

# **THE POSSIBLE OUTCOMES OF E-INVOICING ON TAX COLLECTION AND IMPACT ON FUTURE OF ROMANIAN TAX SYSTEM**

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## **Abstract**

The research investigates the potential outcomes of e-invoicing on tax collection and its implications for the future of the Romanian tax system. Employing a comprehensive approach, the study combines theoretical frameworks with a comparative analysis of countries that have already applied e-invoice. Initially, it reviews significant research in the field, utilizing bibliometric analysis to identify key contributions. The bibliometric analysis was implemented based on the Web of Science database. Subsequently, it examines the evolution of e-invoicing globally, comparing tax revenues before and after its implementation in various countries to discern its impact. In this regard, the statistical data was extracted from The World Bank and Eurostat databases. Additionally, it provides an overview of electronic invoicing specifically within the context of Romania. The methodology involves a comparative analysis of tax revenue data and the progression of e-invoicing adoption which was represented according to data from the Romanian Ministry of Public Finance. This study aims to assess whether e-invoicing has a positive or negative effect on tax collection and to offer insights into its potential implications for the Romanian tax system.

## **Keywords**

e-invoicing, tax collection, tax system, comparative analysis, policy implications.

## **JEL Classification**

H20, H26.

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## **Introduction**

In today's digital age, electronic invoicing (e-invoicing) has emerged as a transformative tool in tax administration, promising to jeopardize processes, enhance transparency, and improve compliance, and tax collection. The adoption of e-invoicing shows a significant change in how businesses interact with tax authorities, with potential implications for the future of global tax collection systems. This research paper discusses the possible

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outcomes of e-invoicing on tax collection, with a specific focus on its evolution and benefits for the Romanian tax system. Additionally, the paper proposes a hypothesis: "H1: The adoption of e-invoicing in Romania will lead to a reduction in tax evasion, improved tax compliance, and increased tax collection efficiency." This hypothesis suggests that implementing e-invoicing in Romania will result in positive outcomes for tax administration, aligning with the global trend observed in various countries where e-invoicing has been implemented.

The importance of this research lies in its exploration of a critical intersection with modern tax systems, where technological developments meet with traditional fiscal policies. Understanding the implications of e-invoicing on tax collection is crucial for policymakers, tax authorities, businesses, and researchers. By analyzing empirical data and theoretical frameworks, this research aims to provide significant data on the potential benefits and challenges associated with the adoption of e-invoicing in Romania and its broader implications for tax systems worldwide.

The research methodology that is implemented in this paper combines theoretical analysis, comparative analysis of empirical data, and bibliometric analysis. Theoretical frameworks from relevant literature are utilized to contextualize the discussion and establish a theoretical foundation for understanding the impact of e-invoicing on tax collection. Additionally, a bibliometric analysis is conducted to identify and evaluate key research studies in the field, providing a comprehensive overview of existing knowledge and research trends.

The primary objectives of this research paper include:

1. To review and analyze important research studies and theoretical frameworks related to e-invoicing and tax collection.
2. To examine the evolution of e-invoicing and its impact on tax collection in selected countries, comparing tax revenues before and after implementation of e-invoicing.
3. To provide an overview of electronic invoicing practices in Romania, including current information on e-invoice transmission, challenges, and opportunities.

By exploring the theoretical framework, conducting a comparative analysis of e-invoicing evolution and its impact on tax collection across various countries, and examining the current state of electronic invoicing in Romania, this research contributes to a comprehensive understanding of the transformative potential of e-invoicing on tax administration.

## **1. Review of the scientific literature**

The implementation of electronic invoicing (e-invoicing) has gained significant attention in recent years as governments and businesses seek to modernize tax administration and streamline business processes. E-invoicing refers to the electronic generation, transmission, and processing of invoices between trading partners. Its implementation has been motivated by the potential to reduce administrative burdens, enhance efficiency, and improve compliance with tax regulations. This section provides a comprehensive review of existing literature on e-invoicing, tax collection, and related topics, with a particular focus on studies examining the impact of e-invoicing on tax compliance, evasion, and avoidance in various countries.

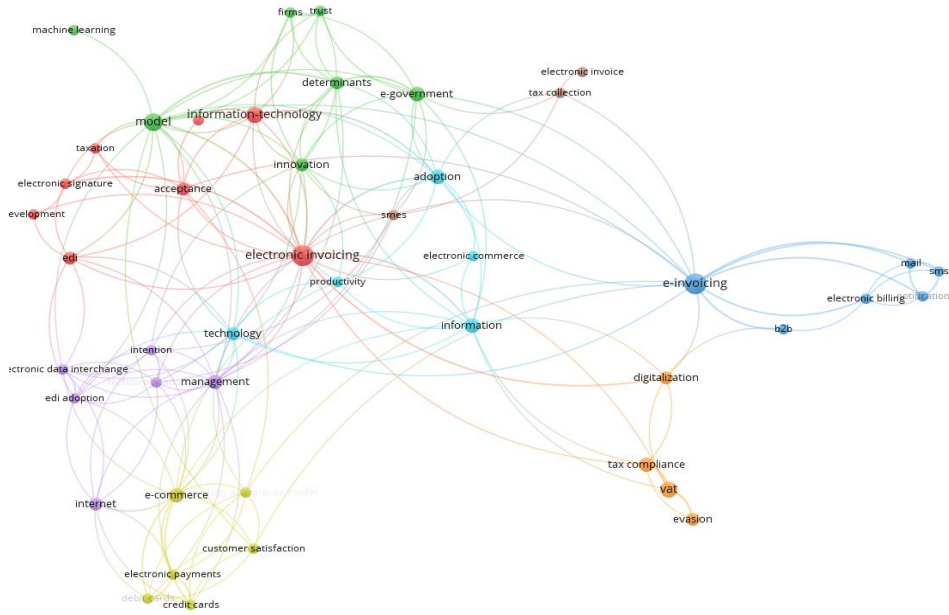
More than 50 nations around the world have already introduced e-invoicing for value-added tax (VAT), including in Latin America and the Caribbean, motivated by the potential to improve tax compliance while lowering transaction and monitoring costs according to Barreix and Zambrano (2018). Their research in five Latin American countries shows that e-invoicing increases earnings, sales, and tax collection.

Ramírez-Álvarez, Oliva, and Andino (2022) conducted a study that evaluates the impact of electronic invoicing on tax compliance in Ecuador by using the method of difference-in-differences (DID). Their result also showed that the electronic system has a positive influence on purchases, sales, and taxes. Another study from Heinemann and Stiller (2024) investigated the impact of the implementation of electronic invoicing (e-invoicing) on tax compliance and cross-border tax fraud in Italy. They analyzed the introduction of mandatory e-invoicing in 2019 and its effect on cross-border value-added tax (VAT) fraud, using the trade data gap (TDG) as a proxy for fraud. Their findings revealed a significant decline in cross-border fraud following the adoption of e-invoicing, leading to an estimated decrease in Italian VAT losses of €2.2 billion to €2.6 billion in 2019 compared to 2018. This suggests that e-invoicing has the potential to effectively combat tax fraud and improve tax revenue collection. The study underscores the TDG as a valuable approach for evaluating anti-fraud measures and provides important insights into the effectiveness of e-invoicing as a policy tool for enhancing tax compliance.

The study by Harefa, Manurung, and Harefa (2023) aimed to investigate the perceptions of Taxable Entrepreneurs (PKP) and Tax Service Offices (KPP) regarding the implementation of e-invoicing and its impact on taxpayer compliance. KPP found e-invoicing helpful in real-time control of tax invoices but couldn't confirm its impact on improving compliance, especially in tax calculations. However, it was observed that e-invoicing could enhance administrative compliance, potentially increasing tax revenue.

Vieira et al. (2019) investigated the effects of the Electronic Invoice program on the increase of state collection in Goiás, Brazil. Their findings revealed that the average tax collection in Goiás was significantly higher after the introduction of the Electronic Invoice program, and the increase in collection from companies required to issue electronic invoices was greater compared to those not mandated to do so. Despite the program's primary focus not being on increasing tax collection, the study suggests that the institutionalization of a program of standardization and sharing of fiscal documents contributed to improvements in tax administration inspection processes, thereby reducing tax default and boosting state tax collection.

The co-occurrence type of bibliometric analysis is used in the context of understanding the relationships between concepts of e-invoice and taxation. It assists in determining the key themes, topics, and concepts that are frequently connected with tax compliance. Co-occurrence analysis is implemented to examine the relationship between the keyword "electronic invoice" and taxation in academic literature. The frequency of co-occurrence of "e-invoice" with other keywords related to taxation is measured to identify the most prominent themes and connections within the literature.

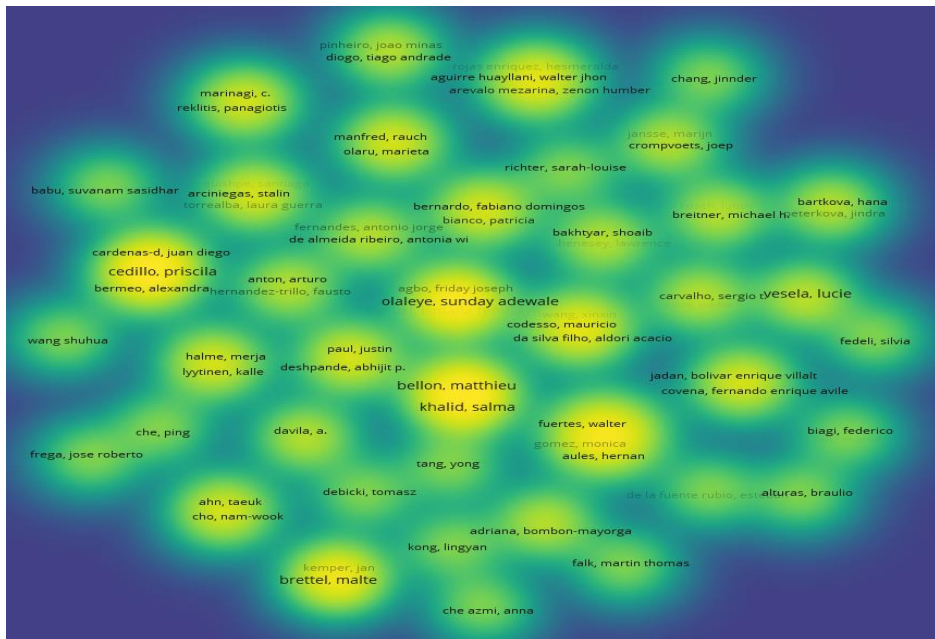


**Figure no. 1. The co-occurrence type of Bibliometric analysis for electronic invoicing (2014-2024).**

*Source:* Author's contribution in VOSviewer based on information from the Web of Science database.

The results of co-occurrence analysis for the keyword "electronic invoice" define several main connections. There are 45 items associated with the taxation topic, and 8 clusters indicate that the literature on e-invoices contains diverse themes and subtopics, each with its different characteristics and relationships (figure no.1).

The total of 177 links and a link power of 207 provides a high level of connectivity between the various keywords and concepts within the literature on electronic invoices. The keyword "electronic invoice" appeared in the dataset, with a total link strength of 44 and 34 links. This indicates that e-invoice is one of the highly relevant concepts within the literature, with powerful connections to other subjects such as tax evasion, compliance, VAT, electronic billing, households, information, technology, and digitalization. The interpretation of the clusters and connections identified in the analysis may assist researchers enhance their understanding of e-invoicing dynamics and its relationship with taxation.



**Figure no. 2. The co-authorship type of Bibliometric analysis for electronic invoice (author as a unit, data for the period 2014-2024).**

*Source:* Author’s contribution in VOSviewer based on information from the Web of Science database.

There are significant contributions by authors on the connection between electronic invoices and taxation in the last ten years (figure no.2). The size of the node illustrates the total amounts of publications published by that author and the yellow author refers to a high number of citations for their publication. One of the most cited publications (16 times) is by Bellon et al. (2022) which examines the impact of a VAT e-Invoicing reform in Peru on tax compliance in their IMF Working Paper. The paper uses a quasi-experimental variation to analyze the influence of new developments in the tax system of Peru. The findings demonstrate a 5 percent increase in reported sales, acquisitions, and VAT liabilities of enterprises after the introduction of e-invoicing in the first year. It proves that e-invoicing boosts compliance by reducing tax compliance costs and empowering deterrence.

The research paper by Zhang and Wang (2017) studies the utilization of electronic invoices in China's Taiwan region, China, and the European Union, highlighting the diverse perspectives and forward-looking suggestions proposed in existing studies. The analysis emphasizes the interplay between theory and practical promotion of electronic invoicing, particularly its impact on tax collection and tax reform. The findings suggest that electronic invoicing strengthens taxation in e-commerce, reduces costs, enhances environmental sustainability, improves tax collection efficiency, and facilitates government informatization. However, challenges persist in China's adoption of electronic invoicing, including limited understanding of the concept, issues with

reimbursement processes, and discrepancies between electronic invoicing applications and existing management models. These issues warrant further examination and analysis. Qi, Y., and Che Azmi, A. (2021) explore the important factors affecting the adoption of e-invoices and their influences on the tax compliance of households. The findings reveal that perceived benefits and trust in e-government positively influence the adoption of electronic invoices. Additionally, the adoption of electronic invoicing was found to have a positive impact on the overall efficiency of the tax compliance process. Furthermore, the factors influencing the adoption of electronic invoices can also mediate the relationship between adoption and tax compliance process efficiency.

In conclusion, various studies examine the impact of electronic invoicing (e-invoicing) on tax compliance and tax collection processes across different countries. It highlights research findings from multiple regions, including Latin America, Italy, Brazil, Peru, China, Taiwan, and the European Union. Several studies, such as those by Barreix and Zambrano (2018), Ramírez-Álvarez et al. (2022), Heinemann and Stiller (2024), and Vieira et al. (2019), demonstrate the positive effects of e-invoicing on tax collection efficiency, compliance, and reduction of tax fraud. Additionally, the research discusses the use of co-occurrence bibliometric analysis to understand the relationship between e-invoicing and taxation in academic literature, highlighting key themes and connections. Notably, it mentions the significant contributions of authors in this field, including Bellon et al. (2022) and Zhang and Wang (2017). Furthermore, Qi and Che Azmi (2021) explore factors influencing the adoption of e-invoices and their impact on tax compliance efficiency, revealing the importance of perceived benefits and trust in e-government. Overall, the study underscores the growing importance of e-invoicing in modern tax administration and its potential to enhance tax compliance processes worldwide.

## **2. Research methodology**

The research methodology that was implemented in this study encompasses various techniques and procedures to explore the potential outcomes of e-invoicing on tax collection and its implications for the Romanian tax system. The methodology is structured to achieve the objectives outlined in the research paper while utilizing appropriate research instruments.

A comprehensive literature review was conducted to identify and analyze existing research studies and theoretical frameworks related to e-invoicing, tax collection, and related topics. Web of Science database was utilized to gather relevant literature, providing a theoretical foundation for understanding the impact of e-invoicing on tax collection. Additionally, a co-occurrence bibliometric analysis method was conducted to understand the relationship between e-invoicing and taxation in academic literature. This analysis involved identifying key themes, topics, and concepts frequently associated with e-invoicing and taxation, utilizing visualization techniques to represent the clusters and connections identified in the analysis. The bibliometric analysis was realized through the application called VOSviewer.

Comparative analysis of empirical data was then undertaken to examine the evolution of e-invoicing and its impact on tax collection in selected countries. Statistic data from important sources such as The World Bank and Eurostat were collected to compare tax revenues before and after the implementation of e-invoicing in various countries. This

analysis aimed to discern trends in tax collection efficiency associated with e-invoicing adoption.

An overview of electronic invoicing practices in Romania was provided by gathering information from the Romanian Ministry of Public Finance. Data from the RO E-Factura system was analyzed to understand the adoption and processing of electronic invoices in Romania.

By applying a comprehensive research methodology, this study aims to contribute valuable insights into the potential outcomes of e-invoicing on tax collection and its implications for the Romanian tax system.

### **3. Results and discussions**

#### **3.1. Evolution of e-invoicing and its impact on tax collection.**

In recent years, many countries have accepted e-invoicing as a method to modernize tax collection and improve efficiency. In this chapter of the research paper, the impact of implementing e-invoices on tax collection will be analyzed across various countries. It will explore how this digital shift has affected overall revenue from taxation for governments.

It is important to acknowledge that, due to the recent implementation in Romania, this chapter will not be able to explore the direct impact of e-invoicing on the country's tax revenue. However, examining established e-invoicing systems in other countries can be an asset to gain valuable information into potential benefits such as increased efficiency, reduced fraud, and ultimately, improved tax collection.

Latin American countries, specifically Argentina, Brazil, Chile, and Mexico, are early adopters in the implementation of e-invoicing. Chile adopted e-invoicing in 2003. The maturity of Chile's e-invoicing systems suggests that they have likely encountered and addressed various challenges in adoption, integration, compliance, and regulatory framework that any system may face during the initial stages of implementation. In the year 2021, the trend of e-invoicing adoption among several Asian countries such as Vietnam, South Korea, Japan, and the Philippines indicates a growing recognition of the benefits of electronic invoicing in modernizing business processes, enhancing efficiency, and improving tax compliance. Additionally, Singapore is a notable example of an Asian country that has already embraced e-invoicing for over a decade. This demonstrates Singapore's forward-thinking approach to leveraging technology to streamline administrative processes and foster innovation in business practices.

Denmark was the first European country to apply e-invoicing in 2005, followed by other Nordic countries shortly after that. Subsequently, Austria and Italy implemented mandatory e-invoicing for business-to-government (B2G) transactions in 2014. Slovenia and Spain also accepted mandatory e-invoicing for B2G relations in 2015.

Overall, there are 3 models of e-invoicing according to the application of this system in several countries (Comarch, 2024).

**Table no. 1. Models of e-invoicing**

<b>Model</b>	<b>Description</b>	<b>Countries/Applicability</b>
Post-Audit	Allows freedom to choose the e-invoicing method and format. Invoices must meet integrity, authenticity, and legibility requirements.	Parts of Asia, Europe, Canada
Clearance	Requires mandatory e-invoicing with specific technical integration requirements. Invoices are reported and authorized electronically before or during the exchange.	Türkiye, Italy, Latin America
Hybrid	Combines elements of both post-audit and clearance models. Suppliers can send invoices in their preferred format, but all invoices must be reported to tax authorities in real-time. Not mandatory.	Hungary

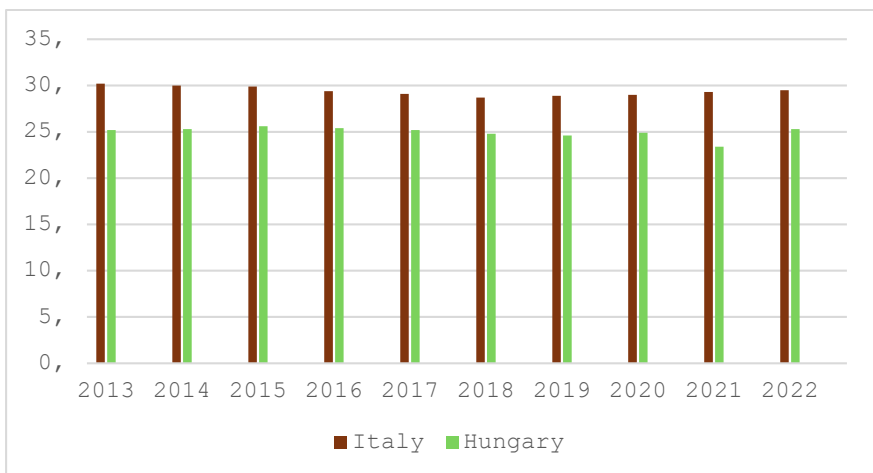
*Source:* Comarch.com, Global Compliance. Available in

<https://www.comarch.com/trade-and-services/data-management/e-invoicing/global-compliance/> accessed in 17.03.2024.

There are three models of e-invoicing: post-audit, clearance, and hybrid. The post-audit model allows businesses to choose their e-invoicing method and format while ensuring authenticity and integrity (table no.1). It's common in Europe, Canada, and parts of Asia. In contrast, the Clearance model mandates e-invoicing, with invoices reported and authorized electronically, prevalent in countries like Italy and Turkey. The Hybrid model combines aspects of both, allowing flexible invoicing formats but requiring real-time reporting to tax authorities, as seen in Hungary. Romania's e-invoicing aligns with the Clearance model, requiring electronic invoices for B2G and B2B transactions, utilizing specific formats, and likely requiring electronic reporting and authorization through platforms like RO e-Factura.

Starting from April 1, 2021, it has become mandatory to disclose data for all invoices issued in Hungary, while electronic invoicing for business-to-government (B2G) and business-to-business (B2B) transactions isn't compulsory, there's a requirement for real-time invoice reporting (RTIR). Under the RTIR system, electronic invoicing isn't strictly mandated but is allowed. Nevertheless, companies must promptly report a specified portion of each invoice to the tax authorities in a predefined format shortly after issuance and delivery to the buyer. Another European country Italy became the first EU country to enlarge this regulation to all business-to-business (B2B) relations. The tax revenues for those countries are illustrated in the following graph.



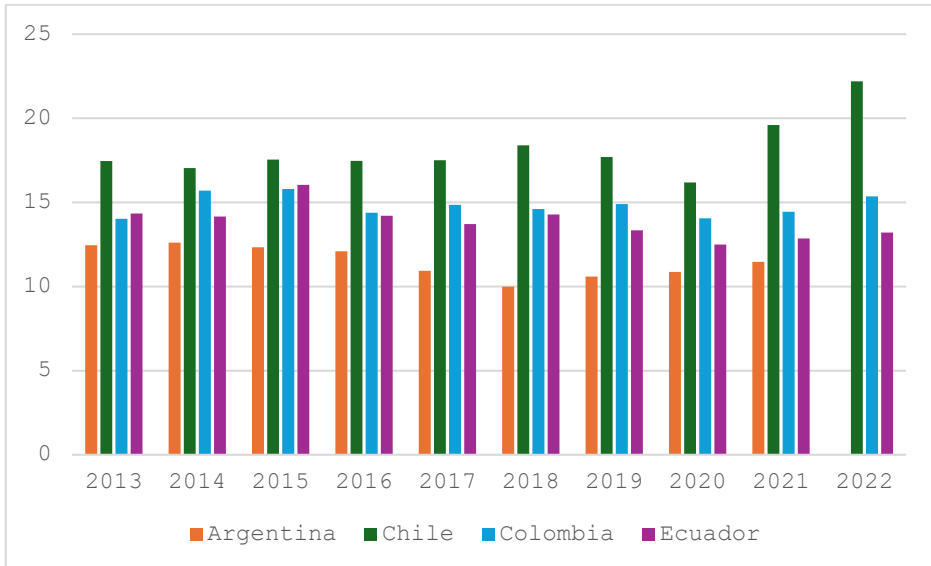


**Figure no. 3. Tax revenues for Italy and Hungary, as % of GDP for 2013-2022.**

Source: Authors' representation based on a database of Eurostat, Tax main aggregates, available in

[https://ec.europa.eu/eurostat/databrowser/view/gov\\_10a\\_taxag\\_custom\\_10432309/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/gov_10a_taxag_custom_10432309/default/table?lang=en) accessed in 17.03.2024.

Before the implementation of e-invoicing, Italy's tax revenues as a percentage of GDP were gradually declining, from 30.2% in 2013 to 28.7% in 2018 (figure no. 3). However, after the introduction of mandatory e-invoicing in 2019, there was a slight increase in tax revenues, reaching 29.0% in 2020 and further rising to 29.5% in 2022. This suggests that the implementation of e-invoicing may have contributed to stabilizing and even slightly improving tax collection in Italy. On the other hand, Hungary saw fluctuations in tax revenues before the implementation of e-invoicing in 2021. Tax revenues as a percentage of GDP ranged from 25.2% in 2013 to 24.6% in 2019. After the introduction of e-invoicing, which included real-time invoice reporting (RTIR), there was a notable decrease in tax revenues to 23.4% in 2021, followed by a rebound to 25.3% in 2022. This indicates that while the implementation of e-invoicing in Hungary may have initially led to a decrease in tax revenues, subsequent adjustments, and adaptations could have contributed to a recovery in tax collection in the following years.



**Figure no. 4. Tax revenues for selected Latin American countries, as % of GDP for 2013-2022.**

*Source:* Authors' representation based on a database of The World Bank, Tax revenue, available in <https://data.worldbank.org/indicator/GC.TAX.TOTL.GD.ZS> accessed in 17.03.2024.

The tax revenue as a percentage of GDP shows a fluctuating trend over the years (figure no.4). Before the mandatory implementation of e-invoicing in 2015, tax revenues experienced slight fluctuations but generally remained around 12% to 13% of GDP in Argentina. After the implementation, there was a noticeable decrease in tax revenues, possibly due to transitional challenges or initial resistance to the new system. However, in subsequent years, there seems to be a gradual recovery, with tax revenues increasing and stabilizing around 11% to 12% of GDP by 2022. In Chile, before the mandatory adoption of e-invoicing in 2018, tax revenues were relatively stable, hovering around 17% to 18% of GDP. After the implementation, there was a significant increase in tax revenues, reaching 22.2% of GDP by 2022. This suggests that e-invoicing positively impacted tax collection efficiency and compliance, leading to higher revenue generation for the government. Tax revenues in Colombia showed a slight upward trend before the mandatory implementation of e-invoicing in 2020. After the implementation, there was a noticeable increase in tax revenues, reaching 15.35% of GDP by 2022. This indicates that e-invoicing contributed to improved tax collection outcomes, possibly by reducing tax evasion and enhancing transparency in financial transactions. Tax revenues in Ecuador exhibited some fluctuations before and after the implementation of e-invoicing in 2015. However, there seems to be a gradual decline in tax revenues over the years, stabilizing around 13% of GDP by 2022. While e-invoicing may have contributed to better tax administration practices, other factors such as economic conditions and policy changes could have influenced tax revenues during this period. Overall, the implementation of e-

invoicing appears to have had a positive impact on tax revenues in Argentina, Chile, and Colombia, leading to increased revenue generation and improved tax collection efficiency.

As a result, the implementation of e-invoicing has varied impacts on tax revenues across different countries. While Italy's mandatory e-invoicing stabilized tax revenues, Hungary saw fluctuations post-implementation. In Latin American countries, such as Chile, e-invoicing led to significant revenue increases, while Ecuador experienced a gradual decline. Overall, e-invoicing appears to positively impact tax collection efficiency and revenue generation.

### **3.2. Overview of electronic invoicing in Romania and its future benefits.**

In line with global efforts to modernize tax administration and enhance transparency, Romania has embraced electronic invoicing. Examining the system's functionalities, timelines, and potential impact on businesses and tax collection will allow us to understand several key aspects of e-invoicing in Romania.

The Ministry of Finance and the National Agency for Fiscal Administration initiated the "E-invoice - mandatory electronic invoicing system" project in March 2020 to streamline tax and fee collection, focusing on improving and consolidating VAT collection and combating tax evasion. This initiative comes in the context of accelerated digitization, bringing new business opportunities and interaction with public institutions. Inspired by the Italian model of electronic invoicing, the Romanian project aims to implement the system gradually. As of January 1, 2024, electronic invoicing for business-to-business (B2B) transactions has commenced. Furthermore, the deadline for transmitting issued invoices for goods deliveries and services provided in Romania through the national electronic invoicing system, RO e-Invoice, is within 5 working days from the invoice issuance date, but no later than 5 working days from the deadline for issuing the invoice. During the period from January 1 to March 31, 2024, non-compliance with the deadline for transmitting invoices through the national electronic invoicing system, RO e-Invoice, is not subject to sanctions.

Failure of resident businesses to comply with the issuance and receipt of e-invoices via the RO E-Factura system will result in a penalty equal to 15% of the total invoice value. Additionally, if they do not transmit the invoices within the 5-day deadline, they will face fines ranging from 5,000 to 10,000 lei (approx. 1k-2k Euros) for large taxpayers, 2,500 to 5,000 lei for medium taxpayers, and 1,000 to 2,500 lei for small taxpayers. While these regulations do not alter Romania's e-invoicing requirements' scope or implementation timeline, they do introduce new fines for non-compliance by resident businesses starting in July 2024. It's worth noting that other fines, applicable to both resident and non-resident businesses, will still be enforced from April 2024 onwards.

According to data from the Romanian Ministry of Public Finance's RO E-Factura website (Romanian Ministry of Public Finance, 2024), the number of invoices issued and received, including those in business-to-government (B2G) transactions, amounted to 140,017,272 till March 17, 2024. Further breakdowns indicate that 29,633,216 invoices were specifically in the B2G category. Additionally, in the period from January 1, 2024, to March 17, 2024, a total of 65,713,368 invoices were processed, out of which 4,271,518 were related to B2G transactions (Romanian Ministry of Public Finance, 2024).

E-invoicing brings about a range of benefits for tax systems. By shifting from traditional paper-based invoicing to e-invoicing, businesses and tax authorities can experience significant advantages in different aspects of tax administration (Basware, 2024).

In traditional systems, paper invoices are vulnerable to manipulation and concealment, enabling businesses to underreport income or inflate expenses. However, with e-invoicing, each transaction leaves a digital audit trail, and this makes it more difficult to hide or alter data, leading to a deterrent effect on tax evasion. Tax authorities can analyze e-invoices to identify inconsistencies and suspicious patterns, facilitating investigations and reducing tax losses.

Moreover, e-invoicing standardizes and electronically transmits invoices, minimizing the potential for errors or omissions compared to manual data entry from paper invoices. This real-time access to transaction data enables tax authorities to monitor compliance more effectively, leading to quicker identification of potential discrepancies and ensuring accurate fulfillment of tax obligations by businesses.

Additionally, traditional invoicing can be time-consuming, with delays in sending and receiving paper invoices. E-invoicing automates the invoicing process, enabling faster transmission and processing of invoices. This can lead to quicker payments for businesses and faster tax assessments by authorities, improving cash flow for all parties.

Furthermore, the adoption of e-invoicing reduces costs associated with printing, mailing, and physical storage of paper invoices. Automation also reduces the need for data entry resources, leading to significant cost savings for both businesses and the government.

In terms of data accuracy, e-invoicing systems incorporate built-in validation processes that minimize errors in calculations and reporting. This reduction in errors mitigates the risk of tax disputes or penalties due to inaccurate information, thereby enhancing overall data accuracy and reliability.

Overall, the integration of e-invoicing with existing tax systems facilitates automatic data transfer between systems, eliminating the need for manual data entry and reducing processing time. This seamless integration simplifies tax filing for businesses while enhancing tax administration for authorities by automating data collection and analysis. As a result, by adopting e-invoicing, Romania can experience a range of benefits for both businesses and the government. These improvements can lead to a more efficient, transparent, and effective tax administration system.

Besides its advantages, the adoption of e-invoicing in Romania presents both enterprises and the government with a set of challenges that need to be addressed for successful implementation. For enterprises, upfront costs associated with transitioning to e-invoicing, including investments in software and hardware upgrades, pose a significant hurdle, particularly for smaller businesses. Additionally, businesses may encounter technical challenges in implementing and maintaining e-invoicing systems, necessitating technical expertise, and potential process adjustments. Compatibility issues with existing accounting software and cybersecurity concerns further complicate the adoption process. On the government side, infrastructure development is crucial for implementing an e-invoicing system, requiring substantial investment. Standardization of e-invoice formats and regulations is essential to ensure compatibility across different systems used by businesses. Integrating the government's tax administration systems with the e-invoicing platform presents a complex task, while public awareness campaigns and outreach efforts

are needed to support businesses, especially SMEs, in navigating the transition. Finally, effective enforcement mechanisms and monitoring strategies are vital to ensure compliance with e-invoicing mandates. Addressing these challenges requires careful planning, collaboration, and ongoing support from both enterprises and the government. In conclusion, the adoption of e-invoicing in Romania may present numerous benefits for tax administration, including reduced tax evasion, improved compliance and collection efficiency, faster processing, cost savings, enhanced data accuracy, high transparency, and seamless integration with tax systems. However, alongside these advantages, there are challenges that both enterprises and the government must address for successful implementation. Enterprises face upfront costs, technical complexities, process adjustments, and compatibility issues, while the government needs to invest in infrastructure, standardization, integration, public awareness, and enforcement mechanisms. Overcoming these challenges requires collaborative efforts and ongoing support, but ultimately, e-invoicing has the potential to transform tax administration in Romania, making it more efficient, transparent, and effective.

### **Conclusions**

In the dynamic landscape of the tax system, e-invoicing emerges as one of the important developments, suggesting efficiency and transparency in financial transactions. Theoretical insights and empirical indicators from various countries highlight the crucial role of e-invoicing in modern tax systems. From Italy to Latin America and Romania, the adoption of e-invoicing presents both challenges and opportunities, underscoring the need for collaborative efforts to realize its full potential in driving economic growth and fostering innovation.

The theoretical framework underscores the importance of e-invoicing in modernizing tax systems, with numerous studies demonstrating its positive impact on tax compliance, revenue generation, and fraud reduction. From Latin America to Europe and Asia, countries have embraced e-invoicing to streamline business processes, combat tax evasion, and foster innovation. The evolution of e-invoicing models, such as the Post-Audit, Clearance, and Hybrid models, reflects the diverse approaches taken by different nations in integrating electronic invoicing into their tax systems.

The tax revenue trends from countries such as Italy, Hungary, Argentina, Chile, and Colombia illustrate the tangible benefits of e-invoicing in improving tax collection efficiency and compliance. Despite initial challenges and fluctuations in tax revenues, the long-term impact of e-invoicing appears to be positive, with increased revenue generation and enhanced transparency in financial transactions.

In Romania, the introduction of mandatory e-invoicing presents both opportunities and challenges for businesses and the government. While e-invoicing offers benefits such as reduced tax evasion, improved compliance, and cost savings, enterprises must navigate upfront costs, technical complexities, and compatibility issues. Similarly, the government faces the task of infrastructure development, standardization, public awareness, and enforcement to ensure successful implementation. Solutions can be improved system stability, clear communication, and support (subsidies for potential costs of e-invoice) for businesses, a move towards standardized invoicing software with strong security features, and ensuring the platform adheres to best practices for data protection. Additionally, the

adoption of mobile invoicing applications and cloud-based solutions further may assist enterprises by offering anytime, anywhere access to invoices and facilitating business agility. Through well-planned strategic solutions, both governments and enterprises can achieve the full potential benefits of e-invoicing.

In conclusion, the adoption of e-invoicing in Romania holds significant promise for transforming tax administration, making it more efficient, transparent, and effective. Taking into consideration the increased tax collection observed after its implementation in other countries, Romania can use e-invoicing to enhance tax collection processes, foster economic growth, and strengthen its position in the global digital economy.

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