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MASTER THESIS

Application of VAT on intracommunity supplies of goods and services and its potential improvements

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Declaration of Authorship

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Abstract

The creation of the single market in the European Union facilitated the process of trade among the Member States, however, it brought the opportunity for the participants of trade market to find ways to avoid Value-Added Tax on intra-community transactions. This issue makes the government doubt the reliability of the current VAT system in EU as the gap between the VAT expect and actual revenue, nowadays, is about €150mil.

This thesis focuses on the possible solutions regarding abovementioned problem. The studies of the European Commission, audit firms and different authors were used to get the information.

The application of the reverse-charge mechanism would be the best solution for European Union to tackle the fraud in comparison with the definitive system or current VAT system with improvements, this conclusion was made based on the several factors, such as anti-fraud effect, impact on SMEs, macroeconomic effect and costs that would occur.

JEL Classification: H2, H26, H21

Key words: Value-Added Tax, system, fraud, European Commission, intra-community, transaction, gap, impact, modelling

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INTRODUCTION

It is not possible to express how the trade has expanded during last century. As the market and society develop, it becomes harder to regulate trade process and more comprehensive systems are created in reply. Taxation is one of these replies, it is one of the vital elements in managing national income and has played an important role in civilized societies since their birth thousands of years ago.

Taxes are divided into two main types: direct and indirect. Direct taxes mean the obligation of tax is borne fully by the entity that pays and cannot be passed on to another entity; examples are corporation tax and individual income tax (Tepperova & Zidkova, 2015).

Indirect taxes are typically the charges that are imposed on goods and services (consumptions) like Value Added Tax (further "VAT"), sales tax, excise tax and custom duties. Indirect taxes are passed on to the consumer as part of the purchase price of a good or service. The consumer is ultimately paying the tax by paying more for the good (OECD, 2018).

This thesis is going to be based on the analyses of the Value Added Tax system. It is one of the most successful and impressive phenomena in the contemporary fiscal structures (Laman, 2013). The suggestion is that a tax is levied on the buyer all the way up the supply chain of a product from the initial purchase of raw materials through to the retail consumer of the product to offset shared services and infrastructure provided to citizens by the state.

VAT, known in some countries as a goods and services tax (GST), is a type of tax that is assessed incrementally, based on the growth in value of a product or service at each stage of production or distribution.

The first countries, which have utilized the consumption tax, made it during the World War I. While the term VAT was introduced in France in 1953 and was applied in Ivory Coast on 1954 as an experiment. Nowadays, 166 countries out of 193 adopted the system, so it is possible to consider that the creation has made a positive impact on the economy, as VAT is a stable resource of revenue for the state (Helgason, 2017).

Obviously, not every person is law-abiding and they do not understand why some part of revenue should be taken by the government and seek for the opportunity how to cheat the system. Thus, the protective and penal measures have been the subject of improvement from the beginning of the VAT system usage.

The aim of this Master Thesis is to assess the potential loopholes in the VAT system applicable on international trade within the EU and the reason of its creation and provide some information regarding the potential improvements. The problem is going to be analyzed from the perspective of the European Union, as there are differences in the tax legislation of Member States and the scale of the problem and how they can improve their tax compliance cooperating., The solutions suggested by EU Commission are implemented in directives and regulations applied to all EU Member States (European Commission, 2017).

The significance of the VAT fraud problem present in the EU can be illustrated by the following recent examples of VAT frauds described in press.

The Slovak Spectator news portal has written the article about the VAT fraud schemes in Slovakia, one of them was when Mikuláš Vareha has stolen public finances in the amount of more than € 58 million on VAT (2018). His network of fictitious businesses reached up to such absurdities as bark beetle trading. Eventually he ended up behind bars for 11 years.

Another case was considered in portal the Radio Poland. Organized crime group who are suspected over alleged VAT fraud that transcended national borders, the losses to public coffers from the suspected scam are estimated at more than PLN 340 million (2018). Investigators believe the group used fraudulent value-added tax invoices documenting fictitious trade in goods such as foodstuffs and manufactured products.

Next recent case involving the national-top level was mentioned in the news organization Politico: the European Commission formally demanded that the U.K. pay €2.7 billion into the EU budget after investigators found that British authorities allowed a massive Chinese fraud network to evade paying the appropriate level of customs duties (Paravinci & Marks, 2018).

Therefore, there is one more reason to take in consideration the European Union area, as the Member states have the common market which creates extra opportunities for the VAT frauds, which actually can be made on the international level. The above-mentioned examples have clearly provided the evidence that there are problems and that the system needs to be improved.

Thus, based on the above-mentioned examples of VAT fraud schemes the topic of the thesis seems to be relevant. The governments are in the continuous process of the system improvement, as the amount of VAT revenues that did not reach the tax authorities in 2016 in EU was about €150 billion, this information is based on the study of the Center for Social and Economic Research (CASE; Institute for Advanced Studies, 2018). There is no doubt that this issue is considered as important to resolve.

Many countries attempt to raise the VAT revenues to the public budget, but there is no apparent increase in the proportion of VAT on gross domestic product in OECD countries (OECD, 2016). The reason for this could be a growing phenomenon of VAT evasion and even fraud (Manea A. C. and Manea L., 2011).

The literature review of the thesis is going to be based on the studies and reports directly related to topic of thesis, such as Study and Reports on VAT Gap in the 28-Member States, where Center for Social and Economic Research prepares reports for the Directorate General Taxation and Customs Union regarding the tendency of VAT gap by country, as well as some changes in legislation of Member States.

One more study that is going to be used is “Combating VAT fraud in the EU – the way forward” by International VAT Association; in this work the experts were analyzing situation 10 years back and solutions offered. The history of the development of VAT directives and rules are also included in the literature review.

The general objective of the thesis is to study VAT fraud in the European Union and try to find useful alternative solution to reduce negative impacts of tax leakages, the control of tax evasion and avoidance.

The specific objectives are:

- To assess the EU VAT tax structure and history of VAT;

- To find out the differences in VAT gap of countries in EU where there is high non-compliance and more successful countries and take into account as well the social and economic factors that also have an influence on the VAT compliance;

 To trace out administrative, legal and other constraints in tax (VAT) compliance and enforcement of laws;

 To provide suggestions / recommendations for making VAT system effective and efficient in EU.

This study covers only value added tax. Leakages of other taxes and non-tax revenue have been deliberately left out because of the time and scope constraints.

The limitations of the study are:

- It is not a complete study of the whole tax system in the EU.

- The study is based on secondary data that covers the period from 2013/14 to 2016/17.

- The accuracy and reliability of the conclusions of data depends upon the published data, official records and opinion of the respondents.

1. LITERATURE REVIEW

Section 1 presents previous research explaining what VAT frauds are, difference between VAT evasion and fraud, types of VAT frauds. It introduces milestones of European Commission regulations and recent suggestions of what can be improved.

1.1. Current VAT system in European Union

The current EU VAT system of international trade taxation came into effect on 1 January 1993. During the same year the single market was introduced, fiscal customs-based controls at the internal Member State borders in European Union were eliminated on the side of a new VAT system of control for intra-Community trade (Laman, 2013). Under this new VAT system, local VAT legislation has been respected and as a result maintained. The 1993 VAT system resulted in the elimination of around 60 million customs documents a year, leading to a significant relief in the administrative burden faced by EU businesses.

The European VAT Directive dictates regulations that every EU Member State is required to employ (Laman, 2013). However, it does permit EU Member States to introduce exclusions and partial revocations (derogations) from the VAT regulations, as stated in the EU VAT Directive No. 2006/112(further “VAT Directive). Moreover, this directive does not establish the VAT rates that EU Member States must apply. There is only a minimum rate of 15%. Therefore, it means that VAT rates among Member States fluctuate widely. Currently, EU Member States apply standard rates varying between 15% and 27%. They may also apply one or two reduced rates, with a minimum of 5%.

A VAT zero rate is applied on cross-border supplies of goods to businesses among Member States and non-EU countries, it is subject to strict terms and conditions. If the appropriate use of the VAT zero rate cannot be proven (i.e. by supporting documentation), the local tax authorities may enact a VAT assessment on the supplier, possibly accompanied with penalties and interest (Businesses and charging VAT, n.d.).

For cross-border supplies of services, the ‘place of supply’ rules clarify which tax jurisdiction is allowed to charge VAT. There are various individual rules are applied for goods and for services, as well as for business-to business (B2B) and business-to-customer (B2C) supplies. In each case, there is a general rule and exceptions that can apply for certain types of transactions (Laman, 2013).

The system is not perfect and there are disadvantages of it, as well as advantages. In the table 1 below, the positive and negative sides of current system are represented.

Advantages	Disadvantages
Fiscal stability of VAT revenue generation	Regressive character of VAT (taking a higher fraction of low incomes than of high incomes)
Cash-flow benefit for the government (regular collection of VAT, short taxation periods)	
Invisibility of VAT for the final consumers who bear the VAT burden (tax is hidden in the consumer price)	
Fiscal neutrality (VAT does not influence the length of the distribution chain)	
International neutrality (exports could be entirely de-taxed, and then re-taxed at the rate of the state of consumption, which prevents distortions of competition)	VAT evasion, especially chain and carousel fraud
General character (each person is reached by the tax)	Prevailing negative impact on the VAT payers’ cash flow
	Large administrative burden on VAT taxpayers due to increased compliance caused by the anti-fraud measures
	High administrative costs of tax authorities to combat tax evasion

Table 1 Advantages and disadvantages of current VAT system
Source: Terra and Kajus (2015), Ainsworth (2016), Mclure and Bloomfield (1987), Keen and Smith (2006) and own collaboration

As it was possible to observe in the table, there are negative sides of the system, which should be eliminated and one of them is the opportunity for the VAT evasion. Despite the existing regulations, rules and directives, VAT frauds still exist. It is remarkable that the VAT fraud takes advantage of weaknesses in the tax system, especially in the VAT regime applicable to domestic transactions subject to tax, but also on the intra-Community transactions as fraudsters do not fail to exploit the weaknesses inherent to the current VAT system on both levels of trade. It should be remembered that VAT fraud is not only a national problem.

In fact, the creation of the single European market in 1993 eliminating tax borderlines opened up new prospects for the commitment of fraud. For the method of taxing intra-Community trade today based on a transient and incomplete system for the implementation of large-scale fraud where impostors and accomplices share huge profits circuits. Deliveries of goods between Member States are exempted from tax in the State of departure, and give development to reverse charge in the country of the purchaser. Therefore, together with VAT fraud taking advantage of weaknesses in the VAT rules managing internal transactions, it has been advanced to a more complex form of fraud exploiting the weaknesses of the transitional arrangements for the taxation of intra-Community transactions (Fedeli & Forte , 2011).

The creation of a single EU VAT area was crucial for decreasing compliance costs for businesses and for simplifying VAT-related procedures (Committee on Economic and Monetary Affairs, 2019). However, as we could observe in the above-mentioned table the current system is not perfect and requires to be revised.

1.2 Measures proposed by the EU Commission to improve current VAT system

The work of EU Commission regarding the VAT has not ended till nowadays and they are expanding the rules and regulations according to development of the market. One of the latest release of EU commission took place in November 2017.The commissioner of Economic and Financial Affairs, Taxation and Customs Pierre Moscovici said that VAT fraud dilemma should be decided together and that EU is making successful attempts to improve towards the purpose of stopping criminal actions (VAT: European Commission welcomes adoption of new tools to combat fraud in the EU, 2018).

EU Official Journal published the offered new rules are stated below
(European Union, 2017):

- To make stronger cooperation between the members of European Union, allowing them to identify fraud more efficiently, especially taking into account "the online fraud";
- Substitute manual processing of information by the IT system, reducing the human factor risk;
- Allowing the orderly sharing of VAT data in the important and severe incidents of VAT fraud;
- Developing investigation between law enforcement and tax authorities at national and cross-border levels.

The progress of development of the VAT system in the EU started from April 2016, when the European Commission adopted a 'VAT Action Plan' in order to "reboot the current EU VAT system to make it simpler, more fraud-proof and business-friendly" (European Commission, n.d.). The key elements and aims of the Action Plan are demonstrated in the figure 1.

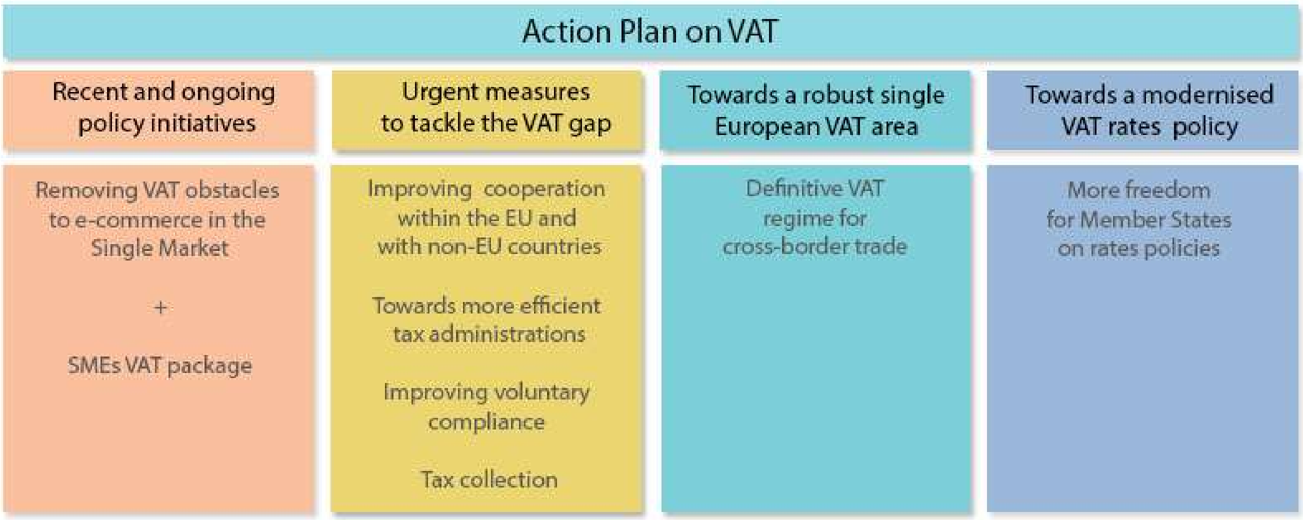

Fig.1 Action Plan on VAT proposed by EU Commission

Source: European Commission

During 2016 and 2017 EU has worked on renovation and simplification of VAT cross-border e-commerce, VAT system based on the definitive principle, new regulations of administrative cooperation between Member States of European Union. In the first quarter of 2018 EU Commission suggested simplified VAT rules for SMEs, offered to make more adaptable system for Member states to change VAT rate they apply to different commodities (European Commission, n.d.).

In May European Commission have presented the proposal on the reverse charge mechanism and Quick Reaction Mechanism against VAT fraud and definitive VAT system. The last development was on 2nd October 2018 when Council have implemented several of proposals in the VAT systems (European Commission, 2018), including administrative cooperation between Member States, VAT on e-publications, continuous monitoring and improving of the functioning of the VAT system on daily base.

As we could observe the process "gains momentum" continuously, the application of new procedures may be deferred until 1 January 2020.

In addition, there is one more definition, which is necessary to provide for my thesis. It is VAT gap, it signifies the difference between expected VAT revenues and VAT actually collected, provides an assessment of revenue loss because of tax fraud crime and related activities, but also due to bankruptcies, financial insolvencies or miscalculations.

1.3. VAT evasion in EU

Tax fraud distort the economic system as some economic units try to find the way how to gain an advantage from this situation, this situation results in unfair competition in the market. This kind of behavior in long run could provoke other economic units to act in the similar way. Moreover, tax evasion and avoidance of tax liabilities show the real effectiveness of the tax system. Good knowledge of the phenomena can help to improve the country tax system from both sides, legislative and administrative one (Shanini, 2015).

In the following list, there are listed opportunities of VAT evasion (Keen & Smith, 2007):

- Differentiation of rates - where the differential rates are large enough, so they can lead to the payment of compensation rights to some traders (those who use resources taxed at a high rate to produce products subject to a low VAT rate), which, in their turn, creates opportunities for fraudulent abuse has the disadvantage of widening the scope of the problem of compensation beyond the exports.

- Exemptions. VAT exemption represents as well its difficulties for the Member States. This is due both to the hypothetical inefficiency of production and to the problems arising in the distribution of input VAT for producers of taxable and exempted goods.
- Registration thresholds. The number of firms that have to be handled by the VAT administration can be dramatically decreased by setting a high turnover threshold. The VAT registration threshold varies widely even within the EU. The revenue lost by setting a high threshold may be small compared to the saving of administration costs to the authorities and compliance costs to the taxpayer, because the potential tax base is commonly very strongly concentrated in the largest companies. Besides that,, firms not registered for VAT nevertheless face a non-zero effective rate of tax, as they cannot reclaim the VAT paid on inputs.
- Timing of payments and refunds. The scale of some cases of VAT fraud depends on the rate at which the VAT is refunded compared to the VAT charge. Frauds related to false claims for compensation will be more tempting than reimbursements are paid faster, as this gives the authorities less time to detect fraud, and due to a longer time lag in returning funds compared to collections, funds may mean that A certain period of time firms may be more substantial net tax lenders for tax authorities.

After describing what are basic reasons why the fraud arises, it is possible to understand, that each country can have VAT gap with the internal problems, such as rate differentiation, exemptions and VAT thresholds. However, after the elimination of borders between countries in EU, fraudsters took opportunities of exemption of cross-border trade within the EU without the customs controls and started performing organized fraud.

All of these abovementioned reasons have influence on the government of Member States and EU Commission to have studies regarding the development of the VAT gap in EU.

The difficulty of the current system was recognized by European Commission as the main barrier to the full achievement of the single market in publication of Communication of 28 October 2015 titled “Upgrading the Single Market more opportunities for people and business” (European Commission, 2015).

As was mentioned before, the VAT gap, which represents difference between the amount of VAT revenue actually collected and the initial amount that is expected to be collected, has been increasing, the amount of loss reached EUR 151,5 billion in 2015 in the 28 Member States of European Union (European Commission, 2017). Therefore, there is no doubt that European Union requires comprehensive reform in its VAT system to reach the goal of the simple regulation for the cross-border transactions and effectivity towards the decrease of VAT gap and prevention of fraud activities.

Reports regarding the VAT gap are prepared yearly by the Institute for Advance Studies. The latest report (made in 2018) presents the VAT gap in 2016 for all Member States and indicates which industry has a biggest impact on the development of gap (CASE; Institute for Advanced Studies, 2018).

Authors analyze VTTL in a "top-down" approach by deducing the expected VAT liability from the observed national accounts data, such as supply and use tables (CASE; Institute for Advanced Studies, 2018).

The VAT gap for 2015 and 2016 is presented in Figure 3.

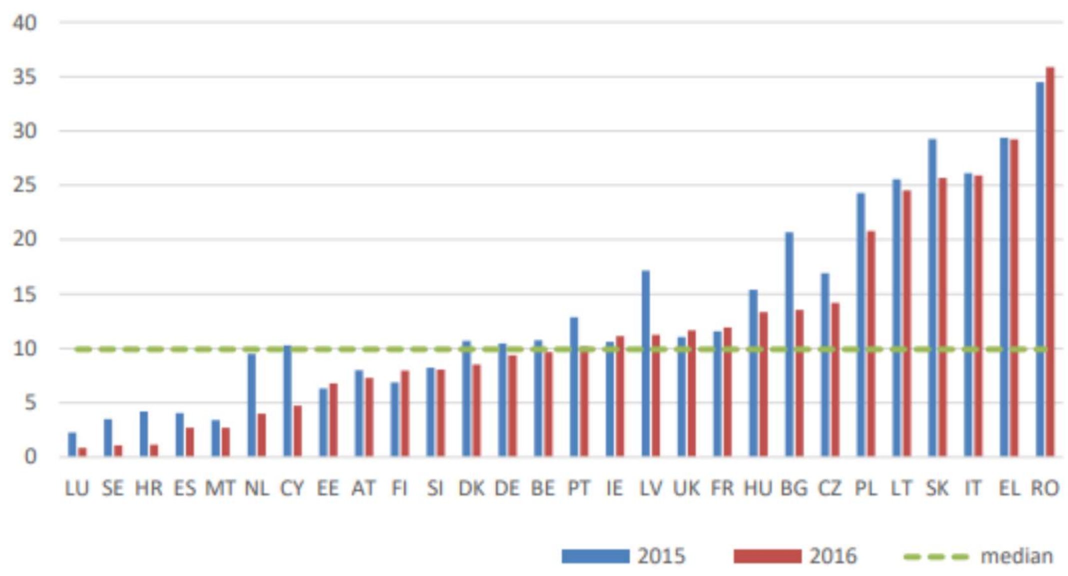

Figure 2 VAT Gap as a percent of the VTTL in EU-28 Member States, 2016 and 2015

Source: (CASE; Institute for Advanced Studies, 2018)

As it could be observed from the graph, the VAT Gap share declined in 22 countries and increased in six—namely, Romania, Finland, the UK, Ireland, Estonia, and France. The biggest fall in the VAT Gap of over five percentage points occurred in Bulgaria, Latvia, Cyprus, and the Netherlands. The smallest Gaps were observed in Luxembourg (0.85 percent), Sweden (1.08) percent, and Croatia (1.15 percent). The largest Gaps were registered in Romania (35.88 percent), Greece (29.22 percent), and Italy (25.90 percent). The median is approximately 10% of the VTTL among the Member States.

The VAT gap measured by the % of the VTTL is presented in the Figure 4 (excluding Cyprus as there is no information provided for the 2014)

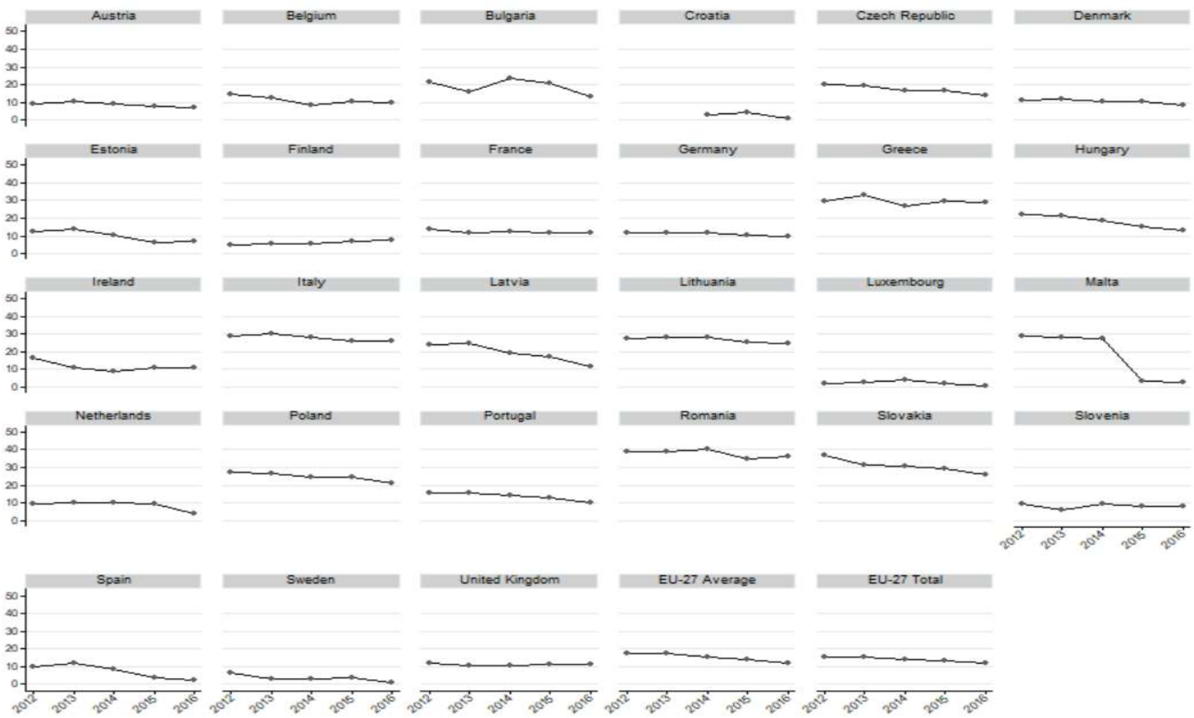

Figure 3 VAT Gap in EU Member States, 2011-2016

Source: (CASE; Institute for Advanced Studies, 2018)

The main outcome that could be made from the graphs is that average VAT gap in the EU is declining constantly, which shows the continuous work on the issue. That means that EU Member States are aware of the problem and they are trying to implement various anti-fraud measures, such as electronic reporting systems or reverse charge mechanism for domestic transactions. However, of course, there is a lot of space for the improvement and measures that need to be applied correctly as the VAT gap stands at €150 billion. Of that amount, missing trader fraud alone is estimated to account for a VAT revenue loss of around €50 billion per annum.

At the same time, the Commission has recognized that the current VAT system is too complex and disintegrated (i.e., unharmonized), and creates significant administrative burden for businesses, particularly those at the smaller end of the spectrum (PriceWaterhouseCoopers, 2018).

The important role for identification of the roots of the VAT evasion is which sector of the country's market has biggest impact on the VAT gap. In order to test the impact of the different actors on the VAT Gap, the authors of the study estimate a fixed effects model. They have tested one group of factors after another, and in the end, they have tested all groups simultaneously (CASE; Institute for Advanced Studies, 2018). In addition, they took in account the population (and its square), VAT tax rate dispersion, and GDP per capita.

The conclusion of this analysis was that the productive structure of the economy affects the VAT Gap. The remaining category is agriculture; hence, the estimates have to be interpreted as whether the share of GDP in a given sector has an influence on VAT gap. As expected, due to the fact that they are the ones that have a direct relationship with final consumers, the share of retailers (sellers) has the biggest impact on the VAT Gap; however, telecommunications, industry, and art (in this case, the estimate is hardly significant) also have an impact on the size of the VAT gap. In all cases, the impact is positive—that is, in favor of a larger tax gap.

A higher dispersal of tax rates shows a positive impact on tax evasion, also as expected, but the estimate is not statistically large .

Regarding the variables affecting individuals, results show that although the signs of all estimates related to "tax morale" make sense (the higher the share of older people, the higher the perception of government effectiveness), their estimates are not statistically significant. In contrast, the higher the unemployment rate (as a proxy of "liquidity constraints"), the higher the level of the tax gap (this estimate is statistically significant at the 90 percent confidence level).

Therefore , liquidity constraints and the productive structure of the economy is a factor in the VAT Gap, but they cannot be directly influenced by the tax administration. In spite of this, the added value of this type of analysis is making the tax administration alert of the exogenous constraints it faces regarding the VAT Gap. That is, efforts to decrease the tax gap should be larger when the economy bears liquidity constraints, or when the productive structure is such as the one described before (CASE; Institute for Advanced Studies, 2018).

The main outcomes that from this report is that in average EU has shown progress by reducing the VAT gap relative to the total tax liability, however, the amount of it is really enormous. Moreover, this study has shown that retailers and the people who are directly connected with the final consumers have the biggest influence on the VAT gap.

However, one more really valuable fact implied from this study is that the people content with the conditions of life in the country (possibly funded by public expenses of government), as in such countries as Luxembourg and Sweden, do not evade taxes and, therefore, those member states have lowest rate of the VAT gap.

Consequently, it is not only the VAT system that should be changed, and the rules upgraded, the biggest issue is in the countries itself, they should improve the life of their population, as the social factors can make a difference, as the lower the social conditions in the country are, the higher is the possibility that the population would be likely to avoid taxes and then regulate the tax system. For the countries with the low share of the VAT gap to minimize the international frauds connected with their countries, the authors recommend implementing the early-warning system for the high-risk traders, especially, for the trade with the countries with the highest share of the VAT gap.

1.4. The mechanism and types of VAT evasion

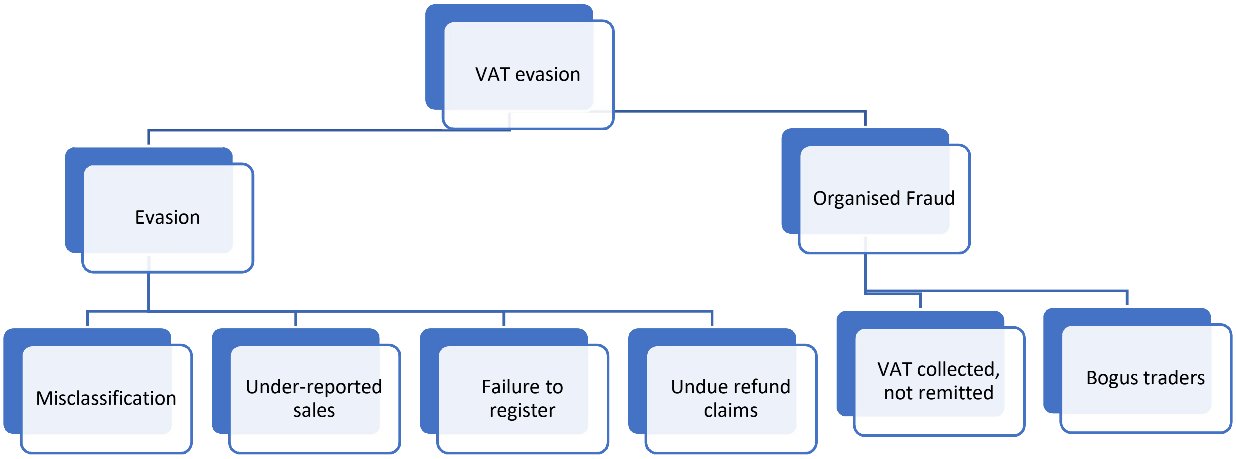

Figure 4 Subtypes of VAT Evasion

Source: Keen & Smith, 2007

Tax evasion could generally be described as achieving an illegal advantage of tax system by not paying the tax liability in correct amount.

De la Feria (2009) describes the difference between "evasion" and "organised fraud" terms. It is possible to explain evasion as mispresenting, hiding of information to decrease VAT liability, while the organised fraud contains of the systematic, organised actions to reach the tax financial advantage.

One of the differences between them is the type of lawbreakers: evasion is typical for the small companies or companies which are operating at national level, so they are using some kind of limitations of countries' regulation, while organised fraud is led by criminal gangs, spreading it on the cross-boarding area, taking opportunities of lack of current, real-time exchange of data and information between countries and their tax authorities.

VAT evasion has four sub-types:

- Failure to register is common for the situation where VAT payers sell to final customers when suppliers have turnover for the year more than the registration threshold.
- Under-reported sales occur when sellers give data only for some part of the sales, falsifying the accounts and having "black book" records without invoices issued.

- Undue refund claims evasion can happen in two ways: the common one is when products for private consumption is registered under the name of organisation making possible the VAT input recovery. The second one is when the partially-exempted trader, who supplies both exempted and taxable goods or services makes illegal actions with the claim refunding.
- Misclassification of sales takes place when sellers decrease their liability be the overstating the proportion of sales in goods or services subject to reduced rates of VAT.

VAT evasion can be divided into diverse sub-types. The main division is into general evasion (see four types in the list above) and fraud. These sub-types are represented above in figure 1. The more detailed description for VAT fraud and its two types is going to be mentioned below.

Borselli (2011) in his studies identifies 2 main types of organized VAT frauds:

a) The Missing Trader Fraud (VAT collected, not remitted)
b) Carousel Frauds (bogus traders)

Missing trader intra-community (further MTIC) frauds – is the most prevalent type of VAT fraud. The criminals make a structure of linked companies and individuals across Member States, the fraudster use the opportunities of the single market in order to abuse both national and international trading and revenue-accounting procedures.

This crime sees opportunity in legislation that permits trading across Member State borders to be VAT free: VAT is applied to transactions within a Member State at the applicable domestic rate (Borselli, 2011). This allows traders to import goods without accounting right away for the VAT. Any VAT charged on sales within one Member State should be declared and paid to that Member State's revenue authority. In simple MTIC cases, fraudsters sell the goods, charge the VAT to buyers without remitting the value to the tax authorities (Europol, n.d.).

The basic mechanism of the MTIC is shown in the figure 5.

As we could see below the main element of the MTIC mechanism is that they are using the opportunity of the zero-rated intercommunity transactions.

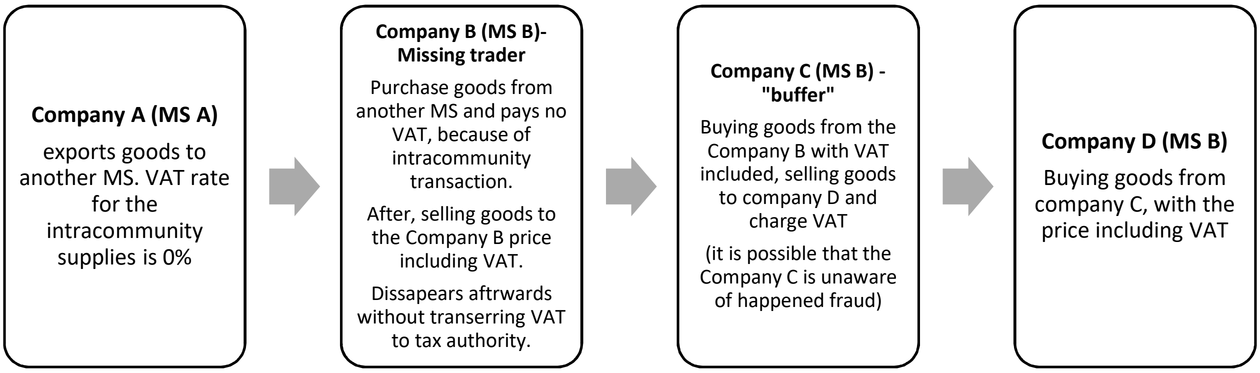

Figure 5 MTIC fraud mechanism

Source: own elaboration and J. Podlipnik, 2012

Carousel frauds are typically known as more complex missing intra community cases of VAT fraud of group of companies sell the same goods or services in a circle to achieve an illegal 'profit' by repeating the MTIC over and over again.

Carousel frauds, are the largest form of the most serious EU VAT frauds (Kroesen & de Wit, 2011).

Carousel fraud is primarily the goods with high value. Fraudsters prefer either the expensive products of small sizes or sectors to achieve great turnover. Therefore, it mainly concerned the fields of IT and electronics in general, that of mobile phones, luxury products like perfume, as well as automotive, oil and to a lesser extent textile (Kroesen & de Wit, 2011). Carousel fraud has also been found in recent years in trade of emission allowances in greenhouse gas emissions in many Member States.

The main difference between MTIC and carousel frauds is therefore that goods or tradable services eventually make their way back to the original seller, completing the loop (further 'carousel') (Podlipnik, 2012).

Fedeli and Forte (2011) state the frauds occur in different ways — in a single operation of fictitious export-import, or through a carousel.

Moreover, in case of the carousel fraud it is an organized intentional fraud made by the number of companies, who actually can involve "buffers", which are unaware of the existing fraud coalition. While the companies A, B and D are part of the fraud group.

In case of MTIC, which is not advanced to the carousel fraud, the process is not taking place over and over again, only company B is the fraudster.

Figure 6 illustrates the mechanism of carousel fraud involved with a simple example; in practice, many layers of additional complexity are added to the simple structure in order to obscure the fraud.

As it is possible to observe, the carousel fraud represents the vicious circle, where the fraudsters as in the MTIC fraud take advantage of the removal of fiscal frontiers in 1992.

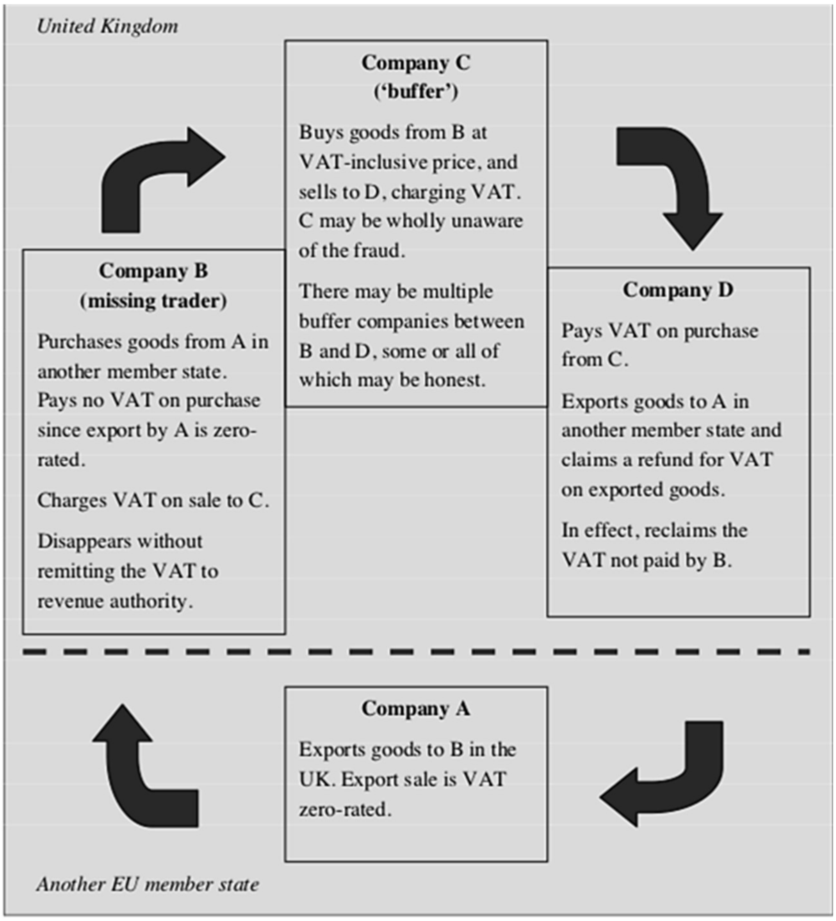

Figure 6 Carousel Fraud mechanism

Source: Fedeli & Forte , 2011

2. Solutions to the improvement of the current VAT system

In the literature review above, problems of the current VAT system were mentioned and how the VAT frauds take place and what are their mechanisms. In this part the possible solutions leading to the improvement are going to be described. They are:

- Definitive VAT system;
- General reverse charge mechanism (RCH);
- Improvement of current system by bigger amount of reporting (increasing the number of control statements and the knowledge of the tax administration regarding the taxable transactions)

Below paragraphs are intended to introduce what are the key features of abovementioned solutions to the existing problem.

2.1. Definitive system

The approach of the definitive system is to take the advantages of the single market and apply them into the VAT system, as one of the weaknesses of current VAT system is complicated structure of numerous rules in each member states, while the definitive system insists on harmonization of value-added tax over the European Union to make favorable conditions for companies having interstates business (Amand, 2014).

European Commission has set several principles for the offered definitive system (2017):

1. VAT rate on each transaction will be related to the country of destination - it corresponds to one of the main ideas of the VAT system (taxation in the country of consumption);
2. Focus on the liability of the supplier to provide sound information about the cross-border transactions and VAT to be applied on them and creation of the term "certified tax person"
3. Assurance of the VAT reporting and paying from the side of suppliers and clearing system (transferring collected taxes) between the Member states.

In addition, there is not going to be a difference between domestic and cross-border transactions. Even if the VAT payer who purchased the goods from another member state disappears without remitting the VAT on his subsequent local supply, the state would not lose the entire tax, but only the tax on the missing trader's margin.

In the proposal for the definitive system the concept of One-stop shop (further "OSS") was offered (EMOTA, n.d.). This idea allows companies to pay and deduct VAT. The data from the OSS will be available for all Member states. Thus, it is going to be easier for companies as all Member states languages will be included and this system is intended to be as a unified portal, which makes it more transparent and achievable for all tax administrations.

On 1st of January 2015 the mini OSS (further "MOSS") was implemented and became a tool to account VAT for those suppliers who supply telecommunications, television and broadcasting and electronic services for non-taxable persons in EU Member States where they are not VAT registered (NoMoreTax, n.d.). These suppliers can report on VAT, charged on these services through an internet portal in the Member State in which they are identified.

This scheme is optional and represents a simplified measure in response to changes in the rules concerning the place of delivery in the VAT plan, in the event that the supply takes place in the client's Member State and not in the Member State of the supplier (European Commission, 2013).

This scheme allows such taxable individuals avoid the VAT registration in each Member State of consumption.

In fact, under this scheme, the taxable person registered in the service in one EU member state (Member State identification) can electronically submit quarterly VAT returns to the service with data on the supply using only one tool.

The Mini- One-stop is available for both taxable persons established in EU (Union scheme), and for taxable persons not established in the EU (Non-union scheme) (European Commission, 2013). Without a Mini One-Stop shop, the provider would have to get up for VAT accounting in every member state where he provides his services to customers. The MOSS scheme is optional for taxable persons.

However, deciding to use the Mini-One-Stop shop, the taxable person will be required to apply this scheme in all relevant EU member states. This scheme cannot be used in a single EU member state.

There are two schemes available in OOS:

- Union scheme - A taxable person can register with a MOSS, if that person has a place to do business in the EU or if his business is located outside the EU, has a permanent representation in the EU.
- Non-union scheme - Non-EU taxable person can register with a mini one-stop shop if it does not have established commercial enterprise in the EU does not have a permanent representative office.

The advantage of this scheme is that the suppliers are able to deal with the VAT in one single place, it is leading to saving money by decreasing cross-border VAT compliance expenses and administrative burdens for businesses concerned and allows EU suppliers to be competitive with non-EU businesses, which are not charging tax. And obviously, it helps Member States to gain revenues and decrease in some way VAT evasion on cross-border transactions.

In the Digital taxation initiative currently discussed in the EU, MOSS is offered to be enlarged to goods ordered online on cross-border B2C terms both outside and within European Union. The basics are going to be the same that the suppliers will be able to make a single declaration in their own Member State.

The definitive system expands MOSS idea even further. Traders would be given an access to the online portal, where they would fill VAT returns reporting all their sales to other member states and then quantify the VAT for each EU Member State in the given taxable period. The tax administrator in the supplier's state would transfer the VAT to the tax authorities in the state of consumption (Gendron, 2016). This would be processed through the OSS in the supplier’s own Member State. The state of consumption would refund the VAT settled by the suppliers through the OSS to the buyers on condition that they are entitled to deduct input VAT. The suppliers would be able to deduct the input tax incurred on their purchases made in other EU Member States from the output tax applicable on their sales to those EU Member States through the OSS (European Commission, 2018). The OSS is depicted in following scheme.

OSS is applicable only on cross-border trade between businesses. Therefore, VAT payer A purchases locally the goods under standard system. Then he sells the goods to another member state and he declares the output VAT via OSS mechanism in his own Member State. The national tax authorities of the member state where VAT payer A is seated then transfers the collected VAT to the state of consumption (state of VAT payer B). The VAT payer B pays the invoice to the VAT payer A including the VAT. Afterworlds, the state of consumption refunds the VAT collected through the OSS to the VAT payer B as his input VAT deduction. Further local supply from VAT payer B would be taxed under standard VAT system.

It is expected that it will help to decrease administrative costs by 2,3 billion EUR and increase competitiveness. The major advantage of the definitive system is, however, in the significant reduction of MTIC fraud as will be discussed in the last part of my thesis. Simplified rules would also be introduced for businesses with the turnover up to 100 000 EUR (Cristiaensen, 2018).

2.2. Reverse charge mechanism

Generally, reverse charge mechanism (RCHM) is used when both suppliers and customers are VAT payers (Tepperova & Zidkova, 2015). It was first implemented to make the trade within the single market less complicated as the responsibility for VAT reporting is moved to the customer, which allows suppliers not to register as a VAT payer in country of destination. The buyer should present all information about the input and output VAT, which allows tax administration to see the full picture of transactions made. The principle of the reverse charge rule is that it shifts the liability to account for the VAT from the supplier to the customer (VAT Global, n.d.). This means that the customer, when identified as a taxable person, would be liable to pay the VAT to tax authorities instead of to the supplier. Reverse charge mechanism is applied across all EU countries for the majority of cross-border transactions, deliveries or services covered by the reverse charge in one country may be exempted from the VAT registration in another country (Ionos, 2018). However, the mechanism applies only if the beneficiary is either an entrepreneur or a corporate entity (i.e. taxable person).

Reverse charge also applies to small businesses. In the eyes of the European VAT system, the person or company is considered an entrepreneur participating in international transactions, if it trades in goods or services cross-border and exceeds certain threshold. Such entrepreneur must obtain an international VAT number (or special identification number) and is obliged to tax its purchases cross-border. This, on the other hand, does not entail any special benefits (Ionos, 2018). In particular, such small business (not registered for VAT on local supplies) is not entitled to VAT deduction.

However, the anti-fraud measure consists in the so called specific RCHM which is used for particular goods (highly expensive and valuable) supplied locally that are vulnerable to VAT fraud. In general, this mechanism is quite expensive for the government as it requires more control of the VAT payers.

In most of the EU countries, including Czech Republic and Slovakia where VAT fraud is a serious issue, the specific RCHM is used as a tool for fighting with the VAT fraud. As the specific RCHM works quite well against the carousel fraud on the selected goods, the idea of a general RCHM is considered as one of the solutions used for the reduction of VAT fraud as well. The general RCHM would have such advantage that the carousel fraud would not move to different type of goods after implementing the specific RCHM on one type of goods. However, there are certain requirements for countries that want to use generalized RCHM. This country is obliged to establish appropriate and effective electronic reporting obligations on all taxable persons, in particular, those to which the mechanism would apply. Moreover, Member State should meet certain eligibility criteria to be authorized by the Council (VAT reverse charge mechanism: preventing VAT fraud, n.d.).

A way to attack the carousel fraud by RCHM mechanism is when the buyer turns out to be liable for the VAT on goods or services supplied to him. In this case, it eliminates the cash risk as no actual payment of the VAT takes place. However, this system brings on the retail sector the obligation to collect the VAT due for the whole distribution chain which is also considered to be the major drawback of the general RCHM.

2.3. Current VAT system with increased control

The increase of control is also solution to detect and stop the fraud while keeping the current system of VAT collection. VAT Control Statements implemented recently in the Czech Republic are aimed to gather all available information on all transactions of the VAT payers, from which the potentially fraudulent supplies could be selected by the tax administrator. This should help to reveal suspicious VAT persons, who could be involved in any illegal activity connected to VAT as chains or carousels. These reports are based on SAF-T proposal of OECD.

SAF-T is an electronic format for companies to report their transactions to the tax authorities. In May 2005, the OECD coordinated a single format, based on free-source XML, for all 38 member states to adopt (Geilhufe, 2016). The objectives of this implementation were:

To help the exchange of transaction data between tax authorities and companies

- Allow efficient and accurate data interchange

- Improve substantive testing at line-level for tax authorities, which means the tax office can examine each supply of a good or service listed consider the description, quantity, value, etc.

- Enable VAT and corporate income tax audits, and reduce companies' compliance costs, including internal and external audit

The OECD model consists of six file "structures", which are to list all transactions (Geilhufe, 2016):

1. General ledger, journals;
2. Accounts receivable, customer master data;
3. Accounts payable, supplier master data. Invoices and payments;
4. Stock warehouse, product master file and goods received/dispatched.
5. Fixed assets, ledger and depreciation/amortisation, and
6. Inventory, product master files and movements

Furthermore, the EU countries and the European Commission decided to introduce a European Standard for e-invoicing in response to the many e-invoice formats used across the EU (European Commission, n.d.). These varied formats cause unnecessary complexity and high costs for businesses and public entities. While all contracting authorities will have to accept electronic invoices that comply with the European norm, nationally specific rules will remain valid. In other words, the Commission’s initiative will result in a norm and not in a European e-invoicing infrastructure. The latter will be supplied by service providers on the market.

Thus, the current system with the increased control can be considered as one of the options to tackle the fraud. To improve the current VAT treatment of intra-EU trade, the European Commission suggested and the member states agreed on harmonizing the VAT treatment applied to call-off and consignment stock arrangements, and also chain transactions across the EU. There are a number of associated simplification measures which will become compulsory, including: the domestic reverse charge for supplies carried out by non-established taxable persons, the possibility to appoint a tax representative for non-established liable taxable persons, purchases exempted in the framework of intra-EU trade, and the exempt supply of goods which are intended to be placed under warehousing arrangements (Ernst&Young LLP, 2015).

Lastly, in order to combat fraud, the supplier will need to hold a number of noncontradictory commercial documents to certify transport or dispatch to another Member State. Consideration is also given to the introduction of a standardized proof of movement document.

To conclude the solutions described above are presented in the table 2.

Criteria	Definitive system	RCH Mechanism	Current policy with increase control
Place of supply	Actual flow of goods-where the goods are when the transportation ends	Actual flow of goods-where the goods are located when the transportation begins	Actual stream of goods-where the goods are placed when the transportation begins
Destination principle	Sellers charges VAT rate applicable in the Destination Country	Customer account VAT by himself in Member State of destination using reverse-charge mechanism (at the same time he has the right to input tax deduction)	Uses existing taxation model (customer charges VAT in his country and, at the same time, he has the right to claim input tax deduction
Instrument used to book for VAT	OSS return in Member State of Supplier	Reverse charge in the VAT return by Customer	Acquisition tax (VAT return by customer)
Reporting	OSS return	Existing VAT return	Existing VAT return
Additional reporting obligations	Reporting on OSS VAT return (for all	No additional in those countries where they	Additional controlling documentation (e.g. SAF-

	countries of destination in one return). Distinguishing between certified persons in the first stage	have detailed reports on transactions (as e.g. control statement in the CR)but in other member states may be yes	T) or electronic applications

Table 2 Main features of proposed solution options

Source: Ernst&Young LLP, 2015

3. Methodology

This section is going to be dedicated to the methods used in the thesis to be able to conduct the research. Chosen topic requires the appropriate method to be used: qualitative or quantitate. In this case the mix of both methods are applied to get to the results. As the purpose of the study is to reveal the best approach for decreasing the VAT fraud, the ranking between the possible solutions were made to understand which method is the most effective and suitable. However, the qualitative analysis was conducted as well as the topic requires the comprehensive insight into the phenomenon.

The explanation why several methods are chosen for the research is the width of the problem, as the VAT fraud leads to the various outcome both on micro and macro level. Consequently, collection and analyzing the information should be made from each perspective. The literature review, thus, becomes a very important component for the qualitative research as the study, for example, aims to test for previously stated results.

The stated problem of the thesis is purely practical, as the chosen solution by the EU Commission will be implemented in the European VAT system, which will bring actual result, that is why the exploring different sources and modeling of the outcomes is vital for this thesis.

As it was stated above, the main tools for the practical part of the thesis are the exploration of the existing studies and articles (interviews) of the professionals concerning current issues in the taxation sphere.

Another method which is going to be used is the modelling of the solutions discussed and application of the VAT rules to example transactions. This modelling will be applied both quantitative and qualitative. Qualitative evaluation of the options is going to be based on several measures:

- effectiveness of the option against the carousel fraud;
- impact on SMEs;

- administration complexity;
- economic impact;
- cash flow impact;
- compliance cost.

The abovementioned criteria will be scaled from 1 to 3 (1 as less effective, 3 as the best option regarding each chosen criterion). And based on the overall assessment the best solution will be chosen as the most effective from opinion for the VAT collection.

Regarding the topic chosen some techniques like interviews, participant observations or surveys could not be applied for this thesis. The main argument for this is that the problem is quite wide and the interview, surveys based on the opinion of several people could not be taken into account (statistically), as well as the observation, which is not possible to do to deal with this issue.

4. Empirics

In this chapter the modelling of the offered solutions is going to be presented. The criteria mentioned in the methodology will be applied to each solution.

4.1. Consideration of the solutions from the perspective of different criteria

As it was mentioned in the Solutions (chapter 2), three options are going to be analyzed in the empirics:

1. Definitive system;
2. Reverse charge mechanism;
3. Current system with the improvements.

4.1.1. Effectiveness of the option against the carousel fraud

This section focusses on the extent to which the proposed policy options can help to combat MTIC fraud.

MTIC fraud typically occurs when a fraudulent business (or "missing trader") purchases goods from a supplier located in another EU State. The missing trader then sells the goods to a business in the same Member State and charges VAT (Keen & Smith, 2007). The purchaser, who may be an innocent party, reclaims the VAT charged by the missing trader. The missing trader then disappears without paying the VAT to the Tax Authority of the Member State in which the VAT is due.

What does the suggested options offer to combat the fraud?

1. Definitive system:
   1.1 Customers (VAT payers) purchasing the goods from other member state will no longer be able to buy it VAT free. The VAT will be charged to him in the invoice from the supplier and he will be able to claim the refund of this input VAT in his tax return;
   1.2 Member State of supplier is going to be responsible for collecting the VAT from the cross-border transaction, while the Member State of the

customer can audit the tax return, require specific documents from the customer to refund him the input VAT on the cross-border purchase and perform an investigation if it is necessary (Ernst&Young LLP, 2015);

1.3 Charging the VAT by supplier at standard (or reduced) rate no matter if it is domestic or cross-border transaction (in this case the VAT rate used would be the rate applicable in the state of consumption).

2. Reverse charge mechanism- the most important for fighting the VAT fraud is the fact that the purchaser of goods from other member state (who becomes in MTIC fraud the missing trader) would not charge any local VAT on his onward supply (after the "import" from the EU). Therefore, this "importer" has no VAT due to the financial authority that he could not pay and go missing.
3. Improvement of the current system: the confirmation of supplier that the intra-community supply occurs by filling and providing a required form prepared by the Member State of goods' departure and signed by the customer in the State of arrival. Faster control of the member states should help not to refund the VAT to VAT payers involved in the MTIC fraud (their mutual co-operation should provide information on-line, i.e. without any delay).Other options of controlling the supplying of goods and services between the EU and outside it.

Therefore, the last option will get traders to spend extra money on the administration costs because of the increased amount of the supporting documentation, while actually the proposed changes will not significantly affect the behavior of a potential fraudster as he would evade VAT in any case. Nevertheless, the more detailed reporting and the online information of the tax authorities could prevent some type of fraud. That is why most probably the improved current system would help against the VAT evasion but probably not significantly eliminate the VAT fraud.

Regarding the option with the increase usage of reverse charge mechanism significant changes are expected. The specific mechanism currently in operation is used to defend against the fraud in some sectors of economy. As explained above if it would be used in broader prospects the mechanism would probably succeed to eliminate carousel fraud entirely (the tax would not be due from the suppliers and they would not be able to go missing without paying it). However, it could stimulate the increase of evasion of the last suppliers of the chain (retailers) that ell their goods and services to final customers (the B2C transaction).

The definitive system will according to Ernst&Young LLP (2015) positively affect the VAT evasion level. By using this option, the VAT fraud is going to be reduced by 80%. Current level of VAT fraud in the EU is estimated to 50 bill. EUR and after the implementation of the definitive system, it should decrease by 40 bill. EUR. As if fraudster wants to commit an evasion and go missing, he would not pay the tax on the domestic supply, but he also would not be able to claim the tax charged to him by the supplier on the cross-border supply of goods. Thus, the amount of the fraud is going to be limited to the VAT from the mark-up added to the sale of the goods if person wish not to account VAT for sale of some goods or services. This has the effect of significantly reducing the scale of VAT fraud per transaction. Therefore, the fraud is not going to disappear, but the level should be significantly reduced.

To conclude, the criterion "the effect on the fraud activity" has showed that the Option 1 (definitive system) tend to be very efficient in preventing VAT fraud in European Union (80 % of MTIC fraud).

Considering the second option (RCHM) the impact is going to be the most significant as for the all suggested option (almost 100 % of MTIC fraud).

VAT fraud will not be impacted that much by the 3rd option (improved current VAT system), as it still will have the gaps which fraudsters can use, although the cost to support this option is going to be smallest for the government, as some of these control statements and invoicing rules are already implemented in the system of some Member States.

Thus, I give points to each option due to their effectiveness of combating VAT fraud:

1- Current system with improvements;
2- Definitive system;
3- Generalized reverse charge mechanism.

4.1.2. Impact on compliance cost of different types of business

Compliance cost for businesses will include costs relating to the following activities: registration for VAT, completion of periodic VAT returns, dealing with a VAT audit, obtaining customer's VAT registration details, completing recapitulative statements, and obtaining proof of the intra-EU movement of goods.

For option with definitive system there are different ways to decrease compliance cost:

1. Using OSS suppliers will not be obliged to register for VAT in other EU countries and submit in the system local returns;
2. The submission of EC Sales List is eliminated;
3. Standard rate application to all intra-community supply of goods and services (however, this will probably not be implemented in practice) or
4. Standardization of reduced rates through the single reference point (this is also not probable, because the member states want their tax sovereignty in determining the tax rates)

However, this option will bear possible growth in costs as well:

1. Usage of OSS system by non-established in EU suppliers will bring new accounting systems, controls;
2. The implementation of the term Certified Tax Person (further CTP) in the first stage of the definitive system, who is a reliable taxable person designated as the party responsible for payment of VAT in a Member State of consumption where the supplier is not established but in which the tax is due. After the implementation of the CTP simplifications, companies will be obliged to go through the registration process, which will definitely increase the compliance costs;
3. In case of keeping various rates applicable in individual member states, it will take time to find appropriate rate to apply.

Experts consider that the implementation of the OSS will bring opportunities to reduce compliance costs, it will be good for all businesses that have joined the international market, it will be important for them to use OSS portal.

Even though the definitive principle could bring some additional expenses for businesses no matter SME or big companies, the advantages should, according to the opinion of the EU Commission (2018), outweigh them.

The compliance costs vary for different types of companies (SMEs with limited activity abroad, SMEs with VAT registration in more than one Member State and Large Businesses). For SMEs with limited activity on the EU market, the implementation of new accounting systems and controls would increase compliance costs, while for other two types the definitive system will bring the opportunity for reduction of compliance costs.

It does not mean that for SME it is going to be a burden for the rest of the usage of the definitive system, it means that during the year of implementation, it would take some amount of time and money to implement all the changes, therefore, it would be costly for all type of businesses. But the point is that for the large business the implementation costs would represent much smaller amount of the turnover than for SMEs, that is why the break-even point would be reached much sooner than for SMEs. For young companies who have just started their cross-border operations the compliance costs would be higher than the benefits during the implementation year, that is why the point when the system becomes advantageous would come later.

For the second option, using general RCHM, additional costs may occur due to updating the format of the invoices to other Member States whose supplies are subject to the reverse charge.

In comparison with the definitive system all types of businesses receive benefits by reduction of compliance costs related to the cross-border business. The reason is that there will be no obligation to fill the OSS return because the cross-border trade would be reported (in the same way as in the current system) through the normal VAT return. However, there would arise additional reporting of individual transactions in respect of domestic supplies in those states where these obligations are not yet in place. In this case SMEs with limited cross-border activity are expected to gain moderate advantage from the usage of the RCHM. Of course, in this option the purchasers/customers is the one who will be the most impacted by the increase of the usage of the RCHM, as purchasers/customers are those who account VAT for transactions with RCHM. From the side of the supplier, verification of status of each customer will be necessary. This would certainly increase the compliance costs of suppliers.

Next step is to analyze the third option: existing VAT system with improvements. There are four aspects which can help companies to reduce compliance costs:

- The clarification of the management of chain deals (i.e. transactions in goods where more participants are present)
- The synchronization of the consignment stock simplification across all Member States;
- The implementation of the domestic RCHM for all B2B supplies by non-established taxable persons;
- The harmonization of acceptable documentation to prove the B2B cross-border sales of goods and services.

However, the harmonization of the documentation can also lead to a cost increase in the beginning as the new formats will be applied.

This option brings good results for all companies in reduction of compliance costs, the large businesses in this case will obtain the best results, although the SMEs with limited activity would be able to gain some advantageous as well.

Thus, this criterion has shown that the best results companies gain if the third option is applied, while the first option (definitive system) would not be beneficial for SMEs.

The points for this criterion (compliance cost required) will be following (0,5 - as the most expensive option for businesses to use):

0,5 -Definitive system;

1- Reverse charge mechanism;

1,5- Current VAT system with improvements.

4.1.3. Impact on Tax Authorities administrative costs

This criterion is created to show how the selected solutions can apply to the tax authorities of the EU Member States and how it is going to affect the administration costs. The implementation of the new rules and standards is costly not only for the businesses, but also for the government because it should support the system.

Definitive system (first option) represents a great opportunity to significantly decrease the VAT gap as already explained by reducing the VAT fraud. However, this system requires the implementation of the OSS and other requirements, which should be supported. That is why according to the study of the Ernst&Young LLP (2015) concerning the implementation of the different VAT options has shown that 60% of tax authorities are sure that the definitive system will bring the increase in the labor cost (i.e number of working hours of tax administration employees). In addition, the labor cost are not the only administrative expenses which would be increased on the side of the tax authorities. The establishment of new IT systems will require employees to be able use it, thus, there are going to be training costs in the year of the implementation and of course there are some non-labor additional costs such as supporting the system, which will also negatively affect the administration costs of the EU Member States.

Moreover, this option supposes much higher intervention of the tax authorities of the Member States in the daily routine of the VAT submission.

As it was mentioned in the criteria "effect on the fraud activity" has showed that from the perspective of administrative costs the Option 1 (definitive system) will be the costliest for the government to support because of the maintaining of the IT systems. The most important change is the necessity to make the clearance of the VAT balances between the member states. Those member states whose VAT "export" more than "import" from other member states will be in the paying position and the others in the receiving position. The flows of money will have to be administered by the member states.

The second option, implementation of the general RCHM on domestic supplies whereas the cross-border transactions remain to have the same treatment (the supply to other member state is charged without VAT and VAT is paid by the purchaser who also deducts the same amount as his input tax) –is expected to effect two VAT administration spheres:

- Informing companies and businesses on new policy requirements and
- general RCHM will require new compliance checks for Member State who have not any experience with the specific RCHM on individual transactions (but those are not many).

The impact of the second option (general reverse charge on domestic supplies) will differ for the Member States. Most of the EU countries have already adopted specific reverse charge mechanism to combat the fraud, that is why the possible additional administration costs would be really small in comparison with the definitive system. However, for member states who are not so familiar with reverse charge mechanism on individual taxation, the administration cost on the implementation and supporting would be expected to grow.

However, the labor costs are anticipated to be slightly affected during the year of the implementation, as anyway it will take some time for the labor force of the tax authorities to get used to the new system even if it was previously used to the specific RCHM as one of the tools.

In comparison with the definitive system, one of the advantages of the reverse charge mechanism is that it does not require the dependency of the Member States on each other to combat the fraud.

Third option, the improved current system, is going to be the friendliest to the administration costs as there are no fundamental changes in the current system expected. Only new requirements for usage of IT systems as a controlling and managing tool will cost the tax administrations some additional expenses, such as staff training and labor costs could be slightly increased.

After analyzing of the selected solutions from the viewpoint of Tax Authorities it is possible to conclude that the less costly option is to retain the current system with implementation of minor changes, while the definitive system is expected to increase seriously the administration costs.

Thus, it is possible to conclude and assign score to each option (1,5 - as the most advantageous in term of administration cost):

0,5 - Definitive system;

1 - Reverse charge mechanism;

1,5 - Current VAT system with improvements.

4.1.4. Impact on the macroeconomic Indicators

This part of the empirics represents how the chosen options are going to affect the macroeconomic situation in the European Union. The VAT options can make an impact of following indicators:

- Real GDP growth;
- Consumption growth;
- Employment growth;
- Export growth.

These indicators could be impacted as they are directly connected with the trade. In particular, the expected effects of the options on compliance cost and VAT fraud reduction will have an influence on the macroeconomic indicators.

The definitive system is going to be first analyzed regarding its economic impact on the EU. It is expected that the economy will go up using the definitive system as the volume of supposed VAT fraud reduction is going to affect positively the economy as the VAT revenue received by the Member States will directly influence the growth of the GDP of the company (CASE; Institute for Advanced Studies, 2018).

Thus, success in the reduction of the VAT gap is the strongest advantage of the definitive system. Also, the increase of the tax administration costs and compliance costs of VAT payers to support the functioning of the VAT system does increase the employment growth to some extent. Although it is not expected to be so significant so it probably will not make big impact on the macroeconomic indicators.

The consumption and export growth are also expected to be positively affected by usage of the definitive system, as the increase in compliance savings for the large companies and SMEs with more than average international activity will possibly stimulate the growth of both macroeconomic indicators.

The reverse charge mechanism also probably will make a significant impact on the growth of the economy, as it eliminates the carousel fraud, which means that the revenue from the VAT collection will increase. This should enable the growth of GDP of the Member States. However, it would not lead to the increase of the employment.

The consumption and export should be affected positively because the compliance costs are not going to be high, that means that for SME will not be an issue to use this system.

The last option, the improved current system, is not going to stimulate economy to grow that much. The increase of VAT compliance involved in this option is not significant. The moderate administrative cost savings for the financial authorities do not make a big impact on the economy. Therefore, the overall effect is not going to be negative, it will be moderately positive.

Thus, the conclusion for this subchapter is that the definitive system and reverse charge mechanism are the best options for the development of the macroeconomic indicators and points are following:

1- Current VAT system with improvements;
3- Reverse charge mechanism;
3- Definitive system.

4.1.5. Impact on the SMEs

As it was described in the subchapter 4.1. 2 “Impact on compliance costs of different types of business” the probable outcome of the selected three options on the compliance costs of companies is depending on their type.

The companies are divided to three types:

- SME with establishment in one Member State, therefore registration in one Member State, participating mostly in the domestic trade and beginning to join the international business (outside its State of establishment) referred to as SME 1;
- SME which is also established in one Member State, although it has registration in more that one Member State and deals mostly equally with domestic and cross-border trade referred to as SME 2;
- Large Business: company with establishment in more than one Member State across the European Union, registered in more than 6 EU Countries as a VAT payer, and the intra-EU trade and domestic are on the same level.

Thus, as was mentioned the compliance cost varies for these different business types. According to analysis made (Ernst&Young LLP, 2015), the 2nd and 3rd options did not bring much cost savings opportunities, although there were minor and they were beneficial for all type of businesses, beginning from implemenattion year (CASE; Institute for Advanced Studies, 2018).

For the option with the definitive system, it brings cost reduction to those type of businesses who have VAT registration in many Member States and deal with inter-EU trade quite a lot, that is why this option would be useful for the SME 2 and large businesses as the benefits from the implementation of the system would outweigh the costs required for support of IT tools and training.

However, for the definitive system would be too costly for the busineeses, who have just started its activity on international market during the implementation year as the turnover is not so sizeable to cover these costs from the beginning.

As the analysis of this subchapter brought some results, the points are following:

1- Definitive system;
2- Current VAT system with improvements;
3- Reverse charge mechanism.

4.1.6. The cash flow impact

The analysis of Erst & Young (2015) identified that for the definitive system where a business is in a net payment position on its One-Stop Shop (OSS) return then such business will benefit from a positive cash flow due to receiving VAT from its EU customers and holding this VAT until the One-Stop Shop filing deadline. On the other hand, where a business is in a net repayment on its One-Stop Shop return, the business will experience a negative cash flow position under this option; this is due to paying VAT to its EU supplier and not being able to benefit from an immediate right of deduction.

For the general RCHM the result could be the positive cash flow impact or negative depending on the payment conditions for invoices on local supplies that would newly be subject to RCHM. Positive impact would be on businesses that pay invoices to their suppliers before the deadline of the tax return and have their invoices paid from their customers after the VAT return deadline. Such businesses have to finance the VAT in the standard system as they wait for the refund of the VAT paid to their suppliers and they must pay the output VAT before they get it from their customers. If the general RCHM is implemented the VAT is not paid on invoices any more and these discrepancies do not arise. By the same logic, the VAT payers in the opposite position (paying their suppliers after the VAT return deadline and reciveing the payments from their customers before the VAT return deadline) would have a cash-flow disadvantage after implementing the general RCHM. The total impact of the specific reverse charge on all businesses in all EU member states is calculated as positive in European Commission (2014). It can be expected that the general RCHM would also influence the cash flow of VAT payers in a positive direction.

On the other hand, this system would have some disadvantages. One of them would be the negative impact on the public-budgets' cash flow due to the collection of VAT at the last stage of the distribution chain. Kohoutková and Zídková (2015) calculated the negative cash-flow impact for the Czech Republic in the amount of 53 bill. CZK. The negative impact on the public-budget's cash flow can be solved by the acceleration of the VAT collection at the end of the chain as retailers are paid immediately by final consumers (Wohlfahrt, 2011).

Considering the last option, the improved current system the implementation of the harmonisation of the call-off and consignment stock simplification across all Member States may result in a positive cash flow impact for some businesses. This is due to businesses no longer being required to record the movement of their goods to other Member States and account for VAT on the sale to their customer once the goods are sold. Instead, when the goods are moved, the customer in the other Member State will self-assess the VAT on their local VAT return.

However, this particular cash flow effect will only impact a small population of businesses since only approximately 13% of businesses engage in call-off/consignment stock transactions. Besides that, the old influence on the cash flow of the business stays practically the same.

There could be a time difference for the seller between receiving the money from the buyer and the payment of the collected VAT to the tax authority. Positive cash-flow only occurs if supplier's invoices are due before the deadline for the submission of the VAT return and the VAT liability settlement. For the buyers, the cash flow impact is opposite. If the buyers pay VAT on their purchases prior to receiving the refund of it, the cash flow impact is negative. The impact of the current VAT system on the cash-flow of different types of businesses (e.g. retailers, exporters, etc.) is described for example in European Commission (2007).

This section showed that cash flow is the criteria, which is inversely proportional for businesses and governments. Thus, the points could not be assigned in this case.

4.2. Modelling of the options

In this subchapter the models of the offered solutions are going to be presented , describing graphically how the transaction is operated and the main advantageous and disadvantages of the options summarized.

4.2.1. Definitive System

As was mentioned before, the definitive system was proposed by the Commission as a solution to VAT gap. In figure 7 it is explained how the option 1 is supposed to work for cross-border transaction in European Union.

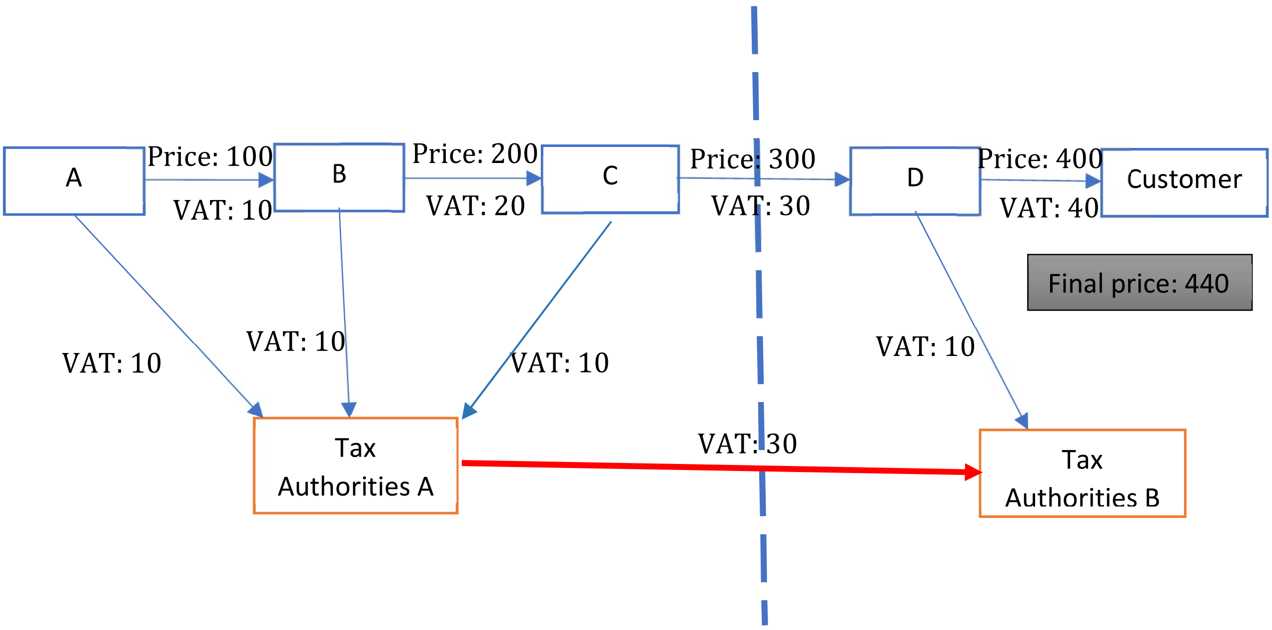

Fig. 7 Definitive system mechanism

Source: Zídková, 2019

It could be noticed that VAT is collected by the Member State A and transferred to the Member State B, therefore, the VAT is collected by a different state than the state that the revenue belongs to. After analyzing this option from the perspective of different criteria, it is possible to see both advantages and disadvantages in the table 3.

Advantages	Disadvantages
The effective way to tackle carousel fraud	Administrations costs (ongoing compliance costs for VAT payers associated with OSS, costs for tax administrations related to VAT clearance between member states, etc.)
Integration of the VAT collection method for domestic and cross-border transactions	The mechanism is effective only for carousel fraud and not for other types of VAT evasion
Unified system for cross-border transactions	Implementation costs for taxpayers and tax administrators (new software, new databases, requests for certified person's status, etc.)
	The risk of taxation of the supply of goods incorrectly- dependence on another MS actions
	Complexity for VAT payers consisting in the variety of applicable VAT rates in different EU Member States
	Cash-flow disadvantage (waiting for the input tax)

Table 3 Advantages and disadvantages of the definitive system

Source: Terra and Kajus (2015), Ainsworth (2016), Mclure and Bloomfield (1987), Keen and Smith (2006) and own elaboration

4.2.2. Reverse charge system

The second option represents the generalized reverse charge mechanism that could be applied not as temporary method to decrease the VAT fraud but permanently. The scheme showing how this option is working is in the figure 7 .

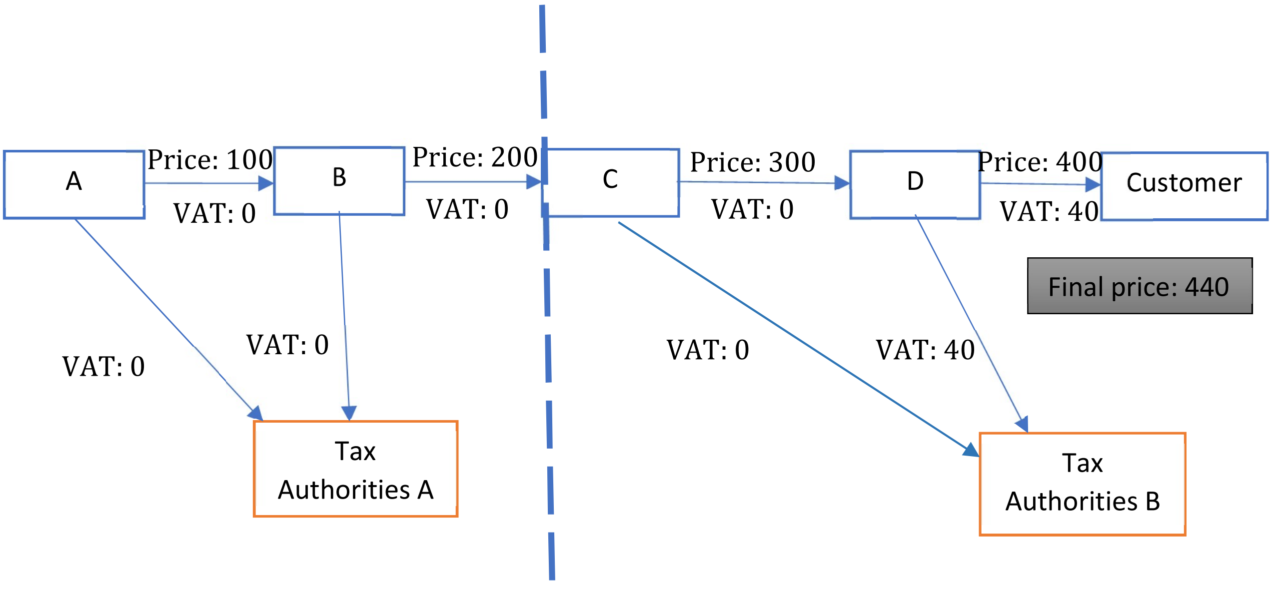

Fig.7 Reverse charge mechanism

Source: Zídková, 2019

Even so this option is created to tackle the fraud, there could be some disadvantages in other criteria as it was mentioned in the first part of empirics. The pros and cons are showed in the table 4.

Advantages	Disadvantages
Eliminating taxpayers' mistakes arising from an incorrect VAT treatment if general RCHM is implemented (comparing to current VAT system with some items subject to specific RCHM)	Implementation costs for VAT payers and tax administrations for those Member States who have not applied before.
The disappearance of carousel fraud	Ongoing compliance costs for VAT payers related to regular sales and purchase lists
Improving cash flow for most VAT payers	Negative impact on the public-budget cash flow
Simplification of the VAT audits for tax administration (it will not be necessary to audit all VAT refunds in the chain if the output and input tax is cumulated at the same VAT payer)	Increasing the risk of non-compliance in the last stage of the chain (retailers, providers of services to final consumers)

Table 4 Advantages and disadvantages of the reverse charge mechanism option

Source: Terra and Kajus (2015), Ainsworth (2016), Mclure and Bloomfield (1987), Keen and Smith (2006) and own elaboration

4.2.3. Current VAT system with improvements

The third proposed solution is the current VAT system with the improvements by increase of control is showed in the figure 8.

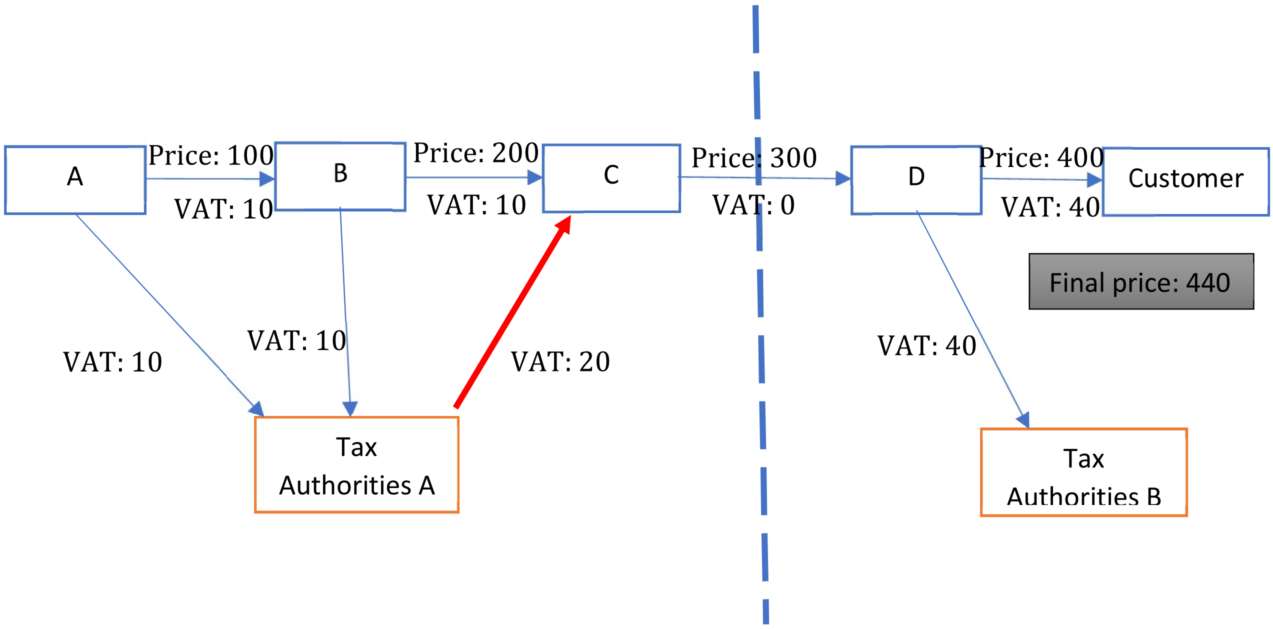

Fig.8 Current VAT system with improvements

Source: Zídková, 2019

The pros and cons of this system is mostly the same as for the current one (table 1).

4.3. Results

According to the results of the empirics, the option with the best characteristics is going to be chosen (table 5):

	Definitive system	Reverse charge mechanism	Current VAT system with the improvements
Fraud tackling	2	3	1
Compliance costs (1,5 max)	0,5	1	1,5
Administration costs (1,5 max)	0,5	1	1,5
Impact on SMEs	1	3	2

Macroeconomic impact	3	3	1
Total	7	11	7

Table 5 Comparison of the offered options

Source: Own elaboration

The reason why the criteria connected with cost has twice less points assigned is that the main goal is to decrease fraud and drive the economy forward, while the costs are supporting factors.

As it is possible to observe from the above assessment is that the option with generalized reverse charge mechanism will bring the most positive and gainful outcome, it would significantly decrease the carousel fraud, which is the main issue in this thesis, have a positive macroeconomic impact. Moreover, it would be advantageous for all type of the businesses to implement it. Although this option did not show the best results regarding the cost criteria, it has resulted better than the definitive system.

CONCLUSION

The leakage of VAT system is proved to be a serious problem for the European Union, as this indirect tax is one of the main sources of income for the EU Member States. That is why it is not surprising that the EU Commission as the "executive" of the EU proposes the ways how to deal with this issue.

The main solution proposed by the Commission is the definitive system, which requires the increased cooperation between the Member States and intervention in the daily routine of the VAT cross-border transactions. The EU Parliament favors this idea, although there could be different way to change situation for indirect tax, as the proposed option requires considerable modifications, which could be quite costly for both Member States and businesses. However, of course, the main point in this case is not the implementation costs, but the results in the decrease of the VAT gap.

The main aim of this thesis was to overview the possible options to deal with the VAT fraud. At first it was important to understand the mechanism how the VAT fraud is done, the actual volume of problem in terms of VAT gap development and what are actions of the European Union to prevent this tendency.

The empirics were dedicated to the offered solutions and analyzing them using various criteria. The options were: definitive system, generalized reverse charge mechanism and current VAT system with improvements. After the modelling of the options and assessing of them using different factors, possibly the best option to tackle the fraud and increase the VAT revenue is the generalized reverse charge mechanism.

The reasons why this option was considered as the best are:

- Effective tool to struggle with carousel fraud which would lead to the elimination of the significant part of the VAT gap;
- The option is friendly for all types of the businesses;
- The implementation, administration and compliance cost are not too high, that is why it would be possible even for SME who have just joined the international business to cover the expenses;
- Most of the countries are already familiar with the specific RCHM;
- It does not require the high level of interdependence of the Member States, which makes the procedure easier and eliminates the risk of misappropriate action;
- Moreover, it has a positive impact on the economy, which would positively lead to the increase of the GDP.

As it is possible to see that this is the optimum option, which has balance between the quality and costs.

As for other two options:

- Definitive system is a good alternative option, which would help to decrease the VAT fraud and drive the economy forward. However, the costs required for businesses and government are high, that is why if implementation occurs, the burden would take place for SME companies during the year of implementation.
- Current VAT system with improvements – this option is attractive only because of the benefits for cost criteria, however, it is not the target of European Union to minimize cost but to maximize efficiency of fraud tackling. Thus, this option is not gainful even some improvements by the increase of control could be done.

To conclude, the most important point of the thesis to find the appropriate solution, after the performed analysis it is possible to conclude that the target is achieved.

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