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RELATIONS BETWEEN THE CENTRAL-EUROPEAN TRADE ROUTES AND REVENUES OF EU MEMBERS

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ABSTRACT

Purpose - The purpose of this study is to anaylse the trade and economic relations of European Union member states which are important gate of EU trade with third countries. This research highlights the shifting of the trade routes and economic geographic process. What kind of impacts are there in EU countries that a significant part of EU-Chine trade has been moving from vessels to freight trains or to combined, overland-maritime transportation. It has partly taken out the former China – Rotterdam/Hamburg maritime way.
This paper is analysing the role of Port of Piraeus in this process as the pretty new but very important port for the Chinese COSCO maritime transportation company and on other hand how does the new structure change the revenues for the members in this situation.
Methodology - The study employs the so-called collection cost. It is an important revenue for the member states. It comes from the Traditional own resources, it is 20 percent of the tariffs. It remains in the budget of EU member states and only 80 percent goes to the Brussels budget. The old members especially Netherlands, Belgium and Germany want to protect their own current position and share in the integration trade with third/external partners. It means that these countries can handle the tariff administration and get the mentioned 20 percent amount.
Findings - The analysis reveals that the new EU members with high potential in international trade would like to recut the "trade-cake" to receive higher benefits from it due to the mentioned collection cost or the value-added-tax related to logistics and manufacturing industries.
Conclusion - Based upon the analysis, it may be concluded that every member state can increase the profit from the collection cost and value-added-tax and on other hand they can decrease the direct GNI-based contribution to EU's budget due to a better position in international trade.

Keywords: Collection cost, one belt one road, tariffs, Port of Rotterdam, Port of Piraeus, Port of Hamburg
JEL Codes: F15, H54, N74

1. INTRODUCTION

This research highlights the shifting of the trade routes and economic geographic process. What kind of impacts are there in EU countries that a significant part of EU-Chine trade has been moving from vessels to freight trains or to combined, overland-maritime transportation. It has partly taken out the former China – Rotterdam/Hamburg maritime way.

This paper is analysing the role of Port of Piraeus in this process as the pretty new but very important port for the Chinese COSCO maritime transportation company and on other hand how does the new structure change the revenues for the members in this situation.

Paul Krugman (1991) American economist opened a debate about the importance of geography which was not relevant in the previous decades. In his opinion the economic geographical approaches could modulate the answers of economics to some questions and challenges. In the 1990s the production location points and structures determined by them or the relations between centres and peripheries are significant for the economics but in the last years due to the new research the trade routes and logistic points and capabilities are also dominant for the global trade and transportation. It is particularly true to the economic and trade blocks and customs unions. The faster and more flexible customs clearance also appeared due to customs union.

As a new phenomenon this research wants to monitor the changing of economic interests which comes from tariffs and duties. The trade does not work only among national states but trade blocks too including customs union. Otherwise, the transported quantities and the administration have been centralized more and more, it means on the level of integration that the profit of trade goes to those countries where goods and services entered the trade blocks. There are plenty of diplomatic debates and competition for these activities and revenues.

Regarding the previous technology and level of development, the trade theories weren't engaged to the giant vessels with delivery of more thousands TEU[i] containers simultaneously which could have meant huge tariff revenue for the importer gate state of a trade block. But nowadays the geographical location of paying the tariffs really matters due to the technological development, much bigger capacities, much

faster and stable vessels etc. It is a relevant situation and expectable problem in European Union so far because the financial contribution and expenditure of EU members can be defined by it in long term. We cannot expect that the World Trade Organization or other international institution would cancel all trade barriers and obstacles[ii], we have to calculate these tariff benefits in the future too.

One of main principles of this research does not calculate on disappearing of tariffs and duties. First of all, I analyse the economic and trade activities and results of those European ports – Rotterdam, Antwerpen and Hamburg – which have got domestic and/or overland connections called hinterlands. There are some special and relevant factors in the survey such as natural conditions of ports, chronological and spatial developments, logistic capacity of transportation of containers and other commodities. I must emphasise the three most important ports in EU: the mentioned Dutch Rotterdam[iii], the Belgian Antwerp and the German Hamburg have got great capacity to trade with their hinterlands and third partner out of EU. But in the last decade the Greek Port of Piraeus could close up to the European elite, it has got impressive economic results considering the trade activities. Though Hamburg could get back its classic hinterland after the EU enlargement in 2004[iv], the development of Piraeus has been so strong and powerful since 2013 that it can reshape the list of importance of ports here in Europe in the future especially in the issue of containerization. The new Chinese – European transportation project, the One Belt One Road (OBOR) can also participate in the competition among ports to strengthen the position of Port of Piraeus. OBOR (called as Belt and Road Initiative or New Silk Road too) as a huge overland-railway and maritime transportation routes system between the continents is beyond Greece and gives the role of a new gate for the EU trade to Greece.

Antwerp is out of the queue regarding the geographical expansion. This port can be developed the most difficulty because the location in the estuary of Schelde river which is a physical obstacle for the Belgian port. The further possibility of the expansion is given only for Rotterdam in natural ways. Despite the trade collaboration with Zeebrugge the second most important EU port has got limited developing regarding the hinterland connection. It is narrower than for Rotterdam or the mentioned Hamburg.

Finally, I'm making a calculation about benefits and handicaps of the position as "EU gate" regarding the collection cost which is the 20 percent of single EU tariff revenue, and it remains in that country where the importer wants to pay the duty. The conclusion is available in the last chapter of this paper.

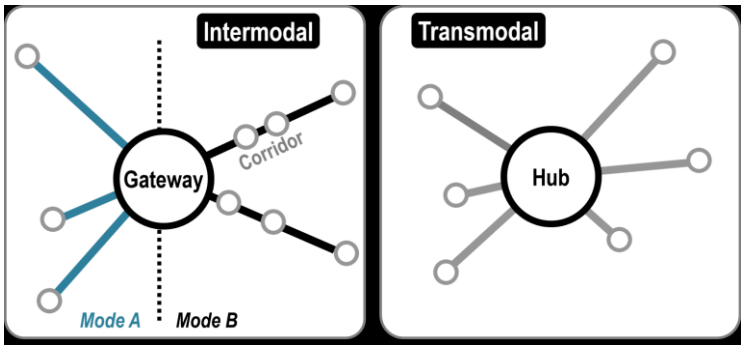
Sum up the research, the rarely mentioned trade routes as the part of the geographical economic approach will take on a bigger role in the future among the big trade blocks. Considering the different giant economic blocks, we expect that the new trade ways can contain the reorganization of regional and global trade interests plus the economic debates and competition within the blocks.

Finally here we must mentioned that the study differentiates the types of ports: gateway and transshipment.

Gateway type ports have got hinterland so the imported (and exported) goods and commodities are transported to (from) overland logistical stations or centres by freight trains, trucks or inland navigation (Erdősi, 2021, pp. 110). In the case of transshipment the imported commodities and goods move from bigger ports (hub) to smaller ports by feeder ships. It also means that the transshipment ports are served by only ships and not by other traffic modes.

The gateway ports are usually more competitive because the long-term investment and development will be more profitable due to various hinterland relations. The transshipment ports can depend on economic recovery and slowdown periods and plus shifting of demand of vessel companies.

Figure 1: Port Structure of Gateway/Transshipment



Resource: Rodrigue, 2020, pp. 68.

2. METHODOLOGY

The study is engaged to calculation of tariff revenues especially the so-called collection cost as the 20 percent of the tariff remains in the national budget. Only 80 percent goes to single EU budget until 2020. Since then, this value increased to 25 percent.

It uses the data from Eurostat between 2000 and 2019. The member states could get 10-25-20 percent of tariffs[v] could retain to cover the so-called administrative expenditures. It should be noted that European Commission aimed to decrease the 20 percent value to 10 percent again like in the past, but the members refused this part of the Commission's reform proposals. Nowadays we know that the leader exporter-importer EU states were able to lift up the 20 percent to 25 percent between 2021-2027 budget period which is totally opposite way of Commission's willing (European Commission, 2018, 16.p.)

Table 1: Collection Cost (percent) 1970-2023

Period	Percent of collection cost (%)
1970-2001	10
2002-2015	25
2016-2020	20
2021-	25

Resource: Eurostat, https://ec.europa.eu/budget/graphs/revenue_expediture.html

As we can see the different key of collection cost term by term, it is also worth calculating a proportional income for the member countries. The recent 20 percent key seems to be the best choice for it.

I have made a standalone calculation too. In one hand there is a ratio shows and explains the nominal number (as the retained value or as the official name: collection cost) compared to the GNI-based contribution to the budget of EU customs union. On other hand, and of course it is related to the first one, the member state can finance its own contribution to the budget partly or fully. Now needless to say the GNI-based contribution is a kind of balancing amount, it can change year by year, but it cannot transcend a max. limit of a 7-year budget period.

Table 2: GNI-based Max. Limit of EU Budget (percent)

Period	GNI-based max limit (percent)
2000-2006	1,24*
2007-2013	1,045
2014-2020	1,29
2021-2027	1,4

* until 2002 European Commission used the GNP-based calculation

Resource: Halmai (2018, pp.10.) and European Commission (2022)

The formula of our calculation is quotient between the nominal collection cost and GNI-based contribution.

Figure 2: Formula of TOR-Increasing Quotient (TIQ)

$$\frac{\text{Collection cost}}{\text{GNI-based contributions}} = \text{TOR-Increasing Quotient}$$

Resource: own calculation

The bigger value of collection cost as the bigger value of retained amount is the numerator. Economically it is an increasing activity of tariffs, logistics, transportation, manufacturing industry too. As surplus appears in the contribution to added-value amount but it means that it decreases the denominator at the same time. It is more friendly to customs clearance country because if the numerator increases the whole quotient is bigger.

The GNI-based contribution in the denominator (as a balancing factor) must be larger than the value of the retained amount has decreased. If the GNI-based contribution goes up, the quotient must go down.

The two impacts strengthen or weaken the value of quotient in the meantime. As we have a higher value of numerator as the added value-based contribution is higher too which decreases the necessary of GNI-based contribution of members. So, a higher numerator means a lower denominator if we know the fixed maximum limit of member state contributions for a 7-year period in EU.

3. TRADE ROUTES

Let's see the transportation routes. Beijing has determined six important trade routes to secure the supply and logistic chain (OECD, 2018):

1. *China – Mongolia – Russia Economic Corridor:* the partners decided about development of this infrastructure way and project in 2014 Dushanbe, Tajikistan (Tiezzi, 2014). This route uses the infrastructure of Trans-Siberia railway as well, so the trade partners have already had an operating way. Before the Russian - Ukrainian war Moscow was the third biggest trade partner of EU, but the trade intensity had changed, the Far-East region was closer to Russia as trading and logistic partner (Wolffgang, Brovka & Belozerov, 2013). I have to add some important information it is not the fastest way between the main Chinese production centres and its main consumer, EU. It is 11.100 km long even though the Trans-Siberian railway is used, and it takes 18-20 by freight train. Of course, it is much faster than the 23.000 km long maritime route between Shanghai and Rotterdam which takes 45-60 days by container vessels (Gussarova, Aminjonov & Khon, 2017).
2. *New Eurasia Land Bridge Economic Corridor*[vi]*:* it is simply the fast railway connection between China and Europe via smaller Central-Asian countries which enjoys the advantages of nonstop, nontariff routes given by trade and economic blocks. There are some leaving, transit or important warehouse-logistic stations like Chongqing (Chóngqìng) or Yiwu (Yìwū) which is one of the Shanghai's

terminals. There has been direct freight train between Yiwz and Madrid 9.977 km long route. But the most common direct cargo train relation is the China – Germany (Duisburg) delivered at least 20.000 TEU containers per a year between 2012-2014. Since than fully loaded freight trains move in both directions, and it usually takes 10 days (Smith, 2022).

The first container train arrived in Rotterdam in 2015. The vessels could take it 60 days (between Chongqing/Shanghai and Rotterdam). It decreased to 14 days by cargo train in 2015 (Lechmacher, 2015).

Or let's see another example. The distance between the Chinese Zhejiang region and London-Barking was only 18 days for a directional freight train, it could go halves the former average time of transportation (Lau, Ling, Rathbone, Wijeratne, Yau & Wong, 2017). Following this strategy freight trains arrive in Latvia, France, Germany or Czech Republic from China too. This study provides the location of crossing border station, it is situated in Małaszewicze, Poland. It also means that Poland is the country in the customs union where the imported goods enter the territory of European Union. The benefits of this „belt":

a. This corridor can build on existing and well-maintained infrastructure like the relatively developed Kazah sections.

b. Freight trains are faster than giant vessels.

c. Additionally, the overland route is 40 percent shorter, the container can move 65-70 percent faster than in the maritime way.

There is only one big handicap of the railway transportation to be much more expensive than the transportation by ships therefore the bulk goods will be delivered via the maritime ways in the future too (Engelberth – Sági, 2017).

The a) point also stated this corridor is well located in terms of infrastructure as it includes there more or less independent economic entities: China, the Eurasian Customs Union and the European Union. This fact significantly simplifies the issue of transportation because the deliver companies have to focus only two customs borders.

China and the Eurasian Customs Union had a partnership agreement in May 2018. There are some relevant and practical parts of this agreement (beyond the classic nice diplomatic goals and political announcements): the states tend to minimalize the physical obstacles against the transportation. Though the Chinese and European railway system use the classic 1435 mm track, the Eurasian Customs Union has the wide 1520 mm gauge track, the transloading between the different system is relative fast[vii] due to this international contract (Hodgkinson, 2016).

3. *China – Central Asia – West Asia Economic Corridor)*[viii] (Derudder, Liu & Kunaka, 2018): Xinjiang Uygur Autonomous Region is the host area of this corridor. It takes the final station, Teheran, the capital of Iran via the relative stable „istan" countries. This corridor is used to Iranian megacity and it has decreased the 44-45 days route to 14 days between Shanghai and Teheran. This way has got more legs or alternative routes.

a. It is the IV. TEN-T way, transporting from Bosporus region (Istanbul) via Bulgaria, Romania, Transylvania/Banat, Hungary, Austria to Germany (Duisburg). It can have a leg to Moscow from Romania.

b. Or creating a new route from Port of Piraeus/Athens via Skopje and Beograd to Budapest where it can meet the previous one. It is the most relevant, a probable winner because the section between Beograd – Ópazova – India – Újvidék is totally reconstructed and Újvidék – Szabadka is being been developed and it is also true the section of Hungary (Eszterhai, 2016).

c. Though the third alternative goes via more instable regions (via Syria, Iraq, Ukraine) it is begun to plan and there are sometimes test cargo trains try to transport. A new corridor as an idea was announced on 22nd February 2021 between Black Sea and Baltics[ix] which has the most important final station are the Polish Gdansk and the Ukrainian Odessa. Before the war there were some test runs but since 2022 February it has been over (Railfreight, 2021).

There are many researchers and experts (ie.: Ferenc Erdősi dr., Viktor Eszerhai dr., Peter Frankopan, Man Hung Thomas Chan, Márton Péti dr., François de Soyres, Siobhan Murray, Nadia Rocha and others) say the sum of these routes are the New Silk Road. It follows the ancient and medieval path of Silk Road. Of course, there are many parts of the former Silk Road which is reconstructed or simplified due to modern technology. That's reason why the Kamchiq-tunnel was so important for Uzbekistan in 2016. The tunnel is 19,2 km long which is the record in Central-Asia. It is the part of Angren – Pop railway, the cost was 1,9 billion USD and was financed mostly by Export-Import Bank of China and the Worldbank too (Worldbank, 2021a). The heaviest sections were built by China Railway Tunnel Group.

There were some extremely relevant Chinese foreign political initiations for creating the New Silk Road project. The so-called 16+1 Cooperation or named as Cooperation between China and Central and Eastern European Countries (China-CEEC) was established, and summits are organised annually. It helps the Chinese presence in the Central-European, Balkan or Baltic regions. The members: Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Lativa, Lithuania, Montenegro, North Macedonia, Poland, Romania, Serbia, Slovakia, Slovenia and finally China (Richet, 2018).

Figure 3: Main Routes of OBOR between EU - China

Resource: Péti, 2017, pp. 16.

New (New) Eurasia Land Bridge Economic Corridor [(N)ELBEC]
China-Central Asia-West Asia Economic Corridor [CCAWAEC]
New Maritime Silk Road

4. *China – Pakistan Economic Corridor* is situated on a prominent place within the New Silk Road. Its first and foremost pillar is Gwadar of 140.000 inhabitants as the maritime gate of the country and it has direct connection with North-West Chinese regions. The freight trains can avoid India and Strait of Malacca which is favoured area of modern piracy. Nowadays China must pass next to Malay Peninsula and sail to Sumatra Islands (avoid Singapore) and finally catch the Indian ocean and Bengal Bay.

There are dual proposes of Pakistan route:

a. Kenya and its capital, Nairobi are available easily and safely which is important as sources of raw materials for China.

b. The second leg of maritime route turns at Gulf of Aden to North, and the ships sail between Djibouti and Yemen then can go to the Red Sea and further to Suez Canal. Finally crossing Port Said they get out to Mediterranean Sea and dock to NAPA ports (North Adriatic Ports Association cities) or they can continue their journey to Port of Piraeus, Greece which is the biggest and most important transshipment port now in the whole Mediterranean region.

5. *Bangladesh – China – India – Myanmar Economic Corridor:* the smaller countries and India have got similar interest in OBOR project namely they also want to avoid the South China Sea as insecurity water because it is the heart of Far-East piracy.

6. *China – Indochina Peninsula Economic Corridor*: the smaller states and economies in this region should be the economic hinterland of China and Hong Kong.

Our study called the sum of these six routes together as One Belt One Road project after lots of explanations, additions, amendments.

This paper doesn't want to give a full analysing of OBOR and doesn't mention all sub strategies because it focuses on Europe firstly and analyses the trade routes to Europe. Therefore, it is engaged to 1, 2 and 3. way and monitors the final/arriving points and their economic benefits and losses. According to our viewpoint the OBOR has been developed mostly in the Europe – China relation since 2013 (World Bank Group, 2019). Before 2012 the overland transcontinental transportation was absolutely not relevant, the ratio was only under 1 percent between Europe and Far East. After 2012 this value is much higher in 2017, 408.00 TEU (Pepe, 2019) was delivered in any overland legs of OBOR. We must see and follow the growth:

- transported TEU increased by 13.600 percent.
- overland transportation was 4-7 percent of the whole transportation between the European and Far East regions.
- overland part of OBOR is a 22-45 billion USD industry now (Pepe, 2019).

It is clear for us that more than 60 countries have had different interest in the OBOR project including the leader power of EU, Germany too. It is true for building of infrastructure not just the profit of operation.

4. COLLECTION COST

Special income for member states

The focus point of this research is the changing of collection cost. The Council Decision (EU, Euratom) 2020/2053 of 14 December 2020 on system of own resources of the European Union and repealing Decision 2014/335/EU, Euratom plus earlier, the No. 609/2014/EU's decision[x] provided for the 20 percent collection cost. Before 28th February 2001 it was 10 percent, between 1st March 2001 and 28th February 2014 it was 25 percent. This value (percent key) grew to 25 percent again after 14th December 2020 and it remains until the end of 2021-2027 budget period. This financial resource as a special contribution to budget of national states goes to those members which have got great export-import activities. It concentrates on North-West region of EU, from La Havre to Hamburg but the distribution is not balanced.

The enlargement in 2004 reshaped the geopolitical and trade relations of the European customs union due to the new Central-European members in the economic block. The few physical obstacles and national borders are favourable for the international trade. That's why the new alternative routes were discovered in the Far East – Europe; practically China – Germany trade relations. Finally the China – Russia/Kazakhstan – Belarus – EU/Poland trade way was born in the past and the imported products and commodities are cleared by Poland and not by Netherlands, Belgium or Germany longer. It is no question that the 20 percent collection cost moves to the Polish budget and it enriches Warsaw and not Amsterdam or Berlin.

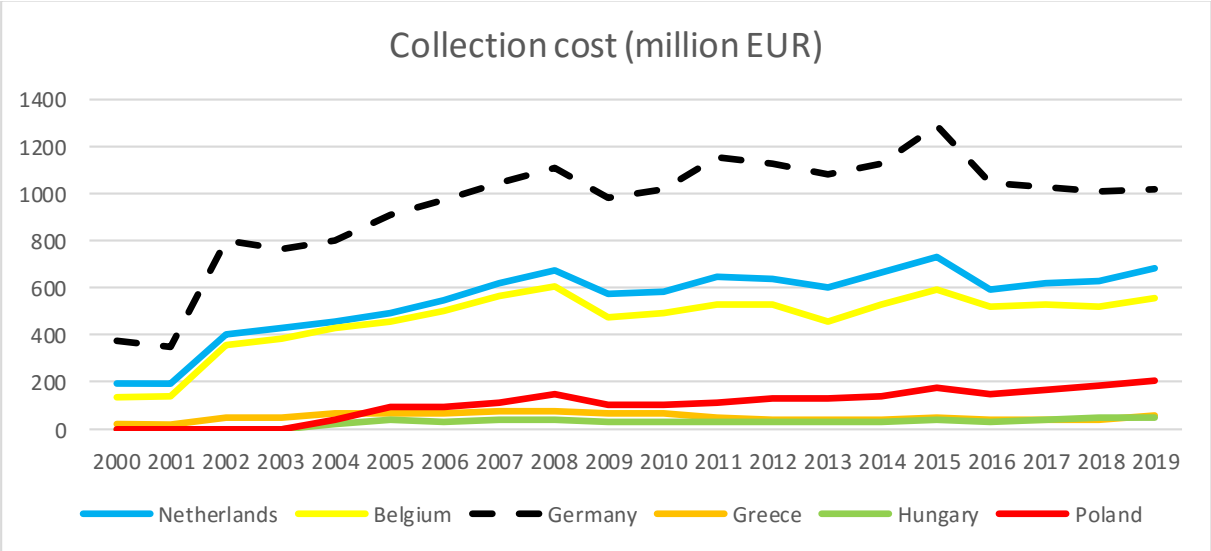
The financial data comes from the European Commission's official website, from page of the own resources (EU spending and revenue 2014-2020). I chose the following countries for analysing of 2000-2019 period:

- Netherlands: Rotterdam plays the most important role which is the greatest European port. Secondly Amsterdam is also a relevant post (not as much as Rotterdam so far). Both ports are characterised as *gateway* and *transshipment* port.
- Belgium: Antwerp is the second biggest port in EU. Antwerp is a typical *gateway* port for the goods and commodities from North America and Africa.
- Germany: Hamburg and Bremen are the two main ports of Germany. In the meantime Hamburg is the third most important port of EU. Hamburg as a giant *gateway* port has got very intensive trade activities with Central-European countries too.
- Italy: Gioia Tauro as an alternative port of Malta has got strong *transshipment* position but considering the tariff revenues it is not as relevant as the mentioned three top ports. I can mention the North Italian Trieste too which is a big oil refinery port. Our paper focuses on the container transportation so it doesn't include the analysing of Trieste.
- Greece: Port of Piraeus is the fourth biggest container port in EU in 2019. Despite it doesn't have classical hinterland supply routes that's why Piraeus is a great *transshipment* port now.
- Hungary: Hungary is strongly related to Greece and the potential changing of status of Piraeus. On other hand it depends on the new and fast freight train route between Beograd and Budapest via Újvidék, Szabadka and Kiskunhalas. It determines the tariff revenues too in the future.
- Poland: It became such as overland gateway of EU due to Małaszewicze transloading railway station. Małaszewicze is located on the very Eastern border of the European customs union, it functions as the Eastern gate of EU or we can name as the crossing border point of 1. corridor of OBOR.
- Slovakia: It seems to be an alternative Eastern gate for EU for a long time. Ágcsernyő-Tiszacsernyő could have been a second Małaszewicze because it is located on the border station of Slovakia and Ukraine. Additionally, it works as dual transloading railway station for the normal European track system (1435mm) and for the Easter-European (so-called Soviet) 1520 mm gauge railway. The 1520 mm gauge tracks are used between Ungvár and Kassa. There was a chance to create a direct railway connection between Kassa and Wien until 30th May 2022. The Austrian Federal Railway, the ÖBB (Österreichische Bundesbahnen) gave up the plan for building a new wide gauge railway to Austria and wants to sell the interest in the project company, Breitspur Planungsgesellschaft mbH (Railfreight, 2022). Though there won't be robust trade expansion in this way, we used the numbers between 2000-2019.
- Slovenia: it has got only one port, Koper. It is a special rival of Port of Trieste especially in the terms of container transportation. It is significant for this paper and Hungary too as an escaping or alternative route.
- Austria: it is one of the important sharing station for freight trains with efficient and well-operation tariff-system and clearing.

Other conditions

The collection cost as TOR (Traditional own resources) was a 10 percent tax-key levied on tariff until 28th February 2001. This key was 25 percent between 1st March 2001 and 28th February 2014 and after 1st March 2014 the mentioned value was 20 percent (EU spending and revenue 2014-2020).

Figure 4: Collection Cost (Million EUR) 2000-2019

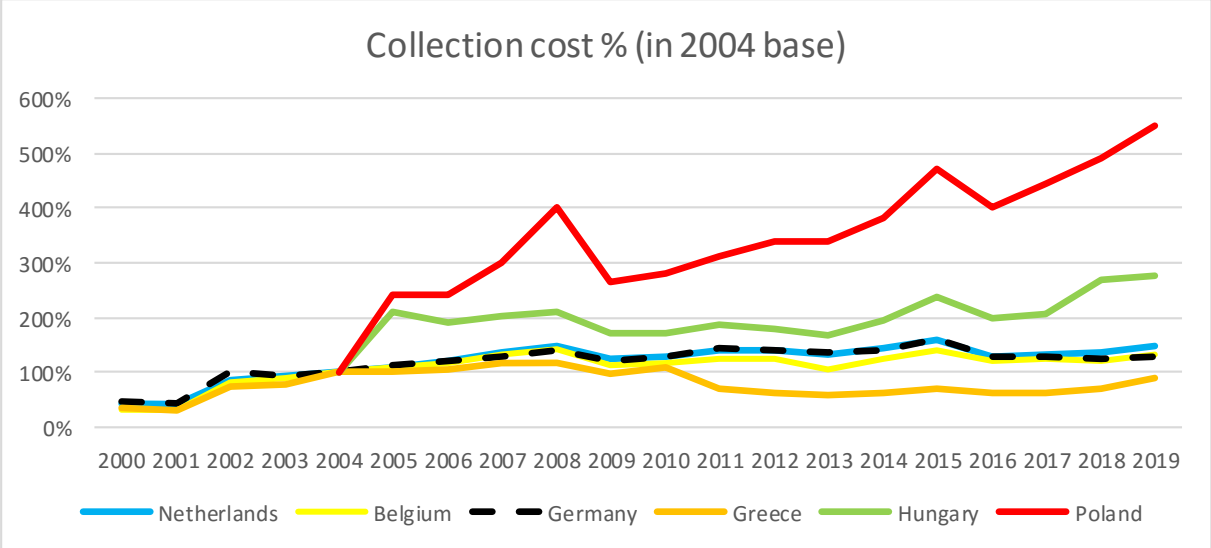


Following the sixth figure it is not a big surprise that Germany, Netherlands and Belgium could get the biggest amount as administration cost from the TOR revenue.

The Italian and Austrian revenue were continuously less and less between 2011-2019 while the largest growth occurred in Poland relatively and Hungary, Slovenia and Slovakia have got also favourable income values.

If we get the enlargement term in 2004 as base term only Austria and Greece were those two member states which couldn't increase their ow ratio in this trade revenue issue, the other countries could do it. Of course, needless to say the base value of Central-European countries was very low in 2004, but not zero.

Figure 5: Collection cost (million EUR) 2000-2019 data based in 2004



If we analyse and calculate these incomes with solid 20 percent between 2000-2019 it can show interesting result theoretically. This way of calculation can modulate the results better regarding the capability of absorbing and presents a stronger Central-European position in this financial competition.

5. TARIFF REVENUE ANALYSIS

Our paper analyses the tariff revenue between 2000-2019 period. As we mentioned it was 10 percent based on tariffs before 2001.

Between 2002-2015 this ratio as the key of collection cost grew up to 25 percent and after 2016 it has moderated to 20 percent[xi]. The study uses two different ways:

1. we use the real percent key and
2. we use a special, theoretical 20 percent key. The 20 percent key covers and is used on the earlier periods too.

On other hand we have a fixed and chain base index numbers calculation too where the starting year is 2004.

The data come from Eurostat „Total own resources database[xii].

In 2019 the record profits from collection cost were generated by ports in Germany (1023 million EUR), Netherlands (682,3 million EUR) and Belgium (558,8 million EUR) due to the biggest and busiest gates of the EU trade: the German Hamburg, the Dutch „port-couple": Rotterdam – Amsterdam and the Belgian Antwerp.

This is followed by ports in Italy (460,8 million EUR) and France (443,5 million EUR). Ports in Spain (397,8 million EUR) and France are not part of this analyses. The reason for this is that port of Piraeus and the trading routes of OBOR are not crossing French and Spanish territories (at least not directly).

Poland has got significantly larger size of territory and economic-political position in Central-Europe. Additionally due to its location Poland is the gate of the 1. Corridor of OBOR to enter European Union, so it is such an overland gate for the external trade of European integration. Warsaw's revenue was 206,7 million EUR which is about 30 percent of the Dutch collection cost and approximately 20 percent of German value.

Hungary's profit from collection cost is 50 million EUR (one quarter of Polish amount). It is equal to Greek value (59,8 million EUR) and a bit less than the Czech revenue (71,7 million EUR). We have to mention that the third route of One Belt One Road project from Piraeus has not been started to build in the decade of 2010s yet.

Otherwise, if we get the fixed base index numbers our ranking is totally different. Between 2004-2019 the average EU increasing of collection cost revenue was 130 percent – the 10-25-20 percent key proportioning is not given in this indicator.

The gain of Central-European member states has been drastically bigger. Poland is the first country in this competition it reached 550 percent growth in this period. Slovenia is the second with 480 percent growth due to Port of Koper which is a relatively small port in EU but very efficient. The Slovakian increasing value is 330 percent while the Hungarian is 276 percent. These results show a pretty prosperous position in EU trade with third partners especially we know that neither Hungary nor Slovakia has got maritime port like Slovenia or Poland. We have to emphasise that the ports are the most important gates of EU for external trade and the 20 percent collection cost can be realized much easier if a member state has a maritime port. Especially it is located on the OBOR route directly.

If we monitor the fixed base index values of old member states these countries couldn't increase their own benefits from this administrative cost as much as the new member states. The German fixed base index number compared to 2004 was 128 percent (under the average of European Union value). It is really interesting to analyse the German position because Hamburg seemed to be the greatest winner of enlargement in 2004. Port of Hamburg had served the Austria-Hungary Monarchy mostly before the First World War, but after the collapse of Monarchy especially during the Cold War Port of Hamburg lost its commercial-economic hinterland like the region of river Elbe, or the Czech, Hungarian or Polish industrial supply.

The Italian value is more moderate (112 percent) but the Belgian result is equal to EU's average (131 percent). The greatest growth was the Dutch one (149 percent) between 2004-2019 but is has also lagged behind the Central-European records. This order doesn't change if we calculate value the proportional to 20 percent.

What is the connection (if there is) between the increasing revenue of Poland, Hungary or Greece and the decreasing one of Netherlands (and the other values of older member states).

The study made an interview with Dr. Professor Joost Hintjens who stated that the Antwerp has got another position like Port of Rotterdam or Port of Hamburg. He emphasized that the most important trade partners of Antwerp are the African and American countries while the Port of Rotterdam and of Hamburg handle the export-import between Europe and Asia. That is the reason and response why the Port of Antwerp hasn't lost the position because it is not the direct rival aim stop of EU-Asia trade competition. In other words Port of Antwerp doesn't need to share its own commercial capacities with the rival Eastern and Southern European ports.

As the following, eighth figure presents to us the real Dutch value has been decreasing opposite the Polish, Hungarian or Greek benefits. Since the Greek value is rather stagnate the Polish and Hungarian results must be significantly higher. The whole EU trade "cake" can grow only in long term, in shorter period the changing of Dutch collection cost relatively is smaller than the Central-European countries results.

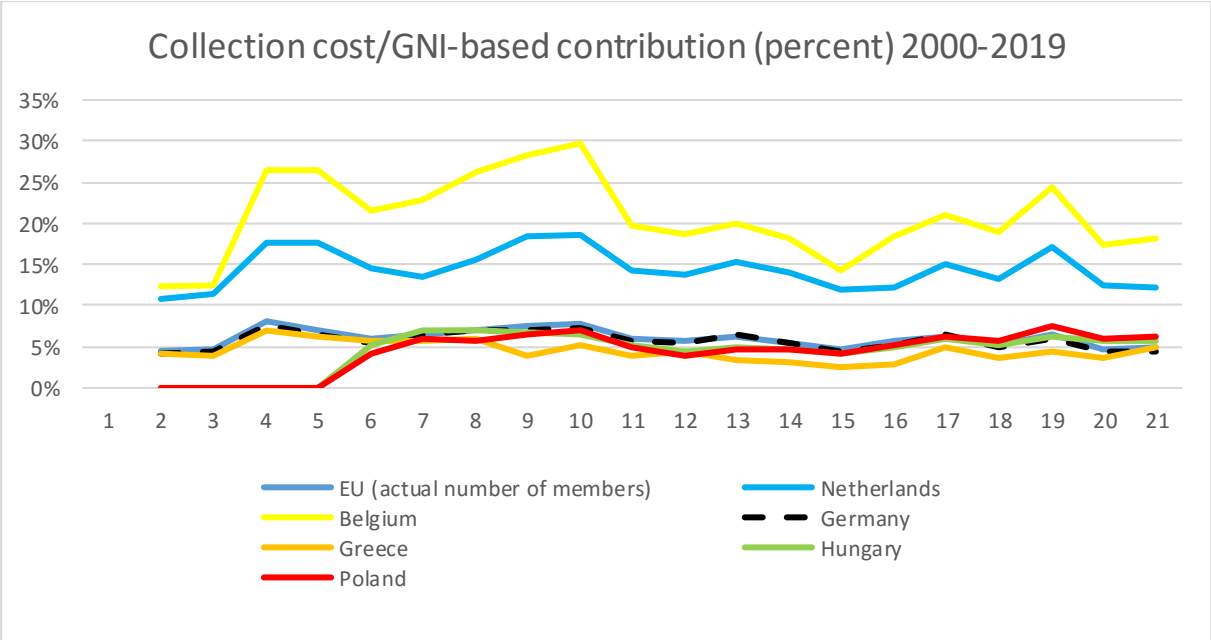
The new OBOR project since 2013 can explain this economic-financial situation. The First Corridor of OBOR appeared firstly through Poland between EU and Asia then a bit later the so-called Third Corridor was used from Port of Piraeus crossing the territory of Balkan countries, Hungary and Austria. The cake has been divided into more and more slices which means Port of Rotterdam could get less transportation relatively. It is particularly true if we know that the Rotterdam Port Authority developed the capacity of port due to the Maasvlakte 2 project and wanted to speed and concentrate the number of freight trains between the port and the hinterland.

There is a second calculation for the combination of the contribution of EU's budget and the analysed collection cost. The biggest contribution of a member state is the GNI-based payment country by country. If it is compensated partly with remained 20 percent collection cost it will be better and more respectable for the net donor countries first and foremost.

Our indicator: the remained 20 percent collection cost is divided by GNI-based member state's contribution. As we talk about a quotient so the country can have a better position following two different ways:

1. The tariff revenue is increasing so the nominal remained collection cost must be higher than before. The bigger collection cost shows a more important and improving trade position with third partners (out of EU) and with the partners inside the integration too. It means the country's ports as in the gateway and/or transshipment position attained more trade relations or more intensive trade achievements.
2. The GNI-based contribution can be less it means the member state must pay less complementary financial contributions to reach its own upper financial maximum.

Figure 6: Collection Cost/GNI-based Contribution (percent) 2000-2019



Resource: Eurostat, https://ec.europa.eu/budget/graphs/revenue_expediture.html, own calculation

Needless to say that this ratio is higher where the gateway position is stronger and more adequate. The GNI-based contribution is the biggest payment to the EU's budget but on other hand is a special balancing amount too. That's why an important interest of a member state is able to increase the share of other payments because it can decrease the GNI-based financial contribution.

Additionally we never forget a less visible but more important possibilities for the ports and countries. The Value Added Tax (VAT) is also the part of the member state's payment to Brussels's budget. The biggest part of manufacturing industry is concentrated in the biggest ports like in Port of Rotterdam, Antwerp or Hamburg (particularly in the first two ports). It means that a huge amount as VAT comes from these industrial sectors.

In summary the decreasing tariff revenue is bad for the net donor countries at least in two different ways:

- the country can get less revenue from VAT or payment of corporate tax
- the capacity of manufacturing industry is not used as much as before[xiii]
- in the meantime the GNI-based contribution is going to increase

Otherwise those member states like Greece, Poland or Hungary located in the route of OBOR can expect an opposite effect from the project like the mentioned more developed countries.

- increasing tariff revenue means higher profit for the national budget
- the activity of logistics and manufacturing industry can grow up it means the VAT will be higher as well[xiv].

In one hand Netherlands has had relatively decreasing revenue on other hand Port of Rotterdam has relatively higher dead capacity. Additionally Netherlands as well Germany must have paid a larger contribution to the European budget during the recession because of mortgage crises and they couldn't balance it with higher VAT-revenue or collection cost[xv].

All in all understanding the previous explanations we can expect a growing intensity trade competition among the ports and member states to get a bigger share of the different revenues.

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[i] Twenty-foot equivalent unit, a twenty-foot-long (6,1 meter) and generally 8-foot-wide (2,59 meter) container used in international trade

[ii] The longer and more ineffective WTO summits promise to us that time of the tariff reducing negotiations and contracts will be over and the large trade blocks don't have new interests to change in this frozen situation.

[iii] Rotterdam and Antwerp were the most important ports of the global trade and economy in the first years of XX. century. Additionally, Antwerp had the biggest business proportion on the global level (Cholnoky, 1936)

[iv] Hamburg was one of the most important port for the Austria-Hungary Monarchy due to the transportation on river Elbe. Though Wien wanted to build up lots of financial and physical barriers against it and to support Port of Trieste – at the same time Budapest wanted to lift up Port of Fiume to support the Hungarian international trade – Hamburg could remain the first gate of international trade of Austria-Hungary Monarchy (Erdősi, 2019, pp. 12-15).

[v] It is the TOR, Traditional Own Resources

[vi] It is the most important overland corridor for Europe, and it will have serious impact in the future to shape the European policies.

[vii] The most important route is the New Eurasian Land Bridge Corridor for us. At the crossing border station between China and Kazakhstan a freight train must wait 42,4 – 59,7 hours in general. It means in the practice that a changing of train axis must be taken maximum 5-6 minutes (or less) to focus on the timetable Hodgkinson, 2016).

[viii] This is the second corridor which can shift the importance of EU's trade routes and the economic benefits of members.

[ix] https://www.portgdansk.pl/en/events/port-of-gdansk-strikes-new-black-sea-to-the-baltic-trade-route-deal-with-ukraine/ (Accessed: 2023.10.19)

[x] Council Regulation (EU, Euratom) No 609/2014 of 26 May 2014 on the methods and procedure for making available the traditional, VAT and GNI-based own resources and on the measures to meet cash requirements

[xi] It went up to 25 percent after 2020, but this term is out of our survey.

[xii] https://commission.europa.eu/strategy-and-policy/eu-budget/long-term-eu-budget/2014-2020/spending-and-revenue_en

[xiii] We must think of logistic and trade activity in the case of Port of Piraeus and the Polish cross-border station, Małaszewicze. First and foremost they handle the container trade so they are the rivals of Port of Rotterdam and Port of Antwerp in this position because their typical character is more transshipment than gateway. Other ports like the Italian Port of Trieste or the Spanish LNG terminals can be the rival of the Dutch and Belgian port in the manufacturing industry issue.

[xiv] We can talk logistics in the case of Serbia too. New freight railway tracks are being built in Belgrade – marshalling yard in order to serve the increasing trade demand. There will be 120 tracks after the reconstruction and development. But we can mention the town of India (Inđija) in the region Szerémség (Syrmia) which is one of the biggest logistic railway junction in Serbia – Voivodina. The European corridors X/A. and X/B. is divided here: the X/A. continues to Szávaszentdemeter – Zágráb (Sremska Mitrovica – Zagreb) while the X/B. turns to North toward Újvidék – Szabadka – Budapest (Novi Sad – Subotica – Budapest).

[xv] During the economic crises the demand is expected to decrease and it means the tariff revenue is also lower than before the decline. But on the expenditure ad contribution to EU's budget of states are fixed for 7 years so it needs an own national proportion to the budget of integration which cannot be recovered as much as in a recovery period.