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ANAF DIGITALIZATION – A DETERMINING FACTOR IN REDUCING TAX EVASION AND CORRUPTION IN ROMANIA

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Abstract
In this article we will analyze the share of tax revenues in GDP for Romania compared to other EU countries, in order to identify how an increase in the tax burden defined as the ratio between tax revenues and gross domestic product, would influence the way in which taxes are collected in the state budget and to what extent the digitalization of ANAF could contribute to reducing tax burden and corruption among authorities, respectively, increasing tax compliance on the part of the private sector. In research, tax evasion must also be analyzed from the perspective of human behavior, since the individual's mode of action towards a tax increase is not without rationality. Regarding the share of tax revenues in GDP, Romania, with a percentage of 27%, is at the bottom of the ranking compared to the EU average, which is almost 40%. The inefficiency of tax revenue collection, especially VAT, is caused by the high percentage of tax evasion, and the avoidance of paying taxes, which in Romania has become a phenomenon whose upward trend from year to year records a worrying percentage for decision-makers in the state. The continuation of the tax reform, especially the elimination of tax inequities for certain sectors of activity (i.t., construction, agriculture), ordered by the government at the beginning of 2025, followed by a process of digitization of the institution responsible for managing the country's finances, should, at least on paper, lead to more efficient collection
Keywords*: tax evasion; corruption; fiscal pressure.*
JEL Classification: H21; H26; H30.

1. INTRODUCTION

Regarding the relationship between the level of tax evasion and compliance with the payment of taxes by the private sector, it can be said that in general there are several influencing factors that can influence the level of tax evasion and compliance with the payment of taxes by the private sector. In research, various studies that have considered the analysis of the impact that a high level of taxation can have on the phenomenon of tax evasion, starting from the question of whether changing tax rates would lead to an increase in the phenomenon of tax evasion, have often obtained contradictory results. In fact, these results demonstrate that in

essence, the relationship between the degree of collection/proportion of tax revenues as a percentage of GDP and the level of tax evasion is much more complex and requires an analysis of the main factors that determine the reduction of this negative phenomenon and the increase in the degree of collection, without creating additional pressure on honest taxpayers. In 2024, the status revenues were 32.6% of GDP, and if we are to analyze the possibilities that Romania has at its disposal to improve this indicator, we have to choose between:

- tax increases, thus the tax regime in Romania provided until recently, exemptions and exemptions that reduced the tax base, sectors of activity or classes of taxpayers that benefited from preferential tax regimes, respectively reduced tax rates compared to those in the EU states. However, at least at the Romanian level, a high level of taxation would have the effect of increasing the tax pressure on honest taxpayers and will determine an increase in the level of tax evasion, therefore decision-makers are forced to adopt effective measures that could lead to an increase in the level of tax collection and compliance with their payment, by maintaining a fair and adequate taxation system for all taxpayers.
- more efficient collection of taxes and fees. The structure of budget revenues in Romania is mainly oriented towards indirect taxes and income from social contributions (together they represent 82.6% of tax revenues, the highest value in the EU), while, at the European level, there is a tendency to balance the share of direct, indirect taxes and social security contributions (respectively, an EU average of 32.3%, 33% and 34.7%). Reducing the VAT GAP registered by Romania could constitute an important step in increasing the level of VAT collection (the main source of fiscal budget revenues), an aspect that will be analyzed below.
- attracting money from resources such as European funds. However, the objective at first glance seems difficult to achieve since of the funds made available by the EU until 2027 (approximately 86 billion euros), only 16% (14.1 billion euros) have been accessed. Due to the failure to meet the conditions related to the lack of reforms undertaken by the Government, in 2024 Romania missed out on approximately 5 billion euros available from the PNRR.

2. ASPECTS FROM THE SPECIALIZED LITERATURE IN THE FIELD OF TAX EVASION

Studies conducted by (Kircher *et al*., 2008) have highlighted the existence of several factors that influence taxpayers' voluntary compliance with taxes, determining honest behavior in their relationship with tax authorities. Among the essential factors are collective opinions related to subjective tax knowledge, myths and legends about the tax system, the tax behavior of other people, perceived opportunities to not comply with the rules, as well as perceptions of the fairness

of the tax system. Research on taxpayer tax behavior is generally based on a model built on two main pillars: trust in authorities and perception of their capacity to exercise effective control over taxpayers. The interaction between these factors can lead to various types of tax behavior: voluntary compliance, forced compliance, non-compliance. Later, in the study conducted, (Kircher *et al.*, 2008) starting from the two determinants of the "slippery slope" model proposed by the authors: trust in authorities and the power of authorities, highlighted the fact that the increase in compliance with tax obligations is determined at least at a theoretical level by the following factors:

- Taxation rate. This indicator influences differently, depending on the level of trust in authorities, thus a high rate of a tax can be perceived by the taxpayer as a violation of his patrimonial rights, considering it unfair in the fiscal relationship between him and the authorities.
- Audit probabilities. Most studies that have examined the impact of audit probabilities on tax compliance have proven ineffective. The author suggested that the subjective probability of being audited could serve as an indicator of the power of tax authorities, but one must take into account the perception of an individual's risk aversion, which is relevant depending on the level of trust in the authorities.
- Fines. Other studies have shown that fines do not directly influence compliance with tax obligations, but are linked to perceptions of trust and authority of the state. Thus, fines that are too small can be interpreted as a sign of weakness on the part of tax authorities, which can undermine the trust of honest taxpayers in the state's ability to combat tax evasion. On the other hand, excessively large fines can affect the perception of the fairness of sanctions and can stimulate evaders to look for ways to recover their "losses", thus intensifying tax avoidance behaviors.
- Knowledge of tax compliance and participation. The authors argue that a high level of knowledge about taxes and fees is associated with higher tax compliance and a higher degree of trust in the authorities. Conversely, a weaker understanding of the tax system is correlated with an increased tendency to not comply with tax legislation and a higher level of distrust. It also highlights the essential role that information policies implemented by tax authorities play in stimulating voluntary compliance.
- Attitudes towards taxes. Studies have shown that skills related to tax issues explain to a certain extent self-reported tax evasion, but they do not have a significant relevance in predicting actual tax behavior. In the case of a taxpayer who has a positive attitude towards the phenomenon of tax evasion, it is assumed that he will comply with his tax obligations to a small extent and "per a contrario", an honest taxpayer with a negative attitude towards evasion, will comply with his tax obligations to a greater extent, but all this must be correlated with trust in the authorities, because

a higher level of trust will increase the level of voluntary tax payment behavior.

- Personal, social and national norms. Studies have shown that, in addition to attitudes, norms are essential factors in determining tax compliance. Individual norms are influenced by factors such as moral reasoning, authoritarian tendencies, Machiavellianism, selfishness, attachment to norms and values, with a significant correlation between these norms, personal values and tax ethics. In turn, social norms reflect the behaviors of reference groups, such as friends, acquaintances or colleagues. If a taxpayer perceives that tax evasion is a frequent and accepted behavior in his reference group, he is more likely to adopt non-compliant behavior. In the current context, norms integrate both the power and trust dimensions. On the one hand, national norms are manifested through tax legislation and the authority conferred on tax institutions, directly influencing their capacity to act. On the other hand, social norms - such as the perception that tax evasion is a minor and frequent act - can undermine the efficiency of tax authorities, especially in the absence of social sanctions or a form of collective recognition. A social norm in which every citizen is perceived as a correct taxpayer, who pays his fair share, could significantly strengthen public trust in tax institutions.
- Perceived fairness. The perception of fairness is closely linked to the level of trust, because fair treatment of taxpayers contributes to building and maintaining it. Retributive justice is also associated with the dimension of power, as it involves identifying and sanctioning mistakes. At the same time, the abusive or inconsiderate exercise of power can be perceived as intrusive and can lead to a decrease in trust.

McBarnet (2001) has identified several forms of tax compliance: committed compliance, compliance by capitulation and creative compliance. Committed compliance refers to the taxpayer's attitude to pay taxes without hesitation, in contrast, compliance by capitulation involves paying tax obligations as a result of a concession on the part of the taxpayer, who may initially be reluctant. On the other hand, creative compliance is characterized by the taxpayer's efforts to reduce the tax burden by using the possibilities of adjusting income and reducing expenses. Thus, a distinction can be made between voluntary compliance and imposed compliance, which results from coercive measures. Tyler (2006), following the study conducted, identified several similarities in the approach to rule violations, namely, the procedural justice model, the restorative justice model and the study of moral development, each of which has as a long-term objective in rule violation situations to motivate those who have committed violations to become more capable of self-regulation in their future behavior. This goal is compromised by sanctioning models based exclusively on punishments, having negative consequences for the individual who violates the law, and it is

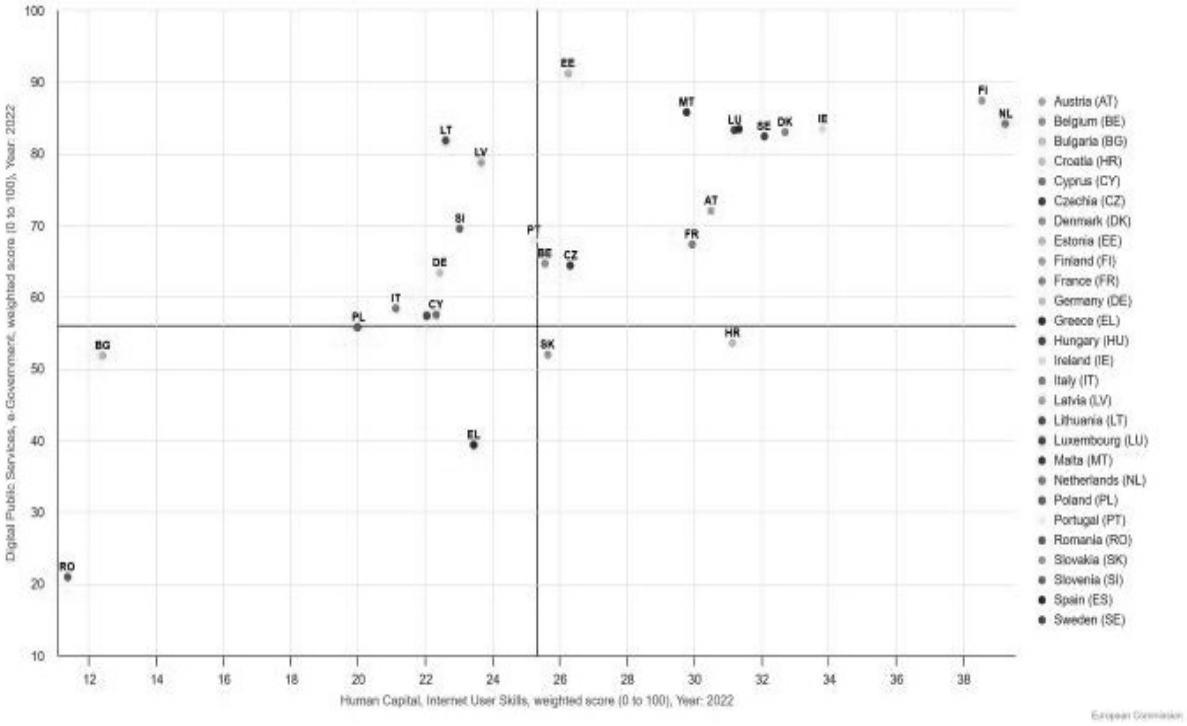
recommended to try a psychological approach that activates their internal moral values that determine correct behavior in the future.

Baldry (1987) believes that the perception of fiscal inequity favors non-compliance, while the perception of equity strengthens trust and stimulates voluntary compliance. Kircher *et al.* (2008) conclude that the position adopted by the authorities in relation to the taxpayer is essential for ensuring compliance with tax obligations by the latter, moreover, most authors agreed that fiscal pressure is fully felt by tax payers, thus an honest taxpayer voluntarily consents to paying tax obligations, but the problem arises when the level of taxes and duties exceeds the bearable limit, which determines that taxpayer to change his behavior, being "obliged" to resist the competitive economic environment, to seek different methods of evading taxes and duties. This behavior was best captured by economist Arhur Laffer, who in 1980, starting from an idea experimented by the famous Adam Smith, graphically transposed the so-called "Laffer curve", according to which "too high tax rates destroy the basis on which taxation acts", respectively, the income resulting from taxation increases more sharply at low levels of taxation" (Laffer, 1980). Most studies led to the formulation of two main hypotheses. A first hypothesis was that a high level of tax knowledge would determine taxpayers to have a higher degree of voluntary compliance in paying taxes, while a second hypothesis led to the conclusion that a high level of tax knowledge may represent a better opportunity for taxpayers to evade paying taxes. However, the general conclusion of most studies was that if the role of these taxes for the smooth running of a society were understood, then the degree of voluntary compliance by taxpayers in paying tax obligations would certainly increase, which would primarily lead to an increase in the level of collection and a reduction in the budget deficit.

3. GENERAL ASPECTS REGARDING ROMANIA'S DIGITAL PERFORMANCE IN THE EUROPEAN CONTEXT AND ANAF DIGITAL TRANSFORMATION

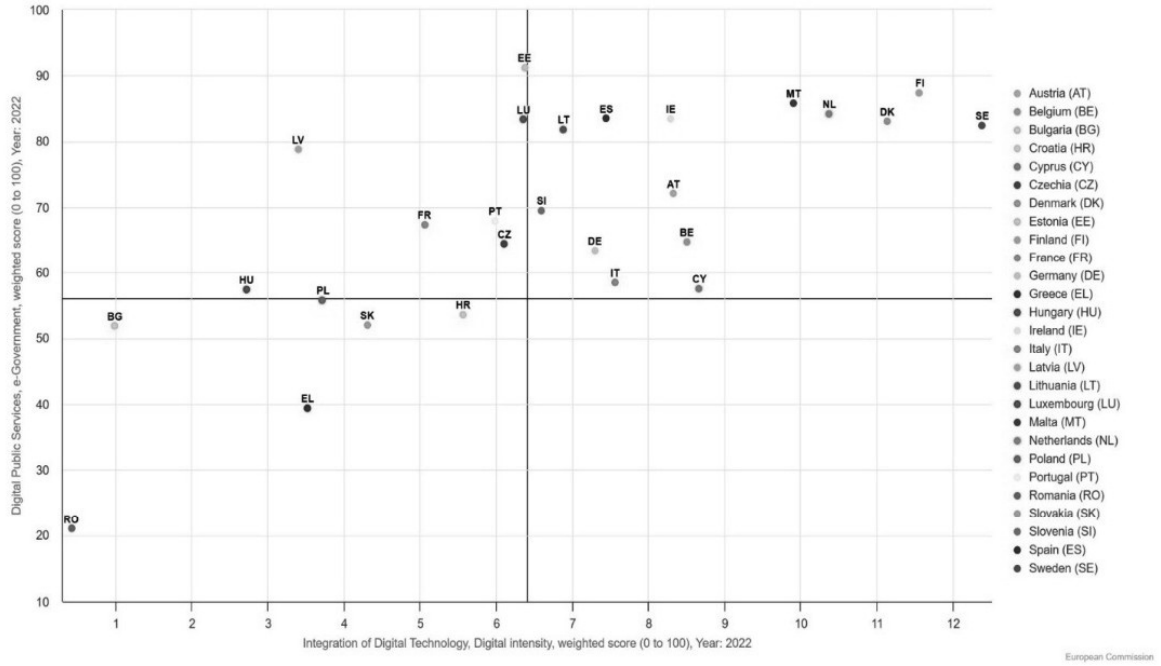
The Digital Economy and Society Index (DESI) is the index that summarizes the main indicators relating to Europe's digital performance. It monitors the progress of the European Union member states in four essential areas: human capital, connectivity, integration of digital technologies and digitalization of public services. The experience of developed OECD member countries in the digital transformation process of tax administrations highlights multiple advantages, namely modern and efficient tax treatments appropriate for increasing compliance with tax obligations, identifying the most suitable tax solutions adaptable to the compliance process accompanied by a correct risk assessment, increasing taxpayer confidence that will result in reducing the risks of tax non-compliance. The DESI report prepared at the European Commission level for 2021 highlighted the gaps recorded by Romania following the analysis of the 4

DESI indicators compared to European Union countries. The analysis of the axis on digital public services highlights that Romania consistently records low performances compared to other EU member states, with all specific indicators being significantly below the European average. As for Romanian internet users, only 16% of them actively interact with e-government services, compared to the EU average of around 64%. As for the "pre-filled forms" indicator, Romania obtains a score of only 6 points, compared to the EU average of 63. In the case of digital public services, the score for taxpayers is 44 points compared to the EU average of 75, and for commercial companies 49% compared to the EU average of 84%. The report highlights that the lack of interoperability of IT systems in public administration remains a chronic problem, despite the sporadic progress recorded during the pandemic. Even in 2022, Romania is not making progress in the field of digitalization, so if We analyze the 2 indicators considered essential for improving the degree of tax collection (human capital and digitalization of public services), we can observe, as can be seen from Figure 1 and 2, that Romania, with a score between 21 and 23, still occupies the last position, far from the average of EU countries.



Source: European Commission-DESI (2022)

Figure 1. Human capital



Source: European Commission, DESI (2022)

Figure 2. Integration of digital technology

According to data provided by the fiscal structure with IT responsibilities within the Ministry of Finance, the central element of the entire IT system is the Registers and Nomenclatures system, which includes the Register of Taxpayers for Individuals, the Register of Taxpayers for Legal Entities and a series of Nomenclatures, among which the one of the territorial administrative structures should be mentioned. The Ministry of Finance uses an intranet network based on Ethernet technology, which, through encryption technologies, allows the secure transmission of data, conversations and images between all territorial units and the central level. The centralization of databases and applications was mainly accompanied by the centralization of the hardware and software infrastructure within the Secondary Data Center. The latter functions both as a backup center for centralized systems and as a continuity center for the electronic document submission platform called DEDoc. Each civil servant within the Ministry has access to all the data for which he holds rights in accordance with his job description and his duties within the fiscal structure, regardless of the location where this data was uploaded to the system. In this way, IT systems such as the personal income tax administration system, the system for monitoring and recording tax inspection and anti-tax fraud activities, the system for receiving and managing declarations, as well as other IT platforms administered by ANAF are operated.

Outdated technologies within the Ministry allowed insufficient use of data and information held by the various fiscal structures subordinate to the central

structure, this situation was caused by the lack of an integrated IT application that would allow the efficient management and exploitation of all data and information available both at the level of territorial fiscal structures and from external sources. Changing the taxpayer's fiscal domicile, as well as changing their administration competence, involves an electronic exchange of information and the physical transfer of the tax file, accompanied by the tax certification certificate and the payer record sheet from the former fiscal administration body. However, this process requires a significant effort to manage and verify the fiscal information related to economic agents and in most cases generates an additional administrative burden for them. According to the information made available to the public by representatives of the Ministry of Finance, the IT systems used for the administration of both natural and legal persons (DECIMP, VECTOR, SACF, NOES, SERADN, SERADA) are based on outdated technologies. For this reason, their consolidation at the central level is required, in order to create a single and centralized database, which would ensure complete supervision of taxpayers' tax obligations. It should be noted that the National Center for Financial Intelligence (CNIF) represents the central IT structure that centralizes all tax databases both in the ministry and in the territorial structures with subordinate IT responsibilities.

In 2023, specific activities were carried out to design, implement and ensure the sustainability of digitalization projects, including the expansion of the national electronic invoicing system RO e-Factura for B2B transactions. The information collected through this system will constitute the basis for detailed predictive analyses regarding economic evolution, the identification of imbalances in the economy and the formulation of appropriate tax policies, aimed at supporting the sustainable development of the business environment. The primary objective is to improve the degree of collection, by combating tax evasion, having as subjects, economic agents registered as VAT payers, the system itself ensures the exchange of information regarding intra-community deliveries. This system was implemented at the beginning of August 2024, for operations carried out during July 2024 and contains a pre-filled statement containing the data and information regarding economic operations declared by taxable persons and transmitted in the IT systems of the Ministry of Finance and ANAF (RO e-Invoice, RO e-Seal, RO e-Transport, RO e-SAF-T, RO e-Case de marcat electronice, the integrated customs IT system). If, after submitting the value added tax return, differences are identified (which exceed the significance threshold and meet the cumulative conditions of at least 20% in percentage and an absolute value of at least 1,000 lei), between the pre-filled values through the pre-filled RO e-TVA return and the values declared by the taxpayers, ANAF will notify the taxable person through SPV (form Differences in taxable operations RO e-TVA), the taxpayer having the obligation to submit the electronic form called: Justification note regarding RO e-TVA differences, as a result of the checks carried out on the communicated differences. It should be noted that from January 1, 2025, electronic invoicing

between companies and final consumers (B2C) becomes mandatory. Ensuring the sustainability of the SAF-T system (Standard Tax Control File) and its extension to medium-sized taxpayers, and through various updates to the application, it was ensured that SAF-T declarations contain correct and complete data.

The AEOI_RO (Automatic Exchange of Information) information system was also updated and expanded, ensuring the exchange of tax information (accounts held by individuals, corporations, trusts and other information about account holders) between international tax authorities, with the main objective of reducing tax evasion and tax transparency. The Central Electronic Payment Information System (CESOP) was implemented starting from 01.01.2024, which centralizes information on cross-border payments and their beneficiaries, in a European database. This data is made available to European anti-fraud experts through the Eurofisc network, with the mention that the reporting obligation falls on service providers from the beginning of 2024.

4. ASPECTS CONCERNING THE ACTIVITY OF BUDGET REVENUE COLLECTION

For the period 2021-2024, according to the ANAF Strategy, several directions have been established regarding the increase in revenue collection to the Consolidated General Budget:

- a simplification of tax administration procedures in order to increase the voluntary compliance of taxpayers in declaring tax obligations;
- a real support of the entire compliance process in paying tax obligations;
- differentiated tax treatment depending on the tax behavior of taxpayers.

Regarding the activity of collecting taxes and duties, given the objective declared and assumed by ANAF: increasing voluntary compliance, in the first quarter of 2024, revenues to the general consolidated budget were recorded in the amount of 97,127.2 million lei, which represents an increase of 16.3%, respectively 13,594.2 million lei compared to the same period in 2023. In table no. 1 we can observe the structure by type of tax reported as a percentage of GDP in Romania in the period 2013-2023 and from which it results that Romania continues to be in the last positions in direct and indirect taxes in EU countries.

Table 1. Structure by type of tax % as of GDP in Romania

Type of tax	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Ranking EU
Indirect taxes	12.9	12.8	13.4	11.6	10.5	10.4	10.6	10.4	10.8	10.7	10.5	25
Direct taxes	6	6.2	6.6	6.5	6.1	4.9	4.8	4.7	5.1	6.1	6.5	27
Social contributions	8.7	8.5	8.1	8.1	8.5	10.5	10.5	11	10.5	10	10	19

Source: own calculations, based on Eurostat (2024)

Analyzing the tax regime in Romania in relation to other 27 EU states, through the lens of the structure of tax revenues as a percentage of GDP in the period 2013-2023, we can see that Romania, with a percentage of 27%, continues to occupy the penultimate position among EU states in this indicator, although the European average of the ratio of taxes and contributions to GDP is 40.6%.

Table 2. Tax Revenue-total as % of GDP

Countries	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Austria	42.8	43.2	41.8	41.9	42.3	42.7	42.2	43.4	43.2	43.5
Belgium	45.7	45	44.2	44.7	44.8	43.5	43.4	43.2	43.3	44.8
Bulgaria	28.4	28.9	29.2	29.8	29.7	30.4	30.5	30.8	31.1	29.9
Czech Republic	34.1	34.3	35.1	35.4	36	35.9	35.9	35.9	35.3	34.1
Cyprus	33.6	33.1	32.2	32.8	33.1	34.2	33.7	34.8	36.5	38.8
Croatia	37.4	37.7	38	37.9	38.4	38.4	37.7	36.7	37	37.3
Denmark	48.9	46.4	45.7	45.7	44.4	47.1	47.4	47.6	41.9	44.1
Estonia	32.1	33.3	33.5	32.8	32.9	33.3	33.3	33.8	32.9	34
Finland	43.5	43.5	43.7	42.9	42.4	42.3	41.8	43.2	43.1	42.7
France	45.7	45.7	45.7	46.4	46.3	45.3	45.4	45.1	46.2	45.6
Germania	38.3	38.8	39.2	39.3	39.9	40.1	39.6	40.9	40.8	40.3
Grecia	36.7	36.9	39.2	39.7	40.3	39.5	39.5	40	41.2	40.7
Irlanda	28.8	232	23.7	22.5	22.3	21.9	19.8	20.7	20.9	22.7
Italia	42.9	42.8	42.1	41.8	41.6	42.2	42.5	42.5	42.7	41.7
Letonia	29.7	29.8	30.7	31.1	31	30.7	31	30.7	30.3	33.4
Lithuania	27.5	28.9	29.7	29.4	30	30.2	31.2	31.9	31.6	32.4
Luxemburg	36.2	34.9	35.5	36.8	39.5	39.6	38.3	38.3	38.4	42.8
Malta	31.5	29.6	30.6	30.2	30.3	29.5	29	29.3	28.6	27.1
Polonia	32.3	32.5	33.6	34.2	35.1	35.2	35.6	36.7	34.5	36
Portugal	34.2	34.4	34.1	34.1	34.7	34.5	35.2	35.2	36	37.6
Romania	27.5	28	26.3	25.1	25.8	25.9	26.1	26.4	26.9	27
Slovakia	31.7	32.4	32.9	33.8	33.9	34.4	34.6	35.2	34.8	35.5
Slovenia	37.4	37.6	37.6	37.3	37.4	37.7	37.8	38.4	37.5	36.9
Spania	33.9	33.9	33.7	33.9	34.7	34.8	37	37.9	37.7	37
Sweden	42.2	42.6	44.1	44.1	43.8	42.8	42.4	42.6	41.8	42.1

Countries	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Netherlands	37	36.9	38.4	38.7	38.8	39.3	39.9	39.2	38.5	39.1
Hungary	38.4	38.7	39.1	37.9	36.9	36.3	36	33.9	35.1	35.1

Source: own calculations, based on Eurostat (2024)

Although almost 2 decades have passed since joining the EU, tax specialists are increasingly asking themselves where this difference of approximately 13% of GDP compared to the European average comes from. The lack of digitalization of ANAF in recent years may be an answer, although in recent times the digitalization process has recorded an upward trend, the collection percentage still remains very low compared to EU countries. The structure of budget revenues in Romania is predominantly oriented towards indirect taxes and income from social contributions (together they represent 82.6% of tax revenues, the highest value in the EU), while, at the European level, there is a tendency to balance the share of direct, indirect taxes and social security contributions (respectively, an EU average of 32.3%, 33% and 34.7%). Another answer would be the very low degree of tax compliance on the part of taxpayers, since the Romanian tax system is very thick, has numerous exceptions and does not present long-term predictability, an aspect that can induce the taxpayer that it is unfair, thus decreasing trust in the authorities and implicitly resulting in an increase in the risk of voluntary non-compliance.

If we were to make a comparison between Romania and Bulgaria, countries that do not show differences between taxes and fees actually collected, we can see that VAT not collected by the state in the neighboring country records a percentage of only 4.9% of GDP, compared to approximately 36% recorded by Romania. One explanation would be the solutions adopted by Bulgaria, materialized by the reform of the IT system based on an integrated revenue management system and the development of an information database available at national level.

Table 3. Tax and tax collection in Romania vs Bulgaria

	% from PIB -2023		Tax rates % -2023	
	Romania	Bulgaria	Romania	Bulgaria
Tax revenues	27.1	31.1		
VAT	6.6	9.1	19	20
Excise duties	2.4	5.7		
Personal income tax	2,6	3.1		
Corporate income tax	4.7	2.9	10	10
Social security contributions	10	8.3	39.96	32.7
Non-tax revenues	2.7	2		

Source: own calculations, based on Eurostat (2024)

In Table 3. we can see that although in Romania and Bulgaria, the tax rates are almost similar, there is a difference of 4 percentage points between the tax revenues collected by Bulgaria compared to Romania

Table 4. VAT not collected at the state level Romania vs. Bulgaria

VAT not collected to the budget % of the total VAT payment obligation (2023)	
Romania	Bulgaria
35.7%	4.9%

Source: own calculations, based on Eurostat (2024)

Table 4. presents the uncollected VAT in Romania and Bulgaria in percentages. If the level of VAT collected in Romania were to approach that recorded by Bulgaria, tax revenues as a percentage of GDP would increase by approximately 2.8 percentage points, or 44 billion lei, respectively. As for the effects of the digitalization of ANAF on the degree of collection of taxes and duties to the state budget, according to statistical data, it resulted that in the first 3 months of 2025, net VAT receipts amounted to 28.57 billion lei, down 2.7 percent compared to the same period in 2024, but this decrease can be justified by VAT refunds in the first quarter, which recorded an increasing trend of approximately 21% compared to the quarter. I of the year 2024 and which were postponed by the government to the end of the year in order to meet the budget deficit target. As for the other taxes, they recorded substantial increases in receipts, namely Insurance Contributions +10.4% (49.80 billion lei), excise taxes +12.3% (12.35 billion lei), taxes on salaries and income +31.3% (15.11 billion lei), but here the dynamics of dividends distributed in 2024 with the withholding tax of 8% comes into question, while non-tax revenues were around the amount of 12.35 billion lei, increasing by 12.3%.

Regarding the effect of digitalization of the fiscal structure on corruption, most studies have highlighted the fact that a reduced interaction between tax inspectors and taxpayers can only positively influence the risk of corruption, while (Martinez-Vasquez *et al.*, 2006) concluded that the phenomenon of corruption is present in every country (developed or less developed), but the level of this phenomenon is influenced by the country's management systems and the general fiscal structure, but addressing this topic requires more elaborate documentation and will be the subject of future research.

5. CONCLUSIONS

Romania's biggest problem in terms of tax collection remains the VAT deficit, which cannot be analyzed only from the perspective of the amounts collected by the tax authority and must also take into account the VAT policy gap that quantifies the fiscal impact of fiscal policy measures, as well as exemptions

and reduced VAT rates, reflecting the difference between the revenues actually collected and those that would have been obtained through the generalized application of the standard rate. The reduced rates maintained by the Romanian state for certain goods and services only have a negative distributive impact that can distort consumption decisions and influence taxpayers' tax compliance behavior.

Increasing tax revenues as a share of GDP could be achieved through more efficient tax administration, reducing the VAT gap and stimulating voluntary compliance of taxpayers in paying tax obligations, by improving tax assistance and collection activities. Taxpayers view paying taxes as a duty, but they may have a different behavior in terms of the degree of tax compliance determined by certain economic and social factors. Most studies have highlighted the fact that citizens are willing to pay taxes, so the state should not start from the premise that they are trying to avoid paying them, but should take a different approach to tax regulations through measures to ensure increased trust in authority, the predictability of tax rules and the maintenance of a balanced coefficient of the level of taxes that allow for an increase in the level of tax compliance.

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THE IMPACT OF ARTIFICIAL INTELLIGENCE ON COMPETITION IN THE EU DIGITAL MARKET: AN ANALYSIS OF REGULATORY CHALLENGES AND OPPORTUNITIES

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Abstract
The rapid development and deployment of artificial intelligence (AI) across digital markets is reshaping competitive dynamics in the European Union. This article examines the legal implications of AI-driven transformations for EU competition law, with a focus on both risks and regulatory opportunities. As dominant digital platforms increasingly integrate AI into pricing, ranking, and decision-making systems, concerns arise regarding market concentration, algorithmic collusion, and abuse of dominance. The paper explores how the existing legal framework – centered around Articles 101 and 102 TFEU – interacts with emerging instruments such as the Digital Markets Act and the AI Act. It further assesses the adequacy of current enforcement tools in addressing the opaque and autonomous nature of AI systems. It also explores the impact of the digital economy on the nature of competition, which is undergoing profound changes, particularly due to the unique features and applications of artificial intelligence.
By analyzing the intersection of competition law and digital regulation, the study identifies key legal gaps and proposes policy recommendations aimed at fostering a fair, innovative, and competitive digital environment in the EU.
Keywords: *competition law; digital market; legal framework.*
JEL Classification: K21; K23; L40; L41.

1. INTRODUCTION

In recent decades, rapid technological advancement has fundamentally reshaped the functioning of global markets. Among the most transformative innovations, artificial intelligence (AI) stands out as a disruptive force with the potential to profoundly influence both economic structures and the dynamics of market competition. Within the European Union's (EU) digital market**,** AI raises critical questions about how to balance the promotion of innovation with the preservation of fair and effective competition.

Competition is a cornerstone of market economies and a central pillar of the EU's economic policy framework. It fosters innovation, increases efficiency, and offers consumers greater choice and better prices. Moreover, robust competition

prevents the formation of monopolies and the abuse of dominant positions, thus supporting the fair and efficient functioning of the internal market.

2. ARTIFICIAL INTELLIGENCE AND COMPETITION LAW: KEY CONCEPT DEFINITION

In the context of the rapid evolution of information technologies and the exponential growth of online economic activities, the concept of the „digital market" is becoming increasingly important in the analysis of competition law and consumer protection. Although European Union legislation does not provide an exhaustive definition of this notion, the existing regulatory framework allows for the development of an operational understanding of the concept of the digital market.

An essential reference point is Regulation (EU) 2022/1925 on digital markets, known as the Digital Markets Act (DMA), which aims to ensure fairness and contestability in digital markets where platforms act as „gatekeepers". Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 began to apply from the date of May 2, 2023. The preamble to the legislative act states that: „core digital platforms have become key players in the internal market, playing a systemic role between businesses and consumers." Thus, the digital market is conceived as a regulated economic space in which commercial and competitive interactions are mediated by digital platforms, covering a wide range of activities: „social networks, payment systems, price comparison sites, online commerce, mass media, application platforms, search engines, etc." (Digital Markets Act, 2022).

However, the Digital Markets Act does not define the concept of a digital market, but simply states in point 1 of the preamble that „Digital services in general and online platforms in particular play an increasingly important role in the economy, in particular in the internal market, by enabling businesses to reach users throughout the Union, by facilitating cross-border trade and by opening entirely new business opportunities to a large number of companies in the Union to the benefit of consumers in the Union". Therefore, although the DMA does not provide an explicit definition of a „digital market," it defines the legal framework for online gatekeeper platforms that operate in digital markets and exert significant influence over access for other businesses and consumers (Irinescu, 2024).

A digital market refers to an economic environment in which goods, services, or platforms are accessed, delivered, or mediated through digital technologies – especially online platforms, algorithms, and data-driven processes.

Although the term „digital market" is frequently used in EU legislation and policy documents – particularly in the context of the *Digital Markets Act* and the *Digital Single Market Strategy* – there is no single, universally accepted

definition of it in official EU sources. In the absence of an explicit legal definition, I consulted ChatGPT (version GPT-4o, OpenAI, 2025) to obtain a working interpretation of the term, which provided the following working definition: „*A digital market is an economic environment in which the exchange of goods, services, or value is enabled, facilitated, or mediated through digital technologies – particularly the internet, data infrastructures, and software platforms. It typically involves interactions between businesses, consumers, and digital intermediaries (such as online platforms or marketplaces), and is characterized by features like network effects, data-driven personalization, and algorithmic decision-making."*

This definition aligns with how the term is implicitly used in EU digital regulation and offers a useful conceptual framework for analyzing the impact of artificial intelligence on competition (Bostoen, 2025).

Artificial intelligence is defined for the first time in the Artificial Intelligence Act (adopted by the European Parliament and the Council on June 13, 2024, which will be fully applicable from August 2, 2026), in Article 3(1) as „*a machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments"* (Artificial Intelligence Act, 2024).

Therefore, in this context, we aim to highlight how the transformation of markets from traditional structures to digital ecosystems and the emergence of artificial intelligence systems can affect competition. It is becoming clear that competition law is undergoing a continuous process of transformation, determined by the complexity of economic phenomena in the digital space.

Although the regulatory architecture of the European Union, through instruments such as the TFEU, DMA, and DSA, is designed to ensure the fair functioning of the digital market, its effectiveness is often diminished by the difficulty of precisely defining the relevant markets, the lack of transparency in the functioning of algorithms that influence the economic behavior of digital actors, as well as the slow pace of the legislative process in relation to the accelerated dynamics of technological innovation.

In the context of maintaining market integrity and promoting fair competition, the intervention of institutions with responsibilities in this area plays a fundamental role, as they are responsible for balancing the economic dynamic by implementing strict regulations and preventive measures tailored to the specificities of modern markets. In this perspective, a central role falls to the competent authorities, such as the Competition Council at the national level and the European Commission at the supranational level, which are responsible for the effective enforcement of the legal regime governing anti-competitive practices

through investigation, decision-making, and sanctioning mechanisms, thus ensuring compliance with competition rules and protecting market stability.

3. ALGORITHMIC COLLUSION AND ANTICOMPETITIVE PRACTICES IN DIGITAL MARKET

The digital transformation of markets has introduced a new dimension to anti-competitive practices: the use of algorithms and artificial intelligence to coordinate the economic behavior of companies. Unlike traditional forms of collusion, which involved explicit agreements between operators, algorithmic collusion can occur in the absence of any direct communication, being generated by the autonomous interaction of digital systems programmed to maximize profit and optimize response to competition. The increasing use of algorithms and artificial intelligence in digital markets has brought both economic efficiencies and novel risks to competition. One of the most concerning developments is the emergence of algorithmic practices that may facilitate or constitute anticompetitive behavior – some of which fall outside the scope of traditional competition law enforcement tools.

Therefore, digital markets allow for a high degree of transparency, which a competitor can use to distort competition. The algorithms behind the platforms can be programmed to the detriment of competitors and consumers. For example, in the case of prices, monitoring them was difficult in the context of traditional markets, but today an algorithm can instantly analyze all competitors' prices and adopt a pricing policy by correlating them. For example, in Romania, the company Altex launched a campaign with the slogan „*The lowest price in Romania! If you find it cheaper elsewhere, you get twice the difference back"*. In fact, this could not have happened because the algorithms analyzed all competitors' prices for that product in real time and automatically adjusted the price of the product sold by Altex. In fact, consumers immediately perceived that Altex was selling products at the best prices on the market, and in such situations, consumers are tempted not to check competitors' prices and to make their purchasing decision based solely on the subliminal message of the slogan.

In November 2021, the Romanian National Authority for Consumer Protection (ANPC) sanctioned electronics retailer Altex for engaging in misleading commercial practices during a promotional campaign. The campaign, titled „*The Lowest Price in Romania! If you find a lower price elsewhere, you get double the difference*", was found to be deceptive.

ANPC's investigation revealed that Altex falsely advertised discounts on over 1,000 products during the Black Friday period. The company failed to correctly apply the reference price (the lowest price in the last 30 days), which misled consumers about the real value of the discounts. As a result, Altex was fined 50,000 lei and ANPC proposed the suspension of the company's commercial activity until the misleading practices were corrected. The campaign in question

– offering double the price difference – was suspended by ANPC, as it was not applied transparently or in accordance with consumer protection rules. Altex later complied with ANPC's recommendations and announced its commitment to improving its pricing and marketing practices. The case highlights the regulatory challenges of price transparency and algorithmically managed discount campaigns in the digital retail space.

So, it remains to be seen to what extent the algorithms behind the platforms are programmed to function in such a way as to create a competitive advantage. An algorithm can be used to sell a product more cheaply, which is to the advantage of consumers but to the disadvantage of competitors, or it can be used to raise prices, which is detrimental to consumers.

In other situations, the data that can influence how algorithms operate does not come from competitors, but from consumers. Some algorithms are designed to artificially increase the price of a product – for example, in the case of airlines – when the consumer makes multiple price inquiries. In fact, in these situations, the algorithm perceives this as an artificial increase in demand, which will lead to higher prices. These practices are known as *dynamic pricing*.

Dynamic pricing is driven by algorithms that process large volumes of real-time data to determine the „optimal" price a consumer might be willing to pay. Common inputs include search frequency and user behavior (e.g., repeated visits to a product page), geographic location and device type, purchase history and customer segmentation, supply and demand fluctuations. The rationale behind dynamic pricing is economic efficiency: it allows companies to maximize revenue**,** better manage inventory, and respond flexibly to market conditions**.** In theory, this benefits both sellers (through higher profit margins) and buyers (through more competitive pricing during low-demand periods). Notably, in the airline industry**,** it is well known that prices can increase merely as a result of repeated searches for the same route, especially from the same IP address or browser. This has led to widespread consumer suspicion and prompted recommendations such as browsing in incognito mode or clearing cookies to avoid price hikes.

In other cases, algorithms are used to compare prices and rank products based on the best price. Platforms such as Amazon Marketplace, Google Marketplace, and Emag use this feature. As long as this classification is accurate, we cannot identify any issues of unfair competition, but when algorithms are used to display the platform's own products first, both competitors and consumers will be affected.

In 2021, the Competition Council fined Dante International SA 32.28 million lei (approximately 6.7 million euros) for abuse of its dominant position on the market for intermediary services through online marketplace platforms and imposed a series of corrective measures on the company to restore normal competition and prevent such acts from occurring. As the owner and administrator

of the eMAG Marketplace online platform (www.eMAG.ro), it abused its dominant position between January 2013 and June 2019, in particular by positioning and displaying its own product offerings more favorably than those of partners selling on the platform and with whom it was in direct competition (Competition Council, 2020).

In addition, the competition authority required the company to adopt a series of measures regarding the algorithms used by the platform, with Dante being obliged to fully and accurately inform its partner merchants about how the algorithms work, such as those for listing and positioning products on the platform, and to limit manual interventions in the operation of the relevant algorithms.

This case highlights the risks posed by self-preferencing algorithms in digital marketplaces, where platform operators can act both as competitors and gatekeepers. It also demonstrates the increasing willingness of national competition authorities in the EU to scrutinize algorithmic conduct and impose structural remedies in the digital economy. It aligns with broader EU initiatives under the Digital Markets Act, which prohibits self-preferencing by gatekeepers and requires transparency in ranking mechanisms and data access (EU DMA (2024).

Amazon created the „Buy Box" on an Amazon product page, which allowed users to quickly add the product to their shopping cart. Since multiple merchants can sell the same product, Amazon's algorithm could automatically decide which offer appears in the Buy Box – which decisively influences sales, as most consumers buy directly from this section. In reality, only products sold by Amazon or certain sellers approved by the platform benefited from this quick purchase option.

Following an investigation launched by the European Commission in December 2022, Amazon made a series of commitments, primarily to stop using third-party merchants' data for its own retail purposes, to ensure equal treatment for all offers in the „Buy Box" and to create a second, alternative purchase box when there is another competitive offer. The commitments are binding and valid for seven years in all EU member states for a period of seven years. (European Commission, Case COMP/AT.40462 and Case COMP/AT.40703).

The E-Turas case is another example of algorithmic collusion and the use of digital platforms as tools for coordination between competitors. Eturas UAB is a Lithuanian company that ran an online booking platform for travel agencies. It let agencies manage and sell travel deals through a centralized system. E-Turas sent an automated message to all users of the platform announcing that a general limit on price discounts to a certain percentage would be implemented and, as a result, modified the software system so that agencies could no longer apply discounts above that threshold unless they made these changes manually (Surblytė-Namavičienė, 2020).

Several agencies tacitly accepted this change and did not contest it, which led to the alignment of market behavior. Therefore, although there was no communication or agreement between the agencies, they adopted the same prices as a result of a common IT system.

In this case, the Court of Justice of the European Union clarified that the administrator of a digital platform may be considered a participant in a cartel if it promotes, facilitates, or imposes coordination between competitors. The mere fact that an economic operator receives information about a practice restricting competition and does not actively reject it may be interpreted as tacit agreement if there is behavioral evidence to that effect: "where the administrator of a computer system designed to enable travel agencies to sell trips on their websites in accordance with a uniform booking method sends those economic operators, by means of a personal email, a message warning them that the discounts on products sold through that system will in future be capped and that, following the sending of that message, the system in question undergoes the technical modifications necessary to implement that measure, it may be presumed that those economic operators, from the moment they became aware of the message sent by the system administrator, participated in a concerted practice within the meaning of that provision if they did not publicly distance themselves from that practice, did not report it to the administrative authorities, or did not provide other evidence to rebut that presumption, such as evidence of a systematic application of a reduction exceeding the ceiling in question". National courts must verify whether each economic operator was aware of and accepted that practice, even passively (C-74/14).

4. CONCLUSION

Given that digital markets have opened up numerous new business opportunities for companies and provided consumers with access to an infinite range of products, regardless of the geographical area in which the trader is located, it could be argued that competition law should also adapt its policies to the new trends. We welcome the European Union's legislative initiatives to address the new challenges posed by the digitization of commerce, but competition law may undergo significant changes. A rethinking of competition law, through adaptation to innovative technology, is certainly needed. European Union member states are already making efforts to protect consumers from all competitive pressures that inevitably lead to the deterioration of their well-being.

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