

## **FIGHTING TAX EVASION THROUGH THE USE OF TECHNOLOGY – A SOLUTION TO COUNTER TAX EVASION IN ROMANIA?**

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**Abstract.** *As tax evasion goes global, most taxpayers have to obey by enhanced and time consuming tax compliance procedures. And most of them do so. However, some decide not to and they do so for obvious reasons. The efforts to increase the tax compliance has recently translated into an effort to decrease the number of hours spent by taxpayers complying and in efforts to increase public awareness of the taxation system in general, while at the same time ensuring that the deliberate fraudulent behavior is forcefully sanctioned. The only obvious tool available for tax authorities to fight tax evasion, decrease the time spent complying and increase the overall trust of the taxpayers in the tax system at minimum cost is the use of skillful and user friendly technology tools. Having the above in mind, this paper aims to analyze the impact that technology might have in fighting tax evasion in Romania. In order to do so, we will have to introduce the Romanian tax system and the main elements of the tax evasion in Romania. Then, we will introduce several other taxation systems in the OECD which are similar to the Romanian taxation system who have introduced technology tools to enhance tax compliance in areas dominated by tax evasion and their results. Lastly, the paper will present the pros and cons of each technology-based system and will conclude whether the use of technology tools can also be envisaged by the Romanian authorities. The results of this study are quite fascinating, namely that similar and even more underdeveloped countries have successfully reduced tax evasion through the use of technology and that Romania can also envisage implementing similar tools with great chances of success.*

**Keywords:** *technology; tax evasion; Romania; false invoicing; sale suppression.*

## Introduction

Recent studies (European Commission, 2012) have shown that all the EU Member States rely on indirect taxes as one of their main sources of governmental revenues. The countries that rely most on the Value Added Tax as their main source of financing public expenses are generally the ones with weak tax enforcing procedures (Bulgaria, Estonia, Lithuania, and Romania have registered more than 25% of the government revenues from VAT collection during the period 2000-2011). Another interesting conclusion of the study (European Commission, 2012) is that 26 EU countries, including Romania but excluding Cyprus and Croatia, have lost 193 billion euros in non-collection of VAT in 2011, which in real terms would represent 1.5% of the Global Domestic Product (GDP) of the 26 EU countries subject to the study.

The instruments used by tax evaders are the underreporting of income made by suppressing sales and overreporting of deductions through false invoicing. These types of tax evasion techniques are facilitated by the use of the cash economy and, allegedly, the sharing economy (OECD, 2017). With the rise of the sharing economy, currently amounting to 19% of the total adult population but with predictions of up to 72% of the adult population consuming such products in the next couple of years (PwC, 2016), it is becoming more difficult for tax authorities to enforce taxes on such products unless properly regulated. As an example, Airbnb, the leading company in the short-term house rental services, a company valued at 30 billion USD, has cut some deals with the Dutch and British authorities to pass bills ensuring that the landlords using Airbnb platform respect the local regulations and pay the related taxes, and they are planning to do so by using the technology based Airbnb platform.

In the past, underreporting of income and overreporting of deductions were difficult and time consuming for tax authorities to detect. Therefore, the burden was passed on the shoulders of the taxpayers. This is changing. Many tax authorities have made use of technology to combat tax crimes. In some cases, these solutions have been effective, at hand and user friendly and these tax authorities are making progress in taking the fight to the tax evaders, in a way that is also resource efficient for all parties involved.

From a tax collection point of view, it can be appreciated that the tax system in Romania is characterized by a low degree of efficiency, the poor collection of which is largely due to an inefficient administrative apparatus, a complicated methodology corroborated with a lack of predictability (Fiscal Council, 2015). The tax evasion in Romania has gone up to more than 16% of the GDP and was considered by many to be an attack on the national security, the reason for the national authorities and public media to call for a crackdown on tax evasion.

## Technology tools used to fight tax evasion

A recent report issued by the OECD (OECD, 2017) the technology can be used to tackle the following misbehaviors:

- Underreporting of taxable revenues through sales suppression;
- Overreporting of deductible expenses through false invoicing;
- Abusive tax behavior used in the cash economy and in the sharing economy.

***Underreporting of taxable revenues through sales suppression***

Commonly identified in business to consumer type of businesses (e.g. restaurants, bars, taxi, convenience stores, short-term rental), sales suppression can be as simple as not recording some cash sales with the intention of under-reporting a number of sales and thereby under-reporting the corresponding tax liability. Consequently, it increases the VAT gap as the business collects more VAT than it reflects and pays to the authorities.

Generally, tax authorities worldwide have set rules regarding the tampering of electronic Point of Sale based cash registers. Most operators can acquire a cash register from an authorized distributor and cannot in any way tamper with its data storage. In a traditional set of rules, the data storage has to be handed to the tax authorities in case of a tax audit or on a regular basis.

With the globalization of the markets and the increased use of electronic payment forms, sales suppression is also changing. If in the past, you could look at fabricating accounting books and cashing the services directly in the pocket, it is the turn of more complex cheating methods, such as phantom wares and zappers (Ainsworth, 2010).

Phantom ware involves the installation of software as part of the sales register. It allows a program to operate on the sales register which can alter the data that has been recorded. The program is only accessible through a hidden menu which allows the business owner to covertly manipulate the sales records after the transaction has occurred.

A zipper is an external device or external program accessed online that can be connected to the cash register. When connected to a cash register, it allows the manipulation of transaction records, performing a similar function to phantom ware. Even more complicated are the foreign zappers, very complex sales suppression service providers, who have developed a unique technique to delete, tamper or replace sales data or to remotely crash the physical memory of the sales registers, making it very difficult for tax authorities to detect and prove any wrong doing on the sales registers.

Since bringing knives to a gunfight is rarely a good idea, this type of criminal behavior can be corrected or at least identified by sophisticated technology. The most common counter-suppression tool is the *data recording technology*, technology which can be used to secure sales data on spot and store it in a tamper proof environment, easy to access by the tax authorities but not by wrongdoers. This means that the information stored should be securely preserved and systematically sent to the tax authorities (either in real time or in bulk scheduled transfers). The tax authorities can then access the data for tax compliance or audit purposes.

***Overreporting of deductible expenses through false invoicing***

False invoicing occurs where a business fabricates or inflates invoices which name the business as the debtor. This generally happens in business to business type of relations. As such, the deductible expenses are falsely increased. The output VAT is also inflated, which may generally lead to the business claiming false VAT from the

authorities. Although the tax authorities can cross-check each invoice by comparing it to the records of the counterparty, it is time and resource consuming to do so.

OECD reports (OECD, 2017; OECD, 2013) show that one of the solutions at hand to counter the false invoicing is the *electronic invoicing*. For anti-tampering purposes, the electronic invoices use digital signatures by the issuer of the invoice. The most effective use of electronic invoices is when they are provided in a user-friendly way to the tax authorities, who then automatically match the information from the buyers' and sellers' ends.

Best envisaged results occur when the transfer of electronic invoice information is made systematically or in real time to the tax authorities, as it increases the visibility of the transactions and can then perform the required audits, risk analysis, and other functions in an efficient way.

### ***Abusive tax behavior used in the cash economy and in the sharing economy***

Not necessarily viewed as forms of tax evasion, the cash economy and the sharing economy have features that can facilitate tax evasion (e.g. no traceability, no record trail). As the data recording technology and the electronic invoicing might not suffice in these cases, regulatory and technology tools have to be used for addressing the needs of the tax authorities in these sectors.

In the next section, we will present some of the key features and results identified by countries in the EU and OECD who have introduced technology based tools to fight tax evasion.

### **Technology tools in panel countries - what is being done and what are the results?**

Several countries have decided to already enforce the technology tools and the results are quite impressive. They managed to increase their tax collection with millions of euros yearly. Figure 2 shows some of the countries that have implemented data recording technology for electronic cash registers and the immediate results that they have witnessed in the short term/long term.

***Table 1. Example of countries having decided to implement data recording technology tools and their results (OECD, 2017)***

| Country | DRT used?   | Industry    | Results   |
|---------|---|-------------|---|
| Austria | Yes   | General     | 900 million EUR increase in tax revenues                          |
| Belgium | Yes   | Hospitality | 8% increase in sales in the hospitality sector in 2 months of use |
| Canada  | Yes   | Hospitality | 822 million EUR recovered in taxes since its introduction         |
| Ghana   | No, however draft legislation is being considered | General     | Expected 20% increase in taxable revenues                         |

|             |     |                        |   |
|-------------|-----|------------------------|---|
| Hungary     | Yes | Retail and Hospitality | 15% increase in VAT in the first year of its introduction |
| Netherlands | Yes | General                | 15 million EUR in the retail sector                       |
| Rwanda      | Yes | General                | 22% increase in payable VAT in the first year             |
| Sweden      | Yes | General                | 320 million EUR annually                                  |

The most interesting case is the one of Rwanda, who has introduced an electronic data recording technology system in March 2013 allowing the real-time communication between the Rwandan business owners and the Rwandan tax authorities. As reflected in Table 2, Rwanda witnessed an increase in payable VAT of 22% in the first year. On the other side of the Pacific Ocean, Canada is one of the first countries having introduced a data recording technology to investigate the use of zappers and phantom ware. Projections obtained by OECD from the Canadian authorities reflect that by 2019, the Canadian Revenue Authority will obtain an increase in taxes in the Hospitality sector of 1.44 billion euros. Hungary has also seen a 15% increase in VAT collection in the first year of introduction of the electronic data recording technology. Moreover, the Austrian authorities, one of the most successful implementers of electronic data recording technology tools have declared that, due to this new technology, auditing a small business has decreased from 70 hours to 3 hours in average and that it can now be done remotely.

Other countries (e.g. Argentina, France, Germany, Slovak Republic, and others) have also decided to implement technology tools to tackle the decrease in taxable income, however, they have been left out of the scope of this analysis as no tangible results have been published.

**Table 2. Sample of countries having decided to implement electronic invoicing tools and their results (OECD, 2017)**

| Country         | EI used? | Industry | Results   |
|-----------------|----------|----------|---|
| Mexico          | Yes      | General  | It is estimated that 4.2 billion businesses have been brought into the formal economy, with an increase in tax revenues amounting to more than 1 billion euros a year |
| Slovak Republic | Yes      | General  | During the period 2014-2015, 500 million euros tax loss has been identified   |

In the electronic invoicing sector, there are even more and diversified countries who have introduced some sort of electronic invoicing standards to tackle VAT tax fraud. Argentina, China, Singapore, Italy, Greece, and others have decided to take the fight against tax evasion in the digital era.

Mexico has estimated that this tool has allowed it to bring into the formal economy approximately 4.2 billion businesses who caused a loss in revenues of 3 billion euros during the period 2007 – 2009. The Slovak Republic also reporting having uncovered a loss of 500 million euros during the period 2014 – 2015 due to softer invoicing rules.

**Table 3. Sample of countries having decided to implement cash economy measures (OECD, 2017)**

| Country   | Industry    | Type of cash economy measures used   |
|-----------|-------------|--|
| Argentina | Real estate | A partial reimbursement of VAT is offered for purchases of personal property or hiring of services when the final consumers perform the transaction using an authorized credit card or bank transfers.   |
| Austria   | Real estate | Cash payments for services in the construction industry (including labor) exceeding EUR 500 are no longer tax deductible. The payments must be performed via bank transfer in order to claim the deduction, and this is auditable  |
| Finland   | General     | ATM withdrawals are monitored. Withdrawals are summarized by credit/debit card number and cardholders are identified by card number (domestic issued cards) or other means (cards issued abroad). A photograph is taken at the ATM to identify the person withdrawing the cash, and this is available to the tax authority through online connection |
| France    | General     | Limits are imposed prohibiting cash payments over EUR 1,000  |
| Greece    | General     | Limits are imposed prohibiting cash payments over EUR 1,500  |
| Italy     | Real estate | In order to obtain allowances for refurbishment expenses and for energy efficiency improvements to buildings, the payment must be performed through a bank or postal transfer.   |

**Table 4. Sample of countries having decided to implement measures to identify sharing economy profits (OECD, 2017)**

| Country   | Industry    | Type of shared economy measures used   |
|-----------|-------------|--|
| Australia | General     | The Australian tax authorities have used information held by the Australian Transaction Reports and Analysis Centre to trace Uber drivers and Airbnb landlords who are evading taxes. Moreover, they are working closing with Uber and Airbnb to obtain taxation information                           |
| Austria   | General     | Austria uses internet monitoring using different internet scraping tools (web harvesting or web data extraction), some of which are open source and others are custom-made tools. As a result, Austria has enforced 10 million EUR in VAT liability to foreign companies rendering services in Austria |
| Belgium   | General     | Belgium is using internet scraping and requesting all digital data to enable data mining with existing taxpayer files. This is used in conjunction with other analytics tools such as a 'Forensic Toolkit' to collect and cull data in a forensic inspired way   |
| Canada    | Hospitality | The province of Ontario and Airbnb have collaborated to create a webpage with content specific to Ontario regulations.   |
| Finland   | General     | Finland has legislation to enable the collection of third party information, such as online credit/debit card payments to detect unregistered remote sellers and VAT EU distance sellers. Based on sales, the estimated VAT loss is 12 million euros yearly.   |

|                |         |   |
|----------------|---------|---|
| Japan          | General | Japan gathers and analyses information on information-providing services on the internet such as fee-charging websites to identify suspected online businesses, using a general search engine. variety of materials and information is collated in a database and matched against taxpayers in the system of the tax authority. |
| United Kingdom | General | The United Kingdom is using a product called COSAIN which automates the collation and filtering of social media and websites. The tool collates profiles, which can be used to monitor the trends within a geographic area or specific business sector.   |

Each country decided to apply its way of ensuring that the general framework regulations are respected by the taxpayers trading in the cash economy and sharing economy. Although these two phenomena are more difficult to identify, it is important for tax authorities to combine the use of IT based systems and enforcement rules to ensure tax collection.

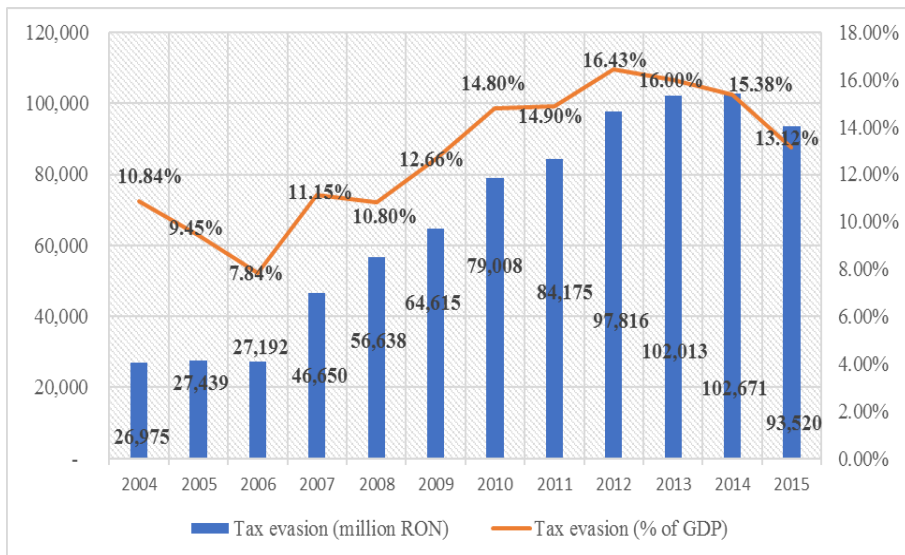
### **The tax evasion in Romania. Is it time to act?**

For this paper, we have used the national accounts model and determined the level of tax evasion based on data published annually by the Fiscal Council in the annual reports on the macroeconomic and budgetary evolution and outlook and reported to them by the National Institute for Statistics.

It should be noted that, in the formal sector, the available figures do not take into account the tax evasion generated by the transfer of profits to other jurisdictions and local taxes on goods and property owned. Moreover, this model does not include the income tax due by tax residents of Romania on capital invested abroad (e.g. rent for property held abroad, investment income earned abroad, royalties obtained abroad). However, excluding hybrid instruments of transfer of profits to other jurisdictions and sporadic failures to declare the income tax, the national accounts method can draw an estimate on the level of tax evasion in Romania. Due to lack of official statistics, the figures for 2014 and 2015 do not include the excise tax evasion recorded. The results for the period 2004 – 2015 are presented in Figure 1.

The Romanian tax system, strongly influenced by the low VAT collection rate, is mainly fueled by mandatory social contributions and indirect taxes. However, taking into account that the social security contributions have the role of increasing social security budgets, the state budget is mainly fueled by indirect taxes (VAT, excise duties, and customs duties), their share of the GDP in 2015 being of 8%. At the same time, the Fiscal Council's 2015 Annual Report shows that the VAT collection rate increased significantly in 2015, from 61% in 2014 to 72% in 2015. Compared with the VAT gap rate witnessed in the year 2015 for the group of new EU Member States in Central and Eastern Europe (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovenia and Slovakia), Romania rises from 10th place at the end of 2014 to 6th place, surpassing countries such as Lithuania, Latvia, Slovakia and Poland. The main reason attributable to this spectacular growth is the collection of VAT is the reduction in the VAT rate for certain products of common use.

The share of direct taxes in total GDP is relatively low, reaching 0.22% of GDP, with an increase of 0.01% as compared to 2014. Members of the Fiscal Council motivate the increase on the decrease in the number of insolvency companies as a result of the measures taken by the Government to combat insolvency abuse. The best collection rate can be seen in the case of income and wage tax, where 86% of taxpayers have voluntarily complied (compared with 84% in 2014). From a mandatory social contributions perspective, obligations that brought slightly more than 8% of GDP in 2015, collection efficiency amounts to 76%, up 2% from 2014. This increase in the collection can be explained by the reduction of the employer social security contribution rate from 20.8% to 15.8%, one of the best tax measures that occurred at the end of 2014.



**Figure 1. Evolution of tax evasion in real terms and as a percentage of GDP, during the period 2004-2015**

*(Own estimations based on information provided by the Fiscal Council and the NIS)*

### Are technology tools useful for Romania?

Romania is using to some extent data recording technology tools in cash registers as all economic operators are obliged to hold a fiscal memory in the cash register. The fiscal memory registers all economic transactions in an electronic journal, a set of files which contains all information regarding the receipts issued. The fiscal memory is sealed by the authorized distributor of the cash register in front of a representative of the tax authorities. The tax authorities can then request the fiscal memory for audit purposes. Unsealing the fiscal memory or tampering in any way with it is considered a tax offense punishable by a fine ranging from 2,000 euros to 12,500 euros and, possibly, imprisonment.

Nevertheless, using the cash register in training mode, remotely crashing the device/data, cancelling transactions after they have occurred or restarting the cash register while the transaction is being processed will allow fraudulent intent to go undiscovered. Therefore, an online communication system between all the cash



registers and the tax authorities or storing the information in a cloud environment inaccessible to the taxpayer is needed to reduce tax evasion. At this moment, an online communication system between the cash registers and the tax authorities is being envisaged. Even though the obligation to use a remotely connected cash register exists in the Romanian legislation as of December 2014, in order for such an obligation to be enforced, the President of the Romanian tax authorities has to issue an Order mentioning the procedure and timetable to implement this solution. At the date when this article was written, the Order was still in public debate.

Even more important than an electronic data recording tool, a powerful electronic invoicing system should be envisaged to increase Romanian budgetary revenues. In Romania, invoices can be issued electronically and the invoicing information must be reflected in the VAT returns, which are then filed electronically. Therefore, theoretically, the Romanian tax authorities can cross-check the output VAT information of the buyer with the input VAT information of the seller. Nevertheless, as there is no IT system cross-checking this information automatically, manual tax audits are difficult to perform and time consuming. In order for a technology tool to be used efficiently, the system should either reject or flag fraudulent transactions, allowing the tax authorities to focus their energy on educating the taxpayers, correcting the small unintended errors of “good” taxpayers and creating a level playing field for them by punishing malevolent behavior of “bad” taxpayers.

In terms of limiting the fraudulent effects of the cash economy, Romania has instituted a cash payment limit of 5,000 RON/ transaction (approximately 1,100 euros), which is in line with other countries' approach. The shared economy is not regulated in Romania and there are limited tools at the disposal of the Romanian tax authorities to identify fraudsters in this unregulated economy. Therefore, the Romanian authorities could envisage using different internet scraping tools to identify undeclared transactions.

## Conclusions

The fight goes digital and the tax authorities worldwide need to enhance their technology tools to reduce the tax evasion and the compliance cost, both for them and for the taxpayers. Additionally, these solutions can offer a better detection of crime, allowing the tax authorities to create a level playing field for the compliant taxpayers, thus boosting the economy.

Technology cannot be seen as a unique fix to the tax evasion problem as there are other factors to take into account (e.g. taxation knowledge of the population, level of taxes, trust in the authorities, economic and social development). Therefore, internal partnerships with the taxpayers, internal and international cooperation, effective tax enforcement should also be envisaged.

Romania should also envisage the use of technology tools in order to enforce its tax liabilities and more so, in order to reduce VAT evasion. Nevertheless, as several tools (e.g. electronic cash registers, electronic invoicing procedures, limits on cash payments) are already in place, Romania could look at enhancing these procedures. Based on a recent draft Order to be approved by the President of the Romanian tax

authorities, they are contemplating introducing the obligation to acquire automatic electronic cash registers that can be linked with tax authorities' servers as of 1 January 2018 for large taxpayers, as of 1 April 2018 for medium taxpayers and as of 1 August 2018 for small taxpayers. However, based on the same draft Order, the procedure to connect them to the tax authorities' servers will most likely be issued in November 2018.

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