Philippines		
Mali		Romania		
Marshall Islands		Russian Federation		
Mauritania		Rwanda		
Micronesia		Samoa		
Mongolia		Saudi Arabia		
Mozambique		Serbia		
Myanmar		Seychelles		
Nepal		South Africa		
Nicaragua		Suriname		
Niger		Thailand		
Nigeria		Tonga		
Pakistan		Trinidad and Tobago		
Papua New Guinea		Tunisia		
Paraguay		Turkey		
Sao Tome and Princ.		Vanuatu		
Senegal		Vietnam		
Sierra Leone		West Bank and Gaza Strip		
Solomon Islands				
Somalia				
Syrian Arab Republic				
Tajikistan				
Tanzania				
East Timor				
Togo				
Turkmenistan				
Uganda				
Ukraine				

Uzbekistan				
Venezuela				
Republic of Yemen				
Zambia				
Zimbabwe				

Source: own construction based on clustering results

Table no. 3. Composition of clusters for 2021

Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Albania	Andorra	Antigua and Barbuda	Afghanistan	Bermuda
Algeria	Australia	Aruba	Angola	Liechtenstein
Argentina	Austria	Bahamas	Bangladesh	Luxembourg
Armenia	Belgium	Bahrain	Benin	Monaco
Azerbaijan	Canada	Barbados	Burkina Faso	
Belarus	Denmark	Bhutan	Burundi	
Belize	Estonia	Botswana	Cambodia	
Bolivia	Finland	Brunei Darussalam	Cameroon	
Bosnia and Herzegovina	France	Cape Verde	Rep. Central African Republic	
Brazil	Germany	Cayman Islands	Chad	
Bulgaria	Hong Kong	Chile	Comoros	
China	Iceland	Costa Rica	Rep. Dem. Congo	
Columbia	Ireland	Croatia	Republic of Congo	
Djibouti	Japan	Cyprus	Ivory Coast	
Dominican Republic	Netherlands	Czech Republic	Equatorial Guinea	
Ecuador	New Zealand Dollar	Dominica	Ethiopia	
Egypt	Norway	Fiji	Gambia	
El Salvador	San Marino	Georgia	Guatemala	
Eswatini	Singapore	Greece	Guinea	
Gabon	Sweden	Greenland	Guinea-Bissau	
Ghana	Switzerland	Grenada	Haiti	
Guyana	United Kingdom	Hungary	Honduras	
Indonesia	USA	Israel	India	
Iran		Italy	Iraq	
Jamaica		Jordan	Kenya	
Kazakhstan		South Korea	Lesotho	
Kiribati		Kuwait	Liberia	

Kyrgyz Republic		Latvia	Libya	
Laos		Lithuania	Madagascar	
Lebanon		Macao	Malawi	
Maldives		Malaysia	Mali	
Marshall Islands		Malta	Mauritania	
Mexico		Mauritius	Mozambique	
Micronesia		Nauru	Myanmar	
Republic of Moldova		Oman	Nepal	
Mongolia		Poland	Nicaragua	
Montenegro		Portugal	Niger	
Morocco		Puerto Rico	Nigeria	
Namibia		Qatar	Pakistan	
North Macedonia		Romania	Papua New Guinea	
Panama		Samoa	Sierra Leone	
Paraguay		Saudi Arabia	Solomon Islands	
Peru		Seychelles	Somalia	
Philippines		Slovakia	Sudan	
Russian Federation		Slovenia	Tajikistan	
Rwanda		Spain	Tanzania	
São Tomé and Principe		Saint Kitts and Nevis	East Timor	
Senegal		Saint Lucia	Togo	
Serbia		Saint Vincent and the Grenadines	Turkmenistan	
South Africa		Tuvalu	Uganda	
Sri Lanka		United Arab Emirates	Venezuela	
Suriname		Uruguay	Yemen	
Thailand		US Virgin Islands	Zambia	
Tonga			Zimbabwe	
Trinidad and Tobago				
Tunisia				
Turkey				
Ukraine				
Uzbekistan				
Vanuatu				
Vietnam				
West Bank and Gaza Strip				

Source: own construction based on clustering results

Conclusions

The aim of this article was to relate tax digitization to the level of development. We started with a bibliometric analysis showing that digitization is the keyword with the highest weight in studies relevant to tax digitization. It is related to taxation, tax administration, digital economy, but also to efficiency, growth performance or sustainability. The fact that tax digitization emerged against the background of intense technological development and innovation in the IT sector through the development of artificial intelligence procedures is also revealed by the relationships between the keywords. But all this has intensified in the wake of the Covid pandemic-19. The restrictions imposed by the pandemic have forced authorities to find ways of compliance that do not involve social interaction. So public authorities quickly had to turn their attention to digital platforms and solutions.

The analysis of the texts returned the highest weight for the word "impact", which shows that, in fact, the main focus of most studies related to tax digitization is its impact, in the short or long term and in various sectors of everyday life. The integration of digital technologies in taxation (e.g. blockchain) has led to a decrease in the burden on taxpayers by easing the procedures for declaring income, but also for calculating or paying taxes. Thus, tax digitization has increased the efficiency of the state revenue collection process by increasing tax compliance. Tax digitization is also leading to a significant increase in transparency in the tax sector, which, among other things, results in better prediction of fraud attempts. Through all of this, the state actually manages to reduce tax evasion, which, in the long term, has the main effect on economic stability.

Legal system and political stability, through various proxies, are also among the important keywords in the literature. On the one hand, tax regulations must support the implementation of tax digitalization. On the other hand, these regulations must also be able to combat problems that may arise. It is already known that digitization comes at a cost, namely that of digital security. Another problem of the digital world that related legislation needs to address is the online business environment. Unlike the classic business environment, the online business environment has various loopholes.

So legal regulations need to ensure that online, digital businesses are also well regulated in terms of their obligations.

Using our methods of analysis, we have shown that there is a significant positive relationship between a country's level of development as measured by GDP per capita and Internet use, i.e. the existence of secure, certified servers that enable digitization, but the strength of this relationship has declined over time. The result is to be expected. As with any technological process, initially the implementation costs are high and the public's reluctance to the new is high. As time goes by, the technology becomes more and more accessible, but there is also a diffusion process, both among the general public and in the public administration or business environment. Implicitly, the level of development loses influence and other aspects become more important in the digital transformation process. Moreover, the relationship can be reversed, as we have shown that the literature currently discusses, and the level of digitization becomes a significant factor for sustainable economic development, i.e. for effective governance.

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