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# The EKAER system as an effect of digitalisation in the Hungarian tax system

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## Abstract

In the past few years many changes had been introduced in Hungarian taxation system, which may be considered a direct impact of digitalisation processes visible in most aspects of life – both economic and social. Due to an increased level of trade and creation of international and value-added chains, transport of goods remained more complex; thus tracking goods also needs technologically advanced methods. It means that goods traceability connects the physical movement of goods with the flow of information.

The aim of this article is to present author's own research on Electronic Trade and Transport Control System (EKAER) as an example of digital innovations in Hungarian taxation. The study methods used include a complex review of literature, legal acts, statistical data as well as using quantitive analyses. As a result, examples of new technologies and digital solutions were identified in the field of preventing tax fraud. The major conclusions concern the effects of implementing the studied system. EKAER has a positive influence on VAT revenue, and at the same time meets requirements of modern tax administration.

**Key words:** tax system, digitalisation, transport
**JEL Classification:** G28, H21, H26

## Introduction

Digitalization, new IT tools and technological revolution are the challenges of modern world. A huge progress in the use of technology is visible in all areas of governmental administration. Tax administration is also changing, implementing more and more advanced technological tools. The tax authority in Hungary is also trying to step up with the development of digital technology by introducing modern instruments in order to prevent tax fraud. The size and weight of the shadow economy has increased significantly in recent years, therefore different approaches and methods are required to eliminate illegal activities. Due to the fact that the transport sector is also facing a digital revolution in relation to the transportation of goods, the Hungarian tax authority introduced a unique system EKAER based on tracing movement of goods. Modern telematics in vehicles send information about their location on an ongoing basis, while various IT systems contain data on the content and purpose of the cargo. Toll collection devices, drivers' mobile phones and electronic documents are used to facilitate transport. This technological revolution and the huge amounts of data generated in connection with it provide opportunities for more effective control of transported goods.

The main objective of this article is to present the above system as an example of modern tool and digital innovation used in Hungarian taxation. Secondly the paper analyses the practical side of the functioning of this system, its experiences, achievements and problems. Finally, the article describes financial results and contains a short comparison to other systems operating with similar methods of transport monitoring. The study methods include a complex review of literature and legal acts in the field of taxation. Moreover statistical data and quantitive analyses present the size of VAT gap and VAT revenues in Hungary in the years 2014 – 2019. In addition to that the scope of actions taken under EKAER system provided by National Tax Administration is described and interpreted.

The main conclusion is that EKAER, as an example of new digital tools, improves the fight against tax fraud and reduces the VAT gap in Hungary, but also brings new obligations and challenges for enterprises.

## The Hungarian tax system

The functioning of each state depends, among other things, on an efficient and fair tax system that essentially determines effective functioning of the public finance system and thus - state and national economy as a whole (Szilovics 2019). With that in mind, in recent years Hungary has been making serious efforts to combat phenomena detrimental for domestic budget, such like untaxed dealings, tax evasion or tax avoidance (Deak 2003). The main reason that triggered the deep transformation implemented in the Hungarian tax policy was the size of its shadow economy. That is why numerous tax reforms were undertaken to improve fiscal discipline and to protect domestic production (Możdzierz 2016).

As trade expanded due to the country's accession to European Common Market, movement of goods became more complex, and in consequence - VAT fraud and tax evasion have become not only more prevalent in the goods' transport, but also highly difficult to be traced in the intra-EU cross-border trade.

As demonstrated by the Hungarian tax authorities, the main problem concerns duty-free sales. Hungarian entrepreneurs pretending to be exporters take advantage of tax exemptions and, relying on fictitious transport documents, sell goods that have not in fact been exported from Hungary without paying the relevant fees. Additionally the ex-post control based only on paper documents was not effective enough. Moreover, during the audit, the fact that taxpayers used an unlimited number of copies of international shipping documents was also a problem, as they were not subject to strict accounting obligations. Well-trained and organized criminal groups were able to create and use a large number of fictitious accounts, exchange documents and invoices, and some members of the established supply chain often "disappeared" during official controls and audits (Szilovics 2019). Therefore, an effective trade control should, in addition to implementing an adequate legislation, mean closer monitoring. Monitoring is a useful tool for tax authorities, and by controlling trade it is possible to achieve an increase in tax revenue without increasing the tax burden. While tracking goods alone is insufficient, it is also necessary to monitor invoicing, payments and information flow in some cases.

Between 2012 and 2018, a number of changes and new legal instruments were introduced in Hungary to reduce tax losses and improve the efficiency of fair taxation, including the obligation to use on line cash registers, the introduction of the reverse charge of VAT, the tax record procedure, increased tax supervision, increased tax penalty rates, and the introduction of the electronic tracking system EKAER. Most of these changes were related to the development of digital tools and close cooperation of tax authorities. Digitalization made it possible to provide more accurate information in real time, and the development of electronic tools became the most effective means of control.

## The EKAER system in general

One of the most important instruments in the fight against tax fraud was the Electronic Public Road Trade Control System (EKAER), introduced in the beginning of 2015, which aimed to be the new and effective tool in fighting tax fraud to facilitate real-time audits of consignment movement as well as implementing the present toolbox. From December 2014 an intensive period of publishing information for the taxpayers

involved began via the Internet website www.eaker.nav.gov.hu, the Help Desk and customer service of the National Tax and Customs Administration (NTCA), presentations and press releases. The first two months after launching the system were a live test without any legal consequences, particularly penalty fees, or paying risk guarantees. The novelty is the wide connection of the official databases, which guarantee more coordinated audits and, shorter response times. The EKAER is an electronic platform of data access interface reachable via the Internet. The network of information is significant in relations to the first place of storage, which is in the shadows, undetected without prompt additional information (Höflinger 2019, 3-4).

The functioning of EKAER is regulated by the following legal acts: Act CLI of 2017 on the Tax Administration and the Regulation of Tax Administration, Act CLI of 2017 on the Rules of Taxation, Government Decree 465/2017 (XII.28.) on the Detailed Rules of Tax Administration Procedures, Decree 5/2015 (II.27.) of the Ministry for National Economy on the Operation of the Electronic Public Road Trade Transport System EKAER and Decree 51/2014 (XII.31.) of the Ministry for National Economy on the Determination of Risky Goods in association with the operation of EKAER.

The EKAER system imposes on taxpayers an obligation to electronically declare transports performed by vehicles liable to pay toll, i.e. vehicles with a permissible total weight exceeding 3.5 tons, in the following scope: acquisition of goods from another member state of the European Union into the territory of Hungary or for other purposes; delivery of goods from the territory of Hungary to another member state or for other purposes; first-time delivery of goods subject to domestic taxation to other than end customers. In addition, the obligation to register applies to the transport of goods classified as so-called risky foodstuffs (e.g. meat products, dairy products, eggs, sugar), where these goods are transported in a vehicle not subject to toll payment and the weight of the goods intended for the same consignee in the same transport exceeds 200 kg or the net value of 250,000 forints. However, in the case of goods defined as other risky goods (e.g. lubricants, fertilizers, solvents) when they are transported in a vehicle not subject to toll payment and the weight of the goods transported to the same consignee within the same carriage exceeds 500 kg or the net value of 1 million forints.

According to article 7 of Act CL of 2017 on the rules of taxation, EKAER shall mean the Electronic Public Road Transportation System operated by the state tax and customs authority, intended to minor compliance with tax obligations arising in connection with the transportation of goods on public roads from any member State of the European Union to the territory of Hungary, or from the territory of Hungary to any member State of the European Union, or within the framework of internal trade inside the territory of Hungary.

The following taxpayers are obliged to register and report in the EKAER system:

- hose who acquire or import goods from the European Union to Hungary by means of a vehicle that is subject to toll,
- those who sell or export goods from Hungary to the European Union by means of a vehicle that is subject to toll,
- those who are engaged in the first taxable sale of goods to an entity other than a consumer by means of a vehicle that is subject to toll.

In order to determine the EKAER number, the taxpayer registers on the electronic platform of the National Tax and Customs Administration of Hungary (NTCA), providing basic data on a specific shipment, i.e. the name of the shipper or a consignee, the loading or unloading address, the type, weight, value and origin of goods according to the applicable customs nomenclature, the purpose and the reason for transport (e.g. sale, work contract, storage), the registration number of the means of transport, the date of arrival at its destination in the case of intra-Community purchases of goods and the first taxable purchase made by customers who are not the final consumers. Pertaining goods – type, weight, value, origin as per applicable customs nomenclature, purpose and reason of transport (e.g. sale, contract for works, storage), registration number of the means of transport, date of arrival at its destination in the case of intra-Community purchases of goods and the first taxable purchase made by customers who are not their final consumers or the date when the carrier takes over the goods in the case of intra-Community purchases. The generated EKAER

number is unique and assigned to one shipment only. A consignment is understood as a single transport operation performed on the same route to the consignee, transported by the consignor in the same vehicle. If the Consignor transports one or more kinds of goods in one vehicle to several consignees, then the number of generated notifications depends on the number of consignees. EKAER number is valid for 15 days from the date of its determination and during this period loading, transport and receipt of goods must take place.

Additional special rules apply to the transport of risky goods, i.e. various types of foodstuffs (e.g. meat, milk, eggs, whey, honey, vegetables, fruit, cereals, rice, soya, oil) or other products (such as flowers, natural sands, minerals, firewood, clothing, footwear). Taxpayers are required to provide a guarantee of at least 15% of the total net value of the risky goods assigned to the taxpayer's EKAER numbers. The deposit shall be paid into an escrow account or granted by financial institutions registered with the tax authorities (Varga 2019). According to point IV 10 of Act XCII of 2003 on the Rules of Taxation, the taxpayers who have been in business for at least two years and who are not listed in the tax debtor database maintained by the tax authorities, or who are high priority taxpayers in bankruptcy or liquidation proceedings and are duly authorized, are exempt from the obligation to submit guarantees (Act XCII of 2003 on the Rules of Taxation). Once the guarantee is submitted, the tax authorities verify the tax accounts within 5 days before the end of each month. If the available amount of the guarantee does not cover all the taxpayer's liabilities, the tax authority shall first offset it against the advance payment of personal income tax and personal tax withheld or the due order of personal contributions withheld by the payer in the proportional amount of the debt. The remaining amounts shall be offset first against the remaining tax areas in the order specified or in proportion to the amount of debts. With the settlement of the guarantee, the debt is considered paid. The taxpayer receives an electronic notification of the reduced or fully expended amount of the guarantee, after which the guarantee must be paid again up to the specified amount in order to assign subsequent EKAER numbers for future transactions.

A taxpayer's failure to meet the obligations related to registering a transport in the EKAER system brings many legal consequences, e.g. an imposition of official seals on the means of transport, a seizure of goods and financial penalties.

During transport control, the tax and customs authority may oblige the controlled taxpayer to submit explanations concerning i.a. an indication of the product's origin and its owner, and to present a document confirming ownership rights. Additionally, the authority is also entitled to call upon all controlled entities, i.e. the carrier, the consignor or the consignee, to submit declarations within the scope of: name and quantity of transported goods; designation of the means of transport; address of receipt and unloading of goods; EKAER number; legal title of property use, if the unloading address is not the address of the seat or branch of a given entity. In addition, if there are inconsistencies between the shipment and the destination, the quantity of the goods transported and the type of means of transport or the place of unloading, the tax and customs authority may place official seals on the vehicle transporting the goods except for live animals and perishable goods. If a control by the tax and customs authority reveals that the taxpayer did not meet appropriate obligations related to the EKAER system by entering incorrect, incomplete or false data in the declaration, the transported goods or, respectively, their undeclared part shall be deemed unverified in the system. A financial penalty of up to 40% of the value of the unverified goods is then imposed on the taxpayer. In order to avoid paying the financial penalty, the transported goods may be seized by the tax and customs authorities.

## EKAER in practice

The EKAER system is an electronic platform that allows to control the movement and origin of goods, including Community delivery and sales, as well as goods subject to tax in domestic trade. Its main purpose is primarily to strengthen the position of economic operators legally operating in the market, increase the transparency of trade in goods, eliminate fraud mainly related to the market of food products and to reduce tax evasion.

The key to the efficient and effective operation of the EKAER system is the extensive connection with official databases of other government agencies and close cooperation in this regard. In Hungary public road carriers are required to pay a fee for the usage of motorways, dual carriageways and main roads (Pardavi 2017). The National Tax and Customs Administration is authorized under Act LXVII of 2013 on the payment of tolls to directly connect to the entire dataset of the HU-GO electronic toll collection system. This is a traffic monitoring camera system installed on the Hungarian road system, which tracks the movement of vehicles subject to road tolls and complies a database of the information obtained. In this way, the information on vehicle movements recorded by cameras and on-board units can be automatically linked to EKAER notifications, enabling the tax and customs authorities to determine the appearance and weight of the means of transport or the route taken (Fenyvesi, Pinter 2020). In addition, the EKAER system is linked to the FELIR database, maintained by the National Food Chain Safety Bureau, which contains information in the area of food commodities, as well as the VAT Information Exchange System (VIES) and data provided under the Foreign Account Information Disclosure for Tax Purposes Act FATCA.

The increasing mobility of taxpayers and the opportunities provided by the development of information technology increasingly emphasize the automatic exchange of bulk data within the scope of the same organization (Csilla 2019). IT cooperation has created a complex interface between tax and customs administration's IT systems. The activities of various units in the areas of control, audit, risk analysis, tax and customs collection form the basis for IT cooperation between these units and provide the background for close and coordinated organizational cooperation. In order to use the system data across the tax and customs administration, risk analysis combines specific taxpayer data from such areas as company personnel, company records, tax reporting and returns, audit and customs. Thus, real-time risk analysis is performed based on EKAER notifications. This enables tax and customs authorities to take real-time action and intervene during the actual movement of goods, including the identification of irregularities related to the movement of goods (e.g. a change in the weight of the goods or the route of travel). Moreover, EKAER system data may also be used for tax control. VAT declarations are automatically compared with information concerning intra-community deliveries or purchases of goods reported by EKAER, thus making it possible to select taxpayers for control on the basis of pre-tax risk analysis.

In 2018 The National Tax and Customs Administration published a report on the practice of imposing fines in connection with taxpayers' failure to comply with their obligations under the EKAER system. The report shows that the most common errors are administrative in nature and are the result of unintentional negligence or lack of information, e.g. indication of incorrect data, determination of incorrect value of goods, lack of notifications and deadlines, as well as failure to close the EKAER number within 15 days. In the case of so-called minor, one-time errors, usually resulting from an inadvertent action, control authorities impose small fines of 4-5%, regardless of the value of the goods.

The report found that a maximum fine of 40% of the value of the goods was imposed relatively infrequently, and tended to concern repeated errors, considered to be deliberate actions by a company to circumvent legislation (Szilovics 2019). Moreover, it was found that one of the biggest irregularities in the functioning of this system is the lack of notifying of incorrectly entered information or failure to complete required fields. Thus, after assigning EKAER number, the entrepreneur has no possibility to correct the data in the application. If a mistake is noticed, the taxpayer may prepare a written confirmation of identification of the mistake and willingness to correct it, which would be evidence for the tax authorities that the entrepreneur acted in good faith and tried to meet all legal requirements in order to correctly register the EKAER declaration. The above procedure may work in favour of a taxpayer in case of an appeal procedure, when the tax authority, examining evidence in the case, assesses such circumstance in favour of the party when issuing a decision concerning breach of EKAER obligations. One of the remedies is to standardize processes and integrate them with modern IT solutions, which effectively avoid errors caused by human oversight. Developing internal procedures and training employees operating EKAER is also very important. Proper preparation and education in this area will allow to reduce the risk of errors. Additionally, more and more

entrepreneurs decide to use services of external entities consisting in professional handling of activities related to fulfilling duties concerning EKAER system.

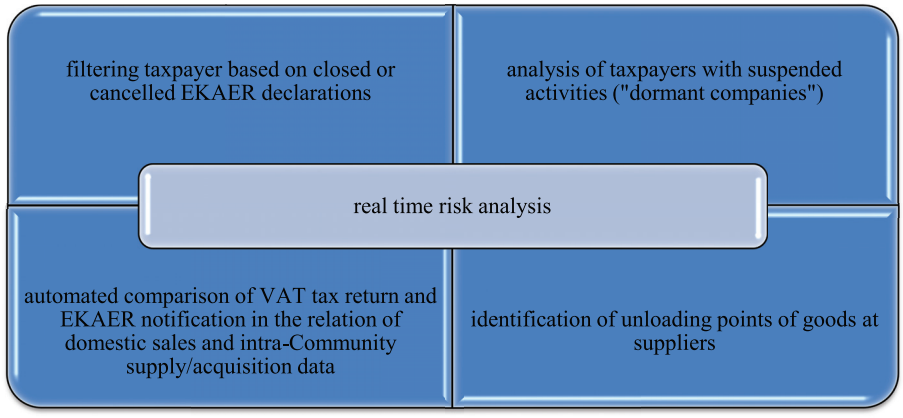
The data of EKAER notifications are not only for law enforcement purposes. EKAER data integrated into the strategic system is used as basic information. This also predetermines the type of action to be taken in the event of a particular risk. Verification of taxpayers' compliance with their EKAER obligations involves, among other things, real-time and ex-post retrospective audits.

Real-time on-site inspections are usually carried out by financial inspectors, working closely with the EKAER dispatch group, which is tasked with performing an initial risk assessment, assigning targeted inspections, immediately processing information obtained during on-site inspections, and identifying risk factors. EKAER Analyzer software is also used in the tasks performed by financial inspectors, providing communication between the EKAER database and the electronic toll collection camera network, so that the current position of the goods can be monitored in real time based on the registration numbers of the vehicles and route changes can be identified in comparison with the information contained in the EKAER declaration. Real-time control can be performed not only during transport, but also at the consignee or during unloading. The most common irregularities revealed during the inspection consist in discrepancies between data in the EKAER declaration and the waybill, change of the unloading location, or even applying for an EKAER number only at the beginning of the inspection.

A retrospective audit is carried out by tax inspectors. Obligations resulting from EKAER are not verified as a part of an audit of all taxes, but mainly in terms of certain tax obligations. This means that irrespective of whether EKAER reports for a given period have been audited, they may be verified for the same period, but in regard to other tax liabilities. Often an audit is initiated on the basis of discrepancies between the EKAER reports and VAT returns or on the basis of a current risk analysis (Prantner 2017).

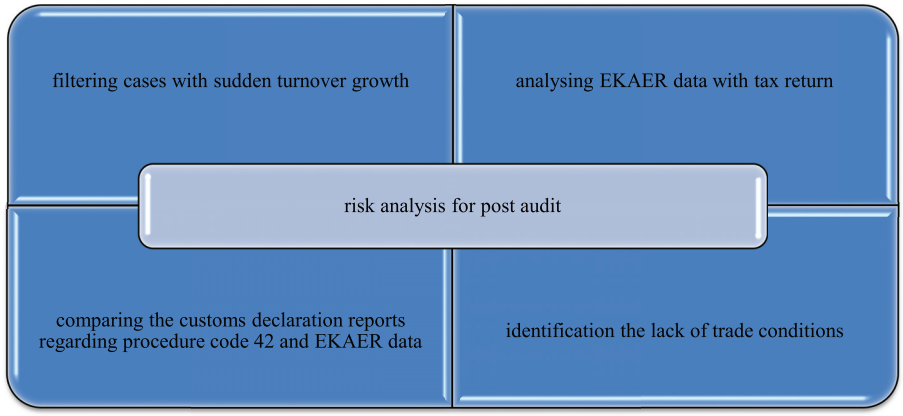
In order to utilize the system-based data in an organization-wide manner, risk analysis combines control of data known to taxpayers, such as company personnel, company filing, tax reporting and returns, control and customs. So on the one hand the national Tax and Customs Administration can take a real-time action, thus it can intervene with the law enforcement during the movement of goods. On the other hand, if EKAER notification data is not available, visual appearance and weight data can identify anomalies related to the movement of goods (sudden weight loss, an unreasonable route). Regarding tax audits, there is automated comparison of VAT returns and intra-community supplies or purchases of goods reported by EKAER, which allows taxpayers submitting tax returns to be selected for tax audits based on pre-tax risk analysis. The sudden surge of turnover of sleeping business can be immediately detected, an actual delivery to another

Fig. 1. Elements of real time risk analysis




Source: Own elaboration based on Kelemen L. The Electronic Public Road Trade Control System, 2020

Fig. 2. Elements of risk analysis for post audit




Source: Own elaboration based on Kelemen L. The Electronic Public Road Transport Control System, 2020

Member State following import duty clearance with VAT suspension, destined for another member State can be verified by analysis as well. In conclusion, all data is interrelated and interconnected. The more we deepen the scope of data utilization, the more it generates new analytical considerations (Kelemen 2020).

## Experiences and achievements

Representatives of Hungarian organisations have negatively assessed the implementation of EKAER and have presented a number of threats and problems connected with this system, such as:

- chaos in the transport industry in the initial period of the system's operation resulting from the lack of knowledge, experience or practical testing of the system;
- new obligations and challenges for enterprises that have to constantly adapt to changes that are being introduced by government authorities;
- a smaller number of orders from investors who consider the new rules to be problematic, which will simultaneously have a negative impact on the entire logistics industry;
- additional costs connected with business activity regarding the operation of the system, like installation of IT applications, additional duties of employees, a need for employment of new people;
- a change of work organization by e.g. ensuring the system operation during night hours or using services of external companies for an efficient and proper use of the system as well as avoiding mistakes;
- high criminal sanctions and providing financial guarantee that may threaten the financial liquidity of legal enterprises.

Some doubts were also raised by the European Commission which, in October 2017, launched an official infringement procedure and called upon Hungary to remedy the deficiencies of the EKAER system. According to the European Commission, the system violates the VAT Simplification Directive and does not ensure the free movement of goods guaranteed by the Treaty on the Functioning of the European Union, as it imposes a number of obligations on operators to complete formal procedures (Kálmán 2017). The system is based on extensive administration, and the formal requirements must be met by many parties involved in logistical operations in Hungary, which physically involves crossing the borders of the European Union. Such procedures can be a barrier to intra-Community trade and effectively discourage transactions with EU partners. In addition, there is the problem of the need to ensure financial security in the trade of high-risk goods, where securing 15% of the value of the goods can be a considerable financial burden for a company and effectively deter from making an intra-Community transaction.

There are still some gaps in the system and the tax authority has to be vigilant to prevent fraud. The carriers shifted to the practice of overcharging the 3.5 tonnes of motor vehicles and thus delivering more goods, without the cargo would have been obligatory to EKAER system. Another problem was if the carrier transported a risky product with a weight of less than 500 kg or less than 1 million forint, and it was not obliged to apply for an EKAER number. So the scope of notifications has been increased since the system implementation. On the other hand the wider scope of notification would not be a good solution because of the burden of administration (Nagy, Gergely, Katona 2018).

Despite numerous doubts, the Hungarian government claims that the introduction of EKAER has contributed to an increase in VAT revenue and a reduction of the shadow economy. Over the past years, the system has successfully increased the scale of registered trade in vegetables and fruit, about 80% of the black market in Hungary is linked to the food industry (Frizis, Głowacki 2017). The tax authorities have the largest data pool in the country, particularly for road transport within Hungary. In 2018 there were 45 million declarations and reports stored and processed in the system (National Tax and Customs Administration Bulletin 2018). On the one hand, the tax and customs administration has real-time access to various systems, such as road tolls and traffic control, which precisely identify a particular vehicle and even make it possible to estimate the weight of transported goods. At the same time, it receives notifications in the EKAER system, which allows for ongoing verification of information. Thanks to the possibility of using such a large amount of system data, the tax authorities have found many irregularities, the disclosure of which would otherwise be much more difficult, e.g. taxpayers, who did not register economic activity, but sent and received large quantities of construction materials; taxpayers making EKAER declarations without declaring VAT in relation to supplies made; taxpayers subject to tax execution, who received shipments of a large value from the European Union, seized immediately by tax authorities in order to settle tax arrears; taxpayers receiving large quantities of construction materials for unregistered construction sites where illegal workers were discovered during inspections; taxpayers procuring goods from the European Union that should have been exempt from excise duty. The above examples prove that EKAER system is used not only for combating VAT fraud, but also contributes to increasing revenues from other taxes (Feher 2017).

In 2015 more than 70,000 roadside inspections were conducted regarding the fulfilment of EKAER obligations (Szoke, Horvath 2016). Taxpayers registered an average of 1 million notifications per month. 24700 audits were conducted to determine compliance with obligations under the EKAER system, imposing fines of 160 million Hungarian forints on taxpayers. During 494 tax audits a difference in tax liabilities totalling 2.1 billion Hungarian forints was identified. As a result of 17,000 audits on compliance with individual tax obligations, penalties of 193 million Hungarian forints were imposed on taxpayers.

In the following years of the system's operation, the number of registered EKAER notifications increased regularly, i.e. 11 million were recorded in 2016, while in 2018 over 13 million notifications. The number of roadside checks carried out has also increased to 165,000 in 2019 and tax inspections to 12,500, thus revealing 15 billion Hungarian forints of unpaid tax liabilities (National Tax and Customs Administration Bulletin 2019).

In addition, since the implementation of EKAER to 2019, there has been a significant improvement in VAT revenue and a reduction in the underground economy. Every year the European Union estimates member States` value-added tax deficit. The analysis is based on the rate of VAT Total Tax Liability (VTTL) and is obtained from data on national income. Firstly the net basis of assessment is calculated. This gives the VTTL by applying the weighted tax rate average to it. Then it`s compared to the actual amount of value-added tax collected. The difference between the two gives the value-added tax deficit (VAT gap) which is presented as a percentage amount in order to facilitate comparison among Member States. In terms of the VAT gap, Hungary is showing an improving trend (Varga, Kenyeres 2018). An increase in VAT revenue of more than 36% was recorded and changes were observed in the relative size of the tax gap. In 2014, the size of the tax gap oscillated at 18.5% and the largest decrease of this value down to 6.6% was observed in 2019. However, with regard to the reduction of the shadow economy, its ratio to GDP was reduced to 11% in 2019 from 22% in 2015.

Table 1. VAT revenue, VTTL, VAT gap in Hungary from 2014 to 2019 (in millions of Hungarian forints)

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|
| VTTL | 3.695.038 | 3.938.985 | 3.842.561 | 4.193.962 | 4.509.050 | 4.847.886 |
| VAT Revenue | 3.011.162 | 3.309.540 | 3.299.838 | 3.626.566 | 4.129.537 | 4.526.757 |
| VAT GAP | 683.876 | 625.445 | 542.723 | 567.396 | 379.513 | |
| VAT GAP as a percent of VTTL | 18.5% | 15.9% | 14.1% | 13.5% | 8.4% | 6.6% |

Source: own compilation based on CASE *Final Report 2020 Study and Reports on the VAT Gap in the EU-28 Member States*, 2021

The functioning of EKAER was assessed by taxpayers in a survey conducted by the German-Hungarian Chamber of Commerce and Economics, in which 195 companies participated. The results of the survey showed, among other things, that in the case of 82% of the companies the system is operated by a maximum of two employees, in the remaining 14% of the companies - between three and five employees, while in 4% of the surveyed companies - even six employees. More than half of the companies estimated the annual cost of the EKAER system at 1 million Hungarian forints, while another 43% of the surveyed companies put it between 1-10 million. The study found that 37% of the companies experienced delays due to EKAER in outbound shipments, while 45% of the companies said they experienced delays in receiving inbound shipments (Karaskiewicz 2015).

## Conclusion

Despite many doubts related to the implementation of EKAER, the Hungarian government sees the system as a huge success of the tax and customs administration in the fight against tax fraud. Thanks to industry consultations and experience gained in the following years, EKAER is regularly modified, and the introduced amendments are to ensure better functioning not only for the tax authorities, but most of all for the taxpayers.

It is worth pointing out some similarities of the EKAER system with other systems operating in the European Union, which concern monitoring of goods. One of them is track & trace which was included in the protocol of the World Trade Organization Framework Convention on Tobacco Control to Eliminate Illicit Trade in Tobacco Products, as well as the revision of the European Union Tobacco Product Directive. 'Tracking' in the context of trade means monitoring the movement of finished goods through the supply chain which is also a means to ensure that all regulatory requirements are met such as payment of taxes. 'Tracing', which looks backward down the supply chain, is a powerful aid in determining the point at which any out-of-the-ordinary event occurred, for example, to establish where a product was diverted out of the legitimate supply chain. 'Secure track and trace' on the other hand covers the authentication and traceability of products through a secure supply chain so that governments, industry and manufacturers, and the population at large can be confident that the product they are using is genuine and has had the correct tax collected and legitimate industry can be more competitive (Doyle 2014). Thus, the mechanism of operation of both systems is similar, but the groups of products subject to monitoring differ. Track & trace concerns tobacco products, while EKAER mainly deals with food products.

Based on the Hungarian experience the above-mentioned technology has been used by tax administration in Poland. The monitoring system for the road and rail carriage of goods and heating fuels trading called SENT was implemented in 2017. It has a direct impact on improving the effectiveness of controls which are focused on so-called sensitive goods in particular: motor and heating fuels, liquid gas (LPG), denatured ethyl alcohol and dried tobacco. The system consists of four key elements: notification, geolocation data, controls and penal sanction (Janda-Brzezińska 2020). Each transport of the above-mentioned goods related to taxable activities requires a notification to the system of the National Revenue Administration. The similarity of SENT and EKAER systems mainly concerns the general principles of system operation, e.g. the obligation to report transport in the system, obtaining a unique number, transmitting vehicle geolocation data and high penal sanctions. Some resemblance also exists in the problems and doubts reported by Polish

entrepreneurs. It is worth to mention the main difference that occurs between these systems - SENT system does not have a connection with databases of other institutions. The EKAER system is undoubtedly more complex, linked to many databases and integrated with different institutions, which certainly affects the greater possibilities of tax authorities.

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