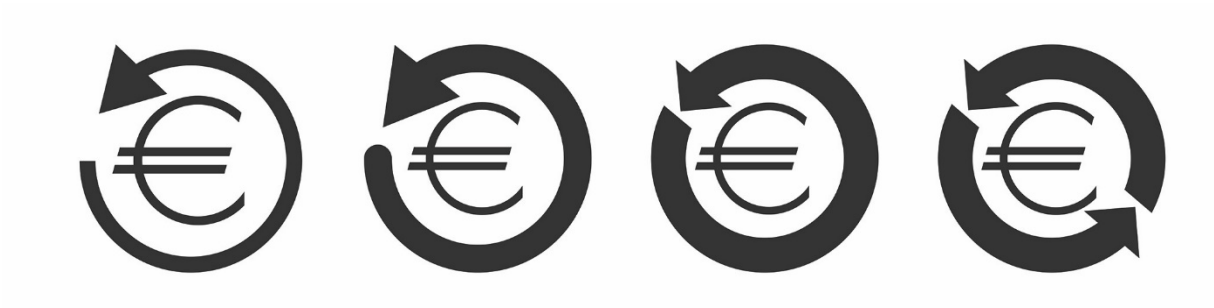
STUDY

Requested by the BUDG Committee

European Parliament

How EU funds tackle economic divide in the European Union



Policy Department for Budgetary Affairs
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EN

How EU funds tackle economic divide in the European Union

Abstract

When assessing the benefits Member States (MS) receive from the European Union (EU) budget, they primarily focus on their individual net positions, i.e. the net balance between their national contributions and the transfers received from the EU budget. This 'just retour' thinking is associated with several limitations and problems and completely neglects the benefits accruing to MS beyond the pure financial streams related to the EU budget. MS may enjoy the indirect benefits that are related to the various interventions and policies financed from the EU budget. Benefits may be also created for the EU as a whole in the case of policies coordinated and financed by the EU, replacing or complementing individual un-coordinated action at MS level and thus creating additional added value through making use of synergies. MS also benefit from intra-EU direct investments, intra-EU trade and the EU's network effects. Therefore, the net position view could be complemented by additional indicators providing a more comprehensive picture of the overall benefits resulting for MS from the EU membership and budget and several reform options within the EU budget could help to overcome the net position view.

This document was requested by the European Parliament's Committee on Budgets. It designated its member Mrs Clotilde Armand to follow the study

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LIST OF ABBREVIATIONS

BEC	Broad Economic Categories
CCCTB	Common Consolidated Corporate Tax Base
CF	Cohesion Fund
CIS	Commonwealth of Independent States
COMECON	COuncil for Mutual ECONomic assistance
Covid19	Corona Virus Disease 2019
DESTA	Design of Trade Agreements
DOTS	Direction of Trade Statistics
EC	European Commission
EFTA	European Free Trade Association
EP	European Parliament
EPRS	European Parliamentary Research Service
ERDF	European Regional Development Fund
ESF	European Social Fund
ESI	European Structural and Investment (Funds)
ETS	Emission Traiding System
EU	European Union
FDI	Foreign Direct Investment
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GNI	Gross National Income

HLGOR	High Level Group on Own Resources
IBS	Institute for Structural Research
IMF	International Monetary Fund
MEP	Member of European Parliament
MFF	Multiannual Financial Framework
MS	Member State
NTMs	Non Tarif Measures
OFDI	Outward Foreign Direct Investment
R&D	Research and Development
R&I	Research and Innovation
SARIO	Slovak Investment and Trade Development Agency
SMEs	Small and Medium Enterprises
SPEs	Special Purpose Entities
STU	Slovak Technical University
SUV	Sport Unitility Vehicle
ToR	Terms of Reference
UN	United Nations
V4	Visegard Four Countries
VAT	Value Added Tax
VW	Volkswagen
WHO	World Trade Organisation
WIFO	Austrian Institute of Economic Research
wiiw	Vienna Institute for International Economic Studies

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EXECUTIVE SUMMARY

The European Parliament (EP) contracted Blomeyer & Sanz on 6 December 2019 to prepare an analytical study on how EU funds tackle economic divide in the European Union (EU).

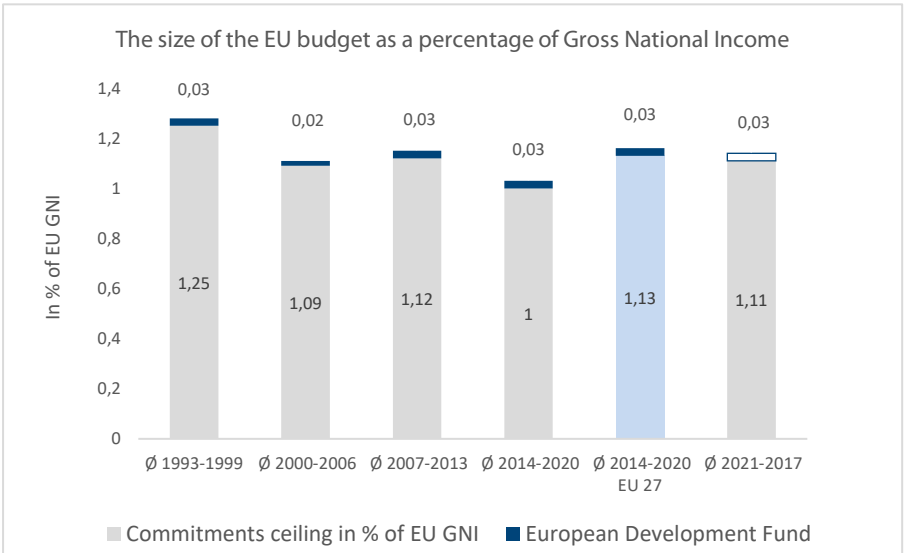
This study aims to provide data and related analysis on the topic of operating budgetary balance, its failures and limitations and to deliver evidence of the positive outcomes that member states (MS) experience from belonging to the EU, notwithstanding the status of their operating budget balance.

This executive summary briefly presents the main findings.

Problems and limitations associated with net-position thinking

When assessing the benefits the member states receive from the EU budget, they primarily focus on their individual net positions (net operating balances), i.e. the net balance between their national contributions and the transfers received from the EU budget. Using the net operational balances as a main indicator has, however, several problems and limitations since it neglects the indirect benefits associated with EU expenditures and EU membership beyond the pure financial streams related to the EU budget.

Instead of focussing on maximising the benefits the EU budget may generate for the EU as a whole and therefore for its individual members, the member states primarily focus on either minimising the negative net positions or maximising the positive ones. **The net-position thinking** thus **represents an obstacle for a future-oriented EU budget** because it diverts the member states' attention from long-term challenges the EU has been facing, such as climate change, migration, digital change or persistent regional and income distribution inequalities. Focusing on the net-positions leads to the design of an EU budget whose neither structure nor volume are adequate to cope with these challenges. In terms of structure, agriculture and cohesion spending have been dominating the multi-annual financial frameworks (MFF) and this trend will most likely continue in the upcoming MFF. In terms of volume, comparing the EU gross national income (GNI) of each MFF we can see that the budget available to the EU has been shrinking in the long term, as it is depicted in the figure above. Moreover, **net-position thinking fuels demands for rebates by net contributing countries to limit their negative net positions**. The rebates make the EU's financing system complex and non-transparent and violate the ability-to-pay-principle. Also, the rebates are not systematically linked to the size of member states' net positions and are not awarded to all net contributing member states. Last but not least, **the net-position thinking exacerbates negotiations on the MFF,** making an agreement more and more difficult to reach. This in turn leads to delays in



establishing the MFF for the next seven-year period which might impede implementation of various EU programmes.

There are a number of benefits accruing to the member states from the EU membership beyond the pure financial streams which are completely neglected by the net-positions. **EU policies coordinated and financed by the EU are replacing or complementing individual member states actions, creating additional European added value that is not captured in the net positions**. E.g. a study undertaken by Bertelsmann Stiftung (2013) showed that replacing national representations abroad by a European embassy could create savings between EUR 420 million to EUR 1.3 billion per year. Savings ranging from EUR 3 to 9 billion per year could be created by integrating European land forces. Fuest and Pisani-Ferry (2019) identify a number of areas such as foreign economic relations, climate change mitigation, digital sovereignty, development cooperation and financial assistance to third countries or migration policy and the protection of refugees which could lead to the development of European public goods.

Another limitation is that **net positions do not tell anything about the structure of transfers received by individual member states from the EU budget and about their effectiveness and outcomes**. For instance, Bachtrögler et al. (2019) point out that employment and productivity effects of funding for industrial firms from the cohesion funds vary between regions and member states, which is, however, not captured in net positions. Furthermore, replacing current own resources (contributions made primarily by member states) by alternative revenue sources which would contribute to important EU policies (such as "green" own resources) would create benefits for member states and the EU as a whole, which would not be reflected in net positions. Therefore, **net positions also obscure aspects of quality with regard to EU revenues**.

In addition, **the focus of net positions totally excludes indirect benefits from the EU budget that might accrue to member states.** Studies show that not only direct recipients but also the EU as a whole benefits from the cohesion policy. For instance, a study commissioned by the Polish Ministry of Economic Development in 2017 estimates the benefits accruing to the EU 15 member states from cohesion transfers to the V4 countries (Czech republic, Hungary, Poland and Slovakia) at EUR 96.6 billion, thus amounting to about 80% of the EU15 total contribution to funding the implementation of cohesion policy in the V4 countries of € 120 billion. Most of the benefits are in the form of indirect export benefits, the majority of which were enjoyed by the main V4 trade partners, i.e. Austria, Germany, Italy, the Netherlands, and France. In addition, there are direct benefits accruing to EU 15-based companies or EU 15-based capital groups owning firms operating in the V4 countries. The main beneficiaries of these direct benefits are Germany, Spain, Austria, France, and Italy. Our own analysis presented in this study also points to the fact that parent companies based in the more developed member states may indeed indirectly profit considerably (e.g. through internal settlements within the corporate group) from European Regional Development Fund co-funding provided for investments of their subsidiary firms in cohesion countries. There are also a number of positive externalities accruing to EU15 member states. These externalities result from the support of entrepreneurship and innovation, transport infrastructure, universities, and environmental protection through cohesion policy in the V4 countries. For instance, Volkswagen Slovakia, subsidiary of the German Volkswagen AG, has been enjoying a number of positive externalities from cohesion policy and EU funded projects in Slovakia. The positive externalities were induced from the EU funded infrastructure developments resulting in lower transportation costs and better accessibility of its suppliers; from educational-related support and research centres establishments providing Volkswagen Slovakia with qualified and skilled

labour force as well as research and development collaboration; and from direct EU funding of Volkswagen suppliers and of Volkswagen Slovakia itself resulting in better effectiveness of these companies and their employees.

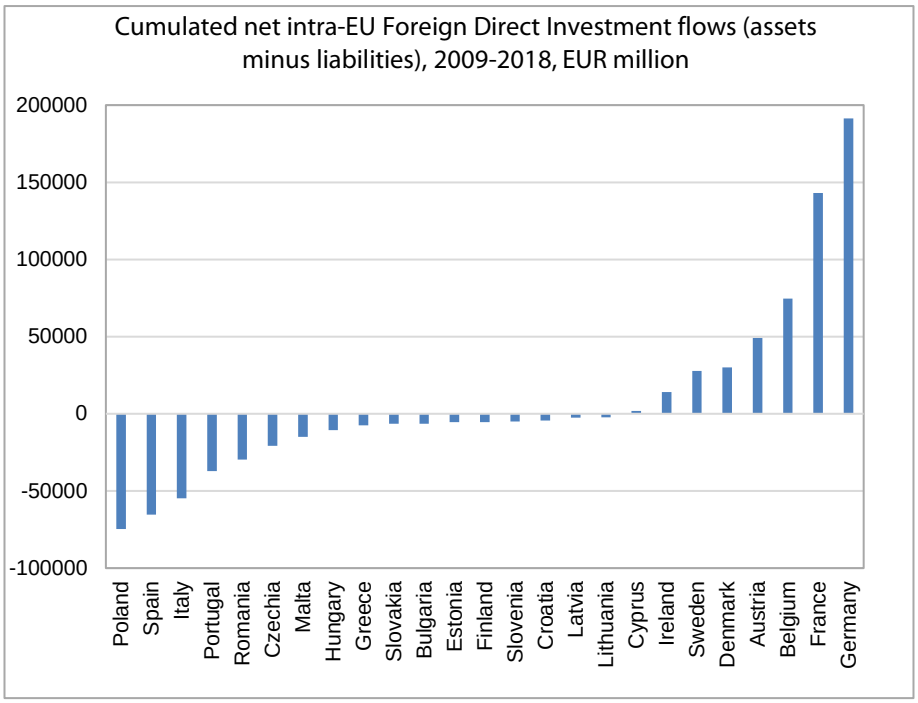
Another limitation of **net positions** is that they **do not capture benefits from expenditures going to third countries outside the EU** such as development aid or accession support which might result in indirect benefits for member states.

Benefits accruing to member states by EU membership

The EU is more than the sum of the member states and the economic impacts of EU policies go far beyond the rather limited narrative of the net financial contributions. More specifically, the EU allows for the provision of a large number of public goods, including the European Single Market which ensures the free movement of goods, services, capital and labour, which member states cannot 'produce' by themselves. Several benefits accrue to the member states by EU membership. This study focuses on benefits of intra-EU direct investments, intra-EU trade and the EU's network effects.

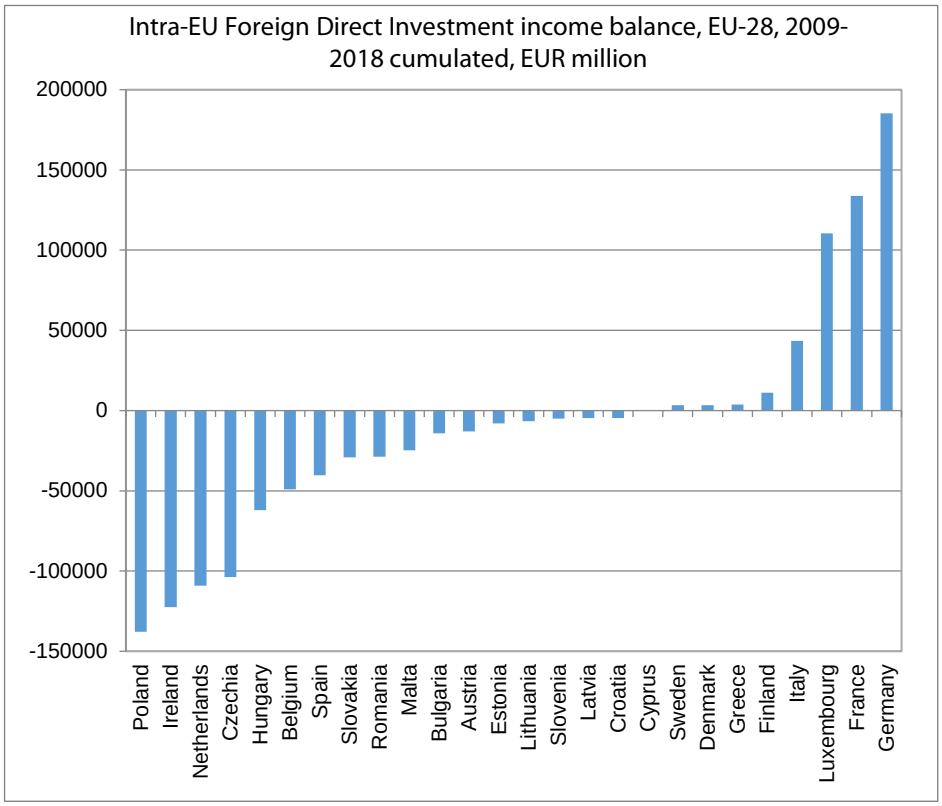
Benefits of intra-EU direct investments

While inward foreign direct investments (FDI) are an important competitiveness component and economic growth factor for a receiving country, outward FDI bring about a number of benefits as well, as internationalisation has become one of the main growth strategies of firms. Substantial intra-EU direct investment flows from the economically advanced net contributor countries to the poorer EU-economies allowing them to benefit from enlarged markets and cheap sourcing of inputs. Poorer net beneficiary countries benefited from capital and technology transfers as well as from an increased labour productivity. The capability of investing abroad indicates that a country/company has superior knowledge, technology or capital power relative to its competitors. Via outward investments, multinational firms may obtain a competitive advantage over their competitors by exploiting comparative advantage via the specialisation of their subsidiaries. In general, less-developed countries import more capital then they export while developed countries are usually equally strong capital importers and exporters. The figure above shows that in the EU, advanced member states that are in a net payer position to the EU budget have more outward than inward FDI (positive values denote more outward than inward FDI) and benefit from market access and cheap sourcing. The less advanced countries that

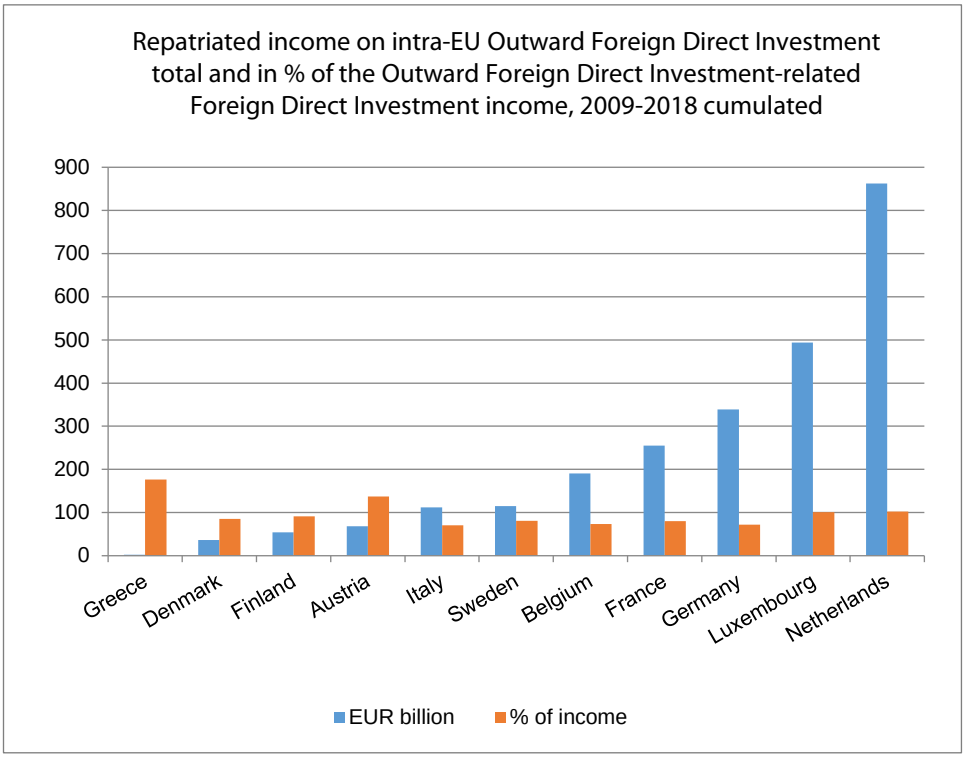


are in a net beneficiary position to the EU budget, but also some more advanced but less competitive ones are net FDI receivers (negative values denote more inward than outward FDI) and benefit from capital and technology transfer. FDI is also a crucial integrating vehicle of global supply chains. Efficiency gains by EU-wide value chains made EU companies more competitive which in turn allows them to expand outside the EU.

The main investors in the EU are the largest and most advanced countries (Germany and France) as well as those which are locations of holding companies and financial centres transmitting funds from third countries, such as the Netherlands and Luxembourg. The income of foreign direct investors has been in the focus of attention recently. Private investors expect a positive return to their invested capital. There is no difference between foreign and domestic investors in this respect. Both are also free to decide what to do with the taxed income they earn. What makes the income of foreigners special is that the balance of payments tells how much they earn and if they keep it in the host country. The rate of return achieved by investments in an economy is an important factor of the location's attractiveness to FDI. Data suggest that the Central and East European EU member states offer high rates of return and keep being attractive for foreign investors.



The FDI income balance is a position in the income balance of the current account and contains all income earned by a reporting economy's economic entity abroad minus the income attributed to a foreign entity in the reporting economy. The cumulated intra-EU foreign direct investment income balance between 2009 and 2018 is depicted in the figure on the left. The most prominent net beneficiaries include Germany (EUR 185 billion), France (EUR 143 billion), Luxembourg (EUR 110 billion) and Italy (EUR 43 billion).



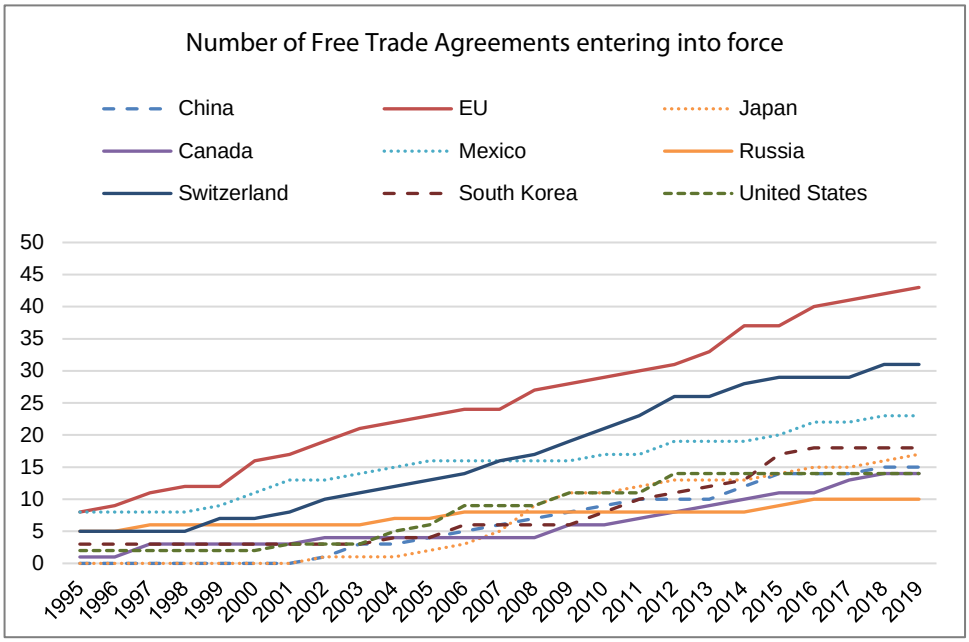
If we take only the income earned on outward FDI in the EU-28 we get a more precise picture of the beneficiary countries. The international financial centres and seats of large holdings, namely the Netherlands and Luxembourg, receive the highest amounts of income. Following the financial centres, Germany, France and Italy are also among the main beneficiaries in terms of the amount of income earned on their investments abroad. Investors use only a part of the FDI income for new investments in the host economy, a more significant part is transferred abroad. As we can see from the figure above, large FDI earnings are usually repatriated especially by the countries which act as financial centres and which accrue the highest amounts of income. Large amounts of repatriated incomes were also generated by German and French investors, EUR 339 billion and EUR 255 billion, respectively.

Benefits of intra-EU trade

Integration typically strengthened after EU accession, pointing to benefits of EU membership accruing to all member states, which, however, differ considerably across countries. Besides EU membership, intra-EU trade is influenced by a wide range of factors (collapse of communism and trade reorientation thereafter; industry specialisation and integration into value chains; geographical location, etc). Looking into more detail at the EU enlargement in 2004 and its effects a strong increase of intra-EU exports and imports occurred in the respective time period (1999-2008), with annual average growth rates of 7%. Both net contributor and net beneficiary countries experienced intra-EU trade growth, but it was much more pronounced for the net beneficiary countries. Trade integration with the EU – measured as the share of intra-EU exports and imports in % of gross domestic product (GDP) – strengthened after accession in all countries (except Malta), with increases between 5 and 50 percentage points. Changes in the structure of trade (as measured by the share of intermediate, high-tech and medium-high tech goods in intra-EU trade) between 2004 and 2018 were less marked in the three major net contributor countries as expected due to their longer integration history.

The EU's network effects for trade and investments

The EU is the most active player in the field of trade agreements. The figure below shows the development of FTAs that are in force over time for the EU and selected countries. With 43 FTAs, the EU is by far the leader in this comparison. Second comes Switzerland with 31 and Mexico has 23 agreements in place. Not only has the EU expanded in terms of member states, it has also considerably extended the number of free trade agreements (FTAs) with non-EU countries. FTAs with non-EU countries also have a positive effect on trade, though not as large as the EU Enlargements. Our own gravity model estimates presented in this study show that there are large and significant effects of the EU enlargements on bilateral trade and investment flows and that being part of the huge EU trade network yields additional trade effects.



Approaches to overcome the net-position view

While the net positions are currently the main indicator for member states to evaluate their individual benefits from the EU budget and EU membership, additional indicators are needed to obtain a more comprehensive and multi-faceted picture of the overall benefits resulting from EU membership and the EU budget. E.g. augmented net positions could account for the cost savings at MS level through the provision of European public goods. Contrary to the net contributions to the EU budget, integration is not a zero-sum game for EU economies, but additional value is created by the international division of labour with a bigger market for all member states.

There are several reform options within the EU budget addressing its various structural features that could help to overcome the net position thinking. **Increasing the EU added value provided by EU expenditures** would contribute to alleviate the member states' net position thinking. The higher the share of expenditures dedicated to European public goods characterised by cross-border benefits and/or providing efficiency gains compared to national provision, the less meaningful the concept of net positions is getting, as benefits from these public goods accrue to the EU as a whole and thus to all member states together. **Reforms in the EU system of own resources** is another suggestion of how to overcome the net position thinking. Substituting a substantial share of national contributions to the EU budget by innovative (tax-based) own resources may loosen the link between payments into the EU budget on the one hand and transfers received out of it on the other. The table below presents several options for innovative own resources. The less their revenues are attributable to individual MS due to cross-border aspects and the larger the share of national contributions they would replace, the

less meaningful net operating balances would be. Moreover, all these options could contribute to some degree to fair and sustainable taxation in the EU. Several of them may particularly support the implementation of the European Green Deal as "green own resources": a carbon-based flight ticket tax (or aviation taxes in general), a border carbon adjustment mechanism for the EU Emission Trading System, or a surcharge on national fuel taxes. Within a supra-national tax shift innovative own resources could replace national contributions; which could create additional fiscal space for MS urgently needed in the aftermath of the current COVID-19 crisis. They could also serve to finance common EU-wide recovery measures after having overcome the acute crisis or to fund a larger EU budget.

Options for tax-based own resources and potential tax revenues

Potential tax-based own resource	Reference year	Member States involved	Details	Potential revenues, billion €	Potential revenues, % of EU budget 2021
Carbon-based flight ticket tax	2014	EU28	carbon price 25 € to 35 € per tonne CO_2 emissions	4 to 5	2 to 3
Border carbon adjustment for the EU Emission Trading System	2021	EU28	carbon price 54 € per tonne carbon emissions embodied in imports	9 to 65	5 to 39
Surcharge on national fuel tax	2014	EU28	0.03 € to 0.20 € per liter fuel	13 to 86	8 to 51
Net wealth tax	2014	EU20 (member states for which HFCS data are available)	1% on household net wealth above € 1 million; 1.5% on household net wealth above € 1.5 million	156	93
Financial transactions tax	2016	EU10 ("Coalition of the Willing")	0.1% on equity; 0.01% on derivatives	4 to 33	2 to 20
CCCTB-based own resource	2014	EU28	1% of CCCTB	8	5

Source: Schratzenstaller and Krenek (2019), table 2 (slightly modified).

The focus on net positions fuels demands for rebates by net contributing member states to limit negative net positions. **Reforms in the rebate system** may therefore help to mitigate the net position thinking.

This study has demonstrated that the operating budgetary balance has a number of failures and limitations and that belonging to the EU, notwithstanding the status of the member states' operating budgetary balance, brings about many positive outcomes ranging beyond the pure financial streams. Therefore, the net-positions should be considered as mere accounting indicators only, instead of indicators to capture the direct and indirect benefits from the EU budget.

1. INTRODUCTION

1.1. OBJECTIVES AND SCOPE

The European Parliament contracted Blomeyer & Sanz on 6 December 2019 to prepare an analytical study on how EU funds tackle economic divide in the EU.

Looking at the study **objectives,** this analytical study aims to provide data and related analysis on the topic of operating budgetary balance, its failures and limitations and to deliver evidence of the positive outcomes that MS' experience from belonging to the EU, notwithstanding the status of their operating budget balance.

In terms of the **scope**, the ToR clearly define the scope of the analytical study, noting a series of elements, namely: (1) Overview of numerous problems of the widely used operating budgetary balance and its limitations; (2) Investigation of positive effects of the EU budget transfers, not only to net receivers but also to net contributor member states; (3) Analysis of the positive effects stemming from belonging to the EU, whatever status of operating budgetary balance a member state has, including the positive effects from intra-EU direct investments and intra-EU trade balance in member states; (4) Delivery of evidence on collective benefits emerging from EU policies, economic synergies and cross border effects. The above mentioned issues are divided into the three main part:

- **Limitations of the net position view towards the EU budget:** the study presents long-term data on development of net positions of MS, provides arguments to demonstrate and illustrate the limitations of MS' net positions as an indicator for MS to assess their individual benefits derived from the EU budgets. The study further identifies various kinds of indirect benefits from EU expenditures individual MS may enjoy, focusing on those benefits accruing to other countries than the receiving country. Furthermore, the study discusses the concept of EU value added which is often used to capture the benefits from various spending categories for the EU as a whole and reviews the existing empirical analysis aiming at quantifying the indirect benefits of the EU budget for individual MS.
- **Benefits accruing to MS by EU memberships:** this section presents benefits of EU membership, starting with an overview of the literature that is measuring the 'cost of non-Europe'. The study then describes the benefits of intra-EU direct investments using several databases and indicators to assess the impact of intra-EU foreign direct investments (FDI) over time and by countries. This is followed by an analysis of benefits of intra-EU trade using the dynamics of export and import flows as well as the resulting trade balances. Last but not least, the study discusses the EU's network effects for trade and investments by estimating the effects of Free Trade Agreements (FTAs) on the economies of the participating parties. To this end, the structural gravity model is used. Implications of these effects on gross domestic product (GDP) and on employment are also analysed.
- **Approaches to overcome the net position view:** the last section identifies the most important approaches for fundamental reforms that could help to overcome the net position thinking and develops alternative indicators confronting the operating budget balance. The focus is on the expenditure side as well as on the system of own resources, and on a rebate system substituting the current one which has been widely criticized in the relevant literature. Lastly, the study will review past Eurobarometer survey to find out whether support for the EU and for an increase of the EU budget, respectively, are associated with changes in the net positions of respondent' countries of origin.

1.2. METHODOLOGY

This study was prepared on the basis of desk research, case studies and interviews.

- **Desk research:** Our methodology is both desk-based and empirical. The desk-based methodology included a review of relevant documentation by the EU institutions and academic community on the topic of the operating budgetary balance indicator and its limitations, and on the positive effects stemming from the EU membership. In addition to literature review, number of data sources e.g. Eurostat FDI and Comext databases, fDiMarkets database, International Monetary Fund (IMF) Direction of Trade Statistics (DOTS) database or Design of Trade Agreements (DESTA) database were used.
- **Case studies:** In the context of the empirical methodology, four case studies were developed to demonstrate that firms in net contributing countries benefit from cohesion payments (case study 1), to illustrate that parent companies based in the more developed MS may indeed indirectly profit from the European Regional Development Fund (ERDF) co-funding provided for investments of their subsidiary firms in cohesion countries (case study 2), to present an alternative indicator of the benefits of EU integration (case study 3) and to introduce innovative (tax-base) own resources that could partially replace national contributions to the EU budget (case study 4).
- **Interviews:** It was originally planned to conduct several semi-structured interviews with long-serving policymakers and experts from academia working on questions related to the EU budget for a long time. The objective was to learn about the long-term development of the debate about needs and options to reform the EU budget to better serve the MS' common interests. Due to the outbreak of the Covid19, the response rate was rather low.[1]

1.3. REPORT STRUCTURE

The report is organised in the following sections:

- Section 1 – This introduction
- Section 2 – Limitations of the net position view towards the EU budget
- Section 3 – Benefits accruing to member states by EU membership
- Section 4 – Approaches to overcome the net position view
- Section 5 – Concluding considerations

[1] An interview was conducted with Alain Lamassoure, former Member of European Parliament (MEP) (1989-2019). The interview can be found in the Annex to this study.

2. LIMITATIONS OF THE NET POSITION VIEW TOWARDS THE EU BUDGET

KEY FINDINGS

- Member states' focus on their individual benefit from the EU budget in terms of financial flows (i.e. their net position) is an obstacle to a future-oriented EU budget.
- The focus on net positions fuels demands for rebates by net contributing countries to limit negative net positions.
- Member states' net position thinking is increasingly exacerbating negotiations on the Multiannual Financial Framework (MFF).
- Benefits created for the EU as a whole through EU-financed policies are not captured by net positions.
- Net positions do not convey information about the structure of transfers received by individual member states from the EU budget and about their effectiveness and outcomes.
- The focus on net positions obscures aspects of quality with regard to EU revenues.
- Net positions neglect indirect benefits for member states and regions not directly involved in the payment of EU transfers.
- Potential indirect benefits for member states from expenditures going to countries outside the EU are neglected in net positions.

2.1. LIMITATIONS OF THE NET POSITION VIEW

In 2018, the EU consisted of 11 net contributing MS (including the United Kingdom) and 16 net receiving MS (table 1). Luxembourg, which used to be a net contributing country, has been achieving a balanced net position since 2016. All net contributing countries belonged to the EU15 group. Three EU15 MS – Spain, Portugal, and Greece – were net receiving MS.

When assessing the benefits they receive from the EU budget, EU MS primarily focus on their individual net positions (net operating balances), i.e. the net balance between their national contributions[2] and the transfers received from the EU budget.[3] These net positions are associated with various methodological shortcomings (Asatrayan et al. 2020B). For example, they fluctuate over time, so that looking at individual years instead of periods covering several years is not very meaningful. Moreover, as relative and absolute figures may yield a diverging picture and pattern, they may be misused in populist statements. Using net positions as central indicator to evaluate the individual benefit a MS derives from the EU budget is associated with several severe problems and limitations

[2] National contributions consist of VAT- and GNI-based contributions. Adding traditional own resources (agricultural and sugar levies, custom duties) to national contributions gives gross contributions.

[3] For a detailed explanation how net positions are calculated see Asatryan et al. (2020B).

Table 1 : Member states Operating Budgetary Balance in percent of Gross National Income (GNI), 2000 to 2018

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Net contributing countries																			
Denmark	0,14	-0,12	-0,09	-0,11	-0,11	-0,12	-0,22	-0,29	-0,26	-0,35	-0,25	-0,33	-0,44	-0,49	-0,29	-0,26	-0,28	-0,24	-0,39
Germany	-0,39	-0,32	-0,23	-0,35	-0,31	-0,26	-0,26	-0,26	-0,30	-0,32	-0,35	-0,33	-0,42	-0,48	-0,49	-0,43	-0,40	-0,32	-0,39
Austria	-0,21	-0,25	-0,09	-0,14	-0,15	-0,11	-0,11	-0,19	-0,12	-0,15	-0,23	-0,26	-0,34	-0,39	-0,41	-0,29	-0,23	-0,25	-0,35
Sweden	-0,38	-0,37	-0,27	-0,32	-0,34	-0,27	-0,25	-0,17	-0,30	-0,22	-0,32	-0,32	-0,44	-0,49	-0,45	-0,41	-0,33	-0,29	-0,32
Netherlands	-0,34	-0,48	-0,44	-0,38	-0,38	-0,49	-0,44	-0,29	-0,25	-0,33	-0,29	-0,34	-0,36	-0,42	-0,56	-0,39	-0,30	-0,19	-0,31
United Kingdom	-0,17	0,06	-0,14	-0,14	-0,15	-0,08	-0,10	-0,22	-0,05	-0,08	-0,31	-0,30	-0,36	-0,43	-0,25	-0,46	-0,24	-0,23	-0,29
Italy	0,10	-0,16	-0,22	-0,06	-0,20	-0,15	-0,11	-0,15	-0,29	-0,26	-0,28	-0,36	-0,31	-0,24	-0,30	-0,20	-0,14	-0,21	-0,29
France	-0,04	-0,13	-0,14	-0,12	-0,18	-0,16	-0,16	-0,18	-0,22	-0,24	-0,27	-0,30	-0,39	-0,39	-0,36	-0,28	-0,36	-0,20	-0,26
Finland	0,20	-0,11	0,00	-0,02	-0,04	-0,05	-0,14	-0,12	-0,20	-0,23	-0,16	-0,33	-0,33	-0,30	-0,43	-0,27	-0,14	-0,12	-0,25
Ireland	1,83	1,16	1,39	1,25	1,19	0,77	0,67	0,36	0,32	0,03	0,58	0,27	0,47	0,19	-0,03	0,15	0,16	-0,07	-0,12
Luxemburg	-0,32	-0,77	-0,24	-0,28	-0,42	-0,33	-0,25	-0,51	-0,11	-0,35	-0,16	-0,27	-0,28	-0,24	0,26	-0,29	0,03	0,04	0,04

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Belgium	-0,12	-0,28	-0,19	-0,27	-0,18	-0,19	-0,21	-0,28	-0,23	-0,42	-0,39	-0,36	-0,38	-0,39	-0,40	-0,37	-0,28	-0,16	-0,11
Net receiving countries																			
Spain	0,82	1,11	1,20	1,09	1,00	0,66	0,38	0,32	0,23	0,17	0,38	0,28	0,38	0,29	0,08	0,40	0,19	0,06	0,15
Cyprus					0,49	0,64	0,67	-0,09	-0,13	0,04	0,06	0,03	-0,13	0,23	0,67	-0,18	0,18	0,27	0,39
Malta					0,93	1,82	1,95	0,48	0,47	0,20	0,84	1,00	1,03	1,21	2,33	0,35	1,30	1,00	0,41
Slovenia					0,40	0,35	0,46	0,23	0,28	0,73	1,18	1,34	1,60	1,20	2,14	1,48	0,51	0,34	1,17
Czech Republic					0,30	0,17	0,33	0,48	0,75	1,29	1,44	0,96	2,02	2,33	2,04	3,72	2,04	1,37	1,22
Croatia	0,06	0,06	0,03	0,09	0,07	0,12	0,26	0,18	0,29	0,24	0,20	0,26	0,24	0,12	0,40	0,50	1,20	0,55	1,31
Romania								0,46	1,11	1,48	0,99	1,10	1,55	2,94	3,07	3,26	3,64	1,85	1,61
Portugal	1,69	1,33	1,91	2,41	2,08	1,52	1,42	1,43	1,54	1,33	1,51	1,73	3,06	2,63	1,85	0,53	0,99	1,29	1,66
Greece	3,04	2,94	2,07	1,89	2,16	1,98	2,39	2,38	2,65	1,40	1,62	2,29	2,33	2,93	2,88	2,77	2,47	2,10	1,83
Slovakia					0,51	0,71	0,73	1,11	1,10	0,92	2,06	1,69	2,26	1,78	1,35	4,04	2,53	1,17	1,90

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Estonia					1,57	1,43	1,38	1,47	1,42	4,25	4,82	2,25	4,64	4,22	2,46	1,20	2,37	2,09	2,15
Poland					0,72	0,77	1,12	1,67	1,22	2,13	2,43	3,03	3,24	3,22	3,45	2,28	1,75	1,92	2,59
Bulgaria								1,11	1,89	1,82	2,50	1,88	3,32	3,80	4,43	5,31	4,17	2,92	3,01
Latvia					1,72	1,94	1,52	2,20	1,66	2,55	3,70	3,62	4,33	3,46	3,34	3,10	2,04	1,98	3,31
Lithuania					2,06	2,30	2,48	2,81	2,64	5,51	4,94	4,55	4,69	4,45	4,37	1,50	3,12	3,14	3,96
Hungary					0,24	0,69	1,29	1,67	1,07	3,11	2,95	4,62	3,47	5,08	5,62	4,36	3,34	2,66	4,11

Source: European Commission (EC) (2019), own representation. Ranked in ascending order of values in 2018.

2.1.1. Problems associated with net-position thinking

MS' net position thinking has been criticised in numerous policy-oriented contributions (see, e.g., Haug et al. 2011, High Level Group on Own Resources 2016) as well as academic analyses (see, e.g., Iozzo et al. 2008, Schratzenstaller et al. 2016). This MS' focus on the balance of national contributions to the EU budget and the transfers received from the EU, while neglecting indirect benefits associated with EU expenditures and EU membership, is associated with various negative consequences.

First, MS' focus on their individual benefit derived from the EU budget in terms of financial flows (i.e. their net position) is an obstacle to a future-oriented EU budget. Receiving MS aim at maximising positive net positions, while net contributing MS aim at minimising negative ones, instead of maximising the benefit the EU budget may generate for the EU as a whole (Benedetto/Heinemann/Zuleeg 2020), and hence indirectly for them as well. This focus leads MS to undervalue expenditure categories creating European added value accruing to all MS and the EU as a whole and to overvalue those expenditure categories from which they themselves benefit most in their evaluation of the overall benefit provided by the EU budget. Thus, the net position thinking has become a central obstacle for the design of an EU budget able to effectively address the most important long-term challenges facing the EU, which are ranging from climate change over migration, demographic and digital change to persistent inequalities in regional and personal income distribution. Tackling these challenges would be in the common interest of MS and would require the provision of European public goods creating European added value. The focus on individual net positions and thus on individual national interests, however, diverts MS' attention away from the EU's common interests. As a consequence, neither the volume nor the structure of the EU budget is adequate to cope with the most pressing challenges for the EU.[4]

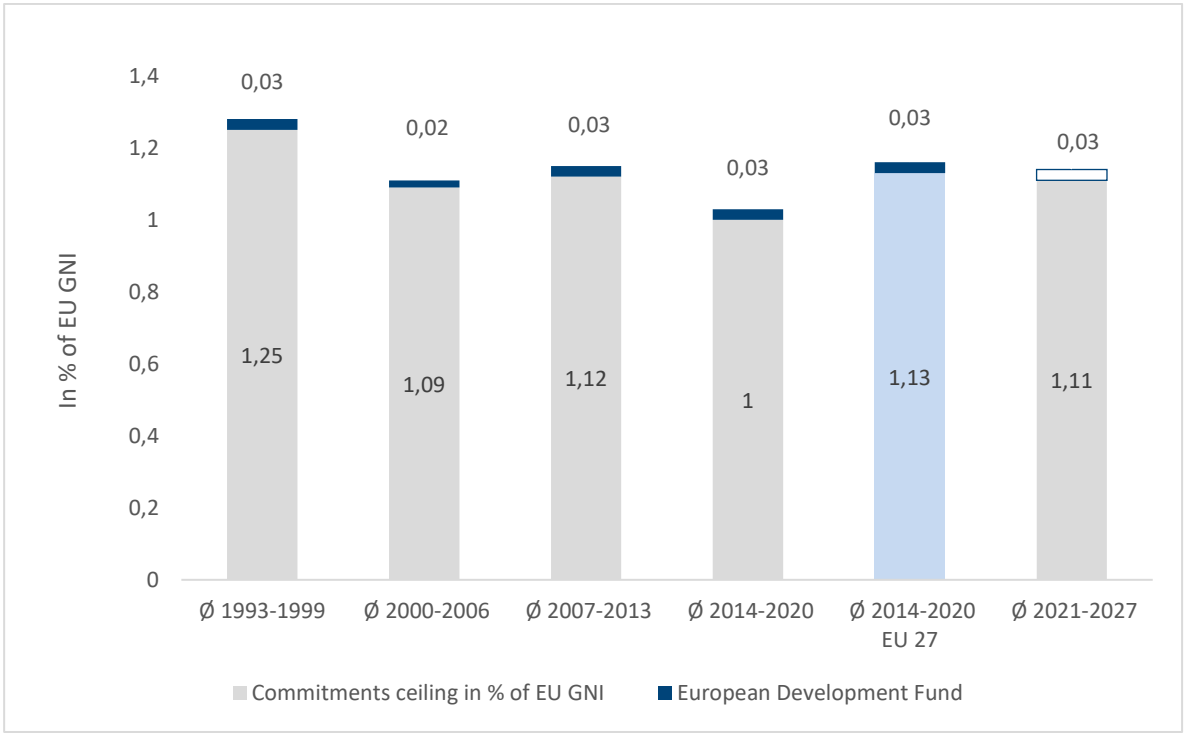
There is a broad consensus among experts that the current structure of EU expenditures is not fit to address the EU's most pressing challenges (see, e.g., HLGOR 2016, Heinemann 2016, Schratzenstaller 2017). Common agricultural policy is still the largest item in the EU budget: its share decreased from 42% in the MFF 2007-2013 to 39% in the current MFF and is set to decrease further to around 29% according to the European Commission's proposal for the next MFF 2021-2027. The share of cohesion expenditures went down from 36% in the preceding MFF to 34% in the current one and is planned to decrease to 29% as well in the next MFF. Still, also the next MFF will be most likely dominated by agricultural and cohesion spending, altogether amounting to almost 60% of overall spending. A relatively moderate share of overall EU expenditures is dedicated to the European research framework programme: its current share of 7.3% of overall EU expenditures should increase to 7.6% in the next MFF according to the EC proposal. Expenditures for cross-border infrastructure should stagnate at a modest 2% of overall expenditures according to the European Commission's plans.

Besides an inadequate expenditure structure to meet future challenges, the use of net positions as central indicator also results in an insufficient volume of the EU budget. Despite mounting long-term challenges, the budget available to the EU has been shrinking in the long run (Schratzenstaller 2019). In terms of EU GNI, the MFF decreased from 1.28% for the period 1993 to 1999 to 1.11 % and 1.15% in the two succeeding periods (see graph 1). The current MFF 2014-2020 represents a further reduction to 1.03% for the EU28, corresponding to 1.16% for the EU27 excluding the United Kingdom. The EC's

[4] See Schratzenstaller (2019) for details.

proposal of 1.11% of GNI (including the European Development Fund (EDF), which is to be integrated in the next MFF) for the MFF 2021-2027 for the EU27 therefore implies an increase in the EU budget in relative terms only if compared to the current MFF for the EU28, but a decline if the United Kingdom is excluded.

Figure 1 : The size of the EU budget as a percentage of Gross National Income



Source: European Commission 2018. 2014-2020 estimated commitments (UK expenditure excluded) in percent of EU27-GNI.

Second, the focus on net positions fuels demands for rebates by net contributing countries to limit negative net positions. Such rebates are, at least in their current design, problematic for three reasons (HLGOR 2016, Schratzenstaller et al. 2016).[5] They make the EU's financing system complex and intransparent. They violate the ability-to-pay-principle, as after the application of rebates net contributions are not systematically linked to national GNI of MS anymore. And the rebates granted in past MFFs as well as in the current one appear rather arbitrary, as they are not systematically linked to the size of MS' net positions and are not awarded to all net contributing MS.

Third, MS' net-position thinking is increasingly exacerbating negotiations on the MFF. With net receiving and net contributing MS trying to maximise net transfers received from or minimising net contributions to the EU budget, respectively, an agreement on the MFF is increasingly hard to reach. The resulting delay of a final agreement on the MFF for the next 7-years-period delays the implementation of various EU programmes and creates uncertainty and frictions. Moreover, the acrimonious negotiations putting national interests instead of the common European interest in the foreground bear the danger of undermining citizens' trust in problem-solving capacities at the EU level and of eroding ideas of solidarity and economic and social cohesion.

[5] For the history of rebates, see Asatrayan et al. (2020B).

Table 2 illustrates that generally, with a few exceptions, MS' positions on the size of the next MFF 2021-2027 are correlated with their net positions (Bayer 2019). Four net contributing MS (the group of the « Frugal Four » comprising Denmark, Austria, Netherlands, and Sweden) are advocating for a budget limited to 1% of EU GNI. Italy is supporting the EC's proposal of 1.11% of GNI, and Belgium, Finland, and Ireland indicated a range between 1% and an upper limit of 1.11%. In contrast, the 1.11% percent proposed by the EC represent the lower limit of the volume of the next MFF for the net receiving MS. The « Friends of Cohesion », an alliance of 16 MS primarily consisting of eastern and southern net recipients of EU transfers, are aiming at an MFF of at least 1.11% of GNI. Estonia and Hungary are preferring a budget volume of 1.16%, while Portugal specified a range between 1.11% and 1.3% of GNI. Greece supports the target set by the European Parliament, an MFF volume of 1.3% of GNI.

Table 2 : Member states' positions on the size of the Multiannual Financial Framework 2021-2027 in % of Gross National Income (GNI)

	1%	1% to 1.11%	1.11%	1.11% to 1.3%	1.16%	1.3%
Net contributing countries						
Austria	X					
Belgium		X				
Denmark	X					
Finland		X				
Germany	X					
Ireland		X				
Italy			X			
Netherlands	X					
Sweden	X					
Net receiving countries						
Croatia			X			
Cyprus		X				

	1%	1% to 1.11%	1.11%	1.11% to 1.3%	1.16%	1.3%
Czech Republic		X				
Estonia					X	
Greece						X
Hungary			X		X	
Lithuania			X			
Malta				X		
Portugal			X			
Romania			X			
Slovakia			X			
Spain			X			

Source: own representation based on Bayer (2019). – 1) Bulgaria, France, Luxembourg and Poland have not disclosed a preferred budget size; Latvia said its position remains dependent on funding priorities.

2.1.2. Limitations of net positions as indicator for benefits provided by the EU budget

MS' 'just retour'-thinking completely neglects the benefits and costs accruing to MS due to their EU membership beyond the pure financial streams related to the EU budget. There are two different kinds of such EU-related costs and benefits for MS. On the one hand, EU membership itself is associated with benefits and costs of various kinds for MS, which are not depicted in net positions. These are addressed in chapter 3 of this study. On the other hand, net positions have various limitations as indicator for the benefits provided by the EU budget. Therefore, they should be taken as mere accounting indicators only instead of indicators to capture the direct and indirect benefit (or even seen as loss) MS obtain from the EU budget (Asatryan et al. 2020B).

Several limitations of net balances as indicator for the benefits EU MS obtain from the EU budget need to be pointed out.

First, benefits created for the EU as a whole in the case of policies coordinated and financed by the EU, replacing or complementing individual un-coordinated action at MS level and thus creating additional European added value, are not captured by net positions (Asatraya et al. 2020). EU public spending creates European added value if net benefits exceed those created by un-coordinated action national governments (Bertelsmann Stiftung (ed.) 2013). This may be the case for public services entailing cross-border spill-overs, e.g. cross-border transport or energy infrastructure, which may be underprovided by national governments. Moreover, European provision could enable savings by exploiting economies of scale. One of the few attempts to quantify the additional added value created by action at EU level compared to un-coordinated policy interventions at individual MS level has been undertaken by Bertelsmann Stiftung (ed.) (2013). According to this study, replacing national international representations by a European embassy could create savings ranging from € 420 million to € 1.3 billion annually. Integrated European land forces could entail savings estimated at between € 3 billion and € 9 billion per year. Another study by Bertelsmann Stiftung (2017), based on quantification-based assessments, shows that the competence for higher education and the provision of income support to farmers should be assigned to MS, while assigning asylum policies, defence, development aid and a (complementary) unemployment insurance schemes to the EU level would create efficiency gains. In a qualitative analysis, Fuest and Pisani-Ferry (2019) identify several promising areas for the development of European public goods: foreign economic relations; climate change mitigation; digital sovereignty; research and development in large and risky projects; development cooperation and financial assistance to third countries; migration policy and the protection of refugees; foreign policy and external representation; and military procurement and defence. As far as EU expenditures related to these European public goods do not directly go to individual member states (but to recipients outside the EU, as for example spending on development cooperation and financial assistance to third countries) and/or create benefits also for MS not receiving direct payments (e.g. transfers to specific member states to finance integration of migrants or asylum policies), they are not reflected in individual net positions and thus are undervalued by MS. Cohesion and particularly agricultural spending, as the still dominating expenditure items, also display characteristics of European public goods; however, they strongly serve a redistributional purpose, thus directly benefitting individual MS. Accordingly, these spending items tend to be overvalued by the receiving MS compared to expenditures for European public goods associated with larger cross-border spill-overs.

Second, net positions do not convey any information about the structure of transfers received by individual MS from the EU budget and about the effectiveness and outcomes of these transfers. These can vary significantly between MS and regions, respectively, as recent empirical evidence shows: Crescenzi and Giua (2017), for example, find that the regional growth bonus of cohesion policy to a large degree is concentrated in Germany, while cohesion funds could not generate growth and employment in all past MFF periods in southern European MS. According to the results of Bachtrögler et al. (2019), employment and productivity effects of industrial firms receiving cohesion funds strongly vary between MS and regions. Altogether, there is a broad consensus in the literature concerning the existence of growth-enhancing effects of EU structural funds in the less developed European regions (see, e.g., Pienkowski and Berkowitz 2016), whereby the effectiveness of transfers increases with the quality of institutions and the level of education (Becker et al. 2013). Net positions do not capture such regional differences in the effectiveness of EU transfers. In addition, the focus on net balances dampens MS' interest and ambitions to carefully evaluate the effectiveness and efficiency of EU spending (Benedetto/Heinemann/Zuleeg 2020).

Third, the focus on net positions obscures aspects of quality with regard to EU revenues. Currently EU revenues primarily consist of national contributions by MS and thus do not contribute at all to central EU goals and objectives (Schratzenstaller and Krenek 2019). Partially replacing current own resources by alternative revenue sources supporting important EU strategies, as for example « green » own resources (e.g. taxes on aviation or revenues from a border carbon adjustment mechanism for the EU Emission Trading System (ETS), as proposed by Schratzenstaller and Krenek 2019, or a share in revenues from auctioning off ETS emission certificates or a plastic-based contribution, as suggested by the EC in their proposals from May 2018) or a share in a common consolidated corporate tax base (CCCTB) (as suggested by the High Level Group on Own Resources (HLGOR) 2016 and the EC in their May 2018 proposals), would create benefits for MS and the EU as a whole. These would not be reflected by MS' net positions.

Fourth, net positions neglect indirect benefits for MS and regions not directly involved in the payment of EU transfers. Several empirical analyses attempt to quantify the extent of such indirect benefits. Núñez Ferrer and Katarivas (2014) show that cohesion policy and the resulting convergence between MS not only benefit the direct recipients, but also the EU as a whole. A study by IMAPP and Institute for Structural Research (IBS) (2017) commissioned by the Polish Ministry of Economic Development focuses on the indirect benefits of cohesion programmes implemented in the V4 countries (Czech Republic, Hungary, Poland, and Slovakia) for the period 2007 to 2015 accruing to the EU15 MS. The study estimates the benefits created by cohesion transfers to the V4 countries at € 96.6 billion, thus amounting to about 80% of the EU15 total contribution to funding the implementation of cohesion policy in the V4 countries of € 120 billion. The bulk of these benefits (€ 76.9 billion) comes in the form of indirect export benefits, i.e. exports from EU15 countries induced by the macroeconomic impact of cohesion policy in V4 countries. These indirect export benefits mainly were enjoyed by the main V4 trade partners, i.e. Austria, Germany, Italy, the Netherlands, and France. Another € 19.7 billion are direct benefits accruing to EU15-based companies or EU15-based capital groups owning firms operating in the V4 countries. These direct benefits primarily accrued to Germany, Spain, Austria, France, and Italy. In addition, the report provides a number of case studies on projects implemented in V4 countries associated with positive externalities for EU15 MS. Such externalities result from the support of entrepreneurship and innovation, transport infrastructure, universities, and environmental protection through cohesion policy in the V4 countries. Naldini et al. (2019) investigate the effects of cohesion policy affecting countries other than the immediate receiving country and find significant macroeconomic spill-overs. Spill-overs going to EU MS amount to around 9% of the total annual cohesion expenditure, spill-overs to non-EU countries to around 8%. Macro and micro spill-overs together reach 21% of the annual cohesion policy expenditure, two third of these spill-overs are directed at MS.

Fifth, the benefits from expenditures not going to EU MS but to third countries outside the EU are neglected, although they may entail indirect benefits for MS (Asatryan et al. 2020B). Such expenditures include, e.g., development aid to third countries or accession support.

Case Study 1: Firms in net contributing countries benefit from cohesion payments

The study by IMAPP and IBS (2017) prepared in the framework of the *Ex post evaluation and forecast of benefits to EU15 countries as a result of Cohesion Policy implementation in V4 countries,* commissioned by the Polish Ministry of Economic Development defines positive externalities as *"benefits that an entity (i.e. EU-15 individuals or institutions) may draw from a public intervention co-financed within the Cohesion Policy in the V4, even though the intervention was not initially addressed to the entity in question"*. Such

positive externalities can be illustrated via the concrete example of cohesion policy interventions and EU funded projects in Slovakia and Volkswagen (VW) Slovakia, subsidiary of the German Volkswagen AG.

Having a 50% share in total industrial production, the automotive sector is one of the most important industries in Slovakia, with VW Slovakia being the biggest car producer in the country (SARIO, 2020). The VW Bratislava factory (one of the three VW factories established in Slovakia) produced 408,208 cars in 2018 out of which 99.7% were exported. Germany is the third largest export country receiving 14% of these exports. In the same year, VW Slovakia's turnover amounted to EUR 10.38 billion with pre-tax profits of EUR 300.8 million, while its investments in the same year amounted to EUR 180.5 million. The after-tax-profits amounted to EUR 191.9 million (i.e. pre-tax profits of 300.8 million minus income taxes of EUR 109 million) with dividends paid out to the owners totalling EUR 173.3 million (Volkswagen Slovakia, annual report 2018).

Besides the economic benefits, VW Slovakia draws from a number of positive externalities resulting from the investments made under the cohesion policy in Slovakia. Enhanced transport infrastructure is one of them. Developed transport infrastructure is a crucial factor in the automotive industry since it contributes to the creation of new transportation networks leading to shorter transportation time, lower transportation costs, improved accessibility and traffic. In Slovakia, the development of transport infrastructure has been largely funded from the cohesion policy instruments, especially from the Cohesion Fund (CF) and the Regional Development Fund (ERDF) (Bartkiewicz et al., 2011). In the first programming period since its accession, Slovakia received EUR 422 million for the operation program "Basic Infrastructure" representing approximately 24,82% of the total investments from the EU funds (European Commission, 2004). In the 2007-2013 programming period, the allocation to the operational programme "Transport" increased up to EUR 3.8 billion, representing a 29.4% share of the total country budget (European Commission, 2007). In the current programming period 2014-2020, the operational program "Integrated Infrastructure" was equipped with around EUR 6.2 billion, constituting 40.62% of the total EU funding to Slovakia (European Commission, 2014).

Volkswagen has been active in Slovakia since 1991. At first, the production was modest, focusing mainly on different car components and less complex cars, becoming more sophisticated over time. In 2002, the VW Bratislava factory started producing Volkswagen Touareg and other SUVs models. In the period from 2003 to 2005, the factory saw important technological improvements aiming to satisfy new needs and provide conditions necessary for the production of a more sophisticated Audi Q7 model. In 2011, the Bratislava factory became the only car factory in the world producing five different car brands under one roof. The development continued with the production of a new generation Porsche Cayenne in 2017. In 2018, the Audi Q8 was added to the product portfolio (Volkswagen Slovakia site). The more complex the vehicle and more technologically and capital-advanced its production, the more likely it is that it will be produced in one factory. Therefore, the increase in production of more sophisticated and complex cars was followed by an inflow of a number of foreign suppliers to Slovakia (Jakubiak et al., 2008). Their establishment in Slovakia was facilitated by the construction of industrial and logistic parks situated not far away from the VW factories. Since VW Slovakia operates on the basis of the just-in-time principle, meaning that the components and modules must be delivered within a specific time and in specific volume, the proximity of suppliers to the production factory plays a crucial role for VW Slovakia's effectiveness and efficiency (Javorčík, Kaminski, 2004). A number of technological and logistic parks as well as their connecting transport infrastructure were co-funded from the European Structural and Investment (ESI) Funds. An example is the industrial

and technological park Záhorie, also known as Eurovalley, which was established in 2002. The park stretches across several municipalities concentrated around Malacky town in the Bratislava region situated approximately 20 km from the capital and close to other important transport junctions such as highways, airports and railways (Malacky town, 2003). The town of Malacky received more than EUR 10 million from the ESI funds and state budget for the construction of adjacent infrastructure (Malacky town site, 2008). Several of the Volkswagen suppliers such as Benteler or VGP are located in this park (EMCC, 2009; VGP).

Nevertheless, the inflow of investors to Slovakia revealed important shortages of qualified labour, available especially in the proximity of the VW factories (Jakubiak et al., 2008). The insufficient number of qualified and skilled workers represents an important problem for the knowledge-based and rapidly growing automotive industry whose competitiveness is based on increasing technological innovations, hence the need of qualified and skilled labour (Pavlínek, 2014). VW Slovakia responded to this situation by establishing partnerships with universities and higher-educational institutions. A very strong collaboration has been developed for instance with the Slovak Technical University in Bratislava (STU) where a new study programme "Automobile production" was introduced in the 2010/2011 academic year. The study plans and the syllabus were prepared by academics in collaboration with specialists from VW Slovakia, many of which have given university lectures for students of the Automobile production study programme (Slovak Technical University in Bratislava, 2013). In the 2017/2018 academic year, the ongoing collaboration between VW Slovakia and STU resulted in the launching of a dual academy, a four-year long university programme with almost two years of studies consisting of practical internships at VW Slovakia. The objective is to prepare students for the market needs and to provide the factory with a highly qualified workforce corresponding to its needs (Slovak Technical University in Bratislava, 2018). In 2013 a university research centre at STU was established followed by the opening of a national centre of robotics one year later, focusing on projects providing improvements for industrial robots for several companies. One of the projects was designated for VW Slovakia, developing automatic cleaning of robot instruments used in its factories (Slovak Technical University in Bratislava, 2014). The STU university research centre and majority of its equipment were funded from the ESI funds, i.e. STU received EUR 35 716 758.85 from the ERDF covering approximately 85% of the total expenditures for the project activities in the programming period 2007-2013 (Central Project Register, 2013). The second phase of the STU university research centre has been also co-funded from the EU funds with a contribution from the ERDF amounting to EUR 1 829 349.02 (Government Office of Slovak Republic, 2017).

Last but not least, several automotive suppliers based in Slovakia have received funding directly from the ESI funds. E.g. Hella Slovakia received EUR 419 886.70 for effective employee development. Švec a spol, s.r.o. supplying body and body stampings for car producers received EUR 255 000 from the ESI funds in 2010. Bourbon Automotive Plastics s.r.o. specialising in interior modules and dashboards received EUR 167 796.12 to finance the introduction of new technologies into their production and Automotive Group SK, s.r.o. producing textile, covers and leather components for cars received EUR 170 709.49 for educational development purposes (SARIO, 2017 and Central Coordination Body, 2016). In 2014, Volkswagen Slovakia itself received EUR 158 755.92 from the European Social Fund (ESF) for employee education purposes (Central Project Register, 2014).

The objective of this case study was to demonstrate that the cohesion policy and EU funded projects create a number of positive externalities for the EU15 and their companies based in net beneficiary countries. In the case of Volkswagen Slovakia, the positive externalities have been induced from the EU

funded infrastructure developments resulting in lower transportation costs and better accessibility of its suppliers; from educational-related support and research centres establishments providing VW Slovakia with qualified and skilled labour force as well as research and development (R&D) collaboration; and from direct EU funding of VW suppliers and of VW Slovakia itself resulting in better effectiveness of these companies and their employees.

Asatryan et al. (2020) show that a considerable portion of EU-co-funded public procurement contract values are won by firms other than the procuring MS. For example, this share was slightly above EU28 average for Bulgaria (8.69%) and markedly above average for Romania (16.26%). Therefore, a non-negligible part of the benefits from EU-co-funded projects flowed to foreign firms. According to the authors, these shares underestimate the extent of these cross-border contract volumes, as subsidiaries of multinationals registered locally are not figured in.

A firm- and project-level dataset created by Bachtrögler et al. (2019) that contains data on over two million projects co-funded by the EU structural and cohesion funds in 25 EU MS during the programming period 2007 to 2013 serves as a rich source for attempts to identify the direct and indirect beneficiaries of structural and cohesion policy. Bachtrögler et al. (2020) describe a dataset of projects co-funded by the ERDF during the multi-annual financial framework 2014 to 2020. Case study 2 demonstrates that parent companies based in the (more developed) member states may indeed indirectly profit considerably (e.g. through internal settlements within the corporate group) from ERDF co-funding provided for investments of their subsidiary firms in cohesion countries.

Case Study 2: Intra-EU linkages – beneficiaries of EU structural and cohesion funds

For the current MFF 2014-2020, the EU budget includes a (planned) financial amount of around 199 billion EUR for the ERDF. Together with the ESF and the CF its key goal is to enhance investment for growth and jobs in European regions that are classified as less developed, transition and more developed regions. Moreover, 9.4 billion EUR of the ERDF budget are dedicated to the support of European territorial cooperation by implementing interregional and cross-border (Interreg) projects. While only 15 member states are eligible for the CF (EU-13 member states which have joined in 2004 or later, Greece and Portugal), all EU member states receive ERDF funding. The ERDF budget shares for the "old" EU-15 and the "new" EU-13 member states are relatively balanced, with 52% of ERDF funds (excluding Interreg) committed to the EU-13 member states. Still, due to a focus on less developed regions (GDP per capita below 75% of EU average), 62% of the ERDF budget (excluding Interreg) is committed to the EU-13, Greece and Portugal, which are eligible for the CF and which we will refer to as cohesion countries here.[6]

In the political discussions on the size and distribution of the next MFF 2021-2027, continuing the support of economic and social cohesion as well as the competitiveness of less developed regions has been highlighted as important not only for those regions themselves but also for more developed member states (e.g. Crescenzi, R., & Giua, M., 2019). Likewise, it was emphasised that the transparency and comprehensibility of the distribution of structural and cohesion funds (as well as Common Agricultural Policy) needs to be ensured in order to be able to evaluate policy effects and the consideration of the rule of law (see e.g. Heinemann, 2018).

[6] Data on ERDF budget from ESIF Open Data Platform (https://cohesiondata.ec.europa.eu/), downloaded on 22 April 2020.

Starting from the programming period 2007-2013, managing authorities of operational programmes co-financed by the ERDF (as well as ESF and CF) are required to publish their beneficiaries and projects. Together with business data, this data sheds light on the ownership structures of beneficiary firms and allows to identify beneficiary firms that are part of multi-national corporate groups. Thus, this data can be used to investigate whether multi-national companies based in the EU-15 member states (except Greece and Portugal) indirectly profit from structural funds paid out in cohesion countries (EU-13 plus Greece and Portugal), e.g. due to internal settlements within the group of companies.

For this purpose, firms (and institutions) which carry out projects co-funded by the ERDF during the programming period 2014-2020 (data collection closed in June 2019) are analysed.[7] Beneficiary names (and the country in which the project is carried out) are matched with the AMADEUS business database in order to gather data on the ownership structure of the firms. Due to limitations in the coverage of firms in AMADEUS (which vary between countries) and as especially public authorities or (research) institutions are poorly covered in AMADEUS, only a third of beneficiary firms and institutions can be linked with AMADEUS data by name matching.[8]

The objective of this analysis is to assess whether and to which extent parent companies of corporate groups located in the EU-15 member states (excluding Greece and Portugal) benefit from ERDF co-financing of investments by their subsidiary corporations in cohesion countries. Therefore, a subsample of the dataset of beneficiaries linked with AMADEUS data is used, which consists of beneficiary firms that are part of a corporate group. More precisely, beneficiaries which have a parent company are considered. The latter is either located in the same country as the subsidiary beneficiary firm, another EU member state or in any non-EU country in the world. This distinction of beneficiary firms by the location of their parent companies allows us to assess whether the more developed countries within the EU indirectly profit from cohesion policy in cohesion countries.

Location of parent companies of ERDF beneficiaries that are part of corporate groups

The relevance of this research question is confirmed when investigating the host country of parent companies of ERDF beneficiaries in the cohesion countries (as reported up to the cut-off data in June 2019) located abroad. In total, beneficiary firms with a parent company based abroad carry out 1,525 projects in cohesion countries, which corresponds to around 7% projects carried out by beneficiaries with a parent company. 61% of respective parent companies located abroad are based in the EU-15 member states excluding Greece and Portugal, compared to 9% in cohesion countries (EU-13 plus Greece and Portugal). Measured by respective ERDF co-funding amounts received by beneficiaries with parent companies located abroad, only around 5% of the them correspond to parent companies based in cohesion countries, and 65% to parent companies in the EU-15 excl. Greece and Portugal. This also implies that a considerable share of parent companies is based outside Europe (mostly in the US, Switzerland and Japan) and indirectly benefits from ERDF investment subsidies granted to their European subsidiaries.

[7] See Bachtrögler et al. (2020) for the technical documentation of a dataset of projects co-funded by the ERDF during the multi-annual financial framework 2014-2020. Data on R&I-related projects can be found here: https://s3platform.jrc.ec.europa.eu/synergies-tool.

[8] The share of beneficiaries that could be linked with AMADEUS is lowest (below 1%) in Greece which might have to do with reporting language and lies below 5% also in Croatia and Cyprus. In most countries, the AMADEUS matched share lies between 25 and 50% of beneficiaries (see Bachtrögler et al., 2020).

Regarding EU-15 member states, 19% of ERDF amounts received by ERDF beneficiary firms in cohesion countries that are part of a multi-national company correspond to parent companies located in Germany. 13% are attributed to parent companies based in Luxembourg and 10% in France. Parent companies located in the UK, which stopped being a member of the EU in January 2020, indirectly profit from 5% of ERDF amounts received by subsidiary firms in cohesion countries.

Taking German parent companies as an example, 11 EU-funded projects in cohesion countries are carried out by subsidiary firms of "Robert Bosch Industrietreuhand KG". In particular, according to lists of operations provided by managing authorities, these have been initiated in the Czech Republic, Hungary and Portugal and correspond to the research and innovation (R&I) sphere (ERDF co-funding amount of around 96 million EUR). As another example, subsidiaries of "Siemens AG" carry out seven projects in the Czech Republic and Hungary (ERDF co-funding amount of almost 4 million EUR). Also, those projects are classified as R&I projects, partly fostering the cooperation between large enterprises and small and medium enterprises (SMEs) in innovation processes.

Observations by country: distribution of ERDF amounts to parent companies based abroad

Based on the success rate of linking beneficiary firms with AMADEUS information and the number of projects carried out by firms that are part of corporate groups, the Czech Republic, Lithuania, Poland and Portugal are chosen as examples of cohesion countries for which a deeper look is taken at ERDF beneficiaries' parent companies (see Table 3).

What can be concluded from Table 3 is that the share of ERDF amounts allocated to firms with parent companies based abroad, i.e. not in the country in which the co-funded project is carried out, differs significantly across countries. While in Lithuania only 3% of ERDF co-funding for projects carried out by a beneficiary firm that is part of a corporate group are allocated to firms whose parent company is not based in Lithuania, in Portugal the equivalent share amounts to 20%. Moreover, the last column of Table 3 shows that the major part of ERDF amounts for beneficiaries that are part of corporate groups is attributed to parent companies based in the EU-15 (excl. Greece and Portugal).

Table 3: European Regional Development Fund co-funding amounts (including Interreg projects) carried out by beneficiary firms that are part of a corporate group

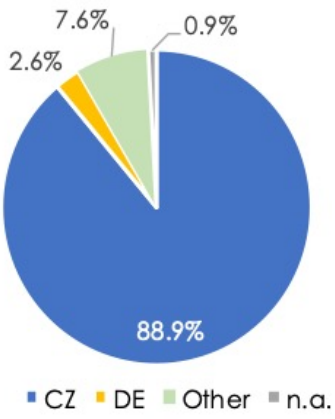
Country	ERDF co-funding amount in EUR (share which could be linked with AMADEUS data)	ERDF co-funding for projects carried out by firms that are part of a corporate group	… with parent company abroad (in EU-15 excl. Greece and Portugal) (share)
Czech Republic	6,397,017,000 (28%)	1,578,749,000	10% (6%)
Lithuania	2,530,125,000 (43%)	722,834,000	3% (1%)
Poland	30,881,066,000 (22%)	4,742,008,000	9% (7%)
Portugal	9,159,162,000 (37%)	2,689,390,000	20% (14%)

Source: ERDF beneficiaries' database described in Bachtrögler et al. (2020), AMADEUS, WIFO calculations.

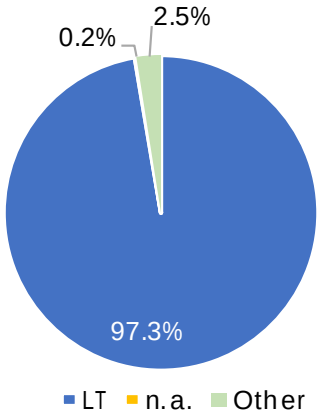
Figure 2 shows the distribution of ERDF amounts in the Czech Republic, Lithuania, Poland and Portugal among the host country of the parent company of beneficiaries which are part of a corporate group (see column 3 of Table 3). The blue-coloured part of the circles represents the share of nationally based parent companies of beneficiary firms in each of the countries. What is particularly relevant for Portugal (30% of relevant projects), if AMADEUS does not provide information on the host country of the parent company, the share of corresponding ERDF amounts is pictured in category "n.a.". If the share of a (foreign) country is larger than 1%, it is shown as an own category, otherwise it is included in the category "Other". Germany appears to be the most important foreign host country of beneficiary firms' parent companies in the Czech Republic (2.6%) and Portugal (5.1%). In Poland, where Germany's share accounts for 1.1% of the ERDF amounts committed to beneficiaries which are part of a corporate group, Luxembourg (2.9%) seems to be most important host country of parent companies.

Figure 2: Distribution of European Regional Development Fund amounts for beneficiary firms that are part of a corporate group by host country of their parent company in i) the Czech Republic, ii) Lithuania, iii) Poland and iv) Portugal

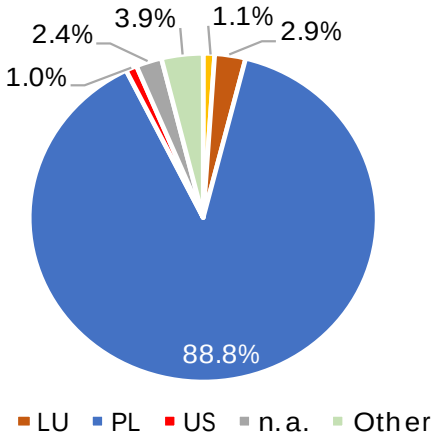
Czech Republic: Countries in which parent companies of beneficiary firms are based



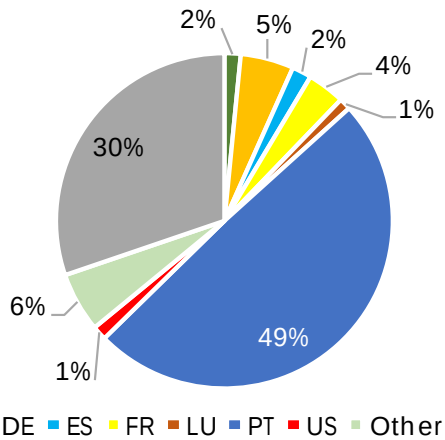
Lithuania: Countries in which parent companies of beneficiary firms are based



Poland: Countries in which parent companies of beneficiary firms are based



Portugal: Countries in which parent companies of beneficiary firms are based



Source: ERDF beneficiaries' database described in Bachtrögler et al. (2020), AMADEUS, WIFO calculations.

Interestingly, keeping in mind that the host country is not known for 30% of relevant projects and that the share of ERDF amounts received by Portuguese beneficiaries with parent companies based abroad is relatively high, in Portugal, the distribution of funds by host country of parent companies appears to be less concentrated than in the other cohesion countries analysed. This conclusion stems from the fact that a relatively large number of host countries accounts for a share greater than 1% of ERDF amounts received by Portuguese beneficiaries that are part of corporate groups (Germany, France, Spain, Brazil, Luxembourg and the US). Likewise, despite an almost identical share of beneficiaries' parent companies based abroad, in Poland, the distribution appears to be more diversified than in the Czech Republic. By contrast, in Lithuania, no country in which parent companies of Lithuanian beneficiaries are based achieves this share.

Conclusion

The aim of this analysis was to analyse whether and to which extent parent companies of corporate groups located in the EU-15 member states excl. Greece and Portugal benefit from ERDF co-financing of investments by subsidiary corporations in cohesion countries. On the one hand, the analysis of countries in which respective parent companies are based has shown for four cohesion countries that the major share is based in the home country, i.e. in which the EU co-financed projects are carried out. Portugal seems to be an exception; however, this may be since AMADEUS does not provide data on the host country for a third of the investigated projects. On the other hand, exploring the foreign host countries of parent companies of all ERDF beneficiaries in cohesion countries in our sample, more than 60% of them are based in the EU-15 (excl. Greece and Portugal), while only 9% of them are based in cohesion countries. This points to the fact that parent companies based in the (more developed) member states may indeed indirectly profit considerably (e.g. through internal settlements within the corporate group) from ERDF co-funding provided for investments of their subsidiary firms in cohesion countries.

3. BENEFITS ACCRUING TO MEMBER STATES BY EU MEMBERSHIP

KEY FINDINGS

- A literature review of the 'costs of non-Europe' suggests that EU integration has overall positive economic effects for all the EU member states.
- Modern gravity-model-based estimates tend to report Gross Domestic Product (GDP) gains of EU integration of around 5-7% on average that are not too far from those forecasted in the 1980s.
- While substantial intra-EU direct investment flows from the economically advanced net contributor countries to the poorer EU-economies allowed them to benefit from enlarged markets and cheap sourcing of inputs, poorer net beneficiary countries benefited from capita and technology transfers as well.
- In the long run, benefits including repatriated profits accumulate in the corporate headquarters concentrated in the advanced economies of the net contributors, where investors have made a much higher amount of income on their investments in the poorer countries in the East of the EU than what the latter countries received as transfers from the EU budget.
- In terms of intra-EU trade, integration typically strengthened after EU accession, pointing to benefits of EU membership accruing to all member countries, which, however, differ considerably across countries.
- Both net contributor and net beneficiary countries experienced intra-EU trade growth, but it was much more pronounced for the net beneficiary countries.
- Our own gravity model estimates show that there are large and significant effects of the EU enlargements on bilateral trade and investment flows and that being part of the huge EU trade network yields additional trade effects.
- Counterfactual Gross Domestic Product effects from joining the EU are always positive, especially for the new EU member states of the latest EU enlargement waves, where, particularly the Visegrad countries were able to gain up to 2.3% in Gross Domestic Product by joining the EU.

3.1. GENERAL BENEFITS OF EU MEMBERSHIP – A LITERATURE REVIEW

The European Union is more than the sum of the member states and above all the economic impacts of EU policies go far beyond the rather limited narrative of the net financial contributions. More specifically, the EU allows for the provision of a large number of public goods, including the European Single Market[9] which ensures the free movement of goods, services, capital and labour, which member states cannot 'produce' by themselves.

More precisely, the European Single Market (and in fact EU membership in its entirety) can be viewed as a club good (Schemm-Gregory, 2011; Le Cacheux, 2015) as there is non-rivalry in consumption but

[9] The European Single Market entered into force on 1 January 1993 and can be seen as a reinforced version of the Common Market which dates back to the creation of the European Economic Community.

excludability of consumption is feasible[10]. Each member state can be assumed to perceive that it derives net benefits from the club goods that are financed collectively; otherwise it would quit the club, i.e. give up its membership, as demonstrated by the United Kingdom. Assuming rational behaviour on the side of all 'club members', EU member states are able to reap welfare gains from EU membership, but presumably to a very different extent (see also Schemm-Gregory, 2011). Therefore, any serious analysis of the costs and benefits from EU membership must renounce on the simple concept of net financial contributions and take on board the economic effects of the Single Market, the European Monetary Union and other EU policies. Indeed, there is a rich literature dealing with these wider economic effects arising from the Single Market, which is much more informative than any analysis or interpretation of net financial positions.

Numerous studies on the benefits of the EU focus on the 'reverse' of the gains to be reaped from further economic integration in the EU, that is, the 'cost of non-Europe', a concept developed in the European Parliament in the early 1980s through the Albert and Ball report (Albert and Ball, 1983). The concept of the 'cost of non-Europe' was propagated by the influential 'Cecchini Report' in 1988 (Cecchini et al., 1988)[11]. Written shortly after the adoption of the Single European Act (SEA), which aimed at completing the Single Market by the end of 1992, the Cecchini Report predicted that a Single European Market would increase the bloc's GDP by some 4.25% to 6.5%. Since then countless reports confirmed the positive effects of the Single Market on GDP and employment though many of them arrived at much lower estimates (Vetter, 2013) making the Cecchini report look overly optimistic. In contrast, emphasising the dynamic growth effects arising from increased innovation activity and resulting productivity, Baldwin (1989) argues that the predictions from the Cecchini report may underestimate the overall growth impact of the Single Market by a magnitude of 40%.

The 'cost of non-Europe' concept remains popular and the EP regularly issues reports on *future* economic gains to be reaped from further eliminating remaining frictions and distortions in the Single Market (EPRS, 2015: EPRS; 2019). While there is general consensus that the EU has reached a high degree of economic integration, the European Parliamentary Research Service (EPRS) (2015) puts the number for the potential of further GDP gains from deepening integration for the period 2014-2019 at EUR 1.6 trillion – about 12% of EU GDP. The lion's share of this sum – more than 1 trillion – is expected to come from the Single Market, divided into the 'classic' Single Market (EUR 615 billion) and the Digital Single Market (EUR 415 billion). To arrive at these numbers the EP commissioned a series of studies on a wide range of EU policy fields such as the free movement of goods (RAND Europe, 2014); the Single Market for services (CEPS, 2014); the European Digital Single Market (GHK, 2014a); public procurement (Europe Economics, 2014) and the consumer acquis (GHK, 2014b). The study by RAND Europe (2014), for example, uses a structural gravity model, the workhorse model in international trade, to estimate the expansion of intra-EU trade following a further removal of non-tariff measures (NTMs) and barriers to FDI. Their approach estimates the untapped potential of the internal market for merchandise trade to lie between €183 billion and €269 billion in the long-term, depending on the assumed scenario. With regard to the distribution of the increased intra-EU trade across member states, the Eastern European countries are among the main beneficiaries, which is due to the fact that these countries have comparatively higher initial NTMs and FDI barriers.

[10] Given these characteristics club goods are a sub-category of public goods.

[11] In line with the topic and objective of this report we focus on the Single Market and therein the effects from trade integration and FDI.

The EP continues to expect high benefits from further EU integration for the period 2019-2024. In fact, with 2.2 trillion, equal to 14% of EU GDP, even higher gains for the previous 5-year period are predicted (EPRS, 2019). Interestingly, the sources of these benefits have changed with the classic Single Market contributing some EUR 700 billion, while the digital economy's potential was downsized to EUR 180 billion. The new kid in town is the broad policy field comprising environment, energy and research which is attributed a potential of EUR 500 billion. The belief in such large future gains is founded, inter alia, in a comparison of intra-EU trade in goods with the trade between US states. While in the former trade between member states represents about a quarter of EU GDP, the corresponding ratio for trade between US states is 40%. The study also identifies wide differences in the implementation of Single Market legislation between member states (due to delays in the adoption of directives or regulations in member states' national legal frameworks), infringements of internal market regulations, lack of awareness of the principle of mutual recognition on the side of EU firms, legal uncertainty, technical barriers and a lack of administrative cooperation.

Apart from the ongoing scenario work by the EP on *future* benefits arising from the various EU policies, there is also a vast body of literature estimating the *realised* economic gains from European integration. The literature offers a wide range of estimates for the impact of the Single Market. The interpretation by Vetter (2013) of the existing evidence, relying inter alia on the studies by Straathof et al. (2008), Ilzkovic et al. (2007) and Copenhagen Economics (2012), is that the Single Market had substantial positive growth effects, though they fall behind the optimistic forecast in the Cecchini Report. Straathof et al. (2008), for example, report increases of GDP induced by the Single Market in the order of 2%-3% with growth in exports and FDI being the main channels bringing about these gains. The prominent role of intra-EU trade, above all in merchandise trade, is one of the common findings across various contributions to the literature. Fournier at al. (2015), for example, estimate the trade effects that would arise from a broad reform package of the product market regulations within the Single Market[12]. Their scenario assumes that member states bring down trade-hampering regulations to the average of the top half of the best performers and they find that it could increase trade intensity within the EU by more than 10% with the airline and telecom sectors having particularly great potential. These results are obtained using a structural gravity model, however, only trade but no GDP effects are reported.

Trade-related GDP effects are offered (along with trade effects) in Felbermayr et al. (2018) who use a *New Quantitative Trade Model*[13] to estimate the trade effects of various steps of European product market integration at the detailed sectoral level, including intra- and international input-output linkages. They find that 'undoing' the EU integration process would slice off between 3% (UK) and 24% (Luxembourg) of EU member states' real income. In general, the proportional losses from disintegration are more pronounced in the more centrally located EU member states and in smaller economies[14]. This is true for the hypothetical losses from undoing the Single Market, which is the integration channel that matters most for the benefits from EU membership, as well as other areas of integration such as the Euro Area and the Schengen Area. Importantly, the study suggests that the various gains from EU integration show no correlation with the net financial contributions of member states. For example, Germany, the largest EU economy and the largest net contributor (in absolute terms), gains more than

[12] For this they rely on the Organisation for Economic Co-operation and Development's (OECD) Product Market Regulation (PMR) indicators and the OECD's Energy, Transport and Communications Regulation (ETCR) indicators.

[13] The model type also results in a gravity equation to estimate the trade effects.

[14] Similarly, Vetter (2013) identifies country size, intra-EU trade intensity, industrial competitiveness, economic structure and member states' degree of liberalisation as the factors that explain the heterogeneous impacts of European integration across member states.

5% from the EU integration process (close to 4% of this from the Single Market), measured in terms of real income. The corresponding number for France and Italy are 3.7% (2.9% from the Single Market) and 3.8% (2.5% from the Single Market) respectively (Table 4)[15].

Table 4: Losses from 'Undoing' Europe, changes in real income per capita in %

	Single Market	Customs Union	Euro Area	Schengen Area	Other RTAs	All integration without transfers	All integration with transfers
Austria	-6.17	-0.09	-0.67	-1.15	-0.14	-7.97	-7.91
Belgium	-8.2	-0.24	-0.77	-1.76	-0.16	-11.1	-11.47
Bulgaria	-5.67	-0.08	-0.01	-1.31	-0.25	-7.12	-11.57
Croatia	-4.94	-0.12	-0.03	-0.98	-0.05	-5.92	-6.85
Cyprus	-5.06	0.19	-0.75	-0.91	0.03	-6.05	-7.29
Czech Republic	-9.47	-0.42	-0.02	-2	-0.11	-11.97	-14.71
Denmark	-4.89	-0.02	-0.01	-1.23	-0.14	-6.35	-6.37
Estonia	-7.75	-0.14	-0.57	-2.81	-0.11	-11.15	-14.01
Finland	-3.78	-0.01	-0.28	-1.59	-0.02	-5.63	-5.6
France	-2.91	-0.04	-0.29	-0.56	-0.04	-3.72	-3.72
Germany	-3.91	-0.13	-0.41	-0.8	-0.11	-5.22	-5.1
Greece	-2.16	0.12	-0.16	-0.63	-0.13	-2.84	-5.83
Hungary	-10.64	-0.3	-0.06	-2.94	-0.14	-14.16	-20.82
Ireland	-9.35	-0.68	-0.89	-0.96	-0.34	-12.31	-12.68
Italy	-2.52	-0.07	-0.25	-0.75	-0.09	-3.56	-3.76
Latvia	-5.79	-0.07	-0.46	-2.31	-0.04	-8.33	-12.02

[15] Methodologically, the paper analyses the costs of reversing the European integration processes. But of course, these costs form a hypothetical disintegration scenario can be interpreted as gains from the integration process that took place.

	Single Market	Customs Union	Euro Area	Schengen Area	Other RTAs	All integration without transfers	All integration with transfers
Lithuania	-5.55	-0.22	0.02	-2.23	-0.03	-7.8	-12.72
Luxembourg	-19.73	0.03	-3.86	-0.98	-0.24	-23.26	-23.74
Malta	-14.33	0.1	-2.55	-1.53	-0.05	-17.81	-20.11
Netherlands	-7.25	-0.37	-1.3	-1.84	-0.19	-10.9	-10.98
Poland	-5.93	-0.26	0	-1.82	-0.11	-7.77	-11.83
Portugal	-3.9	0.06	-0.38	-1.31	-0.03	-5.26	-7.3
Romania	-4.53	-0.01	-0.04	0	-0.15	-4.65	-8.21
Slovakia	-8.91	-0.09	-0.77	-2.28	-0.11	-11.87	-14.34
Slovenia	-7.68	-0.31	-0.78	-1.77	-0.15	-10.35	-13.25
Spain	-2.55	-0.05	-0.28	-0.78	-0.01	-3.56	-4.2
Sweden	-4.22	-0.01	0	-1.6	-0.12	-6.01	-5.75
United Kingdom	-2.33	0.07	-0.02	-0.46	-0.01	-2.71	-2.88

Note: Changes in real income per capita in % (loss from disintegration). Baseline year is 2014. Losses from disintegration can be interpreted as gains from the integration processes that took place but with opposite sign. RTAs refer to regional trade agreements.

Source: Felbermayr et al. (2018), Table 6.

This can be compared to very large gains for Poland amounting to almost 8% (about 6% from the Single Market) which is related to its strong involvement in the (mainly German-led) production networks of the Central European Manufacturing Core (Stehrer and Stöllinger, 2013; Stöllinger, 2016). For Romania, despite being a smaller economy, the gains are lower, amounting to 4.6% (4.5% related to the Single Market). The implied gains from European integration reaped by Greece are comparatively low, falling short of 3% (2.2% from the Single Market). This makes Greece the country with the second lowest gains from EU integration; only the United Kingdom has reaped even slightly lower benefits.

Apart from the dispersion of benefits from the EU integration processes, Table 4 shows (at least) three very interesting aspects related to the discussion about EU membership and the net contribution debate. First, it is a gross mistake to reduce the discussion about gains from EU membership of member states to their net financial contributions. Second, there is an asymmetry in the importance of EU

transfers that should, in principle, ease the tensions related to the topic: fiscal transfers add a lot to the overall benefits from EU integration of net recipient countries but are (in relative terms) almost negligible for net payers[16]. Third, and maybe most importantly, all member states benefit from EU integration, irrespective of whether they are net contributors or net beneficiaries. This was true for the United Kingdom as well, although according to the results of Felbermayr et al. (2018) it is the country that reaped the lowest benefits from integration.

Against this background, the Brexit remains surprising because the United Kingdom is likely to act against its own economic interests. But it is also surprising because the EU was not prepared to provide the kind of goods that are more strongly demanded by and to the benefit of the United Kingdom, which is unusual from a club-theoretical perspective, given that a 'desired member', i.e. a member that contributes more than proportionally to the financing of public goods (such as the United Kingdom), normally is able to direct the resources of a club (such as the EU) towards the provision of (public) goods that are of great interest to them (Schemm-Gregory, 2011). More generally, and in addition to the empirical evidence, this argument would also suggest that the net contributor countries are in a better position to influence the decisions and priorities of the EU.

Largely comparable results to those by Felbermayr et al. (2018) were obtained by Mayer et al. (2019) who, also relying on a structural gravity model, find that all member countries unambiguously obtain sizable welfare gains from the EU (when compared to a situation under World Trade Organisation (WTO) most-favoured nations tariffs). For the EU as a whole the Single Market project generated an average long term GDP gain of 5.5% (weighted) to 8.2%, with the United Kingdom (2.8%) and Greece (2.9%) being the countries with the smallest trade-related GDP gains. The results for the EU are similar to those found in Boltho and Eichengreen (2008) ten years earlier, who estimated the overall benefits from EU integration at 5% of GDP.

At the occasion of the 25th anniversary of the Single Market in 2018, a series of new studies estimating its economic impacts for member states were conducted. In a study by London Economics (2017), commissioned by the EU, GDP and employment effects from the Single Market for each Member State are estimated using a summary indicator of Single Market integration[17]. The study finds that, on average, member states' Single Market integration progressed slowly but steadily over the period 1995 to 2015[18], though the degree of integration varies strongly across member states. This integration process towards the completion of the Single Market is estimated to have a direct, positive impact on, inter alia, GDP per capita, employment, and total factor productivity. Overall EU GDP per capita is reported to be 1% higher in 2015 than it would have been without an increase in integration since 1995 (Table 5). Moreover, there were about 1.9 million additional jobs. The GDP and job creation effects across member states in this study are interesting as they present very different results from the simplistic net financial position perspective: Germany and France, the two largest net contributors, were both among the main beneficiaries of the Single Market project between 1995 and 2015 with an additional GDP per capita of 1.6% and 1.1% respectively. Italy's GDP per capita was 0.5% in 2015 higher than in the counterfactual scenario without further EU integration. This is about the same gain as found for Poland and Romania's GDP premium from the Single Market is even more modest with 0.14%.

[16] The argument is also made by Felbermayr et al. (2018).

[17] This Single Market indicator combines information on different aspects of the Single Market freedoms, in particular trade and FDI measures; measures for the adoption of EU legislation by MS and measures for homogeneity of member states' economies.

[18] The integration process seems to have paused between 2011 and 2013.

However, for the Central and Eastern European countries the economic effects from the Single Market Programme are calculated only between 2 years before their EU accession and 2015. Greece is the sole country to suffer from further EU integration, reducing GDP per capita by 0.3%, though this result is influenced by the country's debt crisis starting in 2010.

Table 5: Difference between actual and the levels that would have occurred in the absence of further integration

	ΔGDP per capita in %	ΔGDP per household in EUR	Δnumber of jobs (in '000)	Δconsumption level per household in EUR	Δinvestment level per capita in EUR
Austria	1.68%	1,362	68	718	151
Belgium	1.58%	1,292	71	665	134
Bulgaria	0.02%	2	1	1	0
Croatia	0.03%	10	1	5	1
Cyprus	0.24%	145	1	100	7
Czech Republic	0.81%	292	40	137	34
Denmark	1.26%	1,330	34	639	113
Estonia	0.14%	44	1	23	5
Finland	1.17%	838	28	464	91
France	1.14%	828	297	456	81
Germany	1.55%	1,081	607	583	115
Greece	-0.30%	-127	-11	-89	-6
Hungary	0.58%	148	24	73	14
Ireland	1.01%	1,170	19	399	118

	ΔGDP per capita in %	ΔGDP per household in EUR	Δnumber of jobs (in '000)	Δconsumption level per household in EUR	Δinvestment level per capita in EUR
Italy	0.48%	289	105	176	22
Latvia	0.10%	26	1	16	3
Lithuania	0.17%	43	2	27	4
Malta	1.23%	647	2	367	64
Netherlands	0.92%	788	75	351	72
Poland	0.49%	146	77	86	11
Portugal	0.41%	174	18	114	11
Romania	0.14%	28	12	17	3
Slovakia	0.69%	276	17	151	23
Slovenia	0.79%	334	7	174	29
Spain	0.53%	308	94	179	24
Sweden	1.13%	899	53	405	123
United Kingdom	1.00%	718	299	466	67
EU28	1.01%	631	1,872	356	57

Note: Changes in income per capita in % (loss from disintegration) between 1995 and 2015 ("Old" member states) or between 2 years before EU accession and 2015 ("New" member states).

Source: London Economics (2017), Table 6.

These results confirm that the estimated benefits from (as well as potential costs caused by) EU integration are difficult to pin down so that the results vary widely from one study to the other. The magnitude of gains from European economic integration is strongly influenced by the methodology employed (see also Poutvaara et al., 2019). The choice of methodology is crucial as it also determines the type of potential benefits that can be captured, such as cost reductions due to the abolition of non-tariff measures (e.g. border formalities, national regulations); economies of scale, tighter competition,

higher cross-border mobility of labour; and lower financial transaction costs (see Vetter, 2013). In this respect, in seems that modern gravity-based estimates (including the above mentioned examples by Felbermayr et al. 2018 and Mayer et al. 2019) tend to report GDP gains that are not too far from those suggested by the Cecchini report back in 1988. Estimation results from simulations of counterfactual scenarios using macroeconomic models tend to find even higher gains with an 8-9% increase in GDP induced by the Single Market reported by In't Veld (2019), as a recent example.

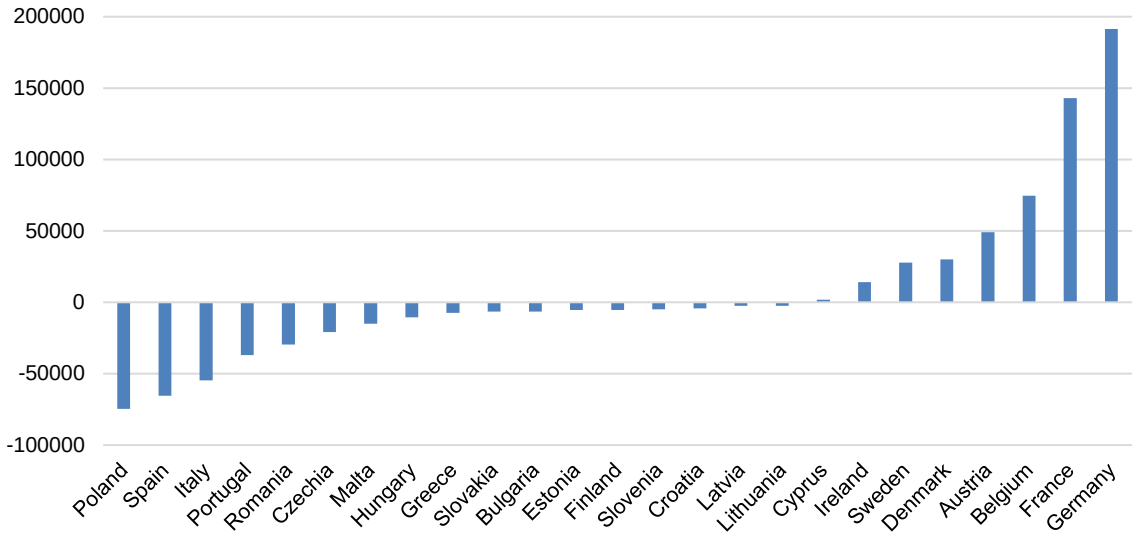
3.2. BENEFITS OF INTRA-EU DIRECT INVESTMENTS

3.2.1. Introduction: Benefits of Foreign Direct Investments in general and research outline

The intensity of inward Foreign Direct Investments (FDI) is an important competitiveness component and economic growth factor of a country. Therefore, attracting FDI has been a primary policy target in catching-up economies. FDI is potentially the most important international vehicle of technology transfer for these countries. Foreign investors can transfer technology in two ways: directly to the affiliates under their ownership and control, and indirectly to other firms in the host economy through spill-overs. Also developed country governments consider the ability to attract high-quality FDI an important tool for access to technology, secure jobs and host headquarter functions.

Not only inward but also outward FDI has a number of benefits and internationalisation has become one of the main growth strategies of firms. Outward FDI can be a vehicle of market access, and access to cheap production factors. Multinational firms may obtain a competitive advantage over their competitors by exploiting comparative advantage via the specialisation of their subsidiaries. Outward FDI can thus act as an important source of competitiveness. The capability of investing abroad indicates that a country/company has superior knowledge, technology or capital power relative to its competitors (Dunning, 1981). An outward investor is able to organise its international activity and generate income abroad to finance its development. The ability to invest abroad can be attained as the result of economic development, corporate growth and technological advance of the investing country/company. Less developed countries do not invest abroad, in general; outward FDI starts to take off much later than FDI inflows. According to the investment development path paradigm (Narula and Guimón, 2010), catching up countries import more capital than they export, while developed countries are usually equally strong capital importers and exporters (Figure 3).

Figure 3: Cumulated net intra-EU Foreign Direct Investment flows (assets minus liabilities), 2009-2018, EUR million



Note: Cumulated over available years; selected countries; no data for Luxembourg and United Kingdom. Negative values denote more inward than outward FDI.

Source: Eurostat Balance of Payments statistics.

In the EU, advanced MS that are in a net payer position to the EU budget have more outward than inward FDI and benefit from market access and cheap sourcing. The less advanced countries that are in a net beneficiary position to the EU budget, but also some more advanced but less competitive ones are net FDI receivers and benefit from capital and technology transfer.

FDI is a crucial integrating vehicle of global supply chains. Within the global supply chains trade is not limited to goods, but is an 'intertwining of: (i) trade in goods, especially parts and components, (ii) international investment in production facilities, training, technology and long-term business relationships, (iii) the use of infrastructure services to coordinate the dispersed production, (iv) cross-border flows of know-how' – Baldwin (2012) calls this trade-investment-services-IP (intellectual property) nexus. FDI has integrated producers of goods and services into international value chains where each location can benefit. Efficiency gains by EU-wide value chains made EU companies more competitive on the global market. Increased competitiveness has supported EU companies to increase FDI and reap profits and expand trade also outside the EU. This is a win-win business in the short run, but in the long run benefits accumulate in the corporate headquarters where strategic decisions are made.

The EU offers an environment of free movement of capital thus stimulating FDI between member states. Companies can optimise the location of various stages of production on a single market benefiting from the free movement of goods and services. Based on the general features of FDI one can expect that EU membership has intensified the integration of member states by FDI. Home economies of FDI have benefited from enlarged markets, a larger pool of labour and higher rates of return on invested capital compared with a domestic investment. Host economies benefitted by increased labour productivity as well as access to markets and technology. In addition, EU transfers have allowed less developed host countries to improve their physical and business infrastructure thus

lowering direct investors' costs. EU policies have thus increased the positive effects of FDI for both home and host countries.

Empirical evidence of the impact of EU membership on FDI is rare. A recent paper (Randolph et al., 2016) suggests that 'EU membership robustly increases net FDI inflows'. Their three main estimates of this increase range between 14% and 38% depending on the choice of econometric technique, with an average of 28%.

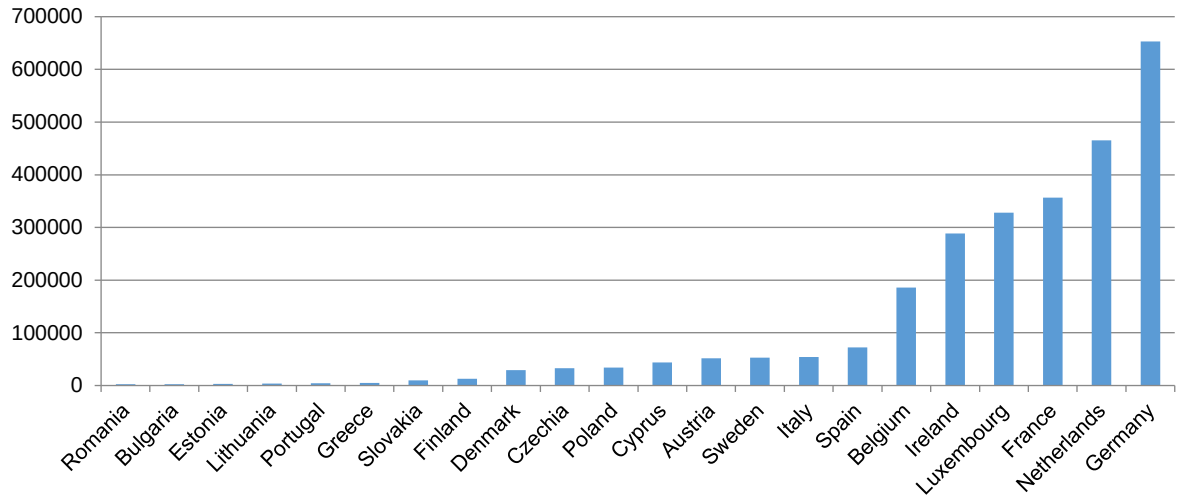
Our approach is different. We take the positive impact of integration on the amount of FDI for granted. We look at the distribution of the benefits of intra-EU FDI by member states. The focus is on outward FDI assuming that the more a country is able to invest abroad the more it can benefit in terms of market access and value chain optimisation. We also look at the direct benefits of investing abroad, namely the amount of income foreign investors attain in other member states. A further question relates to the use of those incomes, whether they are reinvested in the host economy or repatriated.

Our research remains descriptive based mainly on balance of payments data from Eurostat. Data on outward FDI (OFDI, assets) and outward FDI related income (credit) are available for ten years, 2009-2018. The amount of the ten year cumulated FDI assets (in current euros) is used to measure the size of outward investment activity. Balance of payments data include the transactions of special purpose entities (SPEs) and transactions between fellow enterprises and thus differ from the FDI flow and stock data based on the directional principle. As the latter type of FDI data (published by Eurostat) are available only for a shorter time period, 2013-2017, and they also do not correct for the distortions caused by SPEs we decided to use balance of payments data. It must also be noted that the home and host countries are the immediate countries involved in FDI which can differ from the ultimate investor and ultimate beneficiary because companies are engaged in optimising the location of profits between member states with different taxation systems and tax rates. Beyond the general discussion of the main features of FDI, we focus on the position of three net payers to the EU budget, namely France, Germany and Italy, and three beneficiaries, namely Greece, Poland and Romania.

3.2.2. Size of outward Foreign Direct Investment flows in the EU

The main investors in the EU are the largest and most advanced countries (Germany and France) as well as those which are locations of holding companies and financial centres transmitting funds from third countries (the Netherlands and Luxembourg) (Figure 4). Large annual fluctuations between positive and negative amounts characterise the direct investment activity of the Netherlands, Luxembourg, Belgium, Ireland and Hungary due to SPEs.

Figure 4: Cumulated outward Foreign Direct Investment flows (assets) from main EU investing countries in the EU-28, 2009-2018 cumulated, EUR million

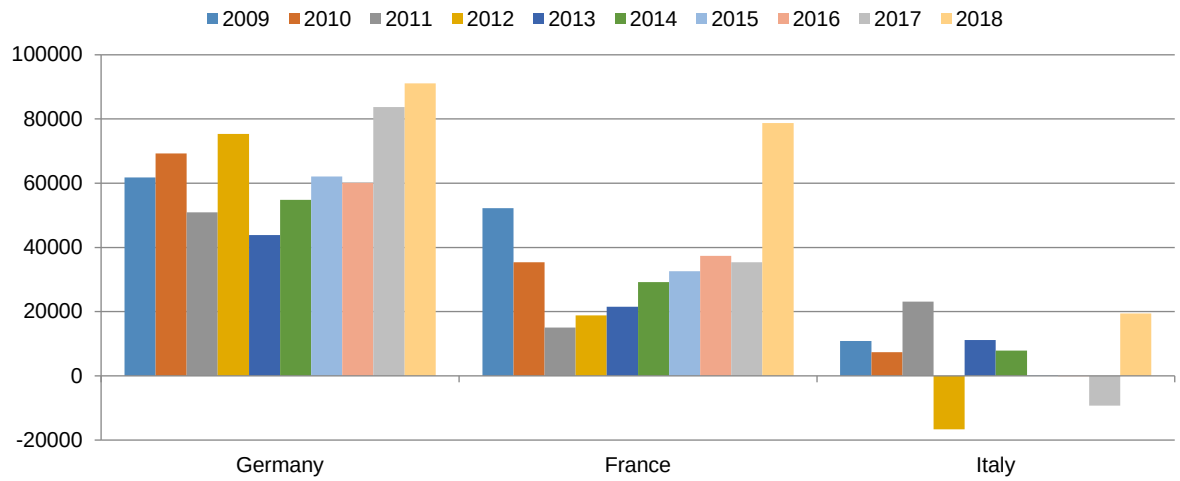


Note: the figure excludes Hungary and the UK which show hectic fluctuations of FDI adding up to a negative sum.

Source: Eurostat Balance of Payments statistics

The three countries in the focus of this paper, Germany, France and Italy, are less involved in such businesses and appear mostly as investors in real assets. Germany is the largest investor with EUR 653 billion cumulated investment in the EU-28 over ten years. France invested only half of that sum, EUR 356 million, and Italy was a minor investor with 54 billion. Investment flows suffered a setback during the recession and euro crisis in the early 2010s but recovered in more recent years (Figure 5). Economic recovery has brought some upward movement of FDI activity in recent years and 2018 marked a peak of investments from Germany and France and the second highest amount from Italy.

Figure 5: outward Foreign Direct Investment flows (assets) from Germany, France and Italy in the EU-28, in 2009-2018, EUR million

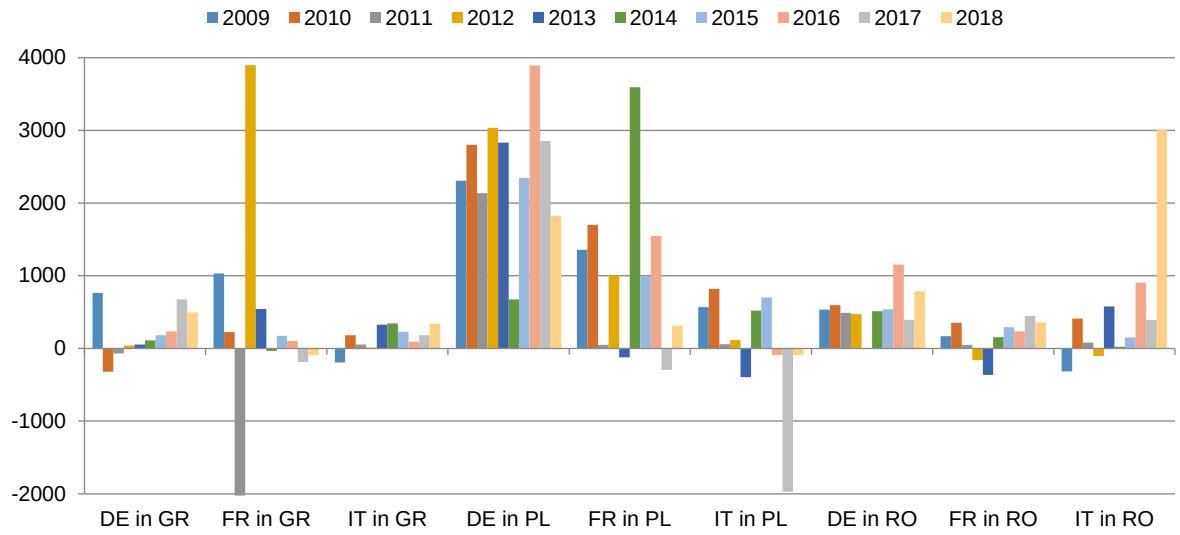


Source: Eurostat Balance of Payments statistics

The overwhelming part of FDI flows between advanced economies is driven by mutual market access, value chain integration and tax optimisation. The Central and East European EU member states were a

minor investment target receiving only 6% of the cumulated OFDI of the EU over ten years. They received 8% of the German and 4% of the French investments, but as much as 29% of the altogether rather low amount of Italian investments. As to the three FDI beneficiaries in the focus of our attention (Figure 6), Poland has been the most important FDI target: Germany invested EUR 25 billion and France EUR 10 billion; the cumulative Italian outflow was negligible due to large disinvestments in 2017. Germany invested EUR 5.5 billion in Romania, France 1.5 billion, and Italy for which Romania is the main Central and East European member states destination, EUR 5.1 billion. Greece was an unimportant FDI target even suffering disinvestments in the crisis year followed by later recovery. The ten year sum amounted to EUR 2.2 billion from Germany, EUR 3.5 billion from France and EUR 1.6 billion from Italy.

Figure 6: Foreign Direct Investment flows (assets) from Germany, France and Italy to Greece, Poland and Romania in 2009-2018, EUR million



Source: Eurostat Balance of Payments statistics

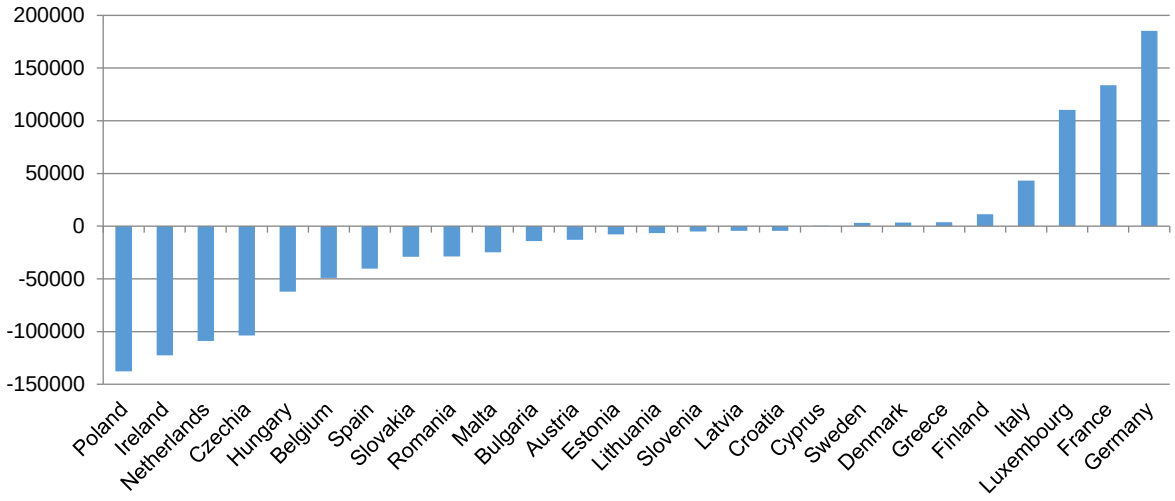
3.2.3. Foreign Direct Investment income and the rate of return on outward Foreign Direct Investment

The income of foreign direct investors has been in the focus of attention recently. Piketty (2018) makes an arbitrary comparison of foreign investors' income with the transfers that the Central and East European EU member states receive from the EU budget. He concludes that investing economies which are also the net payers to the EU budget earn more on the CEE members in terms of FDI income than they transfer as capital. This comparison has long been in the populist media of the Central and East European EU member states as an argument for economic nationalism and raising anti-FDI and anti-EU sentiments. That Piketty made methodological mistakes and compared apples with pears has been pointed out by Darvas (2018) and others. The correct use of balance of payments data distinguishing between repatriated and reinvested profits has been highlighted in the annual publication 'wiiw FDI Report' (Hunya, 2017). In the following we first look at the income earned on OFDI and then its use as reinvested or repatriated income.

Private investors expect a positive return to their invested capital. There is no difference between foreign and domestic investors in this respect. Both are also free to decide what to do with the taxed income they earn. What makes the income of foreigners special is that the balance of payments tells how much they earn and if they keep it in the host country. From a different aspect, the rate of return

achieved by investments in an economy is an important factor of the location's attractiveness to FDI. Data suggest that the Central and East European EU member states offer high rates of return and keep being attractive for foreign investors.

Figure 7: Intra-EU Foreign Direct Investment income balance, EU-28, 2009-2018 cumulated, EUR million



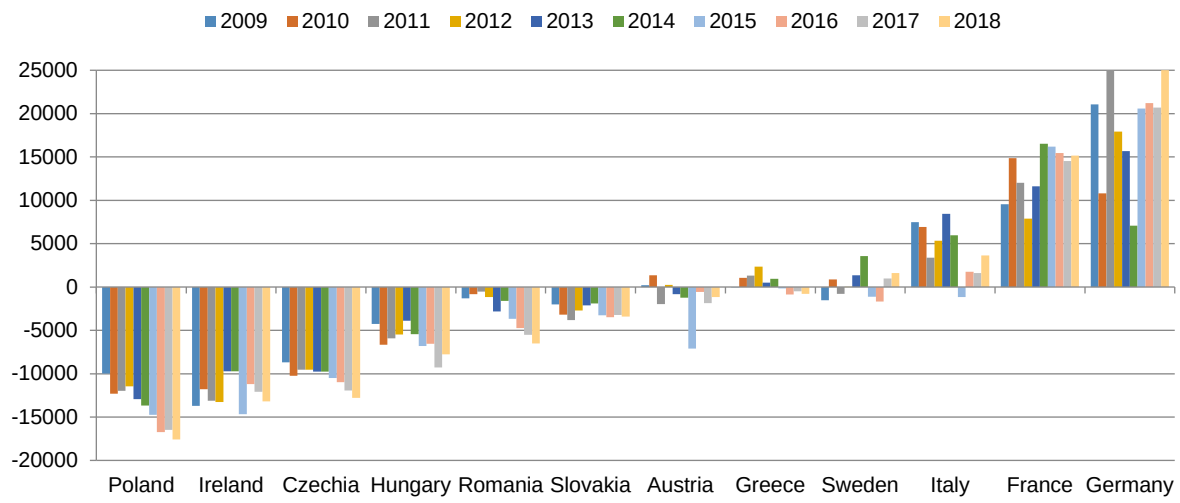
Note: Data refer to income earned or payed on OFDI in the EU-28. Spain and Croatia did not provide data for all years; Portugal and UK were excluded as they provided data for less than half of the years.

Source: Eurostat, Balance of Payments statistics

The FDI income balance is a position in the income balance of the current account and contains all income earned by reporting economy's economic entity abroad minus the income attributed to a foreign entity in the reporting economy. In general, countries with a positive net FDI balance (shown in Figure 3) have also a positive FDI related income balance. Figure 7 presents the cumulated intra-EU income balance of member states over ten years. Ten of the 26 countries have a positive income balance. The most prominent net beneficiaries include Germany (EUR 185 billion), France (EUR 143 billion), Luxembourg (EUR 110 billion) and Italy (EUR 43 billion). Other net beneficiaries such as Finland, Greece, Denmark and Sweden received significantly lower amounts. The majority of EU members (16 countries) have a negative FDI income balance with the rest of the EU. The highest amounts of net FDI income outflows were recorded in relation to Poland (EUR 138 billion), Ireland (EUR 122 billion), the Netherlands (EUR 109 billion), and Czechia (EUR 103 billion). Further countries with negative balance include Hungary, Belgium, Spain, Slovakia and Romania. (It must be noted that income data, just as FDI data, are distorted by indirect investments in countries which function like tax havens, such as Luxembourg and the Netherlands.)

An annual presentation of the FDI income balance for the main receiving and paying countries reveals further peculiarities (Figure 8). In general, a country belongs to the net receiver or net payer of income country group in all the years under consideration. Important outliers are Denmark which switched from a net payer of FDI income to a net receiver and Greece which switched from a net receiver to a net payer position. Over the years, the amount of FDI income has increased in most of the net payers, Poland, Czechia, Hungary and Romania. Positive net earnings have been sustained on a high level in Germany and France while they declined in Italy.

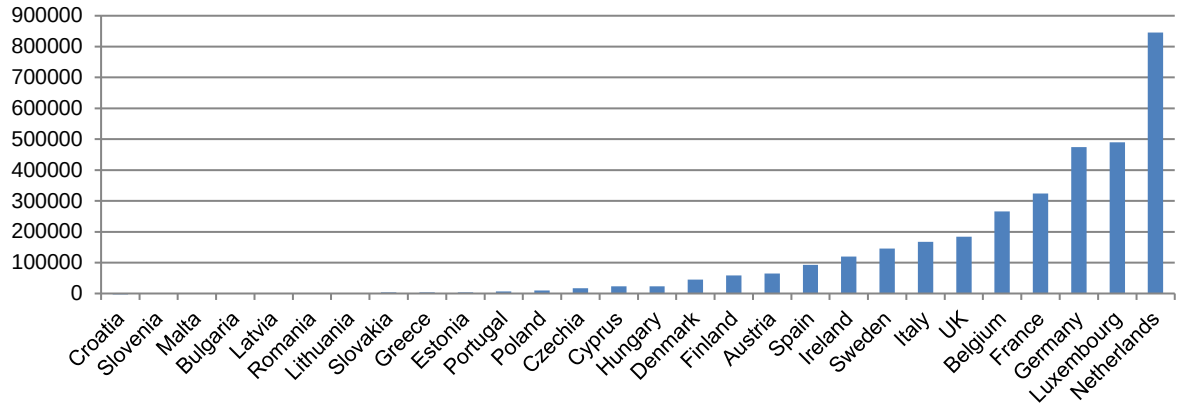
Figure 8: Intra-EU Foreign Direct Investment income balance, 2009-2018, selected countries, EUR million



Note: Data refer to income earned or payed on OFDI in the EU-28.
Source: Eurostat, Balance of Payments statistics

As countries, especially the more developed ones, have both inward and outward FDI they both pay and receive FDI related income. If we take only the income earned on outward FDI in the EU-28 we get a more precise picture of the beneficiary countries. Figure 9 reveals that the international financial centres and seats of large holdings, namely the Netherlands and Luxembourg, receive the highest amounts of income (although they also pay the highest amounts to investors in the country). Following the financial centres, Germany, France and Italy are also among the main beneficiaries in terms of the amount of income earned on their investments abroad. Most of the EU-related OFDI income of Germany, France and Italy came from the main FDI target countries, the other advanced economies including financial centres such as Luxembourg and the Netherlands. 14% of the intra-EU FDI income of Germany was earned in the Central and East European EU member states in 2018; the same share was only 9% in case of both France and Italy. These shares have been rather stable but with a slightly rising trend over the years in Germany and Italy.

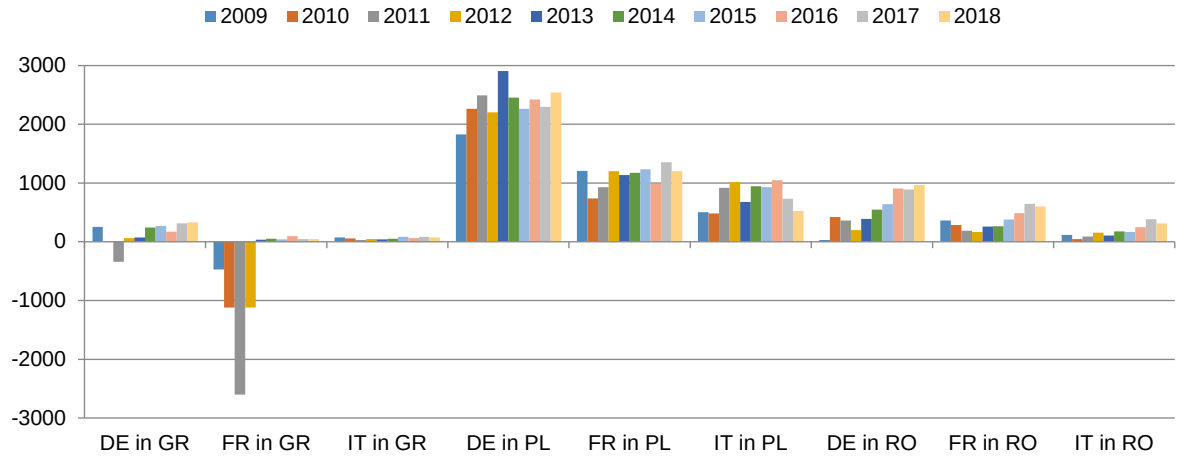
Figure 9: Intra-EU Foreign Direct Investment income earnings (credit), 2009-2018, cumulated, EUR million



Note: Data refer to income earned on OFDI in the EU-28.
Source: Eurostat, Balance of Payments statistics

Investors enjoyed uninterrupted incomes in Poland and rising amounts in Romania (Figure 10). Germany and France made increasing amounts of FDI income in Poland and Romania while Italy's earnings declined in Poland but increased in Romania. Losses prevailed in Greece during the crisis, especially French investors suffered huge losses as indicated by their negative income. Only German investors resumed making sizeable income in Greece recently.

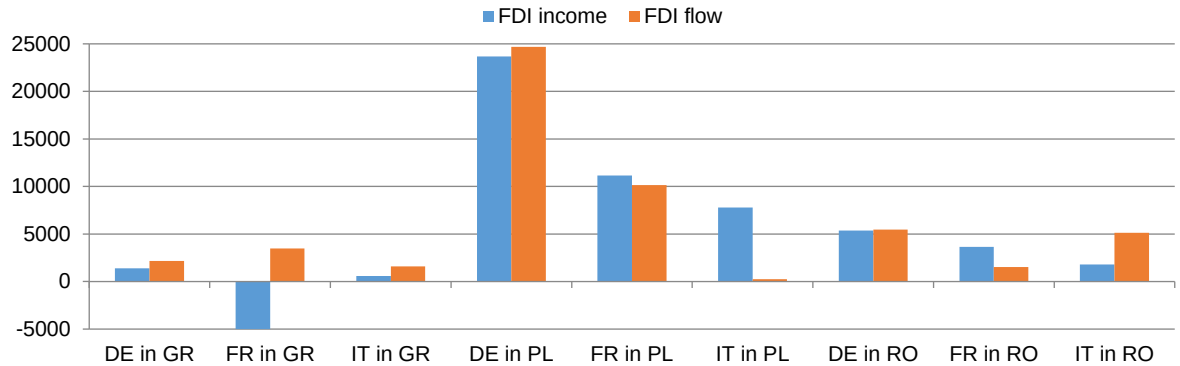
Figure 10: Intra-EU Foreign Direct Investment income earnings (credit) of Germany, France and Italy in Greece, Poland and Romania, 2009-2018, EUR million



Source: Eurostat, Balance of Payments statistics

Could investors have financed their new investments from funds they earned in the three host countries? On the whole yes (Figure 11). The overall balance benefited investors – they did not have to bring new money but could have financed investments from the income earned in the host economies. The FDI income surpassed the amount of new investments by France and Italy in Poland and by Italy in Romania in the past ten years as a whole. Thus, the flow of income could be maintained based on earlier investments. France invested in Greece despite making losses. The income of German investors accrued in Poland, Romania and Greece was just a little bit less than the amount of new FDI that they invested in these countries.

Figure 11: Relationship between Foreign Direct Investment income earned and new Foreign Direct Investment invested, EUR million, 2009-2018 cumulated

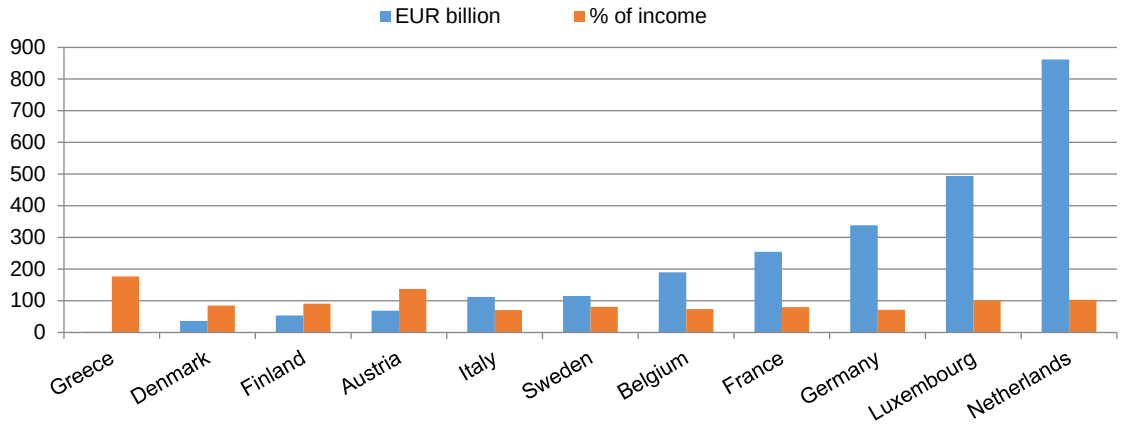


Note: OFDI data as in Figure 6.

Source: Eurostat, Balance of Payments statistics

Investors use only a part of the FDI income for new investments in the host economy, a more significant part is transferred abroad. Large FDI earnings are usually repatriated especially by the countries which act as financial centres and which accrue the highest amounts of income (Figure 12). Large amounts of repatriated incomes were also generated by German and French investors, EUR 339 billion and EUR 255 billion, respectively. Italian investors repatriated EUR 112 million. The repatriation rate is more modest than in financial centres, namely 72% in Germany, 80% in France and 71% in Italy. Greece is an outlier with very modest repatriated earnings which surpass the amount of the total income. A repatriation rate higher than 100% of earnings is in fact not without precedence. Austria is a similar case which returned accumulated earnings from abroad in order to consolidate domestic banks in the wake of the financial and euro crises.

Figure 12: Repatriated income on intra-EU Outward Foreign Direct Investment total and in % of the Outward Foreign Direct Investment-related Foreign Direct Investment income, 2009-2018 cumulated

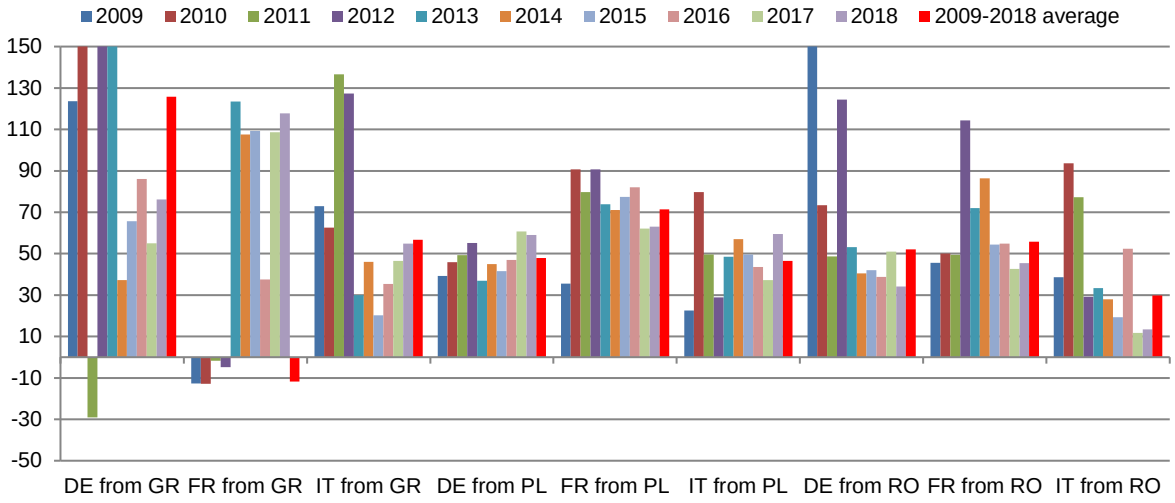


Note: Data refer to income earned on OFDI (credit) in the EU-28. Repatriated income was calculated as the difference between income and reinvested earnings.

Source: Eurostat, Balance of Payments statistics

The repatriation rate fluctuates a lot over time and can be very different between investing and target countries. The repatriation rate is generally lower from the Central and East European EU member states than from the EU-28 as a whole. For the German, French and Italian investors the average repatriation rate from Poland and Romania over ten years was in the range of 50-60% and fluctuated heavily in the case of crisis-inflicted Greece (Figure 13). Over ten years, German investors repatriated EUR 1730 million from Greece, EUR 11351 million from Poland and EUR 2790 million from Romania. The same amounts for France were EUR 588 mn, EUR 7959 mn and EUR 2029 mn and for Italy EUR 340 mn, EUR 3616 mn, and EUR 537 mn.

Figure 13: Repatriated income by German, French and Italian investors in % of the Foreign Direct Investment income earned in Greece, Poland and Romania



Note: Data refer to income earned on OFDI (credit) in the EU-28. Repatriated income was calculated as the difference between income and reinvested earnings.

Source: Eurostat, Balance of Payments statistics

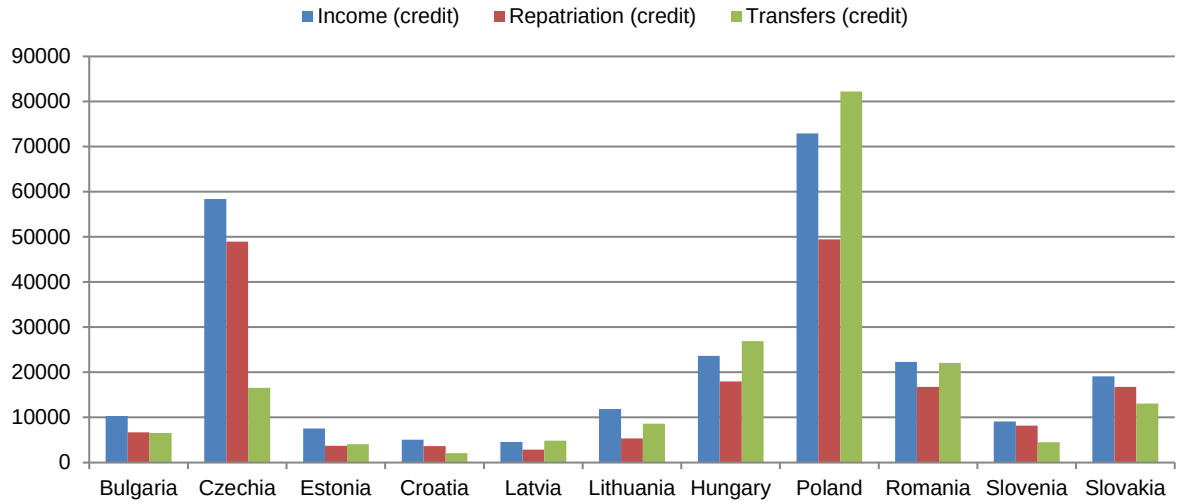
3.2.4. Comparison between Foreign Direct Investment income and EU transfers

For the sake of comparability, we use also the balance of payments data for EU transfers to the Central and East European EU net beneficiaries. We assume that most of the capital transfers to these countries come from the EU. A better proxy would be the amount of investment grants, which constitutes the overwhelming part of capital transfers, but these data are not available for most of the countries.

In the first comparison we use the data on outward investment income as presented in the previous section (Figure 14). This is the amount that EU-28 investors reported as income. They earned altogether EUR 244,971.4 million in the Central and East European EU member states and repatriated EUR 180,476.8 million over 10 years. This amount roughly equals the transfers the Central and East European EU member states received over this period, namely EUR 191,598 million.

Second, we look at the FDI related income the Central and East European EU member states have paid on inward investments (debit) to EU-28 investors with the capital transfers they receive through the capital account (credit). Income data are the mirror statistics of those used above, but the amounts diverge due to differences of the allocation of income between investors (Figure 15). Not all the income these countries pay to EU investors lands in those countries but pass through intermediaries. The Central and East European EU member states reported EUR 424,862.1 million earned as income by EU-28 investors of which EUR 290,847.5 was repatriated. Figure 14 compares the amount of FDI related income earnings attributed to EU-28 investors, the amount of repatriated earnings paid and the transfers received. Figure 15 depicts the relationship between income repatriation and capital transfers.

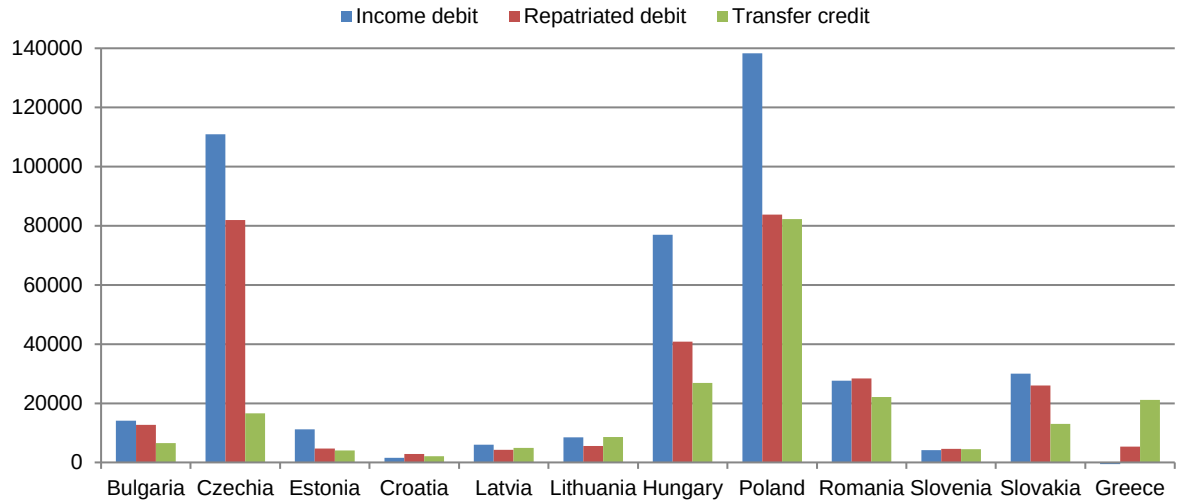
Figure 14: EU-28 investors' Foreign Direct Investment income earned and transfers received from the Central and East European EU member states , EUR million, 2009-2018 cumulated



Note: Data refer to income earned on OFDI (credit) in the EU-28. Repatriated income was calculated as the difference between income and reinvested earnings.

Source: Eurostat, Balance of Payments statistics.

Figure 15: The Central and East European EU member states Foreign Direct Investment income paid to EU-28 investors and transfers received, EUR million, 2009-2018 cumulated

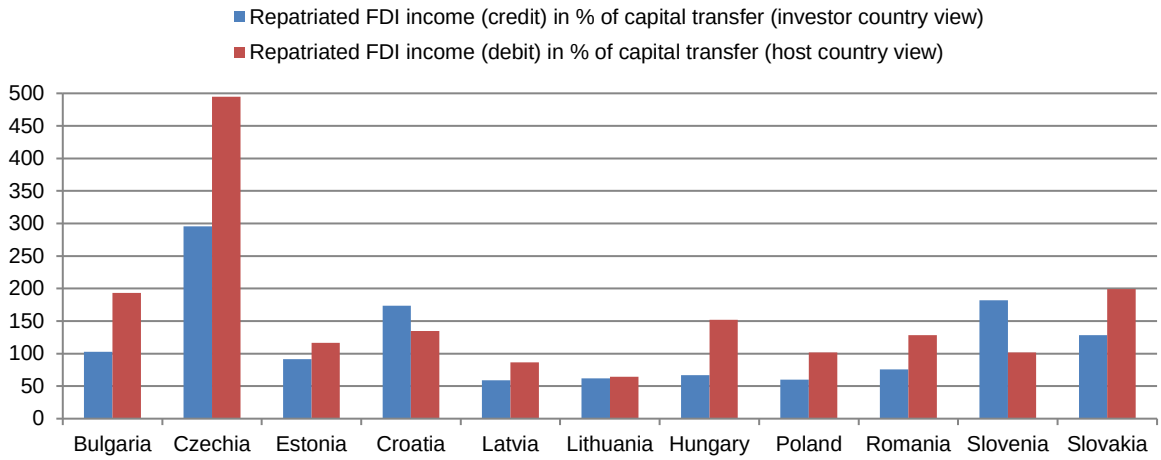


Note: In case of missing transfer data for individual years estimation was made based on capital account credit data.

Source: Eurostat, Balance of Payments statistics

Data reveal that EU investors make a much higher amount of income on their investments in the Central and East European EU member states than what these countries receive as transfers from abroad, almost exclusively from the EU budget. Even the amount of repatriated FDI income is higher than the inflow of capital transfers in most countries. Investors made the highest amount of income in Czechia and repatriated 75% of it: the repatriated income was five times higher than the transfers flowing into the country. The difference between the two items was twofold in Bulgaria, 1.5 times in Hungary, and 1.3 times in Romania, while the two amounts were almost equal in Poland. Latvia and Lithuania were the two Central and East European EU members states which received more transfers than the amount of repatriated income. The main net receiver of transfers is Greece where investors made a negative income in 2009-2018 due to the crisis having inflicted this country. At the same time, Greece received high amounts of capital transfers for the very same reason.

Figure 16: Repatriated income in % of transfers received in 2009-2018



Note: In case of missing transfer data for individual years estimation was made based on total capital account credit.
Source: Eurostat, Balance of Payments statistics

3.2.5. Conclusions

Advanced EU member states which are in a net payer position to the EU budget have made more outward than inward FDI they received. High competitiveness of companies has allowed net payers to increase FDI abroad and reap profits. They also benefit from enlarged markets and cheap sourcing of inputs through their subsidiaries abroad. The less advanced countries, which are in a net beneficiary position of the EU budget, benefit from capital inflows and technology transferred to them by foreign investors. This is a win-win business between the home and host countries of investments in the short run. In the long run, benefits including repatriated profits accumulate in the corporate headquarters concentrated in the advanced economies of net payers.

Empirical evidence of the impact of EU membership on FDI is rare. A recent paper (Randolph et al., 2016), suggests that 'EU membership robustly increases net FDI inflows'. Their three main estimates of the FDI increase due to EU membership range between 14% and 38% depending on the choice of econometric technique, with an average of 28%.

Our approach is different, as we take the positive impact of integration on the amount of FDI for granted and we look at the distribution of direct benefits of FDI. The more a country is able to invest abroad the more it can benefit in terms of market access and value chain optimisation which leads to higher profits and repatriated income. We looked at the distribution of intra-EU FDI and FDI-related earnings among the member states in the ten year period 2009-2018. Further, the investors' income earned by in the net beneficiary countries was compared with the amount of EU transfers they received during the same period.

Balance of payments data reveal that the main intra-EU investors are the largest and most advanced countries (Germany and France) as well as those which are seats of holding companies and financial centres transmitting funds from third countries (the Netherlands and Luxembourg) – all of them net payers to the EU budget. The main targets of FDI are the same advanced countries. Less advanced ones, namely the Central and East European EU member states and Greece, receive a small portion of those FDI which corresponds to the size of those economies, but which is of high importance for their development.

An acceptable income earned on invested capital is a justified expectation of all investors including foreign ones. Host country governments of less developed member states striving to attract FDI must welcome that investors enjoy an adequate rate of return. They even increase the investment capital with state aid and/or lower the corporate tax rate for certain investors. These policies push up the rate of return on FDI capital in the Central and East European EU member states.

Ten of the 26 member states have a positive intra-EU FDI income balance – almost all of them net contributors to the EU budget. The most prominent FDI income beneficiaries in 2009-2018 include Germany (EUR 185 billion), France (EUR 143 billion), Luxembourg (EUR 110 billion) and Italy (EUR 43 billion). The majority of EU members, 16 countries have had a negative FDI income balance with the rest of the EU. The highest cumulated amounts were recorded by investors in Poland (EUR 138 billion), Ireland (EUR 122 billion), the Netherlands (EUR 109 billion), and Czechia (EUR 103 billion). Among the most prominent income generating countries are both net beneficiaries of EU transfers and seats of holding companies engaged in tax optimisation.

Investments in the Central and East European EU member states show high profitability namely 13.4% on the FDI stocks against 4.3% on the total intra-EU FDI in 2018. Germany earned 14% of its FDI income in the Central and East European EU member states in 2018, where it kept only 8% of its FDI stock; France and Italy each earned 9% of their FDI income in the Central and East European EU member states on 4% and 8% of their FDI stock, respectively. In the years 2009-2018, investors enjoyed uninterrupted amounts of income in Poland, and rising amounts in Romania. Among them Germany and France accrued increasing amounts of FDI income in Poland and Romania while Italy's earnings declined in Poland but increased in Romania. Investors made losses in Greece during the crisis, especially French investors suffered. Of the three countries, only German investors resumed making sizeable income in Greece recently.

Cumulated FDI income earned in the Central and East European EU member states and cumulated outward investment flows to this region were roughly equal in 2009-2018. Thus, the income of EU investors grossly covered their new investment outlays over ten years. Advanced countries such as Germany, France and Italy could have made all their new investments in Poland and Romania without sending any investment funds. Self-sustaining FDI is only a theoretical possibility, however, as not all income is left in the country where it is earned.

About three quarters of the FDI income earned by investors was not left in the host economies but repatriated to cover other expenses in 2009-2018. The repatriation rate was 72% in the case of the FDI income by Germany, 80% by France and 71% by Italy. The repatriation rate was generally lower from the Central and East European EU member states than from the EU-28 as a whole. For the German, French and Italian investors the average repatriation rate from Poland and Romania over ten years was in the range of 50-60% and fluctuated heavily in the case of crisis-inflicted Greece.

EU investors have made a much higher amount of income on their investments in the Central and East European EU member states than what the latter countries received as transfers from the EU budget. For the sake of comparability, we used the balance of payments data for capital transfers and assumed that most of the capital transfers came from the EU budget.

In the first comparison of transfers and FDI income we used data of EU-28 outward investors. The total income earned in the Central and East European EU member states over ten years amounted to EUR 244,971.4 million of which EUR 180,476.8 million was repatriated to EU-28 investors. The amount of repatriated income reported by foreign investors almost equals the transfers the Central and East European EU member states received over this period, namely EUR 191,598 million. The amount of repatriated FDI income is even higher than the inflow of capital transfers in half of the twelve net beneficiary countries namely the Central and East European EU member states plus Greece. Interestingly, capital transfers surpass income repatriation by two thirds in Poland and by about a third in Romania. Greece is a special case as investors had negative income while capital transfers were high due to the specific crisis in this country.

Second, we looked at the FDI related income the Central and East European EU member states reported to have paid on inward investments to EU-28 investors. This amounted to EUR 424,862.1 million of which EUR 290,847.5 was repatriated. These are higher figures than those reported by investors, because part of the income the Central and East European EU member states pay to EU investors passes through intermediaries to third countries. (Much of the income paid to the Netherlands, for examples land at ultimate investors from the USA.) In this comparison, EU investors make a much higher amount

of income on their investments in the Central and East European EU member states than what these countries receive as transfers from abroad, almost exclusively from the EU budget. Even the amount of repatriated FDI income is higher than the inflow of capital transfers in most countries.

Investors made the highest amount of income in Czechia and repatriated five times more than the transfers flowing into the country according to host country statistics and three times higher according to investor country statistics. The difference between repatriated income and capital transfers in the host country statistics was twofold in Bulgaria, 1.5 times in Hungary, 1.3 times in Romania, while the two amounts were almost equal in Poland. Latvia and Lithuania were the only Central and East European EU member states which received more transfers than the amount of repatriated income they paid to EU investors. The main net receiver of transfers is Greece where investors made negative income in 2009-2018 due to the crisis having inflicted this country. At the same time, Greece received high amounts of capital transfers for the very same reason.

3.3. BENEFITS OF INTRA-EU TRADE

This chapter looks at the benefits of EU membership focusing on trade integration, i.e. intra-EU trade. EU integration is expected to spur trade creation among its members and increases their bilateral trade flows. Consequently, first, long-term evolutions of intra-EU trade are depicted while in a second step, more recent trends in the structure of intra-EU trade are explored.

As a starting point for the analyses of trade, the dynamics of intra-EU export and import flows as well as the resulting trade balances are explored by using data from the IMF Direction of Trade Statistics (DOTS). [19] It has to be kept in mind that trade data are reported in current prices. For a first overview, Figure 17 shows the intra-EU trade developments of the three large net financial beneficiary countries – Poland, Greece and Romania – defined and ranked by the 2017 operating budgetary balance. While Greece entered the EU already in 1981, Poland joined in 2004 and Romania in 2007. In order to depict a longer time period before EU accession, i.e. 10 years, these figures provide a long-term overview starting from 1970 up to 2018. Importantly, the 10-year period before and the 10-year period after the accession dates are highlighted in the graphs. Figure 18 then provides the long-term trade developments for the three largest financial contributors – Germany, France and Italy – which were EU founding members in 1957.

Overall, long-term trends were quite similar across countries. Keeping the division of Europe until 1989 in mind (and the limitations of data from this time period), trade grew steadily in the 70s, 80s and 90s (except the 1993 recession), but eventually hiked in the 2000s (trade data reported in current prices). Interrupted by the financial and economic crisis in 2009, trade evolved more sluggish since then. Generally, besides EU integration, a series of factors influenced trade developments: Global events and cycles such as the oil crisis in 1973/1979 or the Asian crisis in 1997, regulatory efforts (EU-Single market in 1993, introduction of euro in 2002, WTO entry of China in 2001) as well as other factors (digitalisation, globalisation, outward processing, integration into value chains), just to name a few. For the Central and Eastern European countries the collapse of communism and the reorientation from the former Council for Mutual Economic assistance (COMECON) trade partners to the West European countries played a major role. Also Eastern Germany was reunited with Germany in 1990.

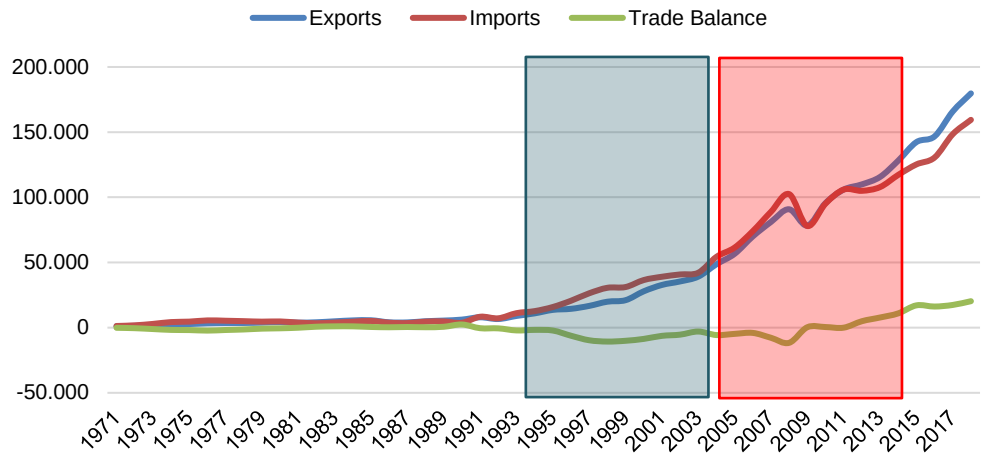
[19] The IMF Direction of Trade Statistics (DOTS) database is used as it provides the necessary long-term data. It is based on an EU-28 evolutionary approach. Eurostat Comext data for the EU-28 are available as of 2000. A comparison of data has shown that Eurostat Comext data and IMF data are identical since this year.

The most important take-aways from Figure 17 and Figure 18 are:

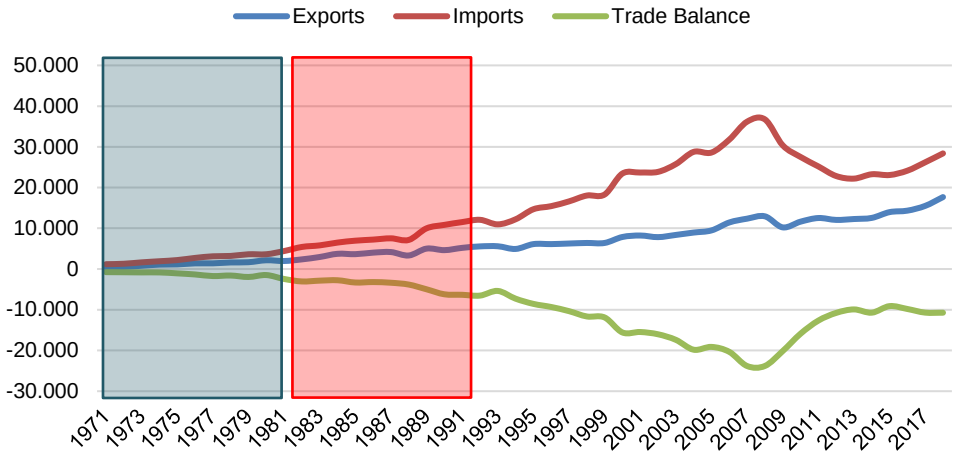
- The remarkable increase in trade levels in the last 50 years (please be aware of different axes in the Figures)
- Intra-EU exports and imports are moving broadly in parallel
- A significant intra-EU trade surplus for Germany over the long run and an emerging intra-EU surplus for Poland after the crisis
- A significantly rising intra-EU trade deficit for Greece up until the crisis and for France since the 2000s

Figure 17: Major net beneficiaries – Trade of goods with the EU-28, in EUR million

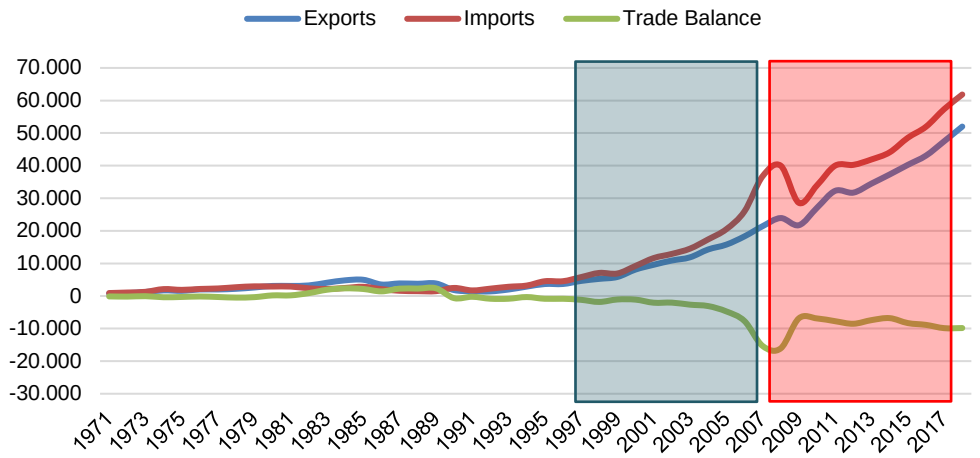
Poland (2004 accession)



Greece (1981 accession)



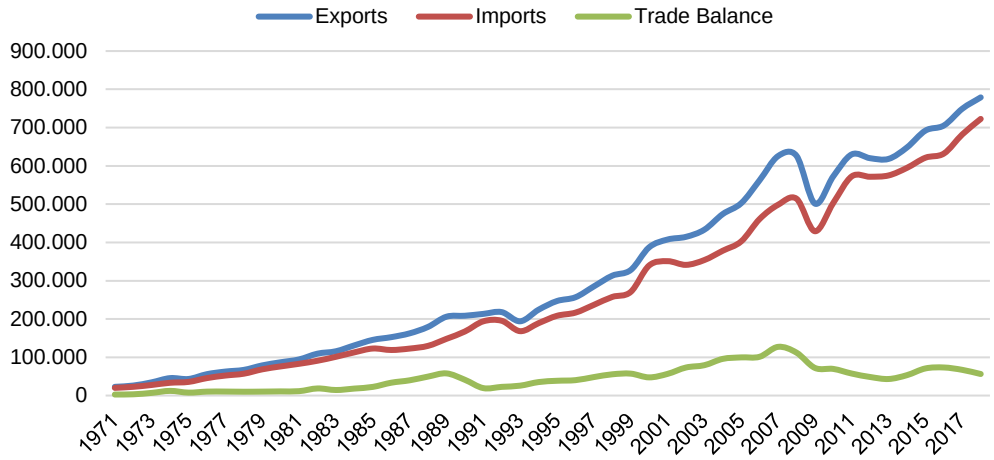
Romania (2007 accession)



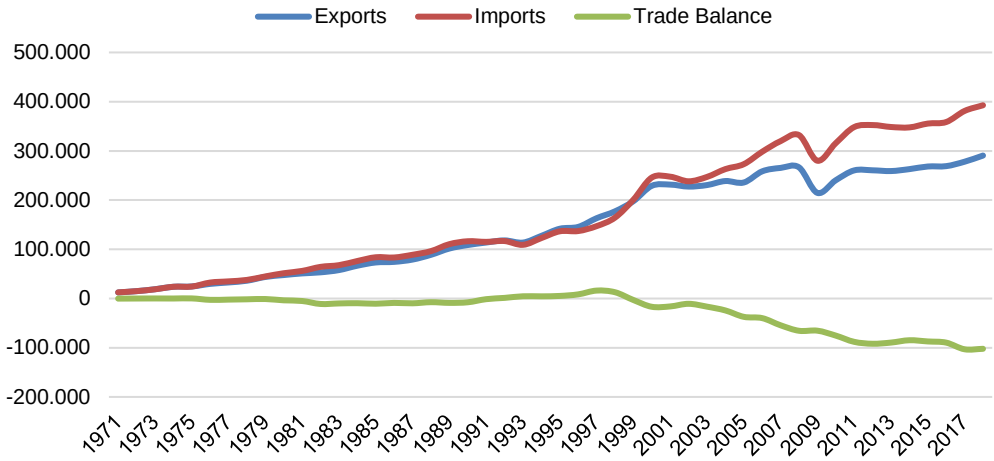
Source: IMF Direction of Trade Statistics Database (DOTS)

Figure 18: Major net contributors – Trade of goods with the EU-28, in EUR million

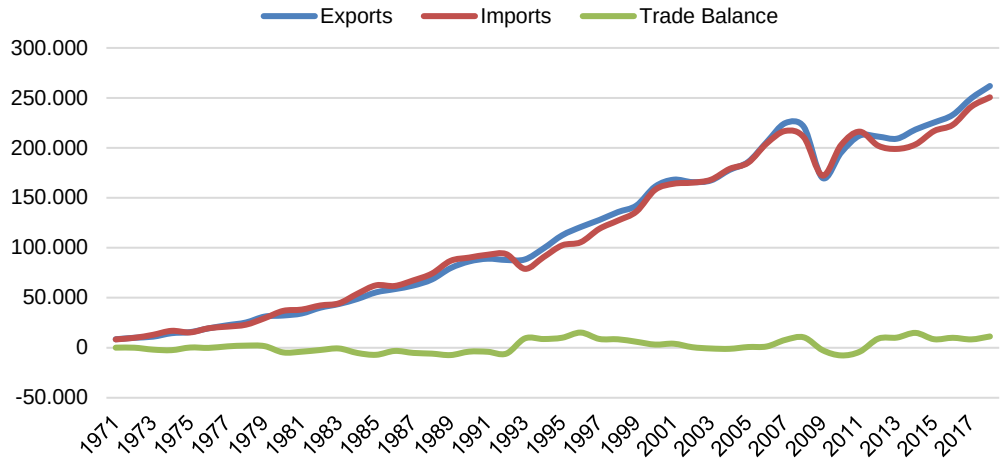
Germany (Founding member 1957)



France (Founding member 1957)



Italy (Founding member 1957)



Source: IMF Direction of Trade Statistics Database (DOTS)

In order to look at potential benefits of intra-EU trade, it seems appropriate to focus on the time period of EU accession and compare the growth rates of exports and imports for the 10-year period before and after the accession. However, as there are anticipatory effects, pre-accession agreements in the case of the CEECs, as well as level effects, we also take a time period prior to the exact accession year into account. Figures 19 and 20 therefore show the annual average growth rates of exports (upper part) and imports (lower part) for the period 1999-2008, which should reflect upon the latest EU enlargement of 2004. In fact, all European countries saw an increase of intra-EU exports, the average reaching yearly 7%. On the upper end, about 18% yearly growth was achieved by Lithuania, 17% by Slovakia, and 16% by Poland, Romania, Bulgaria and the Czech Republic. On the lower end, Cyprus, Ireland, the UK and Malta experienced a yearly increase by about 3%. In half of all countries (mostly more recent member states) this period brought about a higher intra-EU export growth compared to the average of the periods 1995-1998 and 2010-2014.

Figure 19: Annual average growth rates of intra-EU exports, 1999-2008 (bars) compared to the average of the periods 1995-98 and 2010-14 (dots), EUR based

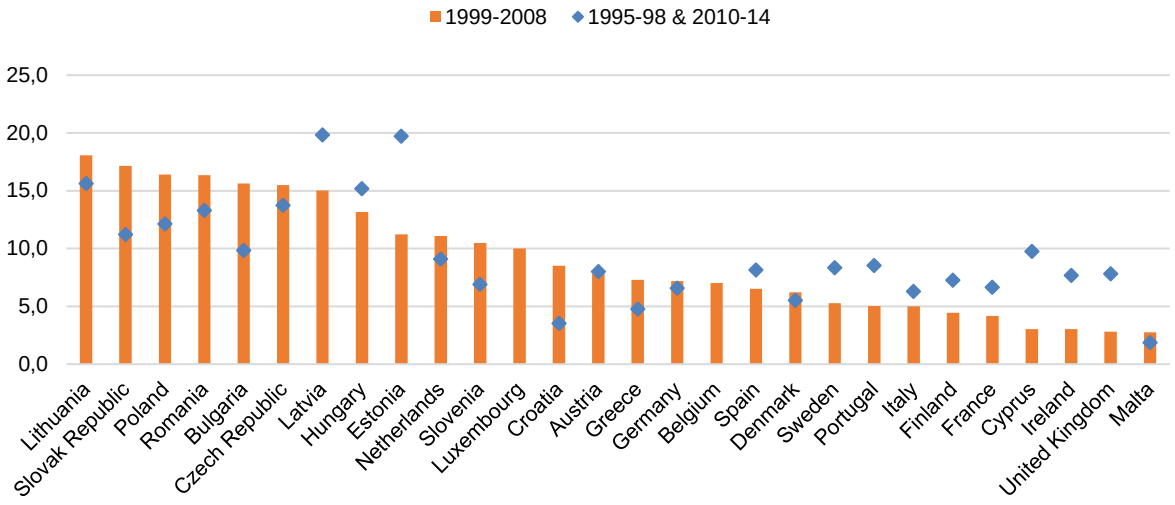
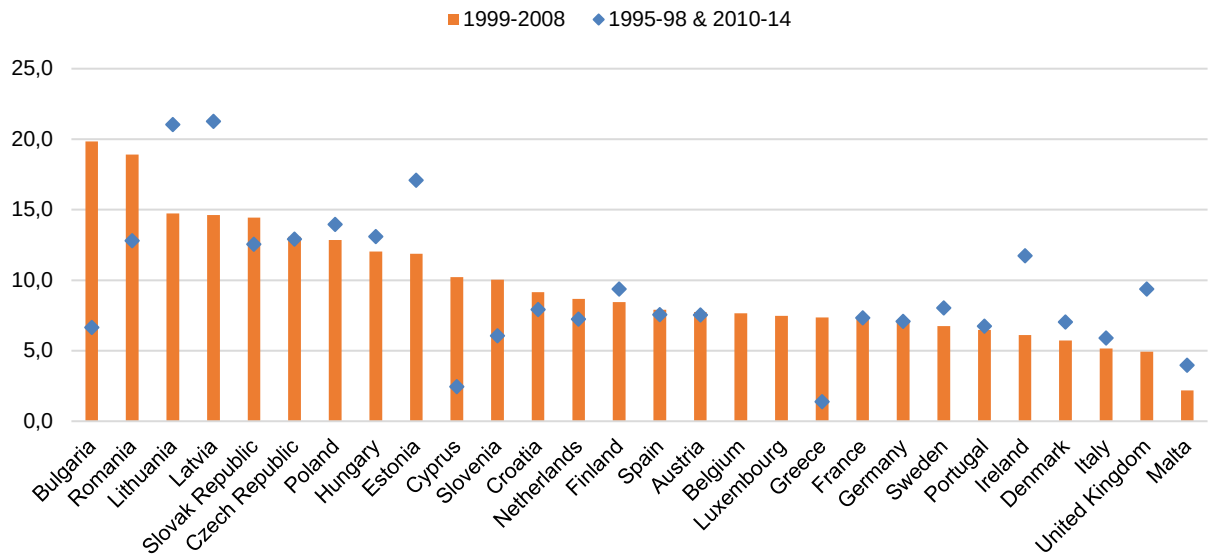


Figure 20: Annual average growth rates of intra-EU imports, 1999-2008 (bars) compared to the average of the periods 1995-98 and 2010-14 (dots), EUR based



Source: IMF Direction of Trade Statistics Database (DOTS)

EU trade integration is typically measured by the share of intra-EU trade (exports plus imports) in terms of GDP (see e.g. Single Market Scoreboard[20]). As a rough indication we compare this share in the year of accession with the year ten years after the accession (see Table 6). Typically, this indicator has increased by several percentage points during that time period (the only exception is Malta). Extremely strong trade integration occurred in Slovakia (plus 50 percentage points), Hungary (plus 35 percentage points) and the Czech Republic (plus 28 percentage points). There were also several countries showing an increase of 20 percentage points (Latvia, Austria, Slovenia, Lithuania and Croatia) or 10 percentage points (Ireland, Romania, Spain, Poland, Estonia). Some countries increased their share still by around 5 percentage points (Portugal, Greece, Finland, Bulgaria, Sweden, UK, Denmark, and Cyprus). In 2018, the shares of intra-EU exports and imports in percent of GDP have ranged between 145% in Slovakia and 21% in the UK.

[20] European Commission (2017), *Single Market Scoreboard, Trade in Goods and Services*, reporting period 2016-2017 https://ec.europa.eu/internal_market/scoreboard/integration_market_openness/trade_goods_services/index_en.htm

Table 6: Intra-EU exports and imports in % of Gross Domestic Product (GDP)

	EU accession Date	Accession plus 10 years [1)] Change in percentage points	2004	2010	2018
Austria	1.1.1995	21.1	62.7	59.7	61.9
Belgium	25.3.1957	.	119.9	117.5	118.5
Bulgaria	1.1.2007	5.8	55.9	54.4	71.3
Croatia	1.7.2013	16.7	41.1	32.2	55.4
Cyprus	1.5.2004	2.9	25.3	26.5	30.6
Czech Republic	1.5.2004	28.4	97.8	99.5	126.5
Denmark	1.1.1973	4.0	40.8	37.6	39.4
Estonia	1.5.2004	9.2	90.5	90.5	86.5
Finland	1.1.1995	5.9	35.8	33.1	36.3
France	25.3.1957	.	29.5	27.9	29.0
Germany	25.3.1957	.	37.6	41.8	44.4
Greece	1.1.1981	6.1	19.5	17.3	24.9
Hungary	1.5.2004	34.5	85.0	103.0	124.6
Ireland	1.1.1973	10.7	54.4	49.3	39.5
Italy	25.3. 1957	.	24.7	24.8	29.2
Latvia	1.5.2004	21.4	56.9	64.3	73.0

	EU accession Date	Accession plus 10 years [1)] Change in percentage points	2004	2010	2018
Lithuania	1.5.2004	20.5	62.4	69.7	84.0
Luxembourg	25.3.1957	.	85.7	66.3	50.1
Malta	1.5.2004	-14.1	64.1	56.8	42.5
Netherlands	25.3.1957	.	69.3	80.8	91.0
Poland	1.5.2004	9.6	50.2	52.7	68.4
Portugal	1.1.1986	7.2	37.5	40.4	49.9
Romania	1.1.2007	10.3	52.5	48.7	56.1
Slovak Republic	1.5.2004	50.2	83.4	116.6	144.6
Slovenia	1.5.2004	20.7	80.5	92.6	114.6
Spain	1.1.1986	10.0	29.0	25.6	32.0
Sweden	1.1.1995	5.1	37.0	38.9	39.5
United Kingdom	1.1.1973	4.8	19.2	20.2	20.6

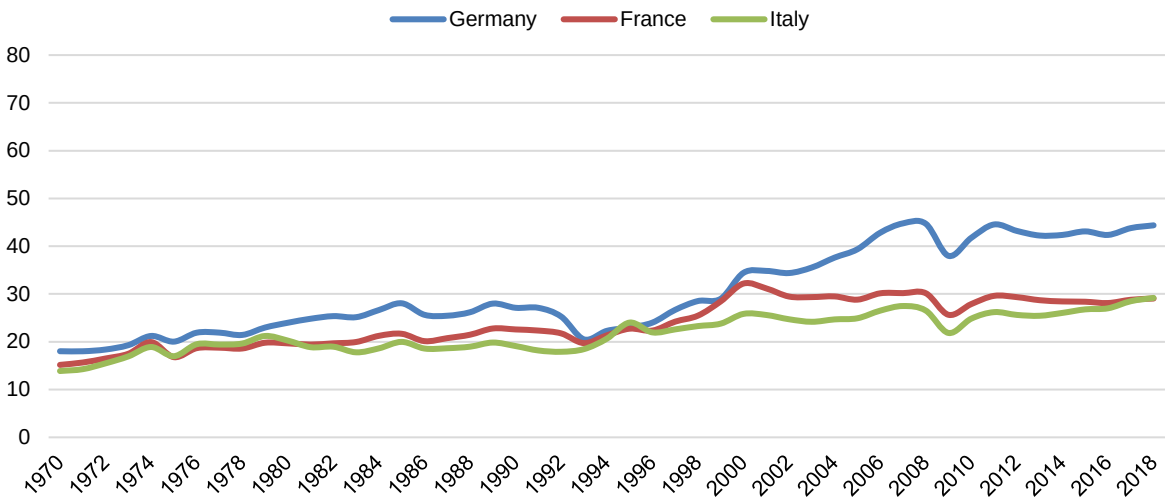
Note: 1) Croatia plus 5 years.

Source: IMF Direction of Trade Statistics Database (DOTS) and WDI.

For the three net beneficiary countries this trade integration measure in 2018 stood at 70% for Poland, 25% for Greece and 56% for Romania and for the three net contributor countries at 44% for Germany and 29% for France and Italy each. As the latter countries were founding members of the European Community in 1957, no period of comparison was selected. Instead, Figure 21 depicts the long-term evolution of the indicator. While the indicator was quite stable in the 70s and 80s, it increased in all three countries between 1993 and 2000. Thereafter it was again quite stable for France and Italy, but showed a 10 percentage point increase in Germany. This is in line with previous findings (e.g. IMF, 2013; Stehrer et al., 2016) showing the build-up of value chains and fostering trade integration between

Germany on the one hand and Slovakia, the Czech Republic and Hungary on the other within the so called 'German-Central European Supply Chain' or 'EU manufacturing core' during the last 20 years.[21]

Figure 21: Net contributors – Intra-EU exports and imports in % of Gross Domestic Product



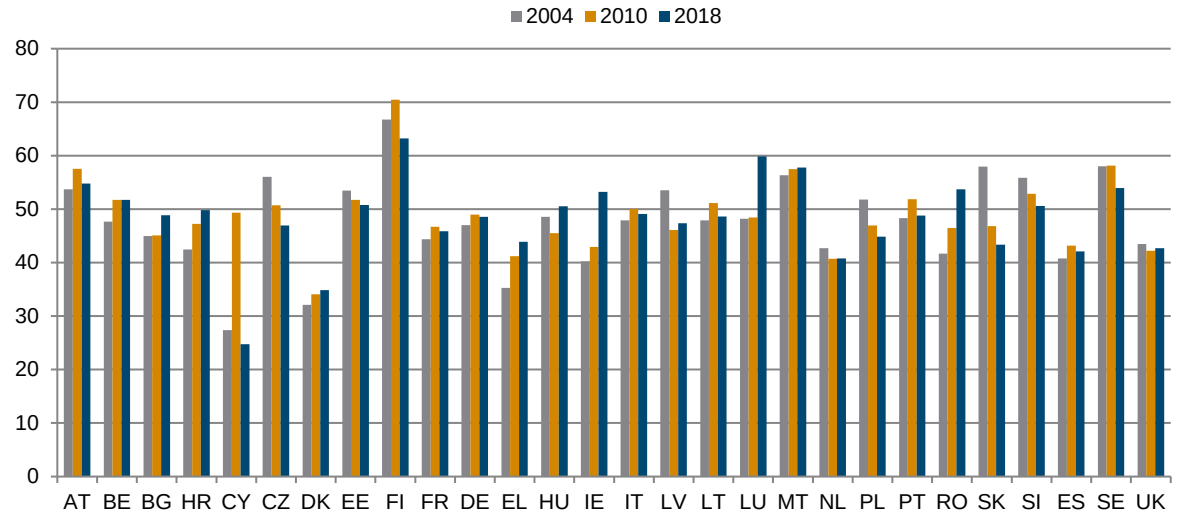
Source: IMF Direction of Trade Statistics Database (DOTS) and WDI.

Looking now at the structure of trade in more detail, we want to explore if and how trade has changed in recent years. Since trade of the 21st century is characterised by production networks and global value chains, the extent to which the countries under consideration are integrated into such regional production networks with other European partners is of high interest. For this, the development and importance (in total intra-EU exports) of intermediate goods trade is analysed using semi-finished goods and parts and components as identified in the Broad Economic Categories (BEC) of goods trade as an indicator (which broadly captures the importance of regional and global supply and value chains). Figure 22 shows the indicator for three years: 2004, 2010 and 2018.

In 2018, the share of intermediate goods exports in percent of total intra-EU exports ranged between 25% in Cyprus, to 60% in Finland and Luxembourg. Between 2004 and 2018 no clear trend is discernible. The share was quite stable in the net contributor countries Germany (48% in 2018), France (44% in 2018) and Italy (48% in 2018). The share fell in Poland (45% in 2018) but increased remarkably in Romania (54% in 2018) and Greece (44% in 2018). In fact, integration into value chains might either lead to a decrease of intermediate goods as in the case of Slovakia and the Czech Republic (export of cars), or to the increase of intermediate goods exports as in the case of Romania.

[21] When considering the share of intra-EU trade in overall trade no clear pattern emerges. In the long run these shares are rather stable for Germany, France, and Italy; only for Greece one can see an increase of the share after accession. However, these shares are slightly decreasing for Poland and only marginally increasing for Romania. Thus, in general, no clear effect of EU membership is discernible. The reasons for this are manifold, but probably the most important one is that strongly growing emerging economies outside Europe have become important trade partners.

Figure 22: Share of intermediate goods exports in % of total intra-EU exports

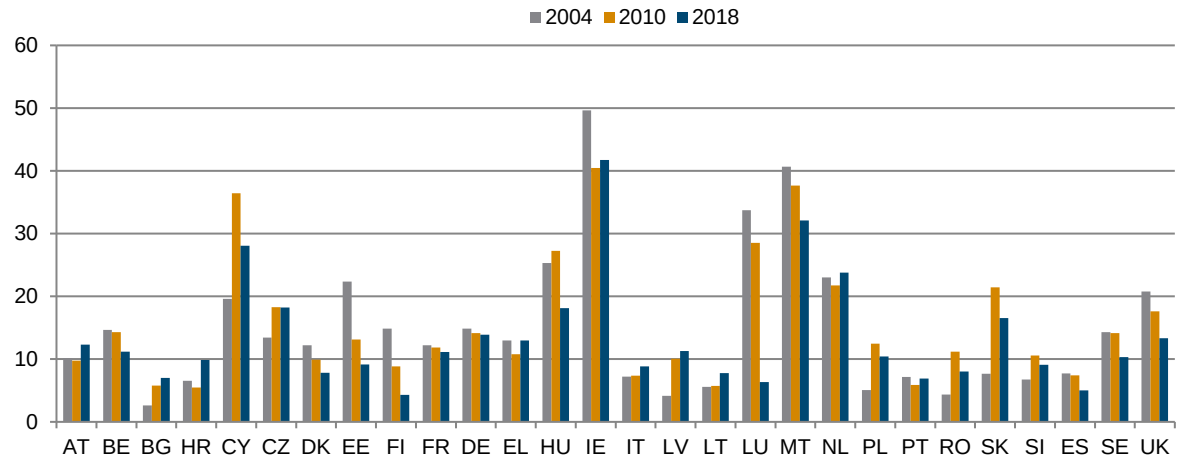


Notes: BEC codes: 22, 42, 53, 121, 322.

Source: Eurostat Comext.

Regarding the share of high-tech exports in total intra-EU trade the evidence is also mixed (see Figure 23). The respective share ranged between 5% in Finland and Luxembourg to 42% in Ireland in 2018. Between 2004 and 2018, the share increased for half of the EU-countries but fell in the other half. Only small changes in the share of the net contributor countries were seen. In fact, the share was quite stable in all three major contributor countries, with shares of 14% in Germany in 2018, 11% in France and 9% in Italy. For two of the major net beneficiary countries an upward trend can be seen, which was quite marked for Poland and Romania (about 5 percentage points). The share was stable for Greece. Respective shares for 2018 accounted for 10.4% in Poland, 13% in Greece and 8% in Romania.

Figure 23: Share of high-tech goods exports in % of total intra-EU exports

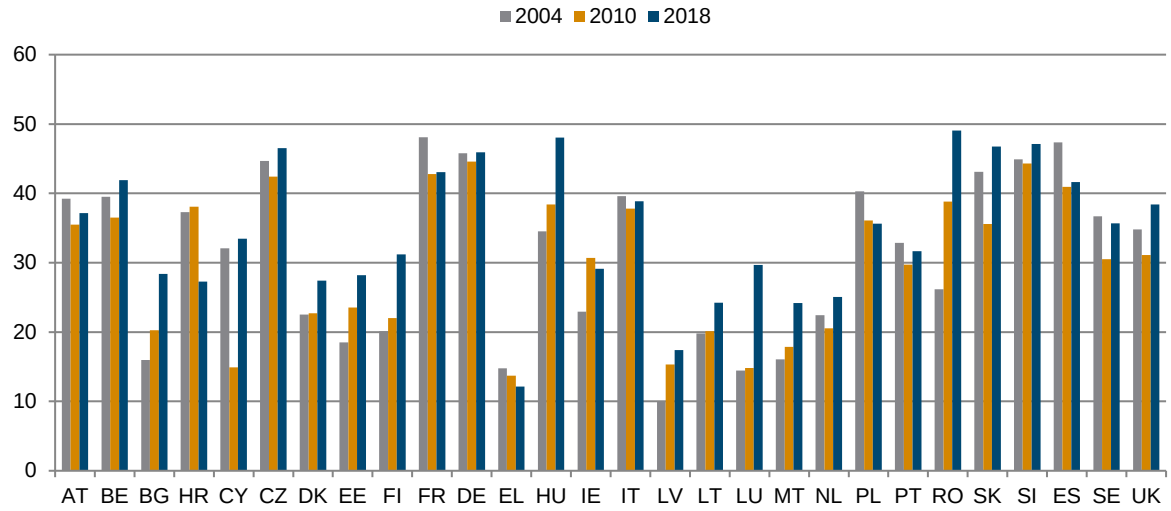


Notes: High-technology defined as NACE rev.2 codes 21 (Manufacture of basic pharmaceutical products and pharmaceutical preparations) and 26 (Manufacture of computer, electronic and optical products).

Source: Eurostat Comext.

Looking at the share of medium-high-tech exports a more favourable picture emerges (see Figure 24). In two thirds of countries the share increased between 2004 and 2018. The respective share ranged between 12% in Greece and about 50% in Romania and Hungary. Again, only small changes occurred in the major net contributor countries: The share was stable in Germany (46% in 2018) and Italy (37% in 2018) but fell in France (43% in 2018). More pronounced trends were seen in the major net beneficiary countries: a decline in Poland (36% in 2018) and Greece (12%) but a strong increase (plus 23 percentage points) in Romania (49% in 2018).

Figure 24: Share of medium-high-tech goods exports in % of total intra-EU exports



Notes: Medium-high-technology defined as NACE rev.2 codes 20 (Manufacture of chemicals and chemical products) and 27-30 (Manufacture of electrical equipment; Manufacture of machinery and equipment n.e.c.; Manufacture of motor vehicles, trailers and semi-trailers; Manufacture of other transport equipment).

Source: Eurostat Comext.

3.3.1. Conclusions

Overall, trade integration with the EU strengthened after accession in all countries pointing to benefits of EU membership accruing to all member countries. However, gains from intra-EU trade differ considerably between countries. In addition, besides EU membership, intra-EU trade is influenced by a wide range of factors (collapse of communism and trade reorientation thereafter; industry specialisation and integration into value chains; geographical location, etc). Looking into more detail at the EU enlargement in 2004 and its effects a strong increase of intra-EU exports and imports occurred in the respective time period (1999-2008), with annual average growth rates of 7%. Both net contributor and net beneficiary countries experienced intra-EU trade growth, but it was much more pronounced for the net beneficiary countries. In addition, changes in the structure of trade were less marked in the three major net contributor countries as expected due to their longer integration history. More profound changes took place again for the major net beneficiary countries: the share of high-tech exports increased in two countries (Poland, Romania). In the case of intermediate goods and medium-high tech goods, however, only in Romania the shares increased strongly, while in Poland they declined. In Greece, the share of intermediate goods increased, while that of medium-high tech goods declined. This points to specific differences in the integration into value chains in the respective countries.

Key findings:

- A strong increase of intra-EU exports and imports occurred in the time period between 1999 and 2008, with annual average growth rates of 7%. However, besides EU membership, intra-EU trade is influenced by a wide range of factors. Both net contributors and net beneficiary countries experienced growth, however, it was much more pronounced for the latter countries. (Annual average export growth for Germany 7%, France 4%, Italy 5%, versus Poland 16%, Greece 7%, Romania 16%).
- Trade integration with the EU – measured as the share of intra-EU exports and imports in % of GDP – strengthened after accession in all countries (except Malta), with increases between 5 and 50 percentage points. Between 2004 and 2018, this rough indicator grew in the major net contributor countries Germany (7 pp) and Italy (4.5 pp), but not France (-0.4 pp); the increase was again more marked in the major beneficiary countries, Poland especially (+18 pp), Greece (+5.4 pp) and Romania (+3.6 pp). Finally, in 2018, this indicator stood at 44% in Germany, 29% in both France and Italy; and at 68% in Poland, 25% in Greece and 56% in Romania.
- Changes in the structure of trade (as measured by the share of intermediate, high-tech and medium-high tech goods in intra-EU trade) between 2004 and 2018 were less marked in the three major net contributor countries as expected due to their longer integration history. More profound changes took place for the major net beneficiary countries: the share of high-tech exports increased in two countries (Poland, Romania). In the case of intermediate goods and medium-high tech goods, however, only in Romania the share increased strongly, while in Poland it declined. In Greece, the share of intermediate goods increased, while that of medium-high tech goods declined. This points to specific differences in the integration into value chains in the respective countries.

3.4. THE EU'S NETWORK EFFECTS FOR TRADE AND INVESTMENT

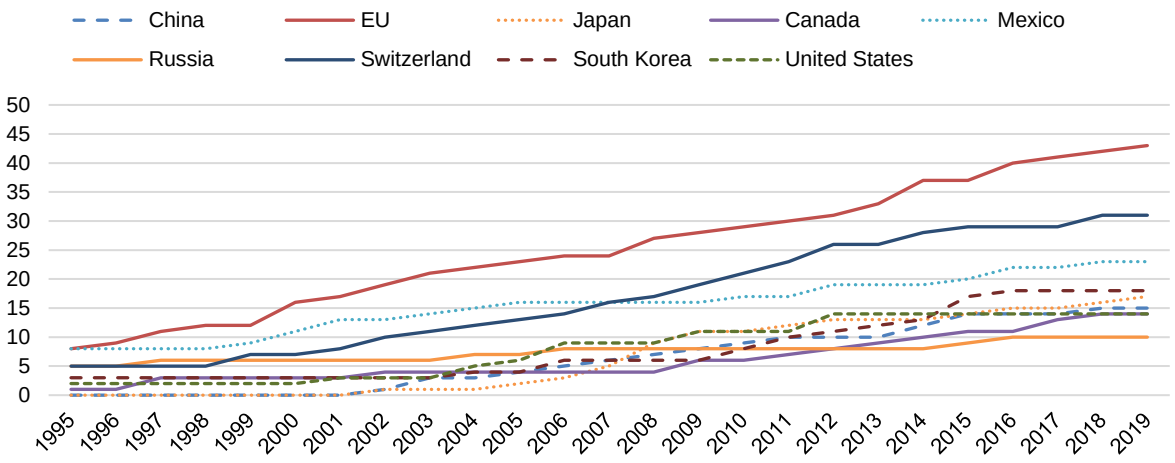
3.4.1. Introduction

Free trade agreements are a constant topic in international economics research. The contributions to the literature that try to estimate the effect of an FTA on bilateral trade flows are numerous.[22]

The EU is the most active player in the field of trade agreements. Not only has the EU expanded in terms of member states, it has also considerably extended the number of FTAs with non-EU countries. Figure 25 shows the development of FTAs that are in force over time for the EU and selected countries. With 43 FTAs, the EU is by far the leader in this comparison. Second comes Switzerland with 31 and Mexico has 23 agreements in place.

[22] See e.g. Baier and Bergstrand (2005), Larch et al. (2017) and Tingvall (2019) among others.

Figure 25: Number of Free Trade Agreements entering into force



Note: Data from the Regional Trade Agreements Database provided by the WTO. Year of entry into force.

Source: wiiw visualisation.

In a recent contribution, Tingvall (2019) takes stock and estimates the trade effects of EU enlargements and EU FTAs. He finds large positive and significant effects[23] of the EU enlargements on the trade flows between the member states. Similarly, FTAs of the EU with third countries had equally positive effects, though on a smaller magnitude: They find that EU membership more than doubles the trade flows between countries, while FTAs of the EU "only" increase the trade flows by about 40%.

In this chapter, we want to extend the findings of Tingvall (2019) in two ways:

- First, we use the structural gravity model to calculate the effects of the EU enlargements and EU FTAs on the countries' GDP.
- Secondly, we enrich the gravity estimation with a measure of the *position of a country in the network of FTAs*. To do this, we look at FTAs from a network perspective. This network perspective allows us to calculate and measure certain characteristics of the network that might influence the trade flows between countries. For example, Austria and Germany are *directly* connected through several EU treaties. But they also have signed FTAs (with non-EU countries, such as the EU-Korea or EU-Japan treaty) together. It is not unreasonable to think that the entering into force of an FTA (such as the EU-Korea agreement) not only increases the trade flows to the FTA counterpart (in this case South Korea) but also increases the trade flow between Austria and Germany through, e.g., increased intermediate input exports from Austria to Germany.[24] Thus the trade flows between Austria and Germany might not only depend on the treaties between them, but also on the wider network of FTAs that the two countries are part of.

[23] Only the accession of Greece did not result in a statistically significant increase of trade flows.

[24] Another explanation could be standards and economies of scale: A new FTA that includes provisions for standards might allow firms (which adhere to these standards) to use economies of scale and produce more. This could then lead to more exports of these firms to *all* countries that adhere to those standards.

- There are several possibilities to quantify the connection strength of two countries or the position of a country within the network of FTAs. In a forthcoming wiiw study, we study how the centrality position of a country within the network influences the trade flows with other countries, see Gruebler and Reiter (2019). In this contribution, we concentrate our attention on the *indirect FTA effect*, described further below.

Figure 26 displays the state of the FTA network in 2017. We show the EU member states only as one node to increase the readability of the graph. Additionally, since trade policy (in the case of the graph: trade agreements) is managed by the European Commission, all 28 countries would have the same links. Thus, it seems more fitting to include the EU member states as one country node. The size of the node is proportional to the number of outgoing links of that node and the colour of the node corresponds to the continent of the country. The thickness of the links is proportional to the depth of the trade agreements, as indicated by the DESTA database (described further below). We use the Force Atlas 2 algorithm[25] to calculate the positions of the nodes such that nodes that are strongly connected are placed closer to each other. It is remarkable to see that the algorithm (without knowing the geographical locations of the country nodes) can recreate an intuitive, almost geographical structure.

We see that the node of the EU is located in the centre of the graph, while clusters of countries are placed around it. Other European countries which are not part of the European Union are close to the node of the EU.

The members of the Commonwealth of Independent States (CIS) can be found in the upper part of the graph (Russia is assigned to the European continent). The CIS cluster is connected to other Eastern European economies like Ukraine, Moldova, Macedonia and Serbia. The rest of the Asian countries is roughly separated into two groups of countries: a group of Far East countries (in the upper right of the graph), containing South Korea, Singapore, India, China and others as well as a group of Middle East countries (placed on the lower right of the plot) such as Turkey, Jordan, Oman and others.

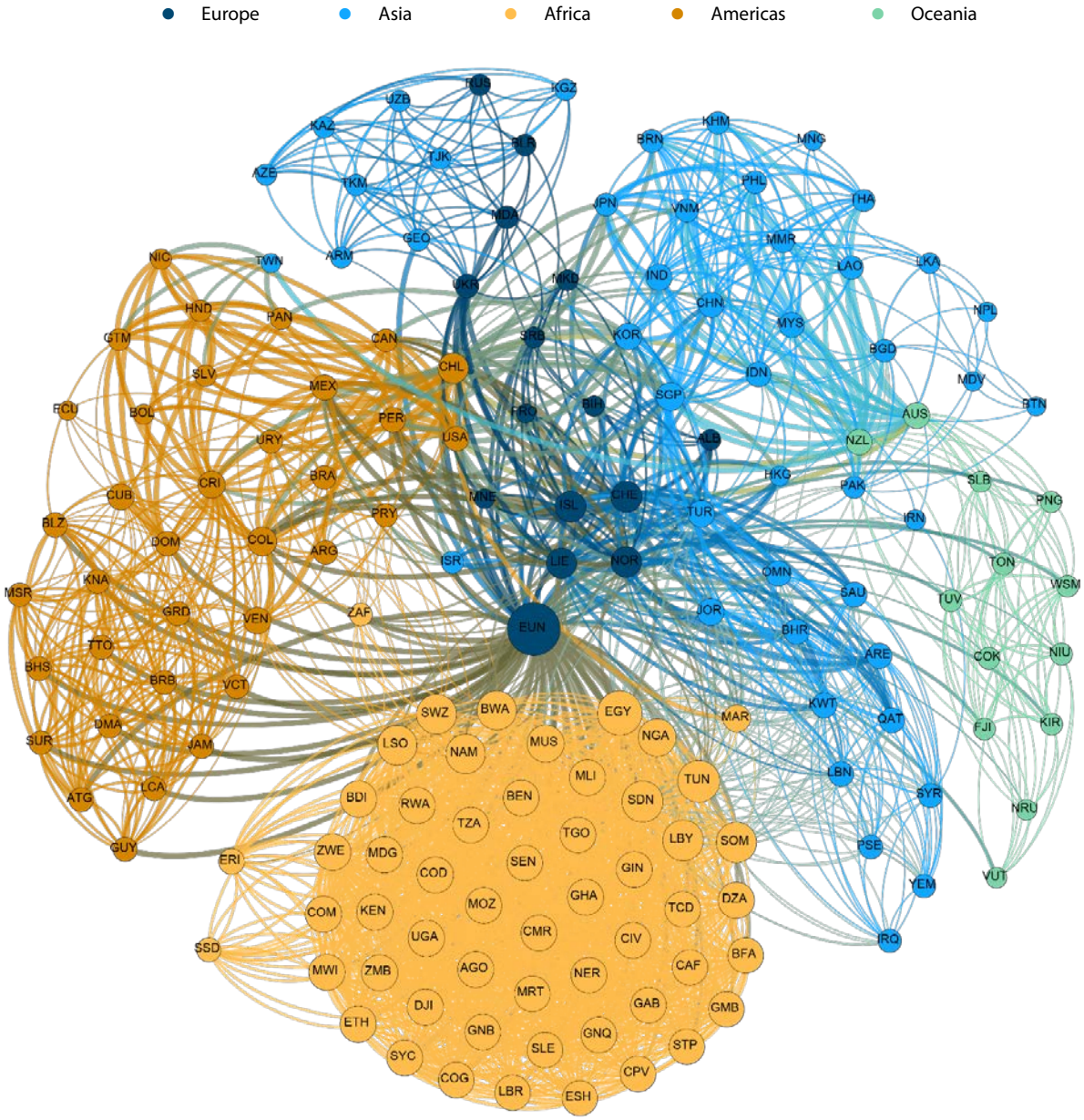
Oceanian countries (Australia, New Zealand and several other small island states) can be found on the right. Australia and New Zealand have connections with several Far East countries and are thus placed near them.

Countries of the Americas form a cluster on the left of the node of the European Union. Note that the United States are a relatively small node here, due to the low number of trade agreements it has. Other countries like Canada, Chile, Peru and Mexico, that have signed trade agreements with the EU as well as the EFTA countries, are pulled into the centre of the graph. Once the Mercosur treaty between the European Union and Argentina, Brazil, Paraguay and Uruguay has entered into force, the four South American countries will attain a more central position in the graph.

Finally, a dense cluster of tightly connected African countries can be seen in the lower part of the network graph. Since there is a large number of African countries, which are all connected to each other, they are placed very close to each other.

[25] See Jacomy et al. (2014)

Figure 26: Free Trade Network in 2017



Note: Data from Dür, Baccini, and Elsig (2014), DESTA Update 2019.

Source: Own calculations.

3.4.2. Data

We combine four data sources for this research:

- **Directory of trade statistics (DOTS):** The DOTS database is compiled by the IMF[26]. It contains bilateral goods trade flows for more than 200 countries over the timespan from 1948 to 2018. We choose this dataset because we strive for a long time coverage.
- **Design of Trade Agreements (DESTA) database:** Like DOTS, DESTA[27] covers the years from 1949 to 2017. DESTA collected and classified almost 600 free trade treaties that went into force in this time period. The methodology behind the database is explained in Dür, Baccini, and Elsig (2014). Each treaty indicates the participating countries, the year the treaty was signed and entered into force. Furthermore, DESTA collects information on whether substantial provisions in seven categories are made (tariff reductions, standards, investments, services, procurement, competition and intellectual property rights). We use the depth index that indicates how many of the seven categories an FTA fulfils. The whole database is converted to a panel dataset to be compatible with the other two dataset that we use.
- Additionally, the FTAs described in DESTA form the basis for the construction of the FTA network indicator: We view each country as a node and a treaty between countries as a link between those countries/nodes. The deeper the agreement (as indicated by the depth index), the bigger is the weight of the link. Every new FTA that enters into force creates new links in the network and changes the position of the country nodes. Based on this network, we can calculate and track properties of the nodes and links therein.
- *Indirect FTA indicator:* We propose to measure the connection of two countries through their indirect connections. For a given country pair, we look for the shortest path that connects them (excluding a direct link between them) and measure the depth of this shortest path. Since a shortest path might not be unique, we take account of the multiplicity of the shortest paths and use it as weight in our calculation. The result of this computation is a number (between 0 and infinity) that increases with the depth and the multiplicity of the shortest paths. It is a property of the connection between two countries.
  If a country signs a new FTA, a new link in the network is created. With every new link, a country becomes better integrated and the indirect FTA indicator with its trading partners rises. We hypothesise that countries which are connected through short and deep links are likely to be close trading partners and thus have increased trade flows. If the indirect FTA indicator shows a positive coefficient in the gravity regressions, our hypothesis is supported. For a more detailed account on the calculation of the indirect FTA indicator we refer the interested reader to Gruebler and Reiter (2020).
- **UNdata:** In accordance with the gravity literature, we use data on gross output by country to construct intranational trade flows[28]: Intranational flows are defined as gross output of a country in a given year minus the total exports. Yotov et al. (2016) argue that intranational trade flows are necessary for an unbiased, theory-complying econometric estimation. Data on gross output differs considerably by country. 157 countries report gross output data for at least some

[26] The DOTS database can be accessed at https://data.imf.org/?sk=9D6028D4-F14A-464C-A2F2-59B2CD424B85

[27] The DESTA data is available at https://www.designoftradeagreements.org/

[28] The UNdata can be accessed at http://data.un.org/

years. We restrict our data sample to the country-years for which we have information on intranational flows.

- **FDIMarkets:** In our gravity estimations, we do not only measure the effect of FTAs on trade flows, we also include FDI flows as the dependent variable. The FDIMarkets database contains FDI flows between 200 countries between the years 2003 and 2017.

As our data spans a long timeframe, we cannot include data on tariffs. Some countries report tariff data from 1995 onwards, but most countries begin later. Including tariff data would severely restrict the time coverage our data sample. By excluding tariffs from the gravity estimation, we cannot explicitly measure the effect from tariff reductions separately. Instead, an FTA dummy will subsume all trade facilitation effects that occur due to an FTA such as recognition of standards, abolishment of import quotas and also tariff reductions.

With these four data sources put together, we can estimate the effect of an FTA, its depth and the effect of common treaties using a gravity model as is standard in the trade policy literature. Furthermore, we follow the recommendations stated in Yotov et al. (2016) and use PPML estimation, include intranational flows, calculate robust standard errors and use importer-time, exporter-time and bilateral fixed effects in the estimation process.

3.4.3. Econometric results

Table 7 displays the result of the gravity estimation: We regress the dependent variable (bilateral goods trade in columns 1 to 3, and FDI flows in column 4) on a set of FTA variables. In our setting and research question, the EU enlargements are a specific form of FTA.

In column 1, we only consider the EU enlargements[29] and lump all other FTAs together in the variable 'Other FTAs'. We see that all EU enlargements had a positive effect on trade flows and all coefficients are significant at the 0.1% level. The coefficient of 0.86 for the EU 9 enlargement in 1973 is the highest among the six waves of Enlargements and is equal to a 138% increase in trade flows ($(\exp(0.86) - 1) \cdot 100 = 137{,}5\%$). The corresponding changes in trade flows are: EU 12: 118%, EU 15: 38%, EU 25: 95%, EU 27: 57% and EU 28: 13%.

In column 2, we additionally include FTAs that the EU signed with third countries. We can confirm that most FTAs increase the trade flows between the participating countries. The custom union with Switzerland increased trade flows by 24% while the treaty with Mexico had the largest impact among the considered FTAs and raised the bilateral trade by 50%. The treaties with Tunisia, Chile, Egypt, Algeria, South Korea, Columbia and Peru, Georgia and Moldova also show positive coefficients. The implied changes in trade flows lie between 14% (for Chile) and 40% (for Egypt). The treaty with Morocco shows a positive coefficient which is however only significant at the 5% level. For the treaties of the EU with Israel, South Africa, Jordan and Lebanon we find a negative coefficient though not always (for Jordan and Lebanon) on the highest level of significance.

[29] The only missing EU enlargement is the EU 10 enlargement in 1981 where Greece joined the EU. This is due to missing intranational trade flow data for Greece. Data for Greece is not available until 1995.

Table 7: Gravity regression results

	(1) Goods	(2) Goods	(3) Goods	(4) FDI
EU 9 Enlargement (1973)	0.86 (0.08)***	0.87 (0.08)***	0.83 (0.08)***	
EU 12 Enlargement (1986)	0.79 (0.03)***	0.79 (0.03)***	0.74 (0.03)***	
EU 15 Enlargement (1995)	0.35 (0.02)***	0.35 (0.02)***	0.30 (0.02)***	
EU 25 Enlargement (2004)	0.68 (0.02)***	0.68 (0.02)***	0.62 (0.02)***	0.46 (0.18)**
EU 27 Enlargement (2007)	0.45 (0.03)***	0.45 (0.03)***	0.38 (0.03)***	0.03 (0.17)
EU 28 Enlargement (2013)	0.12 (0.03)***	0.12 (0.03)***	0.11 (0.03)***	0.17 (0.44)
Other FTAs	0.51 (0.04)***	0.52 (0.05)***	0.50 (0.05)***	-0.00 (0.09)
CU: EU Switzerland (2002)		0.22 (0.03)***	0.22 (0.03)***	
EU Tunisia (1998)		0.24 (0.03)***	0.23 (0.03)***	
EU Israel (2000)		-0.12 (0.03)***	-0.15 (0.03)***	
EU South Africa (2000)		-0.36 (0.06)***	-0.36 (0.06)***	
EU Morocco (2000)		0.22 (0.10)*	0.22 (0.10)*	
EU Mexico (2000)		0.41 (0.04)***	0.40 (0.04)***	
EU Jordan (2002)		-0.19 (0.08)*	-0.20 (0.08)*	
EU Chile (2003)		0.13 (0.04)***	0.09 (0.04)*	
EU Egypt (2004)		0.34 (0.04)***	0.31 (0.04)***	-0.46 (0.72)
EU Algeria (2005)		0.24 (0.05)***	0.22 (0.05)***	0.87 (0.97)
EU Lebanon (2006)		-0.18 (0.07)*	-0.19 (0.07)**	

	(1) Goods	(2) Goods	(3) Goods	(4) FDI
EU South Korea (2011)		0.20 (0.03)***	0.12 (0.03)***	
EU Columbia/Peru (2013)		0.18 (0.04)***	0.07 (0.04)	0.11 (0.30)
EU Georgia (2014)		0.26 (0.06)***	0.06 (0.07)	0.33 (0.47)
EU Moldavia (2016)		0.28 (0.08)***	0.08 (0.08)	0.74 (1.19)
Indirect FTA			0.09 (0.01)***	0.04 (0.07)
Observations	376076	376076	376076	34495
Nr Exporter-Time FE	3889	3889	3889	1650
Nr Importer-Time FE	3889	3889	3889	2633
Nr Bilateral FE	20210	20210	20210	6542

Note: $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$

In column 3 we additionally include the indirect FTA indicator that we calculated from the network of FTAs. We see that the coefficients for the EU Enlargements and FTAs are a bit lower in specification 3 compared to specification 2. This means that the indirect FTA indicator can explain some of the positive effects of FTAs: In specification 2, the FTAs dummies capture the entirety of the positive effect that occurs when an FTA enters into force. This FTA effect is then split into two parts in specification 3: into a (direct) FTA effect and into a network effect (as captured by the indirect FTA indicator). The FTA effect is still the dominant factor, but the positive and significant value of the indirect FTA indicator tells us that trade agreement network of a country is also an important determinant of trade flows.

The coefficient of 0.09 must be interpreted in conjunction with the scale of the variable: For example, between the 28 EU member states in 2018, the value for the indirect FTA indicator is 1.18. This means that trade between the EU member states in 2018 is 11% higher ($(\exp(0.09 \cdot 1.18) - 1) \cdot 100 = 10.8\%$) due to the strong connection between them, measured by the indirect FTA indicator. If the EU countries had not signed so many FTAs, they would not be that well integrated in the free trade network. The (direct) FTA effect of being an EU member would still persist, but the indirect FTA indicator would reflect this lower integration through a lower or even zero value and trade flows between the EU member states would be lower.

The trade connection between an EU MS say Germany, and Mexico is lower, the indirect FTA indicator shows a value of 0.44. Doing the same calculation as above, this results in 4% higher trade flows. As the

USA and the EU have not signed a bilateral FTA, the value of the indirect FTA indicator is 0, meaning that there are no network integration effects between the two regions.

In column 4, we then have a look at how FDI flows reacted to the coming into force of EU enlargements and FTAs. Due to the shorter time horizon and smaller country sample, we cannot include the same list of FTAs as we did with the specifications in columns 2 and 3. We find the expected positive coefficients for all variables except for the EU Egypt FTA and the collection of other FTAs. The EU 25 enlargement in 2004 increased the FDI flows between the old and the new member states by 56% in the subsequent years.

3.4.4. Counterfactual scenarios

Additional to the effects on bilateral trade flows, we are interested in the effects of trade policy on the GDP of the participating countries. To do this, we make use of the structural gravity model as described in Yotov et al. (2016) and Anderson, Larch, and Yotov (2015). This model allows us to translate the regression coefficients from Table 8 above into GDP effects. We use the regression coefficients from specification 3 as the basis for this computation.

For every FTA we define a counterfactual scenario where this FTA has *not* entered into force. In the context of the structural gravity model, this can be simply done by setting the corresponding FTA dummy variable to 0.[30] With the counterfactual FTA dummy we can then calculate counterfactual trade costs, bilateral trade flows and national GDPs. The difference in GDP between the real and counterfactual state can us then give an indication what the GDP of a country would be, *had the FTA not entered into force*. This also means that the difference in GDPs has to be seen as a one-time effect, and not as, e.g., a yearly growth difference.

The first column in Table 8, titled "EU 9 enlargement", contains the estimated GDP percentage changes of the EU 9 enlargement on a number of countries. It is important to note that the list of countries for which we report the GDP changes depends on the data availability. That means that we cannot report GDP effects for Ireland (because we have no data on intranational flows for Ireland prior to 1995) even though it would be one of the countries that joined in the EU 9 enlargement. Looking at column 1 we can observe that Denmark and Great Britain (two of the countries that joined in 1973, together with Ireland) experienced the biggest effects on GDP: 0.8% and 0.4% respectively. The Netherlands and Italy also profit from the then new member states with 0.2% and 0.1%. The GDP effects for both France and Germany are just below 0.1%. For Austria, as a non-EU country back then, we calculate a small decline in GDP which is due to trade diversion: This is when e.g. German firms substitute some of their imports from Austria with imports from the new Member State, due to those imports becoming cheaper.

Going over the six EU enlargements, we see that the "new" Members of an EU enlargement always profited more than the "old" MS, which is very reasonable: The new Members always gained access to the big EU common market, while the common market "only" expanded by a bit for the old member states.

[30] Since we additionally include the indirect FTA indicator (which depends on the FTAs that are put into force), we have to calculate a counterfactual value of the indirect FTA indicator as well.

The biggest gains in terms of GDP can be found in the Eastern enlargement in 2004: The Czech Republic, Estonia, Hungary, Lithuania, Slovakia and Slovenia all saw their GDPs rise by around 2% or more. The GDPs of Latvia, Malta and Poland increased by 1.1 to 1.4% due to them becoming EU members. Only Cyprus gained a meagre 0.23%, even being surpassed by Austria (then already an "old" member country) with a GDP increase of 0.25%.

Taking all Enlargements together, the GDP increases for France and Italy sum up to 0.24% and 0.25% respectively. Germany, which benefitted more from Eastern Enlargement than France and Italy, comes to 0.38%. For the Netherlands, being a small, export-oriented country, we calculate a cumulative GDP effect from all EU Enlargements of 0.51%.

Table 8: Structural gravity model, Gross Domestic Product effects (in %) of EU enlargements

Country	EU 9 Enlargement	EU 12 Enlargement	EU 15 Enlargement	EU 25 Enlargement	EU 27 Enlargement	EU 28 Enlargement
AUT	-0.007	-0.003	0.624	0.253	0.023	0.003
BEL				0.14	0.021	-0.001
BGR			-0.003	-0.019	0.881	0.001
CYP		0	0.001	0.234	0.008	0.006
CZE			-0.005	2.209	0.02	0.001
DEU	0.095	0.05	0.054	0.161	0.015	0.001
DNK	0.824	0.032	0.12	0.114	0.025	0.018
ESP		0.658	0.013	0.035	0.006	0.001
EST			-0.014	2.145	0.007	0
FIN		-0.002	0.412	0.095	0.004	0
FRA	0.093	0.071	0.014	0.051	0.013	0.002
GBR	0.444	0.035	0.019	0.032	0.004	0
GRC			0.009	0.039	0.026	0
HRV			-0.005	-0.035	0.008	0.265

Country	EU 9 Enlargement	EU 12 Enlargement	EU 15 Enlargement	EU 25 Enlargement	EU 27 Enlargement	EU 28 Enlargement
HUN		-0.003	-0.005	2.13	0.088	0.006
IRL			0.027	0.046	0.007	0
ITA	0.106	0.052	0.019	0.057	0.016	0.002
LTU			-0.004	1.866	0.006	0
LUX				0.05	0.006	0
LVA			-0.005	1.397	0.003	0
MLT			-0.003	1.139	0.01	0.001
NLD	0.24	0.072	0.057	0.125	0.016	0.001
POL			-0.002	1.286	0.013	0
PRT		1.03	0.016	0.033	0.008	0.002
ROU			-0.003	-0.023	0.709	0
SVK			-0.005	2.324	0.013	0.001
SVN			-0.008	2.245	0.035	0.045
SWE			0.442	0.095	0.008	0.003

Table 9 summarizes the GDP effects for the EU member states and the partners of the FTAs. For brevity, the GDP effects for the EU member states have been aggregated to the EU, using national GDPs as weights.

We see that the gains in terms of GDP for the EU are typically smaller than the gains for the partner country. This comes as no surprise, since there is more potential for exports to the big EU single market than to smaller markets of the trading partners. The biggest effects can be found for the agreements with the two Northern African countries Algeria (0.47%) and Tunisia (0.6%). The customs union treaty with Switzerland (0.46%) had an equally strong effect.

In conclusion, the main findings of this chapter are:

- There are large and significant effects of the EU Enlargements on bilateral trade flows.

- FTAs with non-EU countries also have a positive effect on trade, though not as large as the EU Enlargements.
- Our developed network measure shows that being well-integrated pays off and results in higher trade flows.
- Counterfactual GDP effects from joining the EU are always positive, especially for the new Members.

Table 9: Structural gravity model, Gross Domestic Product effects of Free Trade Agreements

Scenario			
	European Union	Switzerland	
CU: EU Switzerland (2002)	0,013	0,461	
	European Union	Tunisia	
EU Tunisia (1998)	0,001	0,608	
	European Union	Israel	
EU Israel (2000)	-0,002	-0,127	
	European Union	South Africa	
EU South Africa (2000)	-0,003	-0,189	
	European Union	Morocco	
EU Morocco (2000)	0,001	0,356	
	European Union	Mexico	
EU Mexico (2000)	0,005	0,06	
	European Union	Jordan	
EU Jordan (2002)	0	-0,118	
	European Union	Chile	

Scenario			
EU Chile (2003)	0	0,059	
	European Union	Egypt	
EU Egypt (2004)	0,001	0,17	
	European Union	Algeria	
EU Algeria (2005)	0,002	0,478	
	European Union	Lebanon	
EU Lebanon (2006)	0	-0,091	
	European Union	South Korea	
EU South Korea (2011)	0,003	0,043	
	European Union	Columbia	Peru
EU Columbia/Peru (2013)	0,001	0,016	0,018
	European Union	Georgia	
EU Georgia (2014)	0	0,043	
	European Union	Moldavia	
EU Moldavia (2016)	0	0,173	

4. APPROACHES TO OVERCOME THE NET POSITION VIEW

KEY FINDINGS

- Net positions as dominating indicator for member states' individual benefits from the EU budget and EU membership could be replaced by additional indicators to overcome the net position view.
- Augmented net positions could account for the cost savings at MS level through the provision of European public goods.
- An alternative indicator for the benefits of EU integration shows that integration is not a zero-sum game for EU economies, but additional value is created by the international division of labour with a bigger market for all Member states.
- Increasing the EU added value provided by EU expenditures would contribute to alleviate member states' net position thinking.
- Substituting a substantial share of national contributions to the EU budget by innovative own resources may loosen the link between payments into the EU budget and transfers received out of it.
- Reforms in the rebate system may help to mitigate the net position thinking.
- Legitimacy among the populations in both the net contributor as well as the net beneficiary countries needs to be strengthened.

Several approaches have been discussed in the literature that may help to overcome the net position view. These approaches can be classified in two groups[31]. First, net positions as currently dominating indicator for MS to evaluate their individual benefit from the EU budget and EU membership could be complemented by additional indicators providing a more comprehensive and multi-faceted picture of the overall benefits resulting for MS from EU membership and the EU budget. Second, there are several reform options within the EU budget, addressing various structural features of the EU budget, that could help to overcome the net position view and support a debate that is less focused on national interests, but rather on the common interest of the EU altogether.

4.1. ALTERNATIVE INDICATORS

In face of the deficiencies of net positions as indicators for the benefits individual MS receive from EU membership in general and the EU budget in particular, additional indicators are needed to obtain a more comprehensive picture of the overall benefits provided by EU membership and the EU budget. Benedetto/Heinemann/Zuleeg (2020) suggest the estimation of augmented net balances to account for cost savings at MS level through the provision of European public goods. The augmented net balance would be calculated as follows:

$$\text{Augmented net balance of MSi} = \text{direct backflows into MSi} + \text{equivalent MS expenditure} - \text{MSi's own resource payments}$$

where equivalent MS expenditure means the expenditures that would be necessary at MS level to provide the equivalent amount of the public good currently provided through the EU budget, would

[31] See for a similar classification Benedetto/Heinemann/Zuleeg (2020).

there be no EU intervention. This indicator would therefore capture at least part of the benefits provided by the EU budget which are not included in net balances. The authors themselves point out the shortcomings of such an indicator: These augmented net balances would not include cross-border spill-overs from EU spending; they would have to rely on estimates to a considerable degree; and there would be a credibility problem if EU institutions – which have a self-interest in demonstrating as large as possible benefits of EU actions – would provide these augmented indicators.

A wider perspective would be captured by indicators reflecting the benefits derived by MS from EU membership (see case study 3).

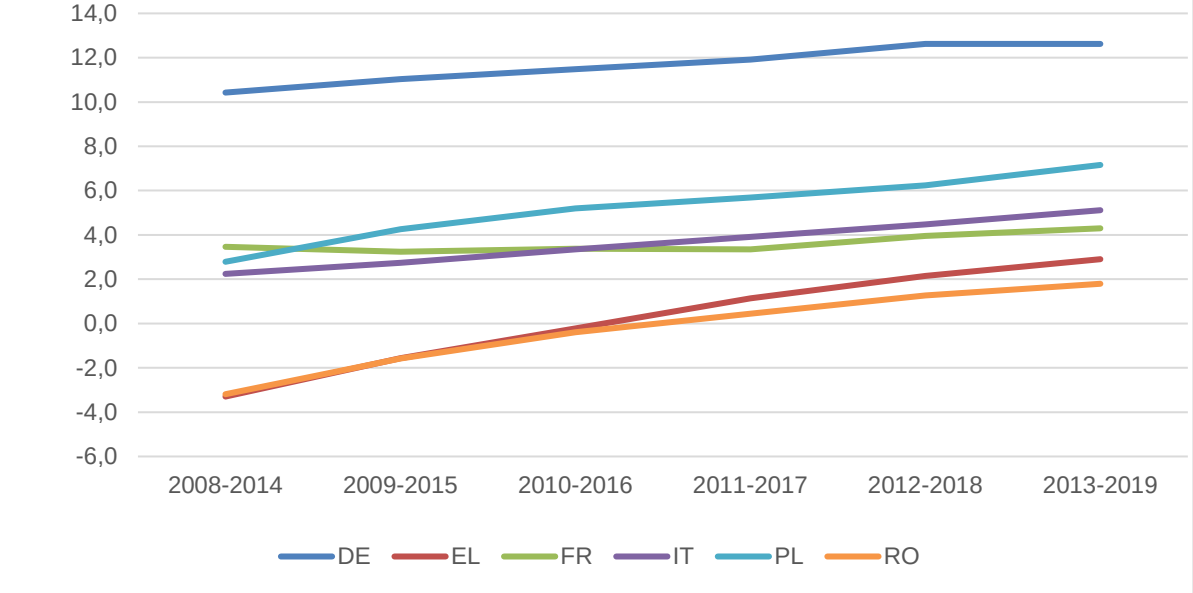
Case Study 3: An alternative indicator of the benefits of EU integration

Following the above analysis, we want to conclude with suggesting an alternative indicator of the benefits of (EU) integration, which should replace or at least complement the indicator of the net contributions to the EU budget with all its limitations mentioned before. Based on the single sections of this report we suggest to amend the i) net transfer figures as measured in % of GDP with the following additional sub-indicators: ii) the trade balance of goods and services in % of GDP; iii) the FDI inflows (officially termed as liabilities) in % of GDP; iv) the FDI outflows (officially termed as assets) in % of GDP; and the v) repatriated FDI income inflows in % of GDP. From this sum we subtract vi) the repatriated FDI income outflows in % of GDP. All the additional data stems from the EU countries' balance of payments statistics, as provided by Eurostat. We deliberately use the balance of payments statistics vis a vis the world (instead of restricting to intra-EU data) in order to capture the total effects of integration, including the important network effects, which surpass the EU borders.

The reasoning for the inclusion of the additional sub-indicators follows from the above sections of this study. Having a positive balance of goods and services trade allows economies suffering from unemployment to expand their productive capacities in the process of global division of labour. As has been shown before, the EU is a strong advocate and supporter of the generation of trade surplus with the help of its trade (and indirectly also with its take on macroeconomic) policy. Both, the inflow as well as the outflow of FDI can generate important advantages for the home and host countries. In the one case it is via the incoming flow of capital and technological knowledge and in the other case it is the basis of specialisation in higher value-added segments of production and future streams of profit inflows. Consequently, the inflow of repatriated FDI income is a welcome profit revenue, while the outflow of repatriated FDI income can be seen as an undesirable but necessary repayment of earlier capital influx and is therefore subtracted from the above sub-indicators sum[32] and thus enters the equation with a negative sign. Generally, the EU supports the free flow of FDI within and across the EU borders.

[32] As a caveat, it has to be mentioned that the single elements of the suggested indicator are not necessarily additive. Nevertheless, for the purpose of simplification and the construction of a general indicator they are being summed up as described.

Figure 27: Benefits of integration for major EU net contributors and beneficiaries, in % of Gross Domestic Product



Source: EC, Eurostat, own calculations.

We construct the indicator for the years where data is available for all countries (i.e. since 2008) and take seven year averages, following the time period of an EU's Multiannual Financial Framework and in order to smooth out the data as some of the sub-indicators of the balance of payments tend to fluctuate quite strongly from year to year, at least for some of the countries. For some of the data we need to make imputations for the year 2019 based on historical growth.

The aggregate result of this exercise for the major net contributor and net beneficiary countries can be seen in Figure 27. The results for all the EU economies can be obtained from Table 10. It becomes obvious, that peripheral economies, such as Romania and Greece have less opportunities to gain from integration and have annual gains according to our alternative indicator of only around 2-3% of GDP in recent years. At the same time, France and Italy can enter about 4-5% of GDP of annual gains from integration. Clearly, the more centrally located economies of Germany (13%) and Poland (7%) have the highest gains from integration. It is interesting to note that all of these countries have registered increasing trends since the outbreak of the global financial crisis, which used to be a drag on both, trade and capital flows. It is fair to assume that the years following the outbreak of the latest coronavirus crisis will again be marked by declining integration gains.

Table 10: Benefits of integration in EU countries 2008-2019, in % of Gross Domestic Product

	2008-2014	2009-2015	2010-2016	2011-2017	2012-2018	2013-2019
AT	7.6	6.1	3.1	5.2	3.6	3.7
BE	28.9	16.7	16.8	9.3	-1.4	-4.5
BG	0.5	2.0	3.8	4.9	5.4	6.5
CY	341.1	383.7	326.4	317.2	275.4	212.7
CZ	6.2	6.5	7.4	8.4	9.3	9.6
DE	10.4	11.0	11.5	11.9	12.6	12.6
DK	8.4	8.8	10.0	11.0	9.9	11.1
EE	16.7	14.8	12.8	10.7	10.7	11.2
EL	-3.3	-1.6	-0.2	1.1	2.2	2.9
ES	5.9	6.6	8.2	8.8	9.2	9.5
FI	4.8	2.8	4.5	4.5	4.4	4.7
FR	3.5	3.2	3.4	3.3	4.0	4.3
HR	0.3	0.4	0.3	0.1	0.5	0.8
HU	18.0	4.6	22.4	25.8	10.5	9.1
IE	49.2	68.7	72.0	72.7	78.0	64.5
IT	2.2	2.7	3.4	3.9	4.5	5.1
LT	3.7	4.9	5.4	5.8	6.1	6.8
LU	1127.2	1473.9	1404.2	1365.6	937.2	533.8
LV	0.6	2.2	3.1	3.4	2.9	3.0
MT	-62.0	-109.8	-103.1	-122.5	-120.7	-105.8
NL	70.6	77.7	83.7	83.0	63.8	57.2
PL	2.8	4.3	5.2	5.7	6.2	7.2
PT	3.9	4.4	5.7	7.4	7.0	5.7
RO	-3.2	-1.6	-0.4	0.4	1.3	1.8
SE	10.7	8.9	8.0	8.8	8.2	9.0
SI	3.8	5.5	7.0	8.3	9.6	11.0
SK	3.5	4.4	5.8	6.3	5.8	5.6
UK	4.0	1.0	3.1	3.8	3.7	3.7

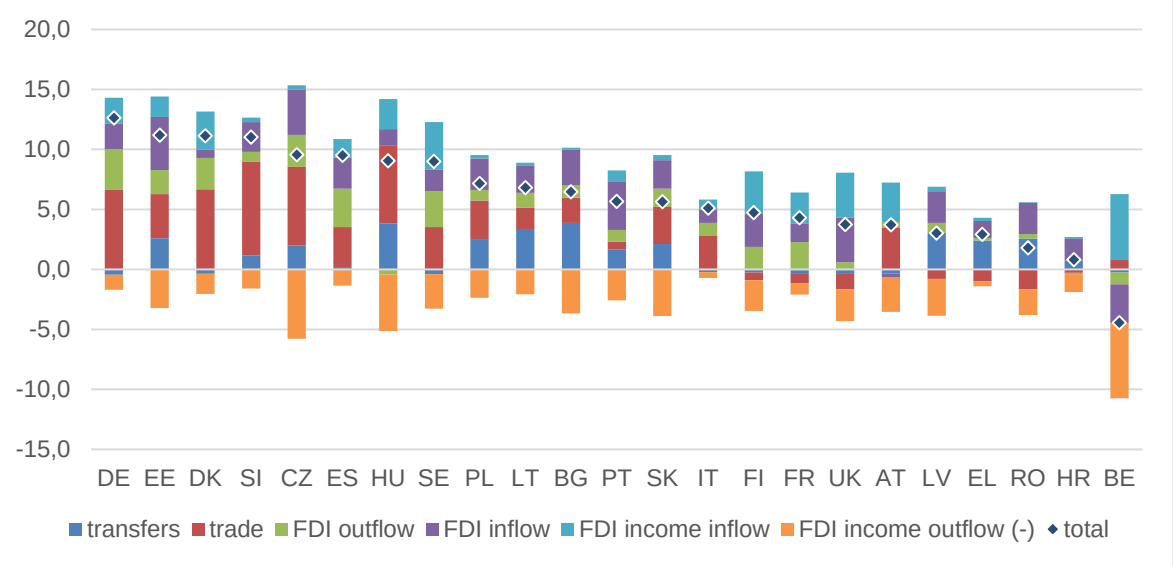
Note: Green labelling represents large gains from integration, red labelling represents negative of very low gains from integration. The indicator is constructed as the sum of: i) EU net transfers in % of Gross Domestic Product (GDP); ii) trade balance of goods and services in % of GDP; iii) Foreign Direct Investment inflows ('liabilities') in % of GDP; iv) Foreign Direct Investment outflows ('assets') in % of GDP; v) repatriated Foreign Direct Investment income inflows in % of GDP. From this sum we subtract: vi) repatriated Foreign Direct Investment income outflows in % of GDP.

Source: EC, Eurostat, own calculations.

Gains from integration across EU MS are of rather diverse size. The divisions (centre vs. periphery) and dynamics (crisis vs recovery) described in Figure 27 can be roughly applied also to the other EU MS as depicted in Table 10. However, there is an additional group of countries that shows particularly large values, both positive and negative, and these are countries that are widely seen as tax havens, where capital flows are not necessarily related to the domestic real economy but predominantly to financial transactions, often stemming originally from other countries. These include Cyprus, the Netherlands, Ireland, Luxembourg and Malta (and to a certain extent also Belgium and Hungary in some years).

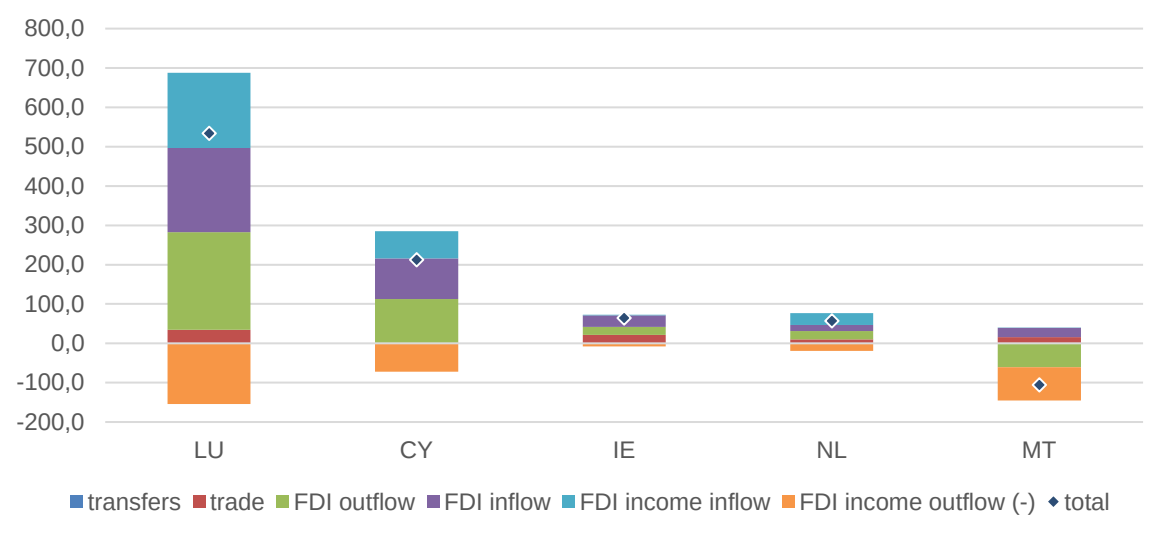
This is the reason why we exclude from Figure 28 these economies in order to have a scale that allows for a proper comparison of the latest data of the indictor and its sub-indicators. The same is done for the tax haven countries in Figure 29. Almost all the EU economies register positive aggregate figures. The annual gains from integration are rather small, particularly in some of the peripheral EU MS in Southeast Europe. There, EU transfers and FDI inflows are the most important sources of gains from integration, while net trade and FDI income outflows weigh negatively. This is very different from some of the more centrally located EU economies, where it is particularly the surplus in goods and services trade that has the biggest impact on the gains from integration which are at around 10% of GDP annually. For economies in the upper segment of the overall indicator, FDI outflows and FDI income inflows contribute significantly to their gains of integration, as well.

Figure 28: Benefits of integration for selected EU member states, 2013-2019, in % of Gross Domestic Product



Source: EC, Eurostat, own calculations.

Figure 29: Benefits of integration for EU tax havens, 2013-2019, in % of Gross Domestic Product



Source: EC, Eurostat, own calculations.

Overall, and neglecting the tax haven countries of Figure 29, average annual gains from integration in EU economies are at about 6% of GDP in recent years. This is particularly due to strong average trade surpluses (2.4%) as well as FDI inflows (2.1%), reduced quite significantly by FDI income outflows (2.6%). Average EU net transfers (1.3%) as well as FDI outflows (1.3%) and FDI income inflows (1.7%) are of smaller importance. However, the above exercise shows that contrary to the net contributions to the EU budget, integration is not a zero-sum game for EU economies, but additional value is created by the international division of labour with a bigger market for all MS.

4.2. REFORM APPROACHES TO OVERCOME THE NET POSITION THINKING

4.2.1. Increasing the EU added value provided by EU expenditures

Increasing the EU added value provided by EU expenditures would contribute to alleviate MS' net position thinking. The higher the share of expenditures dedicated to European public goods characterised by cross-border benefits and/or providing efficiency gains compared to national provision, the less meaningless the concept of net positions is getting, as benefits from these public goods accrue to the EU as a whole and thus to all MS together. However, as Benedetto/Heinemann/Zuleeg (2020) point out, decisionmakers at the national level have little incentives to support such European public goods, as these are less salient than EU expenditures visible in their countries or regions, as in particular transfers from agricultural and cohesion funds. Moreover, the benefits derived from European public goods are often hard to quantify. Therefore, a shift towards European public goods needs to be accompanied by information campaigns about their added value, based on adequate indicators to capture it (Benedetto/Heinemann/Zuleeg 2020).

4.2.2. Reforms in the EU system of own resources

Substituting a substantial share of national contributions to the EU budget by innovative (tax-based) own resources may loosen the link between payments into the EU budget on the one hand and transfers received out of it on the other hand. This should at least be true for "true" own resources

generating revenues that cannot be (fully) attributed to individual MS due to cross-border spill-overs, as for example revenues from a border carbon adjustment for the EU Emission Trading System or aviation taxes (Schratzenstaller and Krenek 2019) or from a share in a CCCTB. Such revenues generated by policies pursued and implemented based on EU-wide coordination (i.e. the harmonisation of corporate income taxation or the coordinated introduction of taxes that cannot be implemented effectively at the national level) can be seen as "true" own resources. Replacing a part of national contributions by true own resources would make calculations of net positions meaningless. In addition, introducing the above suggested own resources (which would be possible without Treaty Changes, see Schratzenstaller and Krenek 2019) would address important challenges at EU level, as climate change or securing an adequate tax contribution by multinational companies. Of course, as Benedetto/Heinemann/Zuleeg (2020) stress, innovative own resources, even if they could not be reapportioned to individual MS, would not remove the fundamental problem already mentioned that national policymakers prefer spending visible in their individual MS compared to less salient spending on European public goods. However, this is not an argument against innovative own resources but rather calls for additional reforms.

Case Study 4: Partially replacing national contributions to the EU budget by innovative (tax-based) own resources

The discussion on innovative own resources partially replacing national contributions to the EU is not new (Schratzenstaller et al. 2017). The EC' proposal for the next MFF includes several innovative own resources: a plastic-based contribution, a share of 20% of revenues from auctioning emission certificates, and a CCCTB-based own resource. In the current discussion how to fund the COVID-19 European Recovery Fund, potential (tax-based) own resources like revenues from a border carbon adjustment mechanism (as also suggested in the European Green Deal), from ETS emission certificates or a digital tax play an important role.

The Horizon2020 EU project "FairTax"[33] explored several options for innovative own resources (table 11). The less their revenues are attributable to individual MS due to cross-border aspects and the larger the share of national contributions they would replace, the less meaningful net operating balances would be. Moreover, all these options could contribute to some degree to fair and sustainable taxation in the EU. Several of them may particularly support the implementation of the European Green Deal as "green own resources": a carbon-based flight ticket tax (or aviation taxes in general), a border carbon adjustment for the EU Emission Trading System, or a surcharge on national fuel taxes. Within a supra-national tax shift innovative own resources could replace national contributions; which could create additional fiscal space for MS urgently needed in the aftermath of the current COVID-19 crisis. They could also serve to finance common EU-wide recovery measures after having overcome the acute crisis or to fund a larger EU budget.

[33] See Gunnarsson/Nerudová/Schratzenstaller (2019).

Table 11: Options for tax-based own resources and potential tax revenues

Study	Potential tax-based own resource	Reference year	Member States involved	Details	Potential revenues, billion €	Potential revenues, % of EU budget 2021
Krenek/ Schratzenstaller (2017A)	carbon-based flight ticket tax	2014	EU28	carbon price 25 € to 35 € per tonne CO_2 emissions	4 to 5	2 to 3
Krenek/ Sommer/ Schratzenstaller (2020)	border carbon adjustment for the EU Emission Trading System	2021	EU28	carbon price 54 € per tonne carbon emissions embodied in imports	9 to 65	5 to 39
Nerudová/ Dobranschi/ Solilová/ Schratzenstaller (2018)	surcharge on national fuel tax	2014	EU28	0.03 € to 0.20 € per liter fuel	13 to 86	8 to 51
Krenek/ Schratzenstaller (2017B)	net wealth tax	2014	EU20 (member states for which HFCS data are available)	1% on household net wealth above € 1 million; 1.5% on household net wealth above € 1.5 million	156	93
Nerudová/ Schratzenstaller/ Solilová (2017)	financial transactions tax	2016	EU10 ("Coalition of the Willing")	0.1% on equity; 0.01% on derivatives	4 to 33	2 to 20
Nerudová/ Solilová (2019)	CCCTB-based own resource	2014	EU28	1% of CCCTB	8	5

Source: Schratzenstaller and Krenek (2019), table 2 (slightly modified).

4.2.3. Reforms in the rebate system

The rebate system – particularly the rebate granted to the United Kingdom, but also the rebates for other net contributing countries – has been the object of longstanding intense criticism (see, e.g., HLGOR 2016, Schratzenstaller et al. 2016). In its final report, the HLGOR (2016) argued for using the opportunity of Brexit to completely abolish all rebates. Accordingly, the European Commission's proposal for the MFF 2021 to 2027 foresees the gradual phasing out of all rebates until the end of the next MFF period. In contrast, Heinemann (2019) suggests the introduction of a general correction mechanism limiting net positions to a pre-defined critical threshold by granting rebates with regard to national contributions. To this behalf MS could agree on a "solidarity formula" determining MS' desirable net positions as function of their per capita incomes. The author expects that such an "ex

ante" decision would divert MS' focus away from individual net positions towards European added value created by the EU budget.

4.2.4. Strengthening the legitimacy of EU spending

Eurobarometer surveys show that there is a correlation between public opinion on the EU budget in EU member states and the net positions of respondents' countries of origin. Since 2005, every few years the standard Eurobarometer waves include questions on the EU budget; therefore, opinion survey results are available for the years 2005, 2011, 2015, and 2018. Thus, it is possible to capture public opinion on the EU budget in a longitudinal perspective for the last almost 15 years, starting with the latest large enlargement rounds.

The questions that are posed regard the size and the structure of the EU budget. Concretely, the questions are formulated as follows:

1. "With which of the following statements do you most agree? 'The EU should have greater financial means given its political objectives' or 'The EU's financial means match its political objectives'."
2. "And on which of the following would you like the EU budget to be spent? Firstly? Any others?"

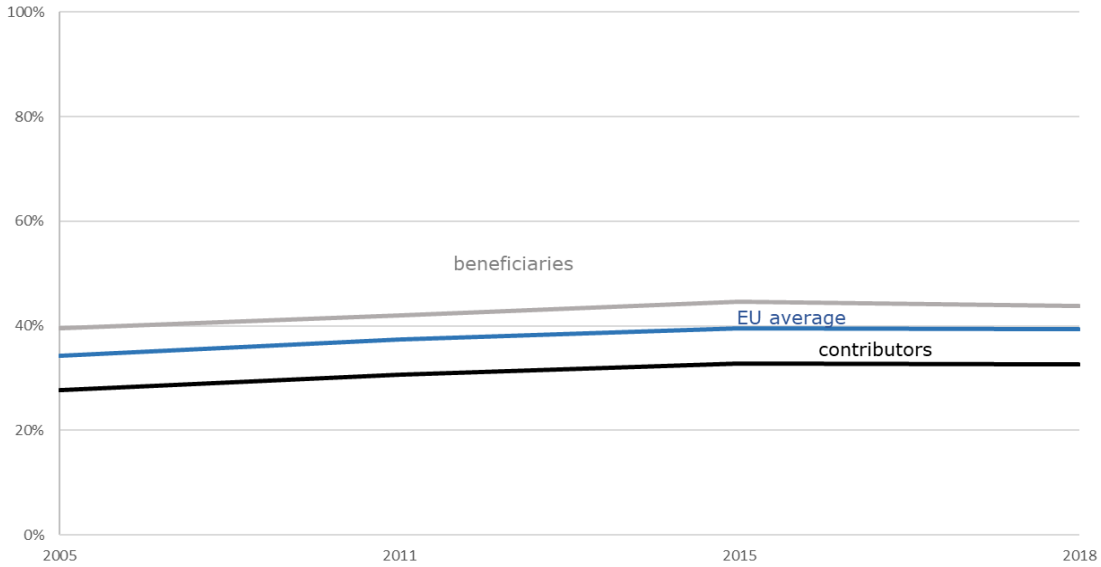
In 2011 and 2015, there were also questions on the perceived public value of the EU budget. The exact wording was as follows:
"Generally speaking, thinking about the EU budget, would you say that…

1. … it gives good value for money for EU citizens?"
2. … it gives poor value for money for EU citizens?"

Size of the EU budget

The first remarkable finding is that in the period covered by Eurobarometer surveys on public opinion on the EU budget, support for larger financial means has increased on EU average, from 32% in 2005 to 42% in 2018 (Figure 30).

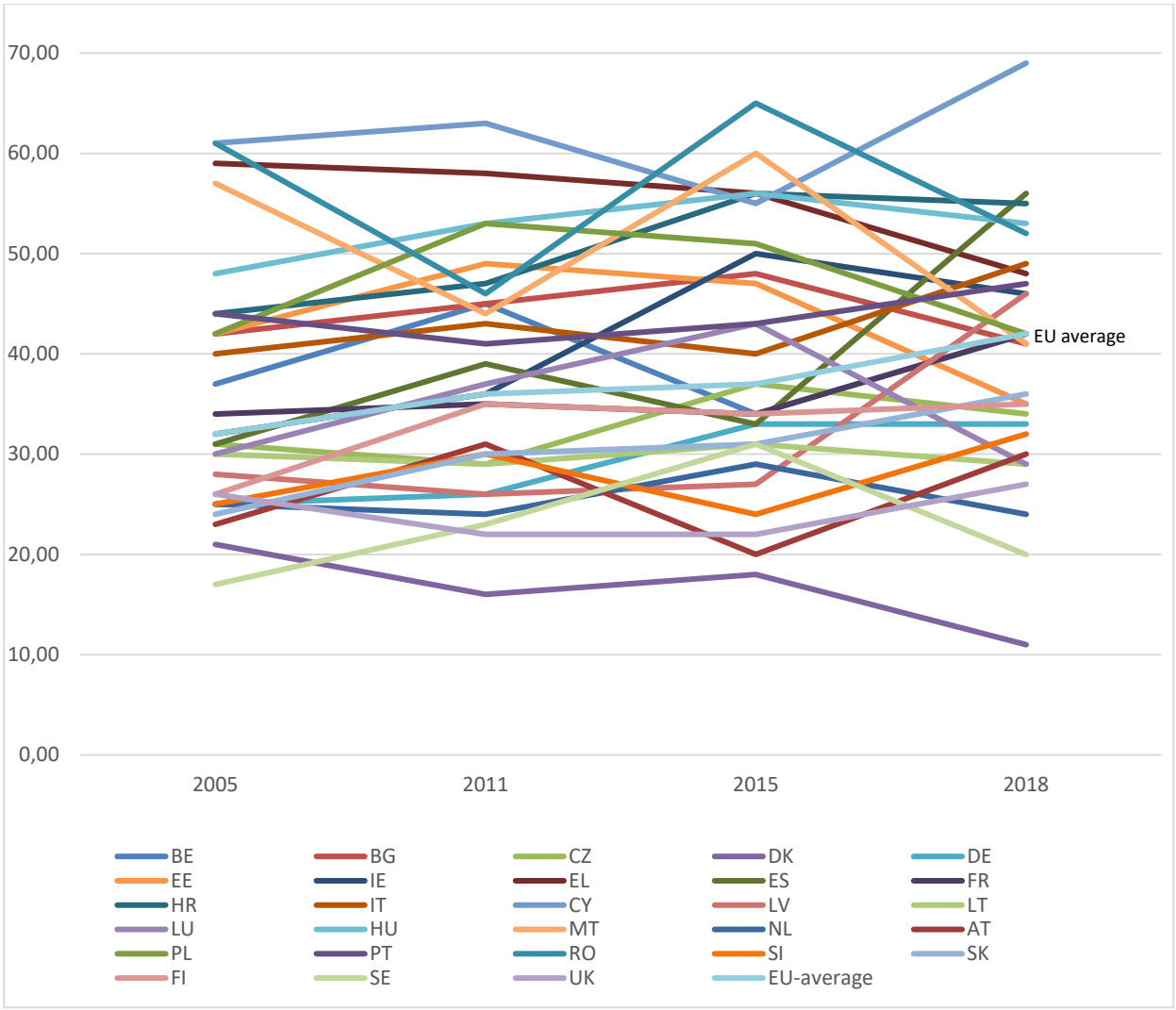
Figure 30: Support for greater financial means, by group



Source: Dobreva (2018), Eurobarometer data, own calculations.

Consequently, the opinion that the EU's financial means are adequate in face of existing political priorities has been losing support continuously, and particularly between 2015 and 2018, with the support rate going down from 47% to 41%. Thus, support rates for a larger EU budget on the one hand (40%) and for the sufficiency of the financial means available on the other hand (41%) have converged over time and are almost identical in 2018. However, as figure 31 shows, developments across the whole EU as well as within the group of net contributing and net receiving countries are rather diverse.

Figure 31: Support for greater financial means – biggest changes, 2005 to 2018



Source: Dobreva (2018), Eurobarometer data, own calculations.

Second, the trend of increasing support rates for larger financial means for the EU can be observed both in net receiving and in net contributing countries. Starting from 29% in net contributing countries, support of larger financial means grew to over 32% in 2018. In net receiving countries, public support for a larger EU budget went up from 39% in 2005 to 44% in 2018.

The third result is that not surprisingly, support for larger financial means is generally higher in net receiving MS compared to net contributing MS. In 2018, the average support rate for a higher EU budget was 44% in net receiving countries, compared to over 32% in net contributing countries. With

this, it was above the EU28 average of 42% in net receiving and below EU28 average in net contributing MS.

Fourth, there are exceptions both in the group of net receiving and net contributing countries. In 2018, in 12 of 16 net receiving countries public support for larger financial means for the EU was above EU average; exceptions were the Slovak Republic, Estonia, Slovenia, and Lithuania. At the same time, in 4 of 12 net contributing countries – Italy, Ireland, France, and Belgium – public support for a larger EU budget exceeded the EU28 average, at values between 42% in Belgium and 49% in Italy.

Structure of EU expenditures

Eurobarometer surveys also cover aspects related to the structure of EU expenditures. When asked for the priorities that should be pursued by EU expenditures, EU citizens prioritised expenditures for "employment, social affairs and public health" (48% of mentions), followed by "education, training, culture and media" (38%) and "climate change and environmental protection" (35%). The least important items according to respondents are "digital infrastructures" (7%), "assistance to EU neighbours, including candidate countries" (6%), and "administrative and personnel costs, buildings" (4%). Priorities overall are rather similar for Euro area MS and MS outside the Euro area (European Commission, 2018A).

In 2011 and 2015, respondents were asked whether the EU budget provides good value for money (Dobreva, 2018). Overall, in the EU28 the perception that the EU budget delivers good value for money went up from 27% in 2011 to 31% in 2015. In contrast, 43% of EU citizens believed that the EU budget provides bad value for money in 2015. On average the share of respondents thinking that the EU budget delivers good value for money is higher in net beneficiary countries compared to net contributing countries; and it increased in both country groups between 2011 and 2015. In 2015, in 11 MS the predominant opinion was that the EU budget provides good value for money, all of them (with the exception of Ireland, which, however, was a net receiving country then) net beneficiaries (Dobreva, 2018). These figures emphasize the importance of the quantity and quality of and the awareness about the public goods provided by the EU and its institutions. More legitimacy among the populations in both the net contributor countries as well as the net beneficiary countries is important, also with regard to a reform of the EU's MFF and modes of financing it.

CONCLUDING CONSIDERATIONS

The operating budgetary balance, i.e. the difference between the MS' national contributions and the transfers received from the EU budget, has been a dominant indicator for MS to assess their individual benefits derived from the EU budget and EU membership. Nevertheless, this net-position thinking has been criticised in numerous policy-oriented and academic contributions and analyses due to its association with several problems and limitations. Since the net-position thinking leads MS to undervalue the expenditure categories creating European added value accruing to all MS, they represent an obstacle for the design of the future-oriented EU budget that would be capable to effectively address long-term challenges that the EU as a whole faces, e.g. climate change, migration, inequalities in regional and personal income distribution or demographic and digital change. Moreover, the net positions do not inform about the structure of transfers received by individual MS, their effectiveness and outcomes. Furthermore, benefits accruing for the EU as a whole as a result of the EU financed policies are neglected by the just-retour thinking. Last but not least, a number of indirect benefits associated with EU expenditures that individual MS may enjoy, i.e. those benefits accruing to other MS than the receiving MS, e.g. macroeconomic benefits for non-cohesion countries from cohesion policy, are excluded by the net-position thinking.

Independently from the MS' operating budgetary balance, EU membership has positive effects on the MS resulting from the intra-EU direct investments, intra-EU trade and the EU's network effects for trade and investments.

A literature review of the 'costs of non-Europe' confirms that the estimated benefits from (and potential costs caused by) EU integration are difficult to pin down so that the results vary widely from one study to the other. The magnitude of gains from European economic integration is strongly influenced by the methodology employed and data chosen. Modern gravity-based estimates tend to report GDP gains of around 5-7% on average that are not too far from those forecasted in the 1980s. Estimation results from simulations of counterfactual scenarios using macroeconomic models tend to find even higher gains with an 8-9% increase in GDP induced by the Single Market. However, other studies come up with gains from Single Market integration of only around 1% of GDP on average. Adding the benefits of integration measures other than the Single Market leads on average to double digit percentage gains. Almost all research suggests that EU integration has overall positive economic effects for all the EU MS.

Looking closer at intra-EU direct investment shows that economically advanced MS which are in a net payer position to the EU budget, have made more outward than inward FDI they received. High competitiveness of companies has allowed net payers to increase FDI abroad and reap profits accordingly. They also benefit from enlarged markets and cheap sourcing of inputs through their subsidiaries abroad. The economically less advanced countries, which are in a net beneficiary position of the EU budget, benefit from capital inflows and technology transferred to them by foreign investors. This is a win-win business between the home and host countries of investments in the short run. In the long run, benefits including repatriated profits accumulate in the corporate headquarters concentrated in the advanced economies of net payers. Thus, EU investors have made a much higher amount of income on their investments in the poorer countries in the East of the EU than what the latter countries received as transfers from the EU budget.

In terms of intra-EU trade, EU integration typically strengthened after EU accession, pointing to benefits of EU membership accruing to all member countries. However, gains of intra-EU trade differ

considerably between countries. In addition, besides EU membership, intra-EU trade was influenced by a wide range of factors (e.g. collapse of communism and trade reorientation thereafter; industry specialisation and integration into global value chains; geographical location). Looking into more detail at the EU enlargement in 2004 and its effects, a strong increase of intra-EU exports and imports occurred in the respective time period of 1999-2008, around the accession date, with annual average growth rates of 7%. Both net contributor and net beneficiary countries experienced intra-EU trade growth, but it was much more pronounced for the net beneficiary countries.

Finally, an analysis of the EU's network effects in trade and investment confirms econometrically in a modern gravity model setting that there are large and significant effects of the EU enlargements on bilateral trade and investment flows. Free trade agreements with non-EU countries also have a positive effect on trade, though not as large as the EU enlargements. Our developed network measure shows that being well-integrated pays off and results in higher trade flows. This is particularly the case for the EU and its wide-reaching network of trade agreements. Counterfactual GDP effects from joining the EU are always positive, especially for the new EU MS of the latest EU enlargement waves. The average trade effects on GDP of the average EU enlargement wave was at about 0.2%, with the 2004 EU enlargement yielding the highest effects of 0.65% on average. There, particularly the Visegrad countries were able to gain up to 2.3% in GDP.

To overcome the just-retour thinking and the its associated problems and limitations, additional indicators are needed to obtain a more comprehensive picture of the overall benefits provided by EU membership and the EU budget. An estimation of augmented net balances to account for cost savings at MS level through the provision of European public goods would capture at least part of the benefits provided by the EU budget which are not included in net balances. Increasing the EU added value provided by EU expenditures would contribute to alleviate MS' net position thinking. The higher the share of expenditures dedicated to European public goods characterised by cross-border benefits and/or providing efficiency gains compared to national provision, the less meaningless the concept of net positions is getting, as benefits from these public goods accrue to the EU as a whole and thus to all MS together. Substituting a substantial share of national contributions to the EU budget by innovative (tax-based) own resources may loosen the link between payments into the EU budget on the one hand and transfers received out of it on the other hand. Introducing reforms in the rebate system may help to mitigate the net position thinking.

Finally, the Eurobarometer surveys show that there is a correlation between public opinion on the EU budget in EU MS and the net positions of respondents' countries of origin. On average the share of respondents thinking that the EU budget delivers good value for money is higher in net beneficiary countries compared to net contributing countries. This emphasizes the importance of the quantity and quality of and the awareness about the public goods provided by the EU and its institutions. Thus, more legitimacy among the populations in both the net contributor countries as well as the net beneficiary countries is important, also with regard to a reform of the EU's MFF and modes of financing it.

ANNEX – INTERVIEW

In the following section we present the transcript of an interview conducted with Mr Alain Lamassoure, a former Member of the European Parliament.

Mr Lamassoure became a Member of the European Parliament in 1989 and was re-elected in 1999, 2004, 2009 and 2014. In the years of 1992-1993 he chaired the Committee on Budgetary Control and in 2009 became Chair of the Parliament's Committee on Budgets where he acted until June 2014. From February 2015 to August 2018 he chaired the Special Committee on Tax Ruling and Other Measures Similar in Nature or Effect. During his service in the European Parliament Mr Lamassoure was a member of several committees such as the Economic and Monetary Affairs Committee, Special committee on the policy challenges and budgetary resources for a sustainable European Union after 2013 or Committee of the Constitutional Affairs. Mr Lamassoure was also a member of the so called Monti Group – a high-level group on own resources established in 2014 and chaired by former Commissioner and Prime Minister of Italy Mario Monti. The Group's objective was to present suggestions on potential reforms to the current EU own resources system. The Group published its final report including recommendations for future EU financing in 2016 and presented its findings to the European Parliament and Council in 2017 upon which the Group dissolved.

Below you can find Mr Lamassoure's answers to our interviews questions:

1. How has the net position thinking developed in the long run in your view?

Unfortunately, it has developed and strengthened over the years, rising in proportion to the part of the GNI resource to overall funding.

2. What are the most important limitations and problems of the concept of net positions in your view?

It is all too simple. The MFF and budget debates are completely diverted from the EU common interest to the accommodation of 28 national positions, each of them being devised from the budgetary 'just retour' view point. When the European Council adopted the current MFF in late 2012, President Van Rompuy managed to get unanimous consent after 28 different bilateral interviews behind closed doors ('confessional method') and without one single plenary debate on the European priorities and interest.

3. Do you have any ideas or suggestions for a simple alternative indicator better suitable to capture the benefits from the EU budget than net positions?

Better suitable, but whom for? If the concern is the EU interest, why not take the same indicators as those used for national budgets?

4. What are indirect benefits from the EU budget in your view, and are they distributed evenly among Member States?

Indirect benefits are well known and documented, by net receivers and by the Commission: parts of cohesion funds and development aid funds used for purchasing in net contributing countries, trade flows, reduction in production costs by outsourcing in net receivers. Unfortunately, they have never been very convincing for the parliaments of the net payers, who have to vote their national contributions financed by the national taxpayer while economic returns do not appear as such in national budgets.

5. What is your understanding of the concept of European added value?

The genuine European added value is rarely assessed, if at all. It is the value for money obtained by pooling resources to pursue a policy at EU level rather than at national level.

6. Which EU expenditures would in your view create European added value (including a prioritisation and specification of the concrete European added value of specific expenditure items)?

It is a moot question, because the definition is more discretionary than scientific. It can be argued that the whole CAP contributes to EU food independence, or to the European Green Deal, but not everybody agrees on the objective of food independence and others question the 'green' feature of the CAP. Likewise, it is arguable that the French national defence budget is of European interest, or that German universities increase European attractiveness for the best students from other continents: if agreed, that would mean that certain national expenditure are as Europe driven as parts of the EU budget, and possibly more.

7. Which expenditures included in the current MFF and the proposed post-2020 MFF create no or little European added value, and why?

As a rule of thumb, all appropriations that are locatable a priori. We can regard them as a form of budgetary support in favour of member states or regions, more than the delivery of European goods.

8. Has the net contributor debate intensified in the long run in your view; and if yes, what are the most important reasons?

See answer to 1. The 'big bang' of 2004, which multiplied the number of net beneficiaries, also played an important role.

9. Which reform options do you see that could alleviate the net position thinking?

None. It is too deeply ingrained in national and European politics.

10. Please rank the following options that might help to overcome the net position thinking, assigning "1" to the most promising and "8" to the least promising option[34]!

A discontinuation of the official reporting of net operating balances - 8

Augmented indicators of national benefit - 7

Differentiated communication campaigns - 6

Higher budgetary flexibility to shift money between budget lines -5

Institutional reforms (e.g. transnational party lists for the European Parliament) or a limit to national veto power on the budget - 4

[34] These options are discussed by Benedetto, G., Heinemann, F., Zuleeg, F., 2020, Strategies to overcome the "juste retour" perspective on the EU budget, Briefing requested by the European Parliament BUDG Committee, Brussels, https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/648186/IPOL_BRI(2020)648186_EN.pdf.

New own resources (e.g. genuine EU taxes) - 1

A 'generalised correction mechanism' based on predefined net balances - 3

Differentiated co-financing rates - 2

11. Which options for reforms and mechanisms could alleviate the conflict between net payer and net receiver countries in your view?

Nothing will change as long as we do not come back to the spirit and letter of the treaties: all European policies shall be funded by genuine own resources. If 450 million taxpayers contribute to the EU budget instead of only 27 or them, the mood will be very different. The 'juste retour' debate is not fully absent in the federal member states, but it is far less poisonous, and it is unknown in the others.

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When assessing the benefits Member States (MS) receive from the European Union (EU) budget, they primarily focus on their individual net positions, i.e. the net balance between their national contributions and the transfers received from the EU budget. This 'just retour' thinking is associated with several limitations and problems and completely neglects the benefits accruing to MS beyond the pure financial streams related to the EU budget. MS may enjoy the indirect benefits that are related to the various interventions and policies financed from the EU budget. Benefits may be also created for the EU as a whole in the case of policies coordinated and financed by the EU, replacing or complementing individual un-coordinated action at MS level and thus creating additional added value through making use of synergies. MS also benefit from intra-EU direct investments, intra-EU trade and the EU's network effects. Therefore, the net position view could be complemented by additional indicators providing a more comprehensive picture of the overall benefits resulting for MS from the EU membership and budget and several reform options within the EU budget could help to overcome the net position view

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