VALTIONEUVOSTON
SELVITYS- JA TUTKIMUSTOIMINTA

Seppo Kari, Niku Määttänen, Olli Ropponen,
Saara Tamminen, Tarmo Valkonen

Common or own goals: Reforming the financing of the European Union



Huhtikuu 2018

Selvitys- ja
tutkimustoiminnan
julkaisusarja 29/2018

KUVAILULEHTI

Julkaisija ja julkaisuaika	Valtioneuvoston kanslia, 3.4.2018
Tekijät	Seppo Kari, Niku Määttänen, Olli Ropponen, Saara Tamminen, Tarmo Valkonen
Julkaisun nimi	Yhteiset vai omat tavoitteet: Euroopan unionin rahoituksen uudistaminen
Julkaisusarjan nimi ja numero	Valtioneuvoston selvitys- ja tutkimustoiminnan julkaisusarja 29/2018
Asiasanat	EU:n budjetti, omat varat, optimaalinen verotus, fiskaalinen federalismi, EU:n lisäarvo
Julkaisun osat/ muut tuotetut versiot	

Julkaisuaika	2018	**Sivuja** 43	**Kieli** Englanti

Tiivistelmä

Tämä tutkimus arvioi EU:n budjettirahoituksen uudistamista koskevaa ns. Montin raporttia ja analysoi tulonlähteiksi ehdotettuja uusia omia varoja optimaalisen verotuksen ja fiskaalisen federalismin näkökulmasta. Montin raportti korostaa näiden kriteerien sijaan EU:n tavoitteita ja epätarkasti kuvattua EU:n lisäarvoa omien varojen valinnassa. Myös ehdotetun uudistuksen ja kansallisten toimien koordinaatio jää vähälle huomiolle. Arviomme mukaan EU:n mahdollinen lisäarvo verotuksessa liittyy veropohjien liikkuvuuteen sekä tuotannon ja kulutuksen ympäristövaikutuksiin. Suosittelemme siksi yritys- ja ympäristöverojen pohjien harmonisointia ja minimiveroasteita rahoitusuudistuksen tuloksista riippumatta. Uudistuksessa tulisi minimissään poistaa monimutkainen ALV-pohjainen oma vara, samoin kuin maakohtaiset korjaukset. Uusista omista varoista lupaavimpia ovat päästökauppaa täydentävä hiilidioksidivero, harmonisoitu yhteisövero CCCTB ja finanssisektorin arvonlisän vero FAT.

Tämä julkaisu on toteutettu osana valtioneuvoston vuoden 2017 selvitys- ja tutkimussuunnitelman toimeenpanoa (tietokayttoon.fi).

Julkaisun sisällöstä vastaavat tiedon tuottajat, eikä tekstisisältö välttämättä edusta valtioneuvoston näkemystä.

PRESENTATIONSBLAD

Utgivare & utgivningsdatum	Statsrådets kansli, 3.4.2018
Författare	Seppo Kari, Niku Määttänen, Olli Ropponen, Saara Tamminen, Tarmo Valkonen
Publikationens namn	Gemensamma eller egna mål: reformen av Europeiska unionens finansieringen
Publikationsseriens namn och nummer	Publikationsserie för statsrådets utrednings- och forskningsverksamhet 29/2018
Nyckelord	EU:s budget, egna medel, optimal beskattning, skattefederalism, EU-mervärde
Publikationens delar /andra producerade versioner	

Utgivningsdatum	2018	**Sidantal** 43	**Språk** Engelska

Sammandrag

Denna undersökning evaluerar s.k. Monti-rapporten och de nya egna medel som föreslås ur optimala beskattningens och skattefederalismens synvinkel. Som kriterier betonar Monti-rapporten EU:s målsättningar och ett oklart beskrivet EU-mervärde. Rapporten negligerar också behovet av att koordinera budgetreformen och nationella skattepolitiken. Enligt vår evaluering är det potentiella mervärdet av EU anknuten till rörligheten av skattebaser och de skadliga effekter på miljön som produktionen och konsumtionen skapar. Vi rekommenderar därför att skattebaserna av samfundsskatt samt miljö- och energiskatter borde harmoniseras och en minimiskattesats fastställas oberoende av resultatet av reformprocessen. Den minsta insatsen skulle vara att undanröja korrigeringsmekanismerna och det komplicerade egna medel från mervärdeskatt. Mest lovande nya egna medel är koldioxidavgift, som kompletterar EU:s utsläppshandelssystem, harmoniserad samfundsskatt CCCTB och en skatt på finansiell verksamhet FAT.

Den här publikation är en del i genomförandet av statsrådets utrednings- och forskningsplan för 2017 (tietokayttoon.fi/sv).

De som producerar informationen ansvarar för innehållet i publikationen. Textinnehållet återspeglar inte nödvändigtvis statsrådets ståndpunkt.

DESCRIPTION

Publisher and release date	Prime Minister´s Office, 3.4.2018
Authors	Seppo Kari, Niku Määttänen, Olli Ropponen, Saara Tamminen, Tarmo Valkonen
Title of publication	Common or own goals: Reforming the financing of the European Union
Name of series and number of publication	Publications of the Government´s analysis, assessment and research activities 29/2018
Keywords	EU budget, own resources, optimal taxation, fiscal federalism, EU added value
Other parts of publication/ other produced versions	

Release date	2018	**Pages** 43	**Language** English

Abstract

This study evaluates the Monti report and the suggested new own resources from the point of the view of optimal taxation and fiscal federalism. Monti report emphasizes the objectives of EU and vaguely described European added value as criteria. The report also leaves aside the need to coordinate the budget reform and national tax policies. According to our assessment, the potential added value of the EU is linked to mobility of tax bases and the harmful environmental effects of production and consumption. We recommend therefore harmonisation of the corporate income tax bases and environmental and energy tax bases and use of minimum tax rates independently of the results of the budget financing reform. The minimum effort would be to remove the complicated VAT-based own resource and correction mechanisms. The most promising new own resources are CO2 levy, which completes emission trade, harmonised corporate income tax CCCTB and financial activities tax FAT.

This publication is part of the implementation of the Government Plan for Analysis, Assessment and Research for 2017 (tietokayttoon.fi/en).

The content is the responsibility of the producers of the information and does not necessarily represent the view of the Government.

CONTENTS

Summary **1**

1 Background **5**

2 Assessment of the HLGOR's recommendations. **8**
2.1 How the HLGOR evaluated options for new ORs 8
2.2 Outcomes of the HLGOR's evaluation. 10

3 Evaluation of single taxes **15**
3.1 A CO2 levy/carbon pricing 16
3.1.1 Background. 16
3.1.2 A CO2 levy as a new OR 17
3.1.3 Motor fuel levies 17
3.2 EU ETS proceeds 18
3.2.1 Background. 18
3.2.2 ETS proceeds as a new OR 18
3.3 Electricity tax 19
3.3.1 Background. 19
3.3.2 Electricity tax as a new OR. 21
3.4 The CCCTB 21
3.4.1 Background. 21
3.4.2 The CCCTB as a new OR. 23
3.5 FTT 24
3.5.1 Background. 24
3.5.2 FTT as a new OR 26
3.6 VAT of the financial sector 26
3.6.1 Background. 26
3.6.2 FAT as a new OR 29
3.7 Reformed general VAT 31
3.7.1 Background. 31
3.7.2 Reformed VAT as a new OR. 35
3.8 Seigniorage 35
3.8.1 Background. 35
3.8.2 Seigniorage as a new OR. 36
3.9 Other revenue 37

4 References **39**

SUMMARY

There are good reasons to reform the current EU's budget financing, and, with introduction of Brexit, the reform is inevitable. This study critically assessed the suggestions of the High-Level Group on Own Resources (HLGOR) and performed an independent economic evaluation of the suggested new tax bases.

The operative financing scheme is complicated and opaque. Moreover, many high-income countries pay less than the average Gross National Income (GNI) share to the EU budget due to rebates and reduced tax rates. This regressivity has been considered unfair. The system also has low democratic accountability, as citizens do not see the link between paying national taxes and benefitting from the EU budget. The HLGOR also criticised the current rules because they do not consider the EU's objectives or European added value (EAV).

The HLGOR broadened its mandate from the mission of finding 'a more transparent, simple, fair and democratically accountable ways to finance the EU' to a discussion on EAV and many other criteria to be used in the assessment of new own resource (OR) options (HLGOR 2016). The HLGOR chose to focus on reforms that follow the current institutional setup. The power to tax is planned to remain at the national level. The budget rules, including the ORs ceiling, the multi-annual financial framework (MFF) and the requirement of a balanced budget, will be maintained. The group assessed the three current and nine new ORs both verbally and by scoring the options according to their ability to fulfil a set of eight criteria. Even though the report states that 'at this stage it appears more constructive to present a wide range of revenue sources having the required qualities rather than create unnecessary resistance to any specific option', it notes that the 'cluster of taxes related to "energy/environment/fight against climate change" features prominently on the list of potentially viable new own resources bases' (HLGOR 2016).

The most surprising deficiency of the final report is that it largely neglects the extensive literature on both fiscal federalism and optimal taxation. As long as member states (MS) have the freedom to finance the EU budget with national taxes collected from domestic tax bases, this neglect is understandable. However, the HLGOR suggested a transition to tax-based ORs, where the chosen tax bases and tax rates directly influence redistribution between citizens and incentives to work, consume, invest and employ.

Another major imbalance occurs between emphasising the importance of the available EAV by reforming the own resources system and the effort used to define and measure it. If an understanding of EAV is important to discuss net contributions, its benefits should be illustrated and quantified more concretely. A somewhat related issue in the report is the very general description of the goals of the EU and the missing analysis on the effectiveness of the recommended new ORs in reaching these goals.

The third deficiency of the report is the inadequate consideration of the need to coordinate between the new ORs and national tax policies. It is unlikely that any of the suggested tax bases will be harnessed to generate revenue only for the EU budget. If national policies are geared towards cancelling the economic effects of the new ORs due to, for example, competitiveness, the reform may not reach the goals of increasing EAV and promoting EU policy objectives.

An alternative to the suggested collection of taxes directly from the genuinely harmonised bases and tax revenue sharing is to use the statistically harmonised tax bases as indices to define the allocation of the MS's contributions to the budget. This practice is used to define VAT-based ORs. It is faster to implement and may still provide some benefits of genuine taxes. For instance, since the corporate profits are sensitive to the business cycle, contributions based on the corporate income tax (CIT) bases would provide some protection against asymmetric economic shocks. This approach would allow MS to continue to choose how to finance their contributions. However, many of the goals of the reform, such as mitigating net contribution disagreements and focussing on EAV, would not be reached.

The previous literature discussing the ambitious goals of the working group and its recommendations is often sceptical. For example, the Advisory Board to the Federal Ministry of Finance in Germany stated that reform efforts should focus on improving the rebate system, eliminating VAT-based own resources, and replacing them with GNI-based own resources (Advisory Board 2016). This was later supported by a German expert of the HLGOR (Fuest 2017).

In this report, we focussed on the economic effects of specific taxes without considering the potential reactions of national governments. Evaluating the various proposed taxes is still rather complicated, since many of them have also aims other than generating tax revenue. For example, if corrective taxes are used, there must be a consensus on how important the corrective element is compared to the amount of tax revenues. A related issue is that other instruments, such as regulation, can often be used to reach the same goal. Perhaps the most relevant issue is, however, that many tax bases would require harmonisation before introducing the new ORs. This harmonisation can have important economic effects itself, for example, directing tax competition from tax bases towards lower statutory tax rates.

The potential for EAV in the EU budget comes mainly from two sources: the high mobility of tax bases and environmental harm in production and consumption. The high mobility of tax bases is relevant, especially when considering taxes on the Common Consolidated Corporate Tax Base (CCCTB) and financial markets. Environmental and energy taxes focus on the environmental externalities of consumption and production. New EU ORs should also be consistent with the EU's efficiency and equity goals and the recommendations of the optimal taxation literature. We assessed the same nine new own resources as the HLGOR.

The cluster of evaluated corrective new ORs is as follows: a carbon tax and a related motor fuel tax, proceeds from the EU Emissions Trading System (ETS) and an electricity tax. The second cluster consists of reformed VAT-based ORs, a tax on the CCCTB, a financial transaction tax (FTT), a financial activities tax (FAT) and the seigniorage income of the European Central Bank (ECB). In addition, income from sources other than ORs are discussed.

An EU-wide CO2 levy is a good candidate for a significant new OR, as it would serve an important EU-wide policy goal, is tightly linked to cross-border activities and could potentially finance a large share of the EU budget. However, plans for a harmonised CO2 levy are still unfinished. A closer assessment of this levy would require more details in terms of its design. Also, the auction proceeds from the ETS have some attributes that favour their use as a new OR. However, the current system's proceeds are small and volatile. Therefore, its role is likely to remain small.

The current, loosely coordinated rules for electricity taxation are likely to distort economic decisions in the internal market. This suggests that there is a case for harmonisation or even considering the tax as an OR. However, the role of electricity taxation as part of a consistently designed, CO2-oriented energy tax system remains unclear. Therefore, the main principles of a new energy tax system should be first outlined before the role of electricity tax as an OR can be evaluated.

Reforming the current VAT-based OR would harmonise call rates; however, if the harmonisation of tax bases continues to be statistical, the new version would just define another way of redistributing the financial burden between MSs. True harmonisation of VAT-based OR is not likely and, even if implemented, would not solve the problem of large differences in the efficiency of tax collection. Therefore, even if VAT has many good properties, it is not a practical source of ORs. However, this conclusion does not weaken the importance of the continued harmonisation and simplification of VAT in foreign trade within the EU.

Introducing the CCCTB would harmonise the CIT bases but may cause MSs to compete with tax rates and firms to react to the tax rate differences through the allocation of assets, employment and sales. Harmonisation should therefore be supplemented with a minimum tax rate. The use of tax revenue as an OR in the EU budget would limit MSs from competing in terms of tax rates.

FTT is likely to strongly affect the scale and location of security trade with possibly severe negative implications for the functioning of financial markets. Harmonising tax rules in a large group of countries would make the re-location effects smaller but would not better the adverse impacts on quality of financial markets. In our view, FTT should not be implemented in the EU. Many of the goals of FTT can be reached with less distortions by adopting FAT, which aims to compensate the missing VAT in the financial sector. FAT taxes the profits and remuneration of employees directly. However, the tax bases need harmonisation independent from implementing FAT because of tax competition. The FAT rate should be lower than the standard VAT rate owing to the mobility of tax bases and the cascading of the FAT in the non-financial sector. Based on these conditions, FAT is a promising new OR. In Finland, replacing the current insurance tax with a low-rate FAT would likely bring in sufficient revenue.

The ECB calculates its seigniorage income as a product of its share of the currency in circulation and interest rates. In 2017, the seigniorage income was zero due to the low interest rate. Even in normal years, the revenue is rather small and volatile. Moreover, the revenue is collected only from eurozone states and is returned largely to their budgets. A change in the use of this revenue would require a change to the Treaty. These facts point against the use of seigniorage as a new OR.

The proceeds under the budget heading ‘Other revenue’ currently consist of income from EU activities, such as interests, fines and contributions collected from paid wages. Introducing new elements to this budget class would be easier than changing the ORs decision, but the Treaty implies that the income should be marginal compared to the ORs (HLGOR 2016).

Thus, the most prominent new ORs are harmonized corporate income tax, carbon tax and FAT. The carbon tax would have to be coordinated with the EU ETS to prevent double taxation and to ensure coverage. The main reasons for not recommending the other candidates are as follows: FTT is harmful to financial markets, the use of the small and volatile ETS proceeds or seigniorage income as ORs would only result in new income sharing, electricity tax

would not generate additional benefits compared to the combination of CO2 and ETS, and the reformed VAT suffers from large variations in terms of VAT gaps. It is important to note that the benefits of tax harmonisation can be fully reached without using revenue as an OR in the EU budget. Tax harmonisation efforts should continue independent from the success of budget financing negotiations.

The European Commission brought up four of the studied ORs in its recent communication (European Commission 2018). Two of them—proceeds from the ETS system and seigniorage income—are partly existing resources of the national government and are ready to be reallocated. A simplified VAT-based OR would also be straightforward to implement, if the revenue is determined by statistically harmonised tax bases. However, in our report, the benefits of introducing these new ORs are small. As a fourth new OR, the European Commission suggested revenue from taxing the CCCTB. It is, however, unlikely that the required harmonisation of the tax bases will be finished in time for the next budget period.

1. BACKGROUND

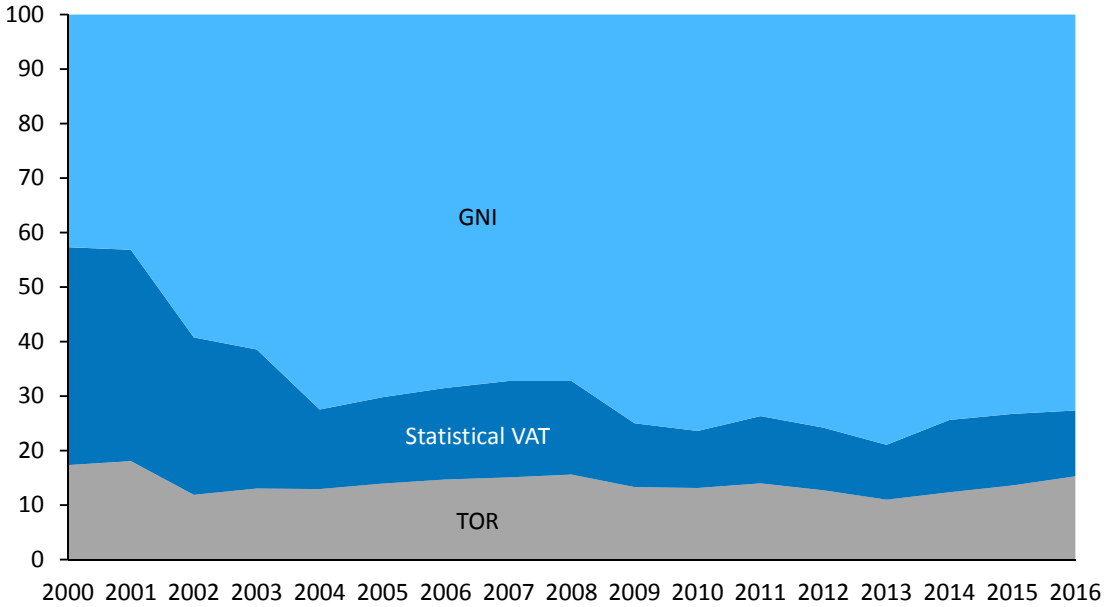
The need to reform the financing of the EU has been discussed since the 1990s. Before the operative ORs decision, to be applied from 2014–2020, the European Parliament, in many of its resolutions, and the European Commission suggested reforming the financing of the EU. The issue was, however, hardly discussed in the budget negotiations between the representatives of MSs in the European Council (Schratzenstaller et al. 2016). This illustrates the resistance of MSs to increase the taxation powers of the EU.

As the need for a reform continued to be high on the agenda, the European Parliament, the Council of the EU and the European Commission set up the HLGOR in 2014 in order to find more transparent, simple, fair and democratically accountable ways to finance the EU. The mission was very generally formulated, and the report consequently also discussed issues other than the choice of potential new ORs. A lot of effort was focussed on motivating the reform and reflecting elements of a possible package deal, including country-specific differentiation in the implementation of the reform. The HLGOR published its final report in January of 2017 (HLGOR 2016).

The current system of ORs consists of three sources: traditional ORs (TOR, mostly custom duties), VAT-based ORs and GNI-based ORs. In addition, other revenue sources, such as fines, interest, pension contributions and contributions from non-member countries, are used in certain EU programmes. The current system aims to provide revenue and equity between MSs stably and sufficiently. In practise, the set of rules operate to divide the financial burden between MSs.

The TOR base has declined due to free-trade agreements and the lowering of the VAT rate. At the same time, there has been an increase in the expenditure size. These trends have increased the share of GNI-based resources in financing the EU (Figure 1).

Figure 1 Own resource shares



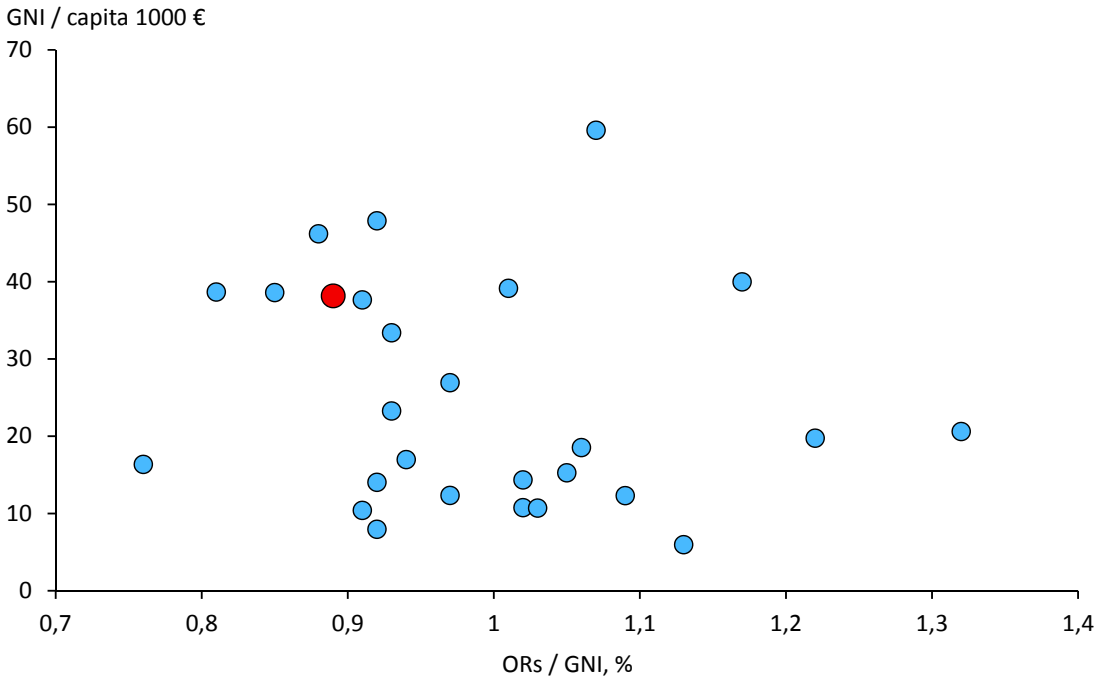
Source: European Commission.

A major element in the financing rules is corrections to the contributions of certain countries. The United Kingdom rebate consists of a reduction in its contribution equivalent to two thirds of the difference between the nominal contribution (excluding TORs) and what it receives back from the budget. For the budget period from 2014–2020, large net payers benefit and will continue to benefit from lower VAT call rates (Germany, the Netherlands and Sweden) and lump-sum rebates (the Netherlands, Sweden, Denmark and Austria). The excessively high share (20%) of TORs allowed to be retained as collection costs can also be understood as a support to countries with a high trade-to-GDP ratio. In addition, some MSs do not to participate in certain justice and home affairs policies. Their OR payments are adjusted accordingly.

Due to these rebates and reduced tax rates, the financing scheme is *complicated and opaque. In addition,* many high-income countries pay less than the average GNI share to the EU budget. This regressivity has been considered *unfair*. One way to characterise the fairness of the current rules is to compare the countries' ability to pay (GNI/capita) to the share of GNI that they pay to the EU (Figure 2). Finland is marked here with a red dot; its paid share is one of the lowest at the same income level.

Horizontal equity means here that, at the same level of GNI/capita, the burden of ORs should be the same. Vertical equity requires that those who have a higher income pay more. It is often used to justify progressive taxation, which, in Figure 2, would lead to a positive correlation between the living standard and the ORs/GNI paid. However, the correlation is somewhat negative in the data and, more so, if the smallest countries (Cyprus, Malta, Luxembourg) and countries with high import intensity (Belgium, the Netherlands) and therefore high TOR/GNI, are ruled out.

Figure 2 GNI/capita (1 000 €) and ORs/GNI (%), EU28 2015



Sources: Eurostat, European Commission.

The HLGOR criticised the current rules, as they *do not consider the EU objectives and EAV*. EAV is defined as 'the value resulting from an EU intervention which is additional to the value that would have been otherwise created by Member State action alone'. The HLGOR's report characterised the relevant EU objectives in terms of concept sustainability, which covers environmental, social, economic, cultural and institutional dimensions. HLGOR (2016)

The interaction of the used fairness concept and the properties of the current ORs are illustrated in Figure 2 and are as follows:

1. If the rebates and lower tax rates were removed, the dots would move horizontally closer to one another and equity would improve.
2. If the EAV of the current financing rules were measured and subtracted from the paid ORs, the dots would move to the left. The distance moved would be small, as GNI and VAT-based ORs do not have much to do with EAV.
3. The introduction of new ORs would influence the positions of the dots, depending on which tax revenue is shared between MSs and the EU. Equity results depend on the relative sizes of tax bases and are unclear.
4. The introduction of new ORs that increase EAV would move the dots to the left from the position defined by (3). The horizontal distance between the dots may increase or decrease when considering EAV. The outcome depends on the benefits gained by each MS from EAV. An example is the taxation of corporate profits, where tax coordination provides EAV; however, the benefits differ between countries.

The current financing system is also considered to have *low democratic accountability*, as citizens do not see the link between paying national taxes and benefitting from the EU budget. VAT-based and GNI-based ORs are seen as national contributions and are treated as expenditures in national budgets. This allows for a focus on net contributions. The missing understanding of the EAV provided by the EU policy has promoted *juste retour* thinking, in that contributions are to be proportional to the income received from the budget. It also induces pressure to limit the size of the budget.

The current rules also have benefits and are supported by many MSs. Schratzenstaller-Altzinger (2017) listed the advantages of the current system of ORs as follows:

1. It provides steady, predictable and reliable revenue to finance EU expenditure.
2. It guarantees a balanced budget.
3. It establishes (at least before the application of the various correction mechanisms) the fair distribution of the financial burden across MSs.
4. National contributions respect the subsidiarity principle by leaving the decision on the distribution of the financial burden among individual taxpayers to MSs.

As noted by Heinemann (2016), a new financing system resting on tax-based ORs would not necessarily solve the common pool problem. The attraction of using the EU budget to finance expenditures with high local visibility will remain, regardless of the ORs coming directly from the new common tax bases. Moreover, Bordignon and Scabrosetti (2016) claimed that, as long as there is no true federation, the defects of the EU budget can be conceptualised as the equilibrium result of a bargaining game with side payments, where a lack of transparency and what may appear as unfairness in spending allocation may, in reality, play important and useful roles.

2. ASSESSMENT OF THE HLGOR'S RECOMMENDATIONS

2.1 How the HLGOR evaluated options for new ORs

The HLGOR started its work in February of 2014 and published its First Assessment Report first assessment report in December of the same year (HLGOR 2014). The temporary report depicted the present financing system of the EU budget, the previous reform efforts and the criteria to be used in choosing new ORs. The group also commissioned an external study on the potential and limitations of reforming the financing of the EU budget (Nunez Ferrer et al. 2016).[1] The HLGOR published its final report and policy recommendations in January of 2017.

The HLGOR chose to focus on reforms that follow the current institutional setup. The power to tax is planned to remain at the national level. The budget rules, including the ORs ceiling, the MFF and the requirement of a balanced budget, are to be maintained. The report also respected the tight resolution mechanism, where changing the ORs decision requires the unanimous agreement of MSs after consulting with the European Parliament and ratification according to national procedures.

An obvious alternative would have been to consider broadening the scope of the budget to include the elements of a true federal state, such as effective EU-wide, anti-cyclical economic stabilisation and major redistribution. The current budget is too small for these purposes, and stabilisation is restricted further by the budget-balancing rule, which does not allow borrowing. The HLGOR report also discussed a separate eurozone budget, which would also involve business cycle stabilisation, economic growth and crisis finance. Also the prevailing OR system redistributes between MSs and interacts with economic activity. In the case of an asymmetric shock, custom revenue and GNI- and VAT-based resources decline, thus improving the net contribution position of countries in recession.

The reformed system also influences redistribution between countries and may have higher automatic stabilising attributes against asymmetric shocks. For example, if the CIT base, which is sensitive to business cycles, is used as an OR, the total tax revenue would be unstable during symmetric business cycles. Genuine tax-based ORs also involve redistribution between citizens. From the point of view of economic effects, EU taxes and tax-based ORs are not very different.

The HLGOR reported that some elements of the current system work well, are simple, are equitable, are efficient and should be kept. As noted above, following the principle of equilibrium, the ORs ceiling and the MFF are the cornerstones of the reformed system. Another proposal was that the TOR (customs duties), which is a benchmark of true EU revenue and whose collection process is satisfactory, should be preserved. In addition, GNI-based OR should be maintained, if used as a balancing and truly residual resource. Finally, the group proposed that the current VAT-based resource be removed as well as any correction mechanisms.

1 Other major contemporary external efforts were the work published in the Horizon 2020 project 'FairTax' (see http://www.org.umu.se/fairtax/english/, in the special issue of the journal Empirica, Volume 44 Issue 4, November 2017) and in the FiFO/FAU Erlangen-Nuremberg Research Project 'The Future of EU Finances' commissioned by the German Federal Ministry of Finance (see Buettner and Thöne, 2016).

There is no reason to give up the budget equilibrium principle as long as the development of expenditure and tax bases is reasonably predictable. Lack of flexibility means, however, that the budget cannot efficiently react to any abrupt crises, such as large refugee inflows. Protecting only the TOR and restricting the role of GNI-based OR to be residual means that almost 90% of the current ORs are subject to reform. The potential of influencing the redistribution between the countries is substantial. Similarly, the potential for economic effects is large.

MSs can retain 20% of custom duties as collection costs. This high share cannot be justified by the true costs. Since the overall role of the TOR has declined over the years, it does not make a big difference in the financing of the total budget, but, as a matter of principle, the collection cost share should be reduced.

The original mission of the HLGOR was to find more transparent, simple, fair and democratically accountable ways to finance the EU. The original report expanded the list of criteria markedly. It listed nine principles that should guide the reform. The two general ones include the fairness and transparency of the rules and the sufficiency and stability of revenue. The next criteria cluster can be classified as EU-specific: EAV, synergy between the EU and national budgets, subsidiarity and support to EU policies. Finally, there are three criteria linked to budgetary discipline: budget neutrality, overall fiscal burden and the unity of the budget.

Interestingly, the HLGOR used somewhat different criteria in its evaluation of OR options (HLGOR 2014). The general criteria used were *equity and fairness*, *efficiency*, *sufficiency and stability*, *transparency and simplicity*, *democratic accountability* and *budgetary discipline*. The EU-specific criteria used were *the focus on EAV, subsidiarity and limiting political transaction costs*. A major issue is how to weight these criteria, which are partly conflicting. The HLGOR indicated having focussed on the original criteria mentioned in the mission, but it remained unclear how this influenced the results. A third criteria list can be found from the background paper (Nunez Ferrer et al. 2016). In addition to the elements listed above, it emphasised economic considerations, such as optimal taxation theory and fiscal federalism, which were largely neglected in the final report.

In the final report of the HLGOR (2016), some of the elements of international resource allocation, such as the mobility of tax bases and the cross-border externalities of taxation, were discussed in terms of EAV, but not systematically. Furthermore, the total lack of microeconomic analysis is striking, especially because the report promoted the use of tax-based ORs, which influence the incentives of households and firms.

Efficiency is interpreted in the used criteria in a narrow sense. It involves only administrative and compliance costs in the EU and at the national level. This is understandable under the prevailing rules, as the operative OR scheme allows MSs to decide which taxes to use to finance national contributions. Thus, the current redistributive and distortive effects of financing the EU remain unclear. As a proxy, one might argue that countries with high total tax rates also have high marginal tax rates when financing the EU budget using domestic sources.

However, the introduction of tax-based ORs would change the behaviour of households and firms as well as market prices. Taxation distorts economic efficiency and lowers economic growth, at least if the starting point is a well-functioning market. Taxes can also be used to correct market failures or internalise environmental externalities but must be evaluated

against other alternatives, such as policy coordination, regulation and direct subsidies. Equity was considered in the HLGOR report (2016) mostly as an issue that involves redistribution between MSs, but direct taxes would also cause redistribution between EU citizens.

The presented guidelines and criteria have caused a lot of confusion. Even though most of the criteria overlap in the three lists, some are unique. More problematic is the assessment of the new OR options using these criteria, as the criteria are open to interpretation and the proposed taxes are inaccurately described.

2.2 Outcomes of the HLGOR's evaluation

The final report identified a list of suitable new resources grouped into two clusters: those related to the European Single Market and fiscal coordination and those related to the Energy Union and environment, climate and transport policies. The HLGOR noted that the latter group featured prominently (HLGOR 2016). Table 1 lists the current and new ORs.

Table 1 Own resources evaluated by the HLGOR

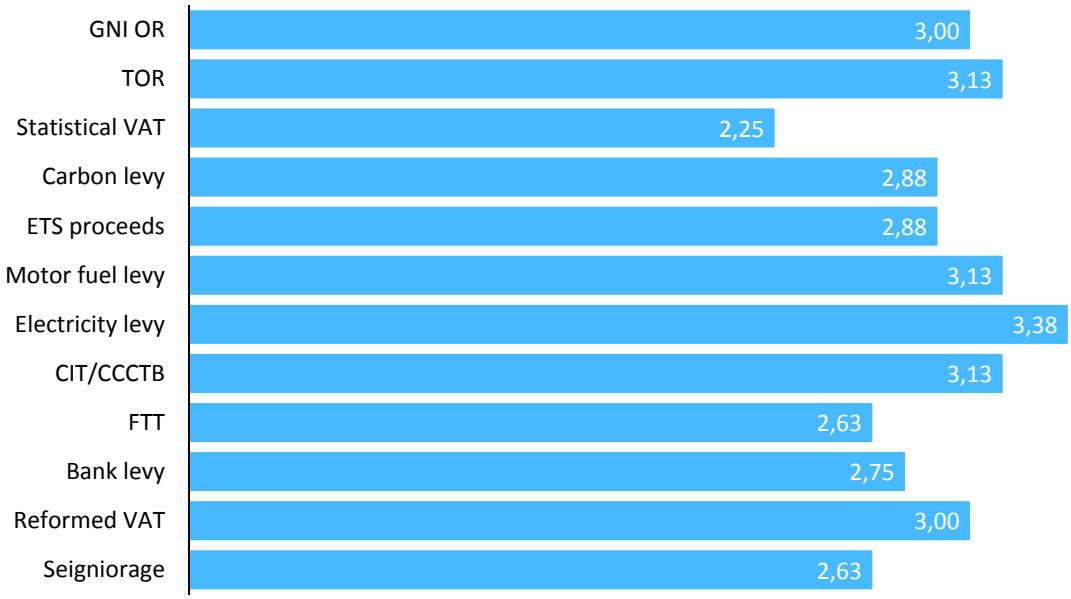
Current own resources	Suggested new own resources
GNI-based ORs	CO2 levy/carbon pricing
TORs	Inclusion of the EU ETS proceeds
Current VAT	Motor fuel levy
	Electricity tax-based ORs
	CCCTB, EU CIT
	FTT
	Bank levy or FAT
	Reformed EU VAT
	Seigniorage

The actual evaluation was verbal; as noted in the HLGOR report, any quantitative analysis would require a more precise definition of the new ORs. In addition, the options were scored as fulfilling the eight criteria as follows: none, modest, adequate, good or full. To give an overall view of the outcomes, the scores of the HLGOR were converted into numbers from 0–4. The average scores of the ORs are presented in Figure 3.

The GNI-based OR and the TOR performed relatively well in the evaluation, even though they score poorly in terms of EAV (Figure 4). The low score of the TOR must be a mistake, as the verbal evaluation stated that there is a clear link between the TOR and the EU customs policy. GNI-based OR scores were also lowered due to the corrections and contributions not being recorded as revenue attributed to the EU in national budgets. It receives, however, high points from equity from the HLGOR, even though it has been considered regressive.

The HLGOR presented two options for the reformed VAT-based OR. Both aim to use actual VAT receipts rather than a statistical tax base. The first is a fixed EU rate for goods and services, to which standard rates are applied in all MSs. This tax is based on the smallest common tax base and aims to simplify VAT rules and improve equity. The second is a fixed

Figure 3 Average scores of the new and old ORs



Source: HLGOR (2016) and own calculations.

EU rate to a wider harmonised VAT base and aims to harmonise taxes. It allows a lower tax rate since the base is broader. It is difficult to determine which of these was scored by the HLGOR. In any case, the main improvements are considered to be higher transparency and simplicity, which is understandable considering the complicated calculation of the current VAT-based OR.

The environmental cluster consists of a carbon levy or a CO2 tax, proceeds from the EU ETS, a motor fuel levy and electricity-based OR. This group aims to change the behaviour of consumers and producers to limit environmental problems. The success of this policy would result in lower revenue. A carbon levy/CO2 tax must be coordinated with the ETS to prevent double taxation and to ensure coverage. Carbon tax receives good scores for EAV from the HLGOR, which is rather obvious, since common carbon pricing would internalise environmental externalities and is non-distorting. The common tax redistributes money, however, between production sectors, consumers and MSs; therefore, it would be likely to be politically resisted and, if implemented, give rise to compensation requirements. Proceeds from the ETS would perform well in terms of EAV but would suffer from low and potentially volatile income.

A motor fuel levy is considered by the HLGOR to generate high points in dimensions other than equity, efficiency and political costs. The low efficiency score looks like a mistake when compared to the verbal evaluation. Equity and political cost concerns arise because of the importance of the current revenue in national budgets and the high variation in the existing tax rates. Electricity tax has the highest unweighted points in the HLGOR evaluation and receives good scores even in terms of political costs despite the verbal evaluation being much more sceptical.

The CIT base and, in particular, the harmonised version of the CCCTB receive high scores in most of the dimensions but have high political costs. Political problems are linked to tax

competition and the high mobility of tax bases, which would, on the other hand, result in large benefits in terms of harmonisation and coordination.

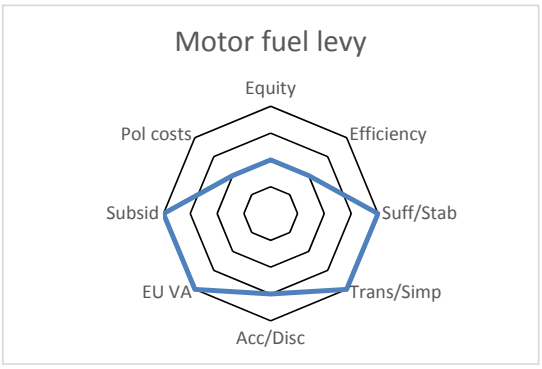
FTT is, in many ways, problematic. The revenue is highly volatile and gained largely from a few financial centres. In verbal evaluations, the political costs are low, but the given score does not match this. The high mobility of the tax base favour common coordinated taxation. A bank levy or a FAT has often been considered to be a better alternative. The HLGOR suggested that a move from risk-based fees to financing based on CIT by expanding the CCCTB to the banking sector or FAT makes sense in the medium-term perspective.

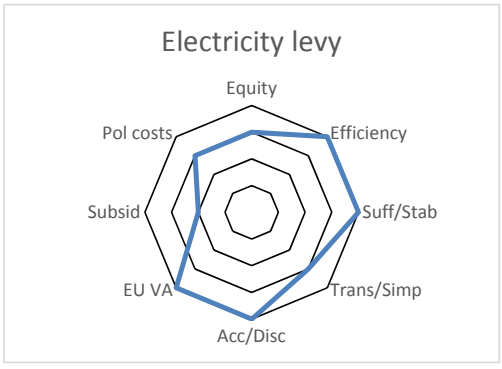
The last evaluated OR is the seigniorage income received by central banks from issuing currency. Due to its being volatile, small and restricted to eurozone countries, this tax base has low scores.

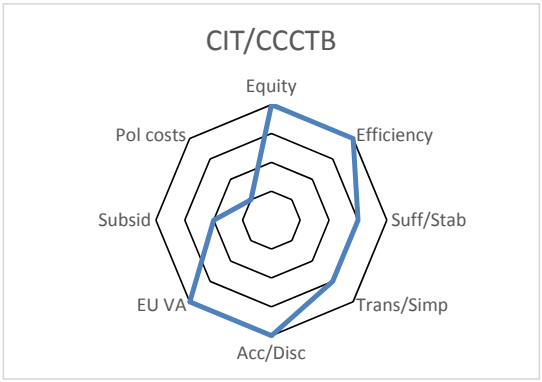
The HLGOR did not systematically assess the administrative costs of the new ORs. It is obvious that, for any new taxes and old taxes that require tax base harmonisation, the initial administrative costs are larger. As an example, redistributing the existing ETS proceeds and seigniorage income requires little effort. In addition, taxes that are already in use, such as motor fuel levies and electricity taxes, do not need much additional workload in the collection process. A CO2 levy is more problematic, especially if the consumption-based (CB) version was adopted. The HLGOR noted that simplifying VAT-based ORs would reduce administrative costs, but this depends on the details of implementation. The HLGOR also claimed that introducing FTT would not entail significant administrative costs, which is far from obvious. FAT would be simpler, since the number of taxpayers is smaller and the tax base is easier to define. In regards to the CCCTB, receiving only a single tax return from a corporate group instead of several would decrease the costs incurred by tax authorities. However, due to voluntary participation, tax authorities would have to maintain two separate systems, which would increase costs.

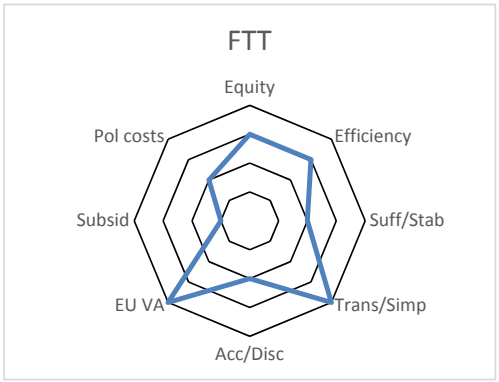
Figure 4 HLGOR scores transformed into radar charts

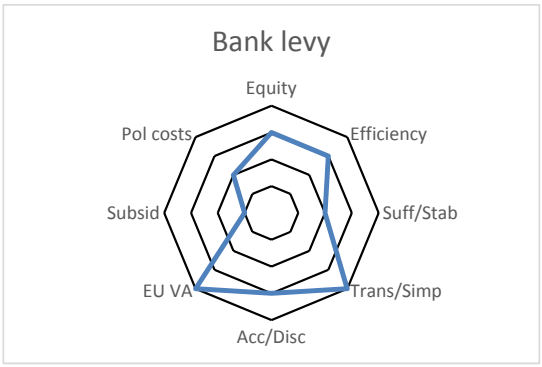


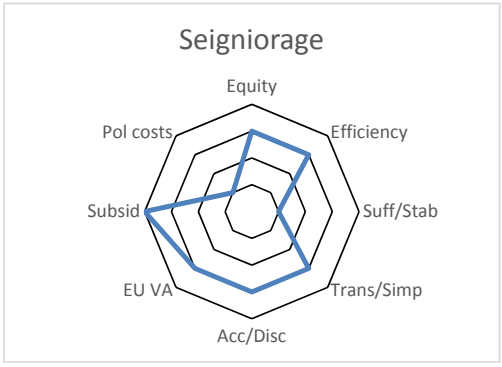












Source: HLGOR (2016) and own calculations.

3. EVALUATION OF SINGLE TAXES

This chapter provides an independent evaluation of the economic attributes of the proposed taxes. Since the details of the proposals and implementation are not known, the evaluation was based on the general properties of the taxes and their applicability as new ORs. We used optimal taxation theory and fiscal federalism to assess the options. The main principles of the latter are briefly discussed before analysing the proposed new ORs one by one.

Fiscal federalism is a field of research that focusses on how to best organise the federal state, in particular, which government functions should be carried out at the central government level and which should be decentralised to the state level or the local level. This naturally brings how the taxing powers should be allocated between the different levels of government into question.

One of the key insights of the literature is that the mobility of taxpayers and tax bases has important implications for the ideal structure of a multi-level government. A decentralised system commonly leads to differences in tax rates and bases between jurisdictions, which is likely to distort the allocation of mobile production factors across different locations. Furthermore, the opportunity to affect the allocation of resources by own decisions encourages local governments to compete over taxpayers and mobile bases. The literature also pays attention to equity viewpoints and the administrative cost implications of alternative ways to organise the federal state. For example, the strong variation in the size of some key tax bases (e.g. natural resources) across jurisdictions in a decentralised system may lead to inequities and differences in the abilities of local governments to provide public services. Centralising such revenue sources would be well motivated. Similarly, if the implementation of a tax causes large fixed costs, then centralisation would be an attractive choice.

The literature proposed the following criteria for taxes that best suit the central government (Oates 1999; Boadway and Shah 2009; Bird 2008):

1. Mobile tax bases create inefficiencies in a decentralised context. Therefore, such bases should be assigned to the central government.
2. Tax bases that span over the borders of jurisdictions are likely to cause high administrative and compliance costs and distort cross-border activities. Therefore, they should be collected centrally.
3. Volatile tax bases suit the central government since the ability to spread risks and absorb shocks is best at the central level.
4. Taxes that serve distributional goals (progressive taxes) or other nation-wide (federation-wide) societal policies best suit the central level.
5. Taxes that yield unevenly distributed revenue across jurisdictions may lead to an uneven ability to provide public services. In federations with unified societal goals, unevenly distributed revenue sources should be assigned to the central level, and the revenue should be transferred to local governments using intergovernmental transfers.

The list was mainly drawn from the point of view of a typical federalist nation state, such as the United States and Canada. The EU differs from this benchmark in several aspects. For example, there is no strong central government with taxing powers, and MSs are independent countries with wide and varying social and economic priorities. Therefore, some of the principles, specifically, the fourth and fifth criteria, lose their relevance in the EU.

The literature also poses the question whether harmonisation could be a substitute for centralisation. It admits that, if, for example, taxes on mobile bases or with overlapping bases across jurisdictions can be harmonised, such taxes might be successfully implemented by lower-level governments. This applies to, for example, VAT, corporate tax and excise taxes. However, the literature also mentions that harmonisation has been difficult to achieve around the world. The results have been most successful when the central government has strong power. A mixed solution has been, in some cases, a way forward: experiences from the practices of federal states have shown that sharing tax bases or revenue between different levels of government aids harmonisation (Boadway 2006).

3.1 A CO2 levy/carbon pricing

3.1.1 Background

The EU ETS system covers only 45% of the total greenhouse gas emissions by the EU. Therefore, different options can be considered to tackle the emissions not covered by the ETS. In essence, this means, especially, the emissions originating from the transport sector (excluding aviation), agriculture, households and small-scale industrial producers. While general energy taxes exist in all MSs, typically covering energy products and motor vehicles, specific CO2 taxes are in use only in a few countries, including Finland.

The HLGOR report (2016) discussed two main options for taxing CO2 in the EU and creating EU ORs from the tax yield: 1) posing a CO2 tax on the main energy products used by consumers and non-ETS producers (with likely exemptions to specific sectors such as agriculture) or 2) posing a CO2 tax on the final consumption of all commodities, where the tax is based on the global emissions generated during the entire production process (i.e. taxing emissions using consumption-based (CB) accounting). The European Commission suggested a minimum CO2 levy of 20 EUR/tonne in their latest proposal to revise the Energy Taxation Directive (2011), but this proposal was withdrawn in 2015 due to the failure to find a good compromise; this proposal followed the first option. Therefore, the HLGOR (2016) discussed the potential to pose a general CO2 levy on all commodities according to their global emissions in more detail. They referred to a study by Luptáčik and Luptáčik (2016) for the European Economic and Social Committee on the potential of such a tax as a new EU OR. In addition to removing the risk of carbon leakage and the effects of global cost competitiveness, a CB CO2 levy would better tax the emissions generated by EU consumers. For example, Boitier (2012) found that the total emissions of EU consumers are larger than what producers in the EU emit due to the fragmentation of production processes and the importation of emission-heavy intermediate and final products from other areas. However, the exact measurement of consumption-based emissions is rather difficult; thus, estimates vary significantly (Sato 2014).

Details on the exact proposal to tax CO2 emissions following CB accounting are not included in the HLGOR report (2016) or in Luptáčik and Luptáčik (2016). This makes it hard to analyse the full potential of such a tax in practice as an EU OR. For example, Afionis et al. (2017) discussed the existing literature on CB carbon taxes in detail and concluded that there are three main possibilities to set up such a system in practice: 1) the full replacement of current production-based (PB) accounting systems with the CB system (this would mean that the ETS would be removed in the EU), 2) shared responsibility to split the mitigation cost between producers and consumers and 3) the full continuation of the current PB sys-

tem (e.g. the ETS) complemented by the CB accounting system. The OECD and the United Kingdom government have already demonstrated interest in the last option, as the first option would likely be technically heavy to set up and operate and would create less incentives for producers of the same product lines to minimise their emissions because the tax would be set at the product level.

3.1.2 A CO2 levy as a new OR

Compared to the current Finnish CO2 tax of 58 EUR/tonne, the proposed level is bit lower. However, if the new system would cover all commodities in the CB accounting system, the tax base in Finland would likely increase, as Finland seems to be a net importer of emissions (Boitier 2012). However, as the details of the system have not been developed, the actual effects on the Finnish economy cannot yet be determined.

In terms of fiscal federalism, the harmonisation of CO2 taxes would be required at the EU level, as CO2 taxes can affect the global cost competitiveness of firms and their location decisions. In addition, harmonisation is essential to ensure the cost effectiveness of emission cuts. While non-ETS sectors face typically significantly lower carbon leakage risks, a general CP carbon tax could affect the intermediate costs of firms with higher carbon leakage risks (depending on the details of the system). The tax yields of a CO2 levy would also likely be unevenly distributed across EU countries depending on, for example, their consumption patterns and geography. In addition, a uniform CO2 tax for the whole EU would affect lower-income countries significantly more than higher-income countries and might require possible compensation systems for consumers (e.g. by lowering labour taxation, as proposed by Luptáčik and Luptáčik 2016). In general, the case for using the tax yield as an EU OR is less clear than the need for harmonisation, and its optimality depends on the actual structure of the system. Possible overlap or complementarity with the EU ETS would need to be considered very carefully. Further, detailed analyses on the impacts of the different options to set up the system should be conducted. To conclude, a general EU-wide CO2 levy is a good candidate for a significant new OR, but the actual details of how to set up such a tax in practice would need to be considered in significantly greater detail before its implementation can be considered.

3.1.3 Motor fuel levies

The HLGOR also discussed the option of transferring revenue from current levies on motor fuels to the EU. These taxes are loosely coordinated by the 2003 Energy Tax Directive. Both tax rates and bases vary across MSs. Six MSs, including Finland, target the tax partly based on CO2 emissions. The tax-to-GDP ratio varies, from 0.85% in Denmark to 2.79% in Slovenia. Finland's score, 1.5%, is close to the EU average of 1.4% (European Commission 2017b). The HLGOR (p. 45) argued that, if a share of this national revenue was transferred to the EU level, the change would not require harmonisation. It is difficult to agree on this. From an inter-nation equity point of view, the tax base should be harmonised. The efficiency and fiscal federalism principles favour aligning the taxes with the EU's environmental goals, in line with the 2011 directive proposal. In sum, the tax bases of current motor fuel levies should be harmonised and developed for CO2 taxes before including the source in the ORs.

3.2 EU ETS proceeds

3.2.1 Background

The EU ETS was launched in 2005 to reduce industrial greenhouse gas emissions. The system covers around 45% of the EU's total greenhouse gas emissions since the transport sector (excluding aviation), agriculture and small-scale producers are not included in the ETS. Larger industries were given a cap to their emissions under the system and are required to obtain or buy emission allowances from ETS auctions or from secondary markets to cover their emissions under this cap and trade system. National governments are allowed to allocate free allowances, especially to installations, which are considered to face carbon leakage risks (i.e. a risk of reallocation to regions without the ETS).

Currently, proceeds from auctions have been relatively low in comparison to the total EU budget requirement, as 50% of the ETS proceeds have been earmarked for climate-related activities and auction prices have remained relatively low (around 5–10 EUR/CO2 tonne). National governments have obtained the remaining 50% of auction proceeds. Depending on the production structure of the country, the amount of proceeds varies. In total, around 43% of the total amount of allowances was allocated to installations for free from 2013–2020 according to the European Commission[1], and this share is expected to remain the same after 2020. However, the total amount of allowances will decline each year by 1.74% during the third trading period (2013–2020) and by 2.2% during the fourth trading period (2021–2030). In Finland the revenue from ETS proceeds has been around 60-90 million euros annually during 2013–2017. [2, 3]

3.2.2 ETS proceeds as a new OR

In terms of the main findings on fiscal federalism, the ETS system falls under many of the cases in which it would be optimal to shift the taxation to the federal level (Boadway 2006; Oates 1999; Inman and Rubinfeld 2014): 1) the tax base is mobile, and firms can reallocate their installations to other countries with lower/no emission taxes, 2) the tax yield is unevenly distributed across EU countries since it depends on local production structures and technological levels and 3) the system is used as a means to obtain important non-fiscal targets to lower emissions and combat climate change. However, due to the global spread of emissions, it would be even better to tax greenhouse gas emissions at the global level and not just at the federal level in the EU. As this does not seem likely in practise, controlling emissions taxation in the EU is better than using various national systems in order to prevent carbon leakage. However, taking into account that the current ETS system covers only around 45% of the EU's total greenhouse emissions, the system is not fully optimal to combat climate change. For example, a more general carbon tax system that controls all emissions could be more optimal in the future if it is well designed.

While ETS proceeds seem optimal for federal-level taxation, the expected sufficiency and stability of these proceeds are low in comparison to, for example, a more general carbon tax system. According to the HLGOR (2016), the total revenue generated by the auctioning of allowances in 2013 was 3.6 billion EUR or around 2.5% of the total EU budget. If the 50%

1 https://ec.europa.eu/clima/sites/clima/files/factsheet_ets_en.pdf

2 https://www.energiavirasto.fi/toteutuneet-huutokaupat

3 The new flexibilities included in the Effort Sharing Regulation might lower Finnish ETS proceeds in the future: https://ec.europa.eu/clima/policies/effort/proposal_en

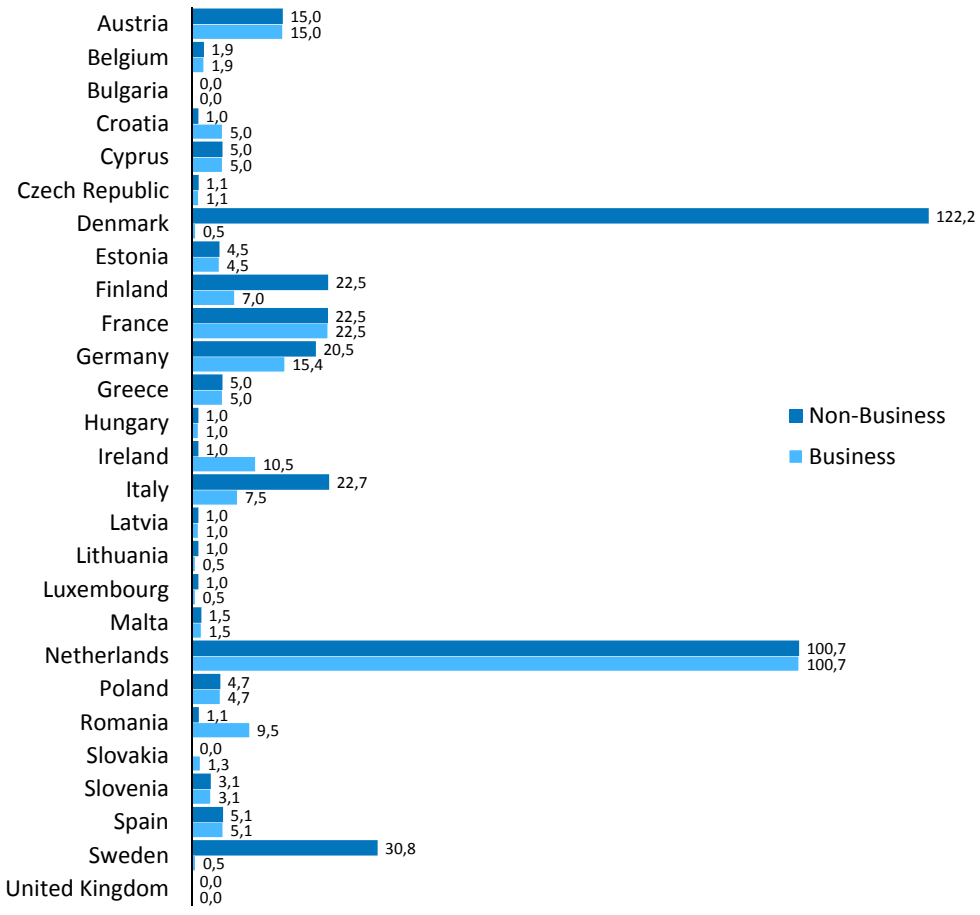
quota of the earmarked funds were removed, the revenue would increase, but it would still be limited compared to the need for EU budget funds and the revenue possibilities provided by other options. Higher revenue could be obtained if the auctioning price was increased significantly. Alternatively, the number of free allowances could be limited even further. To improve the yield of the system and its functioning in reducing greenhouse emissions, it is important to set a proper price floor to allowances, for example, by setting a reserved price for auctions. As the allowance prices are set based on supply and demand in auctions, auction yields vary significantly over time, and it can be difficult to estimate their total in advance. In other words, the use of ETS proceeds as an EU OR seems to have potential but would generate a rather limited yield without improvements to the system.

3.3 Electricity tax

3.3.1 Background

The EU's current Energy Taxation Directive requires all MSs to levy a tax on electricity supply. The directive sets minimum rates at 1.0 EUR per MWh for non-business users and 0.5 EUR per MWh for business users. Above the minima, MSs are free to set their own tax rates. The directive also defines what exceptions are allowed and under which conditions.

Figure 5 Electricity tax rates for business and non-business use, 2017, EUR per MWh



Source: European Commission (2017).

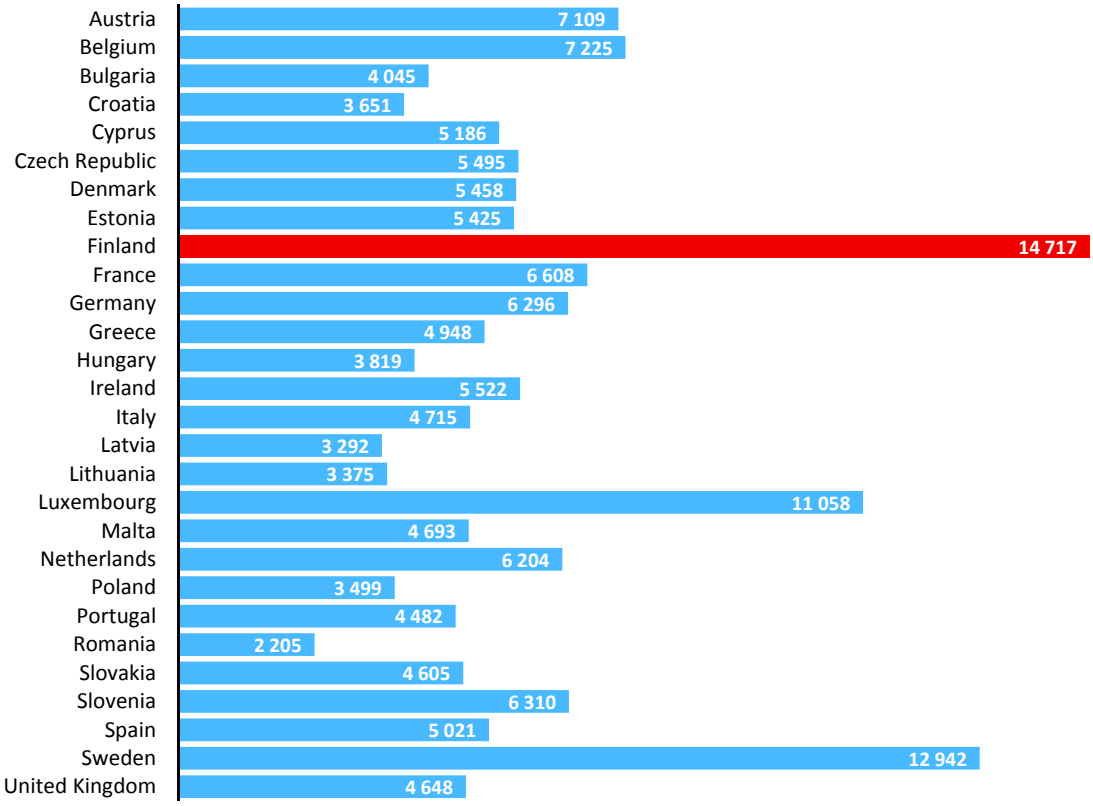
The current practices concerning tax rates vary significantly across MSs (Figure 5). In a large group of countries, tax rates are set at or close to the minimum rates. Many new MSs follow this policy. In the second group, the tax rate levied on non-business consumers is around 20 EUR per MWh, and the rate for business users is generally the same or lower. This group includes Germany, France, Finland and Sweden, among others. The third group, consisting of Denmark and the Netherlands, sets very high rates in certain situations. For example, Denmark's statutory rate for non-business consumers is 122 EUR per MWh, while the rate for business consumers is set at the minimum (0.5 EUR per MWh). A similar situation concerns tax exemptions and credits; generally, MS systems vary a lot (European Commission 2017).

According to the unofficial statistics of the European Commission, the tax revenue collected through electricity tax (before potential tax credits) varies from zero to just over 0.5% of the GDP (European Commission 2017b). All the Nordic countries are at the high end, Finland's figure being 0.53%, while the non-Nordic EU average is 0.09%.

This variation in revenue is explained by large differences in terms of tax rates and tax bases (Figure 6). The per capita consumption of electricity varies from 2 200 kWh in Romania to 14 700 kWh in Finland. The European weighted average is 5 500 kWh.

In 2011, the European Commission proposed a thorough revision of the directive in order to bring the rules more in line with the EU's energy and climate change objectives. While the current minimum rates for different products are mostly based on the volume of the prod-

Figure 6 Electricity consumption in EU MSs, 2016, kWh/capita



Source: Eurostat.

uct without any common link to energy content or CO2 emissions, the key goal of the 2011 proposal was to establish a consistent CO2 taxation that complements the carbon tax signal of the ETS. A further goal of the revision was to reduce energy consumption. The role of electricity taxation remains unclear in the European Commission's documents, however. A possible interpretation is that, depending on the weights put on the two goals (saving energy and reducing CO2 emissions), the consistent implementation of the principles would imply either no or a fairly low tax on electricity (Diemer 2011; European Commission 2011).

In its Energy Union initiative, the European Commission proposed measures to redesign the common EU electricity market. It has been argued that this plan would benefit from the harmonisation of electricity taxation. One aspect here is the move from PB taxation to CB taxation, which would apparently aid the cross-border trade of electricity.

The current variation in the level of electricity taxation across MSs is likely to distort behaviour, at least outside the household sector. The differences cannot be motivated by an attempt to internalise external effects; rather, they reflect fiscal motives and possibly also tax competition (e.g. low rates for business users, exemptions and tax refunds). Therefore, redesigning the system would be welcome. It is also plausible that a well-functioning common energy market requires harmonised and redesigned tax rules. The natural context for this is a broader energy tax reform.

3.3.2 Electricity tax as a new OR

The HGLOR discussed the use of electricity tax as a revenue source in the EU's ORs. This tax has high scores in the evaluation. In terms of efficiency and fiscal federalism, electricity taxation should be harmonised and could be an OR. Further, the move to a harmonised or centralised electricity tax should not face any insuperable administrative or technical problems. However, transferring the tax to the EU's ORs would hardly give any additional benefits compared to harmonisation. The revenue potential is moderate at most at 0.1–0.3% of the GDP if the current level is used as a starting point. As such, other abundant revenue sources would be needed. Further, the goal of a harmonised EU-wide electricity tax seems distant. Currently, there is no concrete preparatory process for electricity tax in the European Commission. In addition, the role of the tax in the combined system of a CO2-oriented energy tax and the ETS remains unclear.

Finland's electricity consumption in terms of its tax base of electricity tax is the highest in Europe and is two to three times higher than that of most states in Central and Southern Europe. This implies that the relative revenue share calculated at a common tax rate on a harmonised tax base would be high in Finland compared to other MSs.

3.4 The CCCTB

3.4.1 Background

The current tax system and its problems

The current CIT system, in which countries tax separate entities of corporate groups within their territory (i.e. separate accounting source-based taxation), matches poorly with globalised multinational enterprises (MNEs). Such enterprises make decisions by taking global possibilities into account, whereas separate countries are largely restricted in passing

their own tax legislations and making bilateral agreements with other countries to tax the cross-border activities of MNEs. (OECD 2013a, b; European Commission 2016a,b)

Differences between countries both in tax bases and tax rates provide MNEs with the opportunity to reduce tax burdens via profit-shifting activities. The literature also acknowledges several ways that MNEs take advantage of these opportunities, most commonly by debt shifting, transfer pricing and strategic location decisions for intangible assets, such as patents. When exercising debt shifting, a company in a low-tax country provides a loan to other company within a group, but in a high-tax country. The debt shifting then takes place from the high-tax country to the low-tax country through interest payments. Transfer pricing occurs when the pricing of intra-group transactions differs from arm's length pricing, which refers to pricing of transactions between unrelated parties. For intangible assets, an MNE is incentivised to choose locations in low-tax countries, where royalties from high-value assets are subject to low tax rates. In addition, their prices are sometimes difficult to determine, which allows MNEs to misprice the transactions in order to shift profits to low-tax countries and further reduce tax burdens. In addition to profit-shifting decisions, the real investment decisions of MNEs are affected and distorted by tax rate and tax base differences across countries. As opposed to profit shifting, investment decisions can both shift profits to another country and create positive spillover effects to that country. (Dharmapala 2014, 2016; Egger and Stimmelmayr 2017)

The behaviour of MNEs encourages also countries to behave strategically to protect their tax bases and participate in tax competition in terms of both tax bases and tax rates. In particular, special tax treatments, such as patent boxes, have become popular among countries because this not only attracts income via profit shifting but also provides positive spillover by attracting real investments. Tax competition has in turn raised the problem of global tax base erosion following from the consequent tax rate reductions of countries.

Current initiatives

The EU introduced an anti-tax avoidance directive (ATAD) to reduce profit-shifting of MNEs by better aligning taxation with the location where the economic activity takes place (European Commission 2016c). However, even if some progress has been made, this directive still retains the basic principles of the current tax system (i.e. separate accounting and source-based principles) and remains incapable of solving the remaining problems. Thus, a wider approach is needed, such as the directive proposal of the CCCTB. The goal of the proposal is to provide a fairer and more efficient corporate tax system within Europe. Thus, it is not only targeted to reduce aggressive tax planning among MNEs but has a broader goal of harmonising the corporate tax system (European Commission 2016a, b). The CCCTB is introduced in two steps: first, tax bases are harmonised, and, second, tax bases are consolidated and apportioned across countries. The setting of tax rates is left to the EU MSs. Compared to its predecessor introduced in 2011, participation in the CCCTB system is not voluntary for all firms but is mandatory for large groups for which turnover exceeds a given threshold.

Regarding the tax revenues of a single country an important feature of the CCCTB is how a common tax base is allocated across countries. This allocation is determined by formulary apportionment, which includes three factors that are considered, in the proposal, to illustrate the location where the economic activity takes place; however, the formula may not capture very well the location for value added. The three factors that are taken into account in the formulary apportionment with equal weights are destination-based sales, labour (both the

number of employees and payroll) and the assets of the group. In addition, the CCCTB introduces a super-deduction for research and development investments and an equity-based deduction (i.e. allowance for growth and investment; AGI) that aims to reduce debt bias and enhance the European economy. Due to the additional elements, it is possible that companies not mandated to be part of the system will participate.

How does the CCCTB succeed?

The introduction of the CCCTB will improve the current corporate tax system by removing incentives to shift profits between countries to reduce tax burdens and by balancing loss procedures. However, even if the CCCTB succeeds in removing some problems of the current system, it also introduces new ones, such as the manipulation of formulary apportionment. Corporate groups have an incentive to locate their sales, labour and assets in low-tax countries in CCCTB because then a larger fraction of their tax base is taxed by low tax rates, reducing tax burdens. The introduction of CCCTB thus replaces the profit-shifting incentives in the current tax system by the incentives to relocate their real activity, which could intensify tax competition between countries rather than reduce it (Nielsen et al. 2010). Even if it is not included in the CCCTB proposal, the harmonisation or limitation of tax rates by setting a minimum corporate tax rate might change this result.

The harmonisation of tax rates was discussed by van der Horst et al. (2007) and Bettendorf et al. (2010). Whereas Bettendorf et al. (2010) stated that the remaining tax competition provides rationale for tax rate harmonisation, van der Horst et al. (2007) argued that all gains from consolidation cannot be fully grasped without tax rate harmonisation.

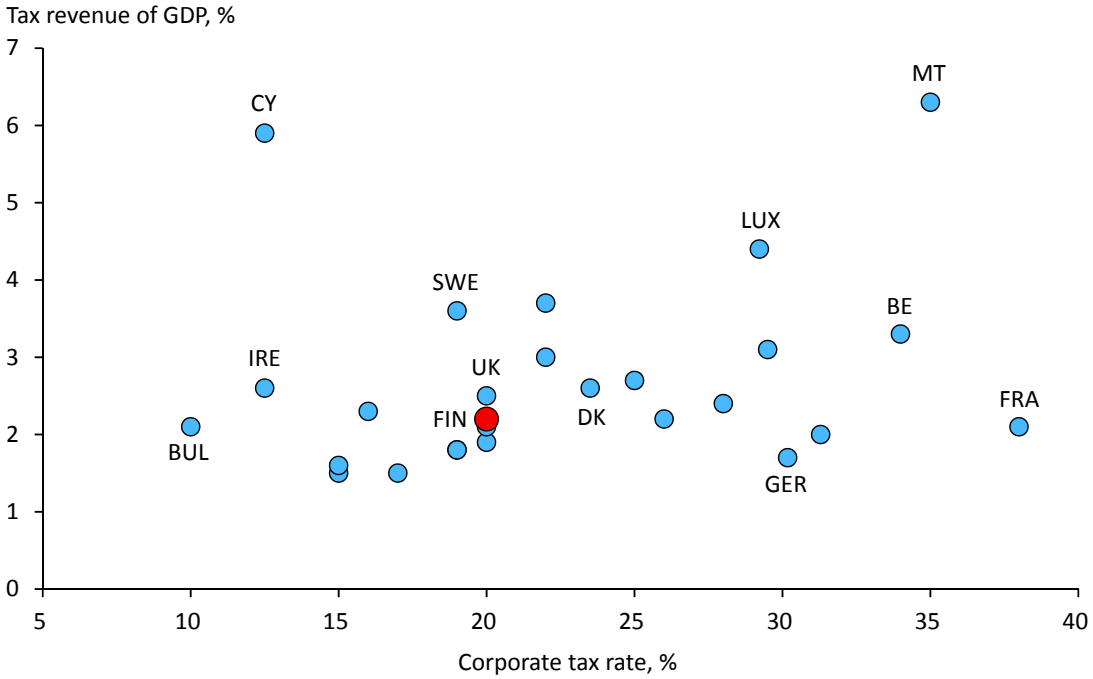
It remains unclear whether the reform increases or decreases administrative costs. Receiving a single tax return from a corporate group instead of several decreases the costs of tax authorities; however, due to voluntary participation, tax authorities must maintain two systems, which increases costs. The tax compliance costs of corporate groups in the CCCTB are likely to decrease, as they only have to file a single tax return.

3.4.2 The CCCTB as a new OR

In addition to being a CIT system within the EU, the CCCTB may also be considered as a basis for the common resource. In that case, some additional problems may occur. First, co-movements between corporate tax revenue and the business cycle may pose a problem from the EU resource point of view and may require additional resources. Second, the relative contributions of individual countries to this common resource may become an issue if this tax revenue is a large source of country's overall tax revenue, making it difficult to agree on a common resource. Figure 7 shows the CIT rates and the CIT revenues among EU countries in 2015, showing that CIT tax revenue as a fraction of GDP varies from 1.5% to more than 6% (Finland: 2.1%). The figure also shows that the CIT, as a fraction of GDP, varies with the given corporate tax rates, suggesting that tax bases differ between countries. The efficiency problems of the CCCTB arising from the locations of formulary factors support harmonisation, which would take place through tax bases and a minimum tax rate.

In the eyes of a single country it is important to consider the tax revenues, which are largely determined by factors in the formulary apportionment. Given that Finland is a small country, the destination-based sales factor for Finland is likely to remain small in the formulary. The same argument holds for the labour factor. Regarding assets, intangibles are not taken into account when calculating apportionment, which may weaken the relative position of Finland.

Figure 7 Dispersion of CIT revenue/GDP and CIT rates, 2015



Source: Eurostat.

In summary, it is difficult to come up with a factor that would make the allocation of a common tax base for Finland very large. Regarding the magnitude of the tax revenue change, it is difficult to find reliable results. Harju and Kari (2010) reported a 6% reduction in Finnish corporate tax revenue when moving to a common consolidated tax base system, which was proposed in 2010. However, when part of the CCCTB revenue is taken into the EU's ORs, it reduces the possible negative tax revenue consequences of unfavourable formulary apportionment. Regarding tax competition, the minimum corporate tax rate may gain support in Finland.

3.5 FTT

3.5.1 Background

In the aftermath of the September 2011 financial crisis, the European Commission published its proposal for an FTT to be implemented in all MSs. The tax was wide in scope, covering roughly all transactions with nearly all financial instruments. It would have been levied if one party to the transaction was a financial institution and if one party (i.e. a natural person, commercial firm or financial institution) was located in an MS. Transactions would have been caught whether they were executed in an organised market or over the counter. However, primary market transactions, such as share and bond issues and spot currency transactions, would have been exempt. The proposed tax rates were a minimum 0.1% for trade in shares and bonds and 0.01% for derivatives. According to the proposal, the tax would have been included in the EU's ORs. The stated goals of the EU proposal were to prevent distortions stemming from uncoordinated national transaction taxes to ensure that the financial sector made a fair and substantial contribution to public finances and to discourage activities

that did not contribute to the efficiency of the financial sector or the operation of the real economy.

In 2012, EU finance ministers concluded that they could not reach the required unanimous agreement on an EU-wide FTT. However, a number of MSs were still willing to participate in the enhanced cooperation procedure (ECP). In February of 2013, the European Commission presented a revised proposal for an FTT based on the ECP. The proposal included new anti-relocation and anti-abuse rules. One of the novelties of this proposal was the issuance principle, which broadened the geographical reach of the tax; even if none of the parties to a transaction are located in a participating state, FTT is due if the transaction concerns a financial instrument issued in one of the states. The number of participating countries was originally 11, including France, Germany, Italy and Spain, but shrunk to 10 after Estonia departed in 2015. The Nordic MSs are not among the participants, and participating countries have not reached common understanding on the details of the proposal. The revenue of the tax was estimated to be around 30 to 35 billion EUR or 0.4 to 0.5% of the GDP of the participating MSs.

Efficiency, equity and revenue implications

The pros and cons of transaction taxes on security trade have been debated in detail. The key questions have been whether such a tax could curtail short-term speculation without hurting the positive role of financial markets in the economy. Stiglitz (1989) and Summers and Summers (1989) argued that increasing transaction costs would decrease the volatility and shift capital used for speculation towards more beneficial activities. Others have predicted that the tax reduces transactions and harms the activities of market makers, which decreases liquidity and increases price volatility (Gomber et al. 2016). The tax is also seen to lower asset prices and increase the cost of capital for real investment (Matheson 2012).

A number of empirical studies have found a reduction in transaction volume and either an increase or no change in volatility as a response to an increase in transaction costs. A few studies have considered the effects on liquidity of the markets and have found a negative effect (Matheson 2012; Gomber et al. 2016). One widely cited empirical study by Umlauf (1993) considered the introduction of a transaction tax on share trade in Sweden in 1986 and found a 60% decline in trading in the Stockholm Stock Exchange together with a shift of trade towards London. Several new studies have considered the effects of FTTs recently introduced in France (2012) and Italy (2013). Gomber et al. (2016) assessed the effects of the tax on market quality in terms of trading activity, order book depth and price volatility and found that the first two aspects deteriorated while the third remained unchanged. The latter observation contradicted Stiglitz (1989), who predicted a reduction in volatility as a result of transaction tax. Coelho (2016) studied reforms from the optimal tax point of view and found ‘impressively large avoidance responses’ that rendered the tax a questionable method for raising revenue.

One approach to the FTT proposal was to ask how efficient an instrument was for achieving official goals (e.g. collecting revenue from the financial sector, serving as a regulatory method to improve efficiency of financial markets and coordinating transaction taxes in Europe; Vella et al. 2011). Recent economic literature (Gomber et al. 2016, Coelho 2016)) has shown that even the most developed applications of FTT, such as in France, were vulnerable to tax avoidance, making the tax an uncertain source of revenue. In addition, alternatives, such as a FAT, were commonly seen as more efficient and more predictable sources of revenue.

As discussed above, the efficiency of the FTT is not supported by the evidence, particularly in terms of its stabilising effect. A flood of new uncoordinated taxes would be a threat to the smooth functioning of the internal market; however, only a small number of proposed or implemented new taxes in this area were transaction taxes; most were bank levies and other forms of taxes on financial activities. Therefore, the coordination motive for establishing an FTT in Europe is not fully supported.

The current proposal aims to implement the tax in a fairly narrow subgroup of MSs. This makes the system more open to tax avoidance than implementation throughout the EU. Further, Suvanto (2013) found that the proposed FTT would destroy short-term trade in financial instruments between banks, which is a key element of monetary policy transmission in Europe; this would hinder the monetary policy measures of the ECB. In sum, the case for introducing an FTT to raise revenue and regulate financial markets remains unconvincing, and other regulatory and tax instruments should be used to achieve these goals.

3.5.2 FTT as a new OR

The tax base of the FTT is mobile, overlaps borders and provides tax revenue that is unevenly distributed throughout Europe. In light of fiscal federalism, it is the type of tax that should be collected at the highest administrative level in an economic union or, at the very least, should be harmonised. The proposed FTT does not satisfy the properties of a good tax; therefore, it should not be implemented in Europe. Finally, because the current restricted initiative would only cover 10 MSs, making it difficult for such taxation to contribute to the EU's ORs.

3.6 VAT of the financial sector

3.6.1 Background

There are many reasons why the current VAT exemption of financial services should be removed. First, such exemption goes against the uniform taxation of goods and services and favours financial products in the household consumption basket. Financial institutions are likely to add the VAT included in their inputs to the service prices, but the value added generated by the financial sector remains untaxed. Second, tax exemption causes sectoral distortions in production. Banks and insurance companies cannot deduct VAT included in their inputs, since the output is not taxed. This creates a bias in favour of self-supplied input. Financial services purchased by firms do not include VAT invoices that could be credited against their own VAT payments. As far as these services operate as input in production, the production efficiency theorem suggests that VAT should be deductible (Boadway and Keen 2003). Also, large firms are induced to introduce self-supplied financial services.

A more controversial issue is the outcomes of the implicit bail-out promise of the government to the sector due to its importance. This promise may create an externality that generates moral hazard in risk-taking (Afonso et al. 2015) and rents to the owners and employees of the financial institutions (Böhm et al. 2018). Taxing these rents would improve the allocation of economic resources.

Loss of tax revenue due to the VAT exemption is significant if the potential change in behaviour of firms and households (i.e. tax avoidance and lower amounts of transactions) is

not considered. The share of the financial sector (excluding the Bank of Finland) of the total value added is close to 3% in Finland.

Introducing financial sector VAT and increasing the tax rate generates the same implicit lump-sum tax on existing assets as VAT generates on other goods and services. VAT does not distort decisions when it is implemented as a surprise, but it increases redistribution, and, if expected, such a reform would reduce savings.

However, there are also reasons against introduction of the tax. The main reason for maintaining the tax exemption is the practical problems of extending the current invoice-credit method to those services (Keen, et al. 2010). In intermediation and brokerage services, costs are often hidden in the margins between selling prices and purchase prices, such as the interest margin. Defining the shares of the margin paid by each side of the transaction is difficult. Other practical problems include the definition of transactions or assets and the verification of the place where the trade is realised. In addition, the large number of transactions to be followed is a disadvantage.

A more detailed analysis shows that the justification of taxing financial services depends on the nature of the services. VAT should be targeted to service charges, not to the capital of financial transactions, risk sharing or time value of money (Poddar and Kalita 2010). Taxing fixed fees is associated with decisions to deposit or borrow and fees linked to the size of transactions are associated with decisions on how much to deposit or borrow. Boadway and Keen (2003) preferred taxing the former with VAT, due to its lump-sum nature, but Christiansen (2017a) disagreed even on the neutrality of taxing the fixed fees, claiming that, if income tax on the return to capital and VAT are optimally set, there is no reason to tax financial intermediation services.

Christiansen (2017b) studied VAT on insurance products and concluded that insurance that redistributes resources that are available for consumption should not be taxed, but property insurance, which parallels guarantees, should be taxed. Cnossen (2013) proposed extending an invoice-credit VAT to property and casualty insurance services and removing the current insurance premium taxes, recommending further that life and health insurers should be taxed based on wage sums and business cash flow.

Taxing internationally mobile financial services with VAT draws attention to the possibility of purchasing such services from countries that apply VAT exemptions. Financial services are not liable to VAT in the EU, even though some countries imitate VAT by taxing the profits and wages of financial institutions. Therefore, international coordination is needed. As the discussion above illustrates, there is no single answer to the question of whether and how financial services should be taxed.

Financial Activities Tax

Instead of calculating tax bases from single transactions, there is a more direct method of using the sum of labour costs and profits as the tax base, as suggested by Auerbach and Gordon (2002). Compared to introducing VAT, this method leaves the existing capital untaxed. Taxes that follow this approach are called Financial Activities Taxes (FATs). Keen et al. (2010) described three possible versions of the tax for different purposes: FAT1, FAT2 and FAT3.

FAT1 is the simplest version of the tax and addresses the under-taxation of financial services by taxing labour incomes and profits. Taxable profits must be defined similarly to those in the cash flow taxation of profits or in the allowance for corporate equity (ACE) model, if the aim is to prevent increases in the cost of capital. Both leave the normal rate of return untaxed. FAT1 corresponds VAT for transactions between financial institutions and consumers, because the invoice-credit VAT included in inputs and not allowed to be deducted captures value added at stages prior to financial intermediation, and the FAT captures the value added of the financial institutions (Keen et al. 2016).

FAT2 focusses on taxing pure rents, which can be taxed without economic distortions (Keen et al. 2010). This rent may arise in situations where the supply of services is limited. In the financial sector, rent is accrued both by owners in the form of very high profits and managers in the form of high wages or other remunerations. The rent of owners is automatically taxed in FAT1, as the normal rate of return is untaxed but profits beyond this are taxed. FAT2 modifies FAT1 by taxing wages above normal wage levels rather than all wages.

FAT3 limits risk taking among financial institutions by taxing above-normal returns with higher rates. The reason for excessive risk taking is externality created by the implicit bail-out promise of the government (Keen et al. 2011).

In addition to the tax base and rates, the deductibility of losses is important, considering that superfluous success is based on risky behaviour. In the neutral taxation of profits, represented here by cash-flow taxation and the ACE model, loss is defined as income below the normal rate of return and can be carried forward with interest. Keen et al. (2011) suggested that loss offsetting should not be adopted in FAT2 or FAT3 schemes because the definitive idea is to treat profits and losses asymmetrically.

Another design issue is the separation of business-to-business transactions to prevent their taxation. Firms are currently subject to credit-invoice VAT, but FAT does not generate invoices showing that the tax has been paid, causing production inefficiency distortion due to the cascading of VAT and FAT. Only approximate methods of estimating tax credits are available (Mirrlees Review 2011b). Keen et al. (2011) proposed that distortion should be limited by a low tax rate.

A final issue is border adjustment. VAT operates on a destination basis, and, if FAT follows this rule, exported financial services would be exempt, while imported services would be included in the tax base. If FAT is hidden in price margins, imports are harder to tax. A more practical solution would be to tax service production in the origin country, which would generate more tax revenue in countries with large exports of financial services. The competition in tax rates is likely to be more intense compared to that of destination-based tax (Keen et al. 2016).

FAT in Nordic countries

Iceland began applying the FAT 2011 as a part of its financial sector stabilisation programme after the financial crisis. The Icelandic FAT has two parts: a levy on the total remuneration paid to employees at a rate of 5.5% (in 2015) and a special income tax of 6% on financial institutions' corporate income tax base in excess of ISK 1 billion. FAT is levied on financial and insurance companies, but pension funds and official institutions wholly owned by the government are exempt (Davidsson and Thorleifsdottir 2013).

Norway has recently introduced FAT on the profits (2%) and payroll (5%) of financial institutions. The tax liability is complicated and is determined by the share of wage costs that are linked to financial services. For companies that are liable, total wages are taxed, unless the firm can show that it is carrying non-economic activities that can be separated for taxation (Norwegian Tax Administration 2018). Iceland and Norway apply FAT to the total CIT base, not just profits above the normal rates of return. Thus, FAT increases the required rate of return on investments by financial institutions.

Denmark applies a FAT of 14.1% on salaries, fringe benefits and social security contributions related to the VAT-exempt activities of financial institutions. In 2016, a Swedish committee proposed the introduction of a wage tax to any companies that produced financial products or bought such products abroad, with a suggested tax rate of 15%. The Swedish government rejected the proposal. The tax rates in Iceland, Norway and Denmark are rather low compared to the high general VAT rates charged in these countries, which may reflect FAT deductibility of non-financial firms and international tax avoidance possibilities.

In Finland, VAT is substituted with an insurance premium tax for certain insurance services, using the general VAT rate. The tax must be paid on property insurance and other types of insurance granted by non-life insurance companies. Insurance companies are liable for the services sold in Finland, but, if the service is bought from an insurance company that has no representation in Finland, the insured pays the tax. Firms cannot deduct the insurance premium tax from their VAT paid, and insurance companies cannot deduct VAT included in their input from the insurance premium tax.

3.6.2 FAT as a new OR

One of the benefits of a general VAT is that it does not allow for tax saving; if consumption is postponed, tax payment is referred, and the saved tax plus interest is available to pay the subsequent consumption tax. However, taxing financial services increases the costs of household borrowing and lowers saving yields. In this respect, FAT1 may be problematic. In contrast, rent taxation in FAT2 and tax on the excessive risk-taking associated with FAT3 should not influence the decisions of financial institutions and are less likely to be shifted to consumers (European Commission 2010). The real effects of implementing such taxes are difficult to estimate because little research has been conducted on the interest rate elasticity of saving and borrowing. An IMF (2010) study suggested the effects to be small; in the case of Finland, where capital income taxes have a broad base and a rather high rate, introducing an additional burden could create larger distortions in savings decisions.

Efficiency in terms of implementation and administrative and compliance costs vary among VAT variants. The credit-invoice VAT is the most problematic due to the large administrative burden. The FAT1 tax base is the easiest to calculate. FATs can also be seen as a way to limit sector growth and can be designed to excess returns and risk taking, although several other methods are available to achieve these targets, such as solvency regulations and stress testing of major banks. Regulation allocates buffers to balance sheets of the institutions, whereas taxation increases the capacity of the public sector to deal with crises (Keen 2011).

Financial institutions in MSs participating in the Single Resolution Mechanism are contributing (2016–2023) to a fund to be used in financial market crises. The contributions are based on the amount of deposits and risk characteristics of the individual institutions. A risk-based

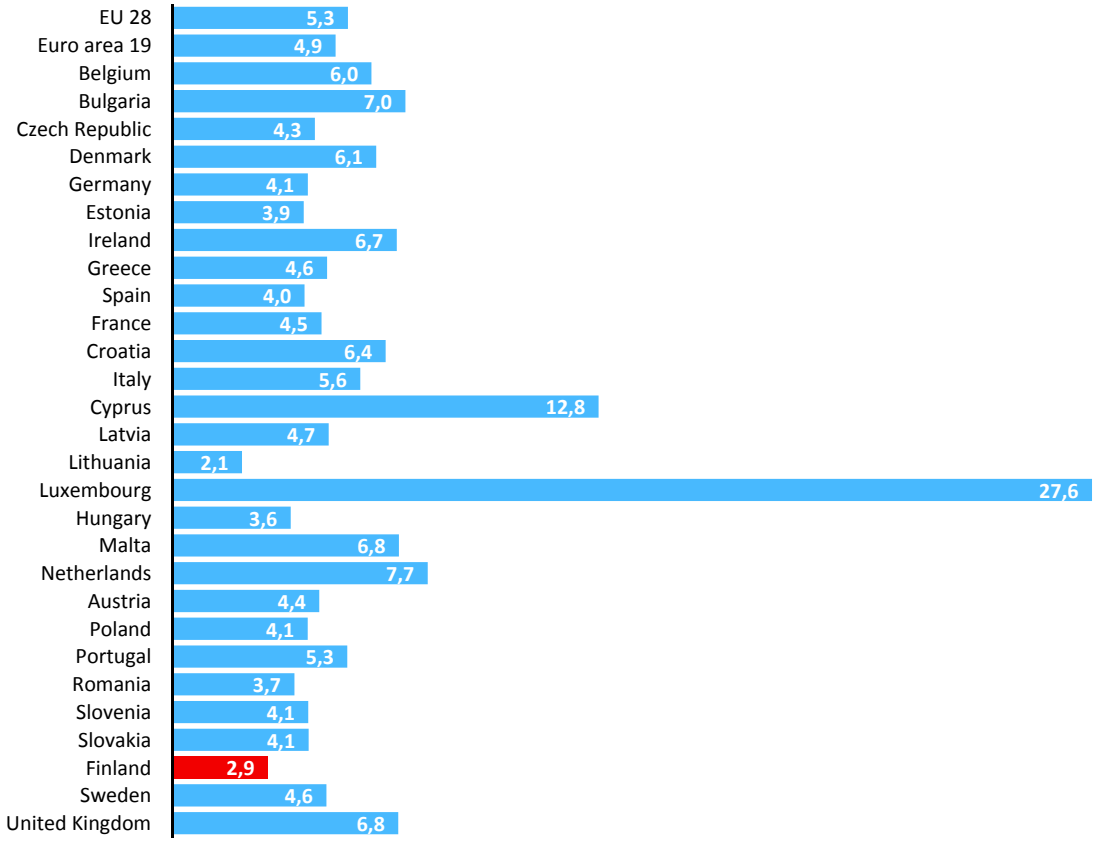
bank levy could also be a permanent revenue source. The tax base is calculated from the balance sheet, which should first be harmonised in MSs. A bank levy has a narrower tax base compared to FAT and is more suitable for internalizing externalities than for financing the EU budget.

Even though the FAT rate is likely to be flat, the tax base has progressive elements. Low-income households have few assets that rarely include housing loans. In addition, the introduction of FAT would create a lump-sum tax on existing assets, as more assets are needed for the consumption of the same amount of financial products due to higher prices. On the other hand, firms and households with the most assets have the best access to international financial markets.

If a flat rate FAT is applied and the revenue transferred to the EU budget, the redistribution of financing shares between EU countries would be beneficial to Finland because the country's 3% share of the value added is below the EU average (unweighted average = 6% and average using value-added weights = 5%). However, the financial burden compared to the current GNI-based sharing rule would vary wildly among EU countries (Figure 8), which limits the political acceptance of FAT-based ORs.

The true amount of tax revenue to be collected depends on the tax rate, the extent of tax avoidance and changes in the use of the financial services. In countries that use some version of FAT, tax rates are markedly lower than the general VAT rate. FAT1 has the largest

Figure 8 Value-added share of the financial sector, EU 28 2016



Source: Eurostat.

tax base, and FAT3 has the narrowest. To compensate for the VAT exemption of financial markets, the FAT3 rate should be high. The value added of the financial sector is in any case a rather volatile tax base.

Financial services are a mobile tax base, and much of their trade is concentrated in a few financial centres and countries. Therefore, fiscal federalism arguments justify coordination and the centralised collection of tax. There has also been discussion of whether only the most committed EU countries should participate—several countries have already applied some substitute of FAT. However, regional differentiation and multi-speed integration are problematic for mobile tax bases because they make it possible to buy services from exempt countries. Brexit broadens the tax avoidance possibilities further.

To conclude, tax exemption from financial services goes against the principles of a uniform VAT, distorts production efficiency and lowers tax revenue. However, extending the current invoice-credit method for VAT to these services is not possible due to the large amount of transactions to be followed. The suggested alternative (i.e. FAT) taxes the wages and pure profits of financial institutions, providing approximately the same tax base. It does not, however, provide deduction of the tax to non-financial firms and is likely to distort the consumption smoothing decisions of the households. Moreover, if it is applied to total profits, as in Iceland and Norway, it distorts the investment decisions of the financial institutions, just as the current corporate income tax. The high international mobility of the tax base also makes it possible to avoid taxes. Simple solutions to these problems are not available. Low tax rates alleviate distortions but limit tax revenue, although this is the solution used by several Nordic countries. An exemption for a riskless rate of return to equity would remove the increase in the cost of capital in the financial sector but lower revenue.

Finland should promote the international coordination of tax bases and the introduction of a low minimum tax rate. Implementation of FAT in Finland would tax value added in the entire financial sector and replace the insurance contribution tax. In 2016, this shift would have allowed introduction of a 14.3% FAT rate without changing tax revenue. Another policy conclusion is that, even after implementing these steps, an equal-rate FAT is not easily accepted as a new OR for the EU budget due to significant variation in tax bases among MSs.

3.7 Reformed general VAT

3.7.1 Background

Value added tax (VAT) has many desirable properties, such as not distorting saving and investment decisions, production, trade, and competitiveness (IFS 2011). Firms can deduct the VAT included in their purchased inputs from the VAT paid for their sales. Therefore, the incidence of the tax is on private consumption. VAT does, however, distort labour supply decisions by increasing consumer prices and thereby reducing real wages.

In practise, no country applies VAT to all goods and services or with equal rates. Tax exemptions break the invoice-credit chain and influence production decisions and, together with reduced tax rates, generate compliance costs and affect consumption choices. The main argument used in favour of reduced rates is redistribution. Some necessities, such as food and housing, comprise a large share of the budgets of low-income people. Redistribution is, however, more efficiently performed by combining flat rate consumption and progressive

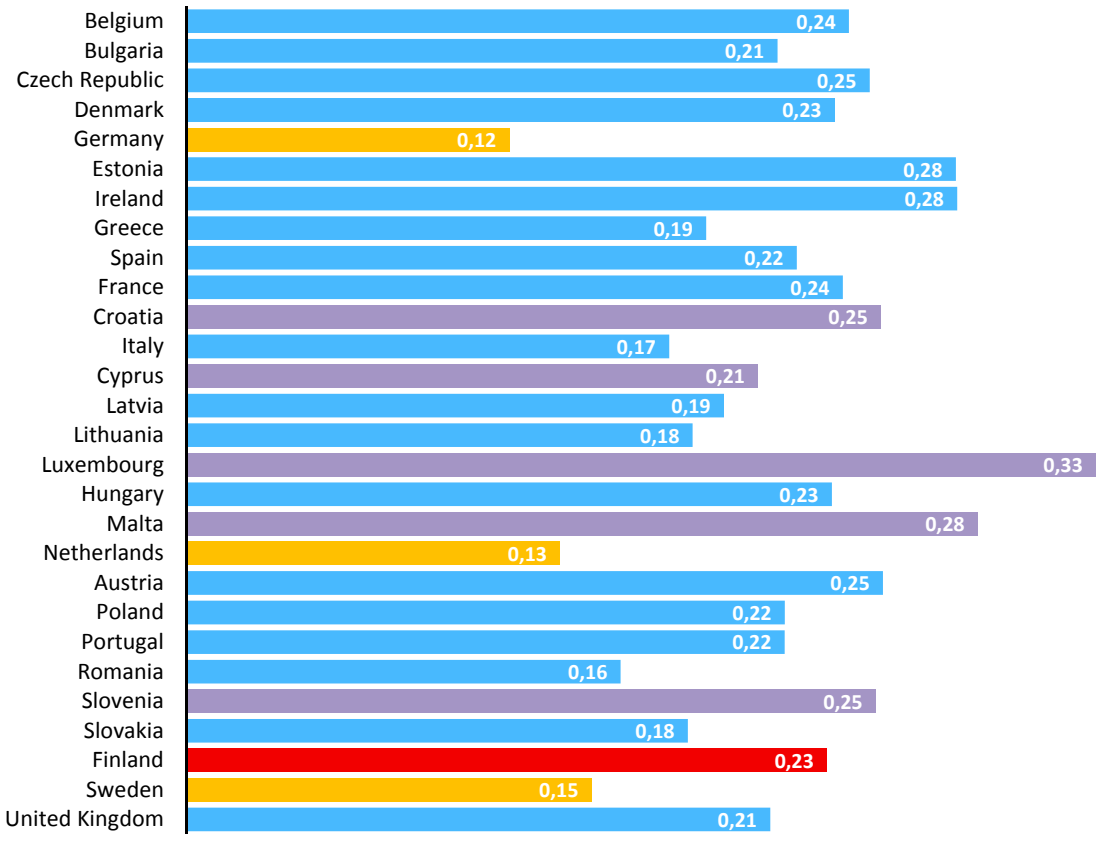
income taxes. Moreover, equal rate brings in more tax revenues to be used in redistribution via income transfers or public services, if the use of the progressive income tax is restricted.

Variation in VAT rates can also be justified by economic efficiency arguments. Taxing low-price elasticity goods and services with higher rates does not distort much consumption choices and taxing consumption that is complementary to leisure mitigates labour supply distortions caused by labour income taxes. Consideration of both justifications require, however, complicated and continuous evaluations of the commodity-specific household preferences. (Mirrlees review 2011a)

Another VAT implementation issue is cross-border adjustments. Exports are tax exempt, but deductions for VAT included in the inputs of exporting firms are permitted. In contrast, imports are taxed according to the rates of destination countries. This weaken tax competition but support tax evasion. In addition, VAT is not easily congruent with the foreign trade of services and especially with the trade of digital products, as it is not easy to verify where the production and trade of such services and products take place.

The EU has a harmonised VAT, and its implementation is a condition for membership. The harmonised VAT has a minimum standard rate (15%), and reduced rates are limited to two, but there are derogations. The EU has also taken actions to diminish the fraud and compliance costs that hinder foreign trade. The 2016 action plan of the European Commission provides guidelines for the future EU VAT. In October 2017, the European Commission pro-

Figure 9 Ratio of VAT-based ORs to private consumption, EU28 2016



Sources: Eurostat, own calculations.

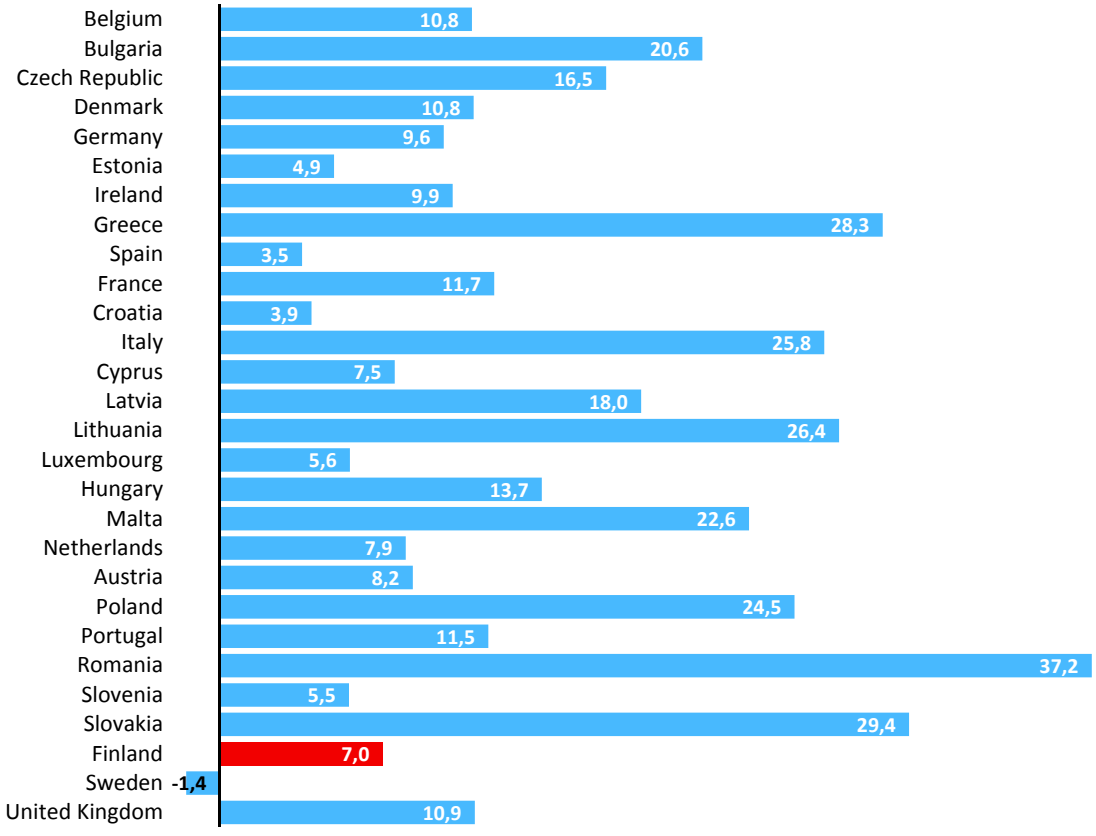
posed cornerstones for a new definitive single EU VAT area. In short, the tax exemption of exports will be replaced with a system in which exporters are charged the VAT of destination countries, and this are paid to internal tax authorities. This amount is transferred to the MS of the consumer. The one-stop shop online portals that currently exist for e-services will be extended, allowing businesses to handle cross-border VAT obligations in their own countries. In January 2018, a plan to allow more flexibility for setting VAT rates was released by the European Commission, which was a surprising concession to political pressures, since increased variation in VAT rates contradicts the previous communications of the European Commission and the recommendations of the highly regarded Mirrlees Review (2011a).

VAT as a current OR

The current process for calculating VAT-based ORs is complicated. Practical needs require the chosen procedure to harmonise tax bases statistically. Political decisions, which limit the highest burdens and reduce the amount paid by large net payers, weaken the transparency of tax rules. The VAT bases of all MSs are first harmonised in accordance with EU rules; then, they are capped at 50% of the GNI base. In 2015, VAT contribution was reduced in five MSs due to the 50% cap (i.e. Croatia, Cyprus, Luxembourg, Malta and Slovenia). The purple bars in Figure 9 illustrate the tax burdens of the countries influenced.

A uniform rate of 0.3 is levied on each MS's harmonised VAT base, but, from 2014–2020, reduced VAT call rates (0.15%) were issued for Germany, the Netherlands and Sweden. As the yellow bars in Figure 9 show, the reduced rates influenced the ORs paid by these three

Figure 10 VAT gap as a percentage of the theoretical maximum, 2015



Source: Case (2017).

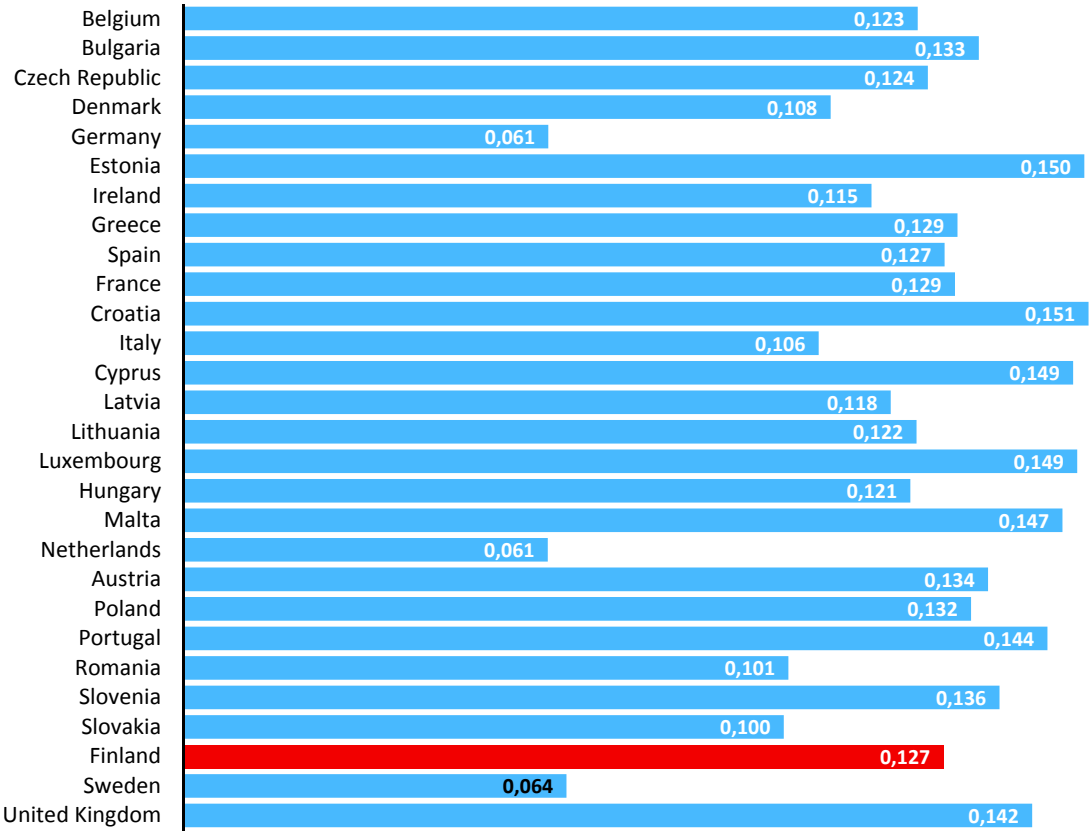
countries significantly. However, even without these exemptions, ratios vary markedly between MSs; for example, Finland has a somewhat higher ratio (0.231) than the unweighted EU average (0.217). The HLGOR report characterised current VAT-based ORs as unnecessarily complex and disadvantageous, as they do not directly link to citizens or bring added value compared to GNI OR in terms of fairness and transparency. However, VAT-based OR is sustainable, stable, efficient and fair (HLGOR 2016).

VAT gap

One of the issues that complicate the use of actual VAT revenue as a base for EU budget ORs is the large and variating VAT gap (i.e. the difference between collected amounts and theoretical amounts based on observations of a country's economy and actual VAT legislation).

In the report published by DG TAXUD of the European Commission (Case 2017), the researchers calculated the theoretical amount by imposing the national VAT rate structure on the national accounts expenditure and investment data at the most detailed level possible to derive the expected liability. The unweighted average gap was 13.95% of the theoretical amount. Finland is one of the most compliant countries with a 6.95% VAT gap (Figure 10).

Figure 11 VAT-based ORs divided by GNI, EU28 2016



Sources: Eurostat, own calculations.

Alternatives to the current VAT-based ORs

The obvious alternative to current and complicated VAT-based OR is to remove them and finance the gap by expanding GNI OR. To maintain the same revenue, additional payments of 0.107% of the EU GNI are needed. If equal GNI shares are used to compensate for current VAT payments, the three countries most effected would Germany, the Netherlands and Sweden (i.e. low-VAT call rate countries). Figure 11 presents these outcomes; for Finland, the current VAT-based OR divided by GNI is larger (0.127) than the VAT-based OR based on the equal compensation of GNI shares (0.107).

The HLGOR (2016) suggested two alternatives to the current VAT-based ORs:

1. A fixed EU VAT rate for goods and services to which standard rates are applied in all MSs.
2. A fixed EU VAT rate for a wider harmonised VAT base.

The first option is based on the smallest common tax base but requires complicated calculations. It is levied on MSs rather than consumers and was presented by the European Commission in 2011 but was met by strong criticism. The second option allows for a lower rate, since the tax base is broader, but takes more time to implement, if actual instead of notional harmonisation is required. Moreover, the plans of the European Commission to allow more flexibility on the setting of VAT rates contradicts harmonisation efforts.

3.7.2 Reformed VAT as a new OR

A uniform VAT on all goods and services would distort economic behaviour only in labour markets; however, its practical implementation is prone to exemptions that distort consumption choices and production decisions. The large country-specific variation in tax bases and tax avoidance hinders the reform of VAT-based OR based on actual transactions made in MSs. Any statistical substitute for the true tax base is only a redistribution rule, which defines the shares of an MS. Experience shows that statistical rules are sensitive to political manipulation. Thus, the simplest solution is to remove VAT-based OR and expand the GNI OR correspondingly. Of course, any new OR that is evaluated to be better than the GNI OR should be preferred as a substitute. The major benefits that can be reached by simplifying the VAT payments in cross border trade are independent from the use of the tax revenues as an own resource in the EU budget.

3.8 Seigniorage

3.8.1 Background

Seigniorage is the income generated by issuing money. Central banks receive income from commercial banks, but it is often transferred to the budgets of central governments. Buiter (2008) discussed two measures of seigniorage: a change in the stock of outstanding nominal base money and interest earned by investing the resources obtained through the past issuance of base money in interest-bearing assets. National central banks circulate euro banknotes However, it has been agreed that 8% of the banknotes are considered to be issued by the European Central Bank (ECB). The corresponding interest income that national central banks pay to the ECB is a seigniorage income, defined by the ECB as ‘interest

income arising from the allocation of euro banknotes within the Eurosystem'. The seigniorage measure used here is the second type defined by Buiter (2008). The stock of banknotes in circulation was 1 170 700 000 EUR in 2017.

The interest rate applied to the stock for issued Euro banknotes is linked to the rate of the Eurosystem's main refinancing operations, which provide liquidity to the banking system (Vergote et al. 2010). The rate has declined in recent years and is currently at zero. Figure 12 shows the development of the corresponding seigniorage income divided by the EU's GNI in order to show its financing potential for the EU budget.

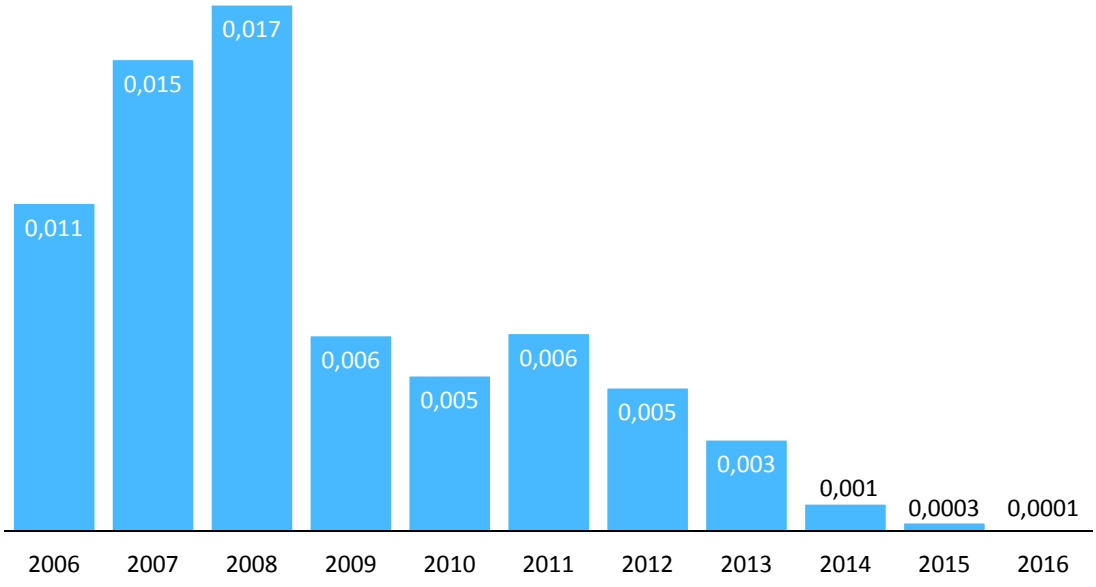
A zero interest rate and minimal seigniorage income are exceptional, while the acceleration of inflation expands the base money and tightens the monetary policy, which in turn increases the interest rate. The increased use of the euro as a reserve currency and the expansion of the eurozone may increase the demand for Euro banknotes. In contrast, the increasing use of electronic money will dampen this demand. In any case, there is no reason to believe that the seigniorage income of ECB will be more stable in the future.

The seigniorage income of the ECB is returned to national central banks using the ECB's capital key. For example, the share of the Bank of Finland (BoF) has been close to 1.8% in recent years. Half of the profit of BoF is moved to the budget of the central government.

3.8.2 Seigniorage as a new OR

The seigniorage income is fraud-free and an easily collected source of public finance. Furthermore, seigniorage can be considered as a genuine OR, since it is a result of EU policies (Leen 2011). However, there are several reasons why seigniorage would be a poor way to finance the EU budget. The most obvious reasons can be seen from Figure 12. Seigniorage income varies a lot over time and is relatively small on average.

Figure 12 Seigniorage income of the ECB as a share of the EU's GNI (%)



Sources: ECB, Eurostat and own calculations.

Another issue is that seigniorage does not represent a new source of finance. Most of the money is now financing national budgets and must be compensated by raising national taxes, if transferred to EU budget. In this respect, replacing GNI-based OR with seigniorage income would not make much of a difference. The third issue is the regional imbalance. There is no reason to believe that eurozone countries would want to finance other EU countries using their seigniorage income. Outsiders should then have higher GNI-based contributions. Finally, central banks strongly oppose using seigniorage income to directly finance the EU budget, as they see seigniorage revenue as increasing their independence from national governments.

3.9 Other revenue

The current EU budget financing scheme includes revenue that is not considered as ORs but instead as other revenue generated from the normal activities of the EU. These income sources do not require unanimous OR decision or treaty changes and can be introduced without creating political disagreements. However, these revenue sources will only play a marginal role in financing the EU budget. Such revenue types are as follows (European Commission 2014):

1. Title 4 covers revenue accruing from taxes on salaries, pensions and staff contributions to pension schemes by individuals working for EU institutions and other bodies.
2. Title 5 covers revenue accruing from the administrative operation of institutions, such as proceeds from the sale of property, letting and hiring, the supply of services and bank interest.
3. Title 6 covers contributions and refunds in connection with union agreements and programmes, such as contributions to union programmes.
4. Title 7 covers interest on late payments and fines, such as interest on the late payments of ORs by MSs or fines on companies for infringing on EU competition rules.
5. Title 8 covers revenue from EU borrowing and lending operations.
6. Title 9 covers miscellaneous revenue.

Revenue under title 7 is the most important income source but is highly volatile and still small. The HLGOR (2016) report discusses the possibility to introduce additional other means to finance the EU budget. They are not considered by HLGOR as alternative to current own resources and also the Treaty on the Functioning of the European Union implies that their role should be marginal. The main arguments of introducing new income sources or reallocating the old ones are related to the policy objectives of the European Union. Examples are revenues originating from competition policy, energy and environmental policy or Schengen border control.

Excess CO2 emission premiums for new passenger cars and proceeds from the European Emission Trading System (ETS) were brought up by the HLGOR as new ‘Other Revenue’ that have environmental role. Using the ETS auction revenue was analysed in the HLGOR report as a new OR. Emission premiums are penalties for manufacturers whose cars on average fail to meet the targets. It has been estimated that the revenues may be higher than 1 billion euros due to not reaching the 2021 target (Financial Times 2017).

Establishment of the European Travel Information and Authorisation System is expected to create revenue from 2020 onwards from non-EU citizens crossing the Schengen borders.

The planned 5 EUR fee would only be financially self-sustaining, since it covers operational costs (ERPS 2017).

Taxation of the digital economy was also discussed by the HLGOR as a new revenue source for EU. It would require tax harmonisation because digitalisation intensifies tax competition through the mobilisation of tax bases. Taxation of value added by VAT and profits by CIT are challenged by digital products. The key issue, in this regard, is how countries determine taxation for created value because the digital provision of services and value creation can take place without physical presence in a country. However, such physical presence makes a business taxable through CIT.

The European Commission has prepared an initiative on fair taxation of the digital economy, which lists numerous temporary and comprehensive long-term targeted solutions for taxation in the digital economy. Examples of temporary actions include specific taxes on revenue generated by digital activities and withholding tax on payments to non-resident providers of goods and services ordered online, while examples of permanent solutions include modifying CCCTB proposals and transitioning to destination-based CIT. (European Commission 2017c)

The OECD (2015) reported that tax rules designed exclusively for the digital economy are unproductive because the digital economy is overtaking the global economy, and reforms of current CIT and VAT rules should consider the special features of the digital economy. If the current VAT and CIT bases were harnessed as new own resources of the EU budget, the successful taxation of the digital economy would mean lower required call rates. Correspondingly, if such efforts fail, the pressure to tax mobile tax bases less would increase.

REFERENCES

Advisory Board (2016). “Two keys to reforming EU financing: more subsidiarity, more transparency”, Report by the Advisory Board to the Federal Ministry of Finance 01/2016. Berlin.

Afionis S., Sakai M., Scott K., Barrett J. and Gouldson, A. (2017). Consumption-based carbon accounting: does it have a future?, Wiley Interdisciplinary Reviews: Climate Change, 8.

Afonso, G., Santos, J.A.C and Traina, J. (2014). “Do ‘Too Big to Fail’ Banks Take on More Risk?” *Economic Policy Review*, 41–58. New York: Federal Reserve Bank of New York.

Auerbach, A. and Gordon, R.H. (2002). “Taxation of Financial Services under a VAT,” *American Economic Review* 92(2): 411–16.

Bettendorf, L., Devereux, M.P., Van Der Horst, A., Loretz, S. and De Mooij, R.A. (2010). “Corporate tax harmonization in the EU”, *Economic Policy* 25(63): 537–590.

Harju, J. and Kari, S. (2010). Yritysveropohjan harmonisoimisen vaikutus Suomen yhteisöverotuottoon, VATT Tutkimukset 156.

Boadway, R. (2006). The principles and practices of federalism: Lessons for the EU, *Swedish Economic Policy Review* 12, 9–62.

Boadway, R. and Keen, M. (2003). “Theoretical Perspectives on the Taxation of Capital Income and Financial Services,” in Honohan, P. (ed.) *Taxation of financial intermediation: theory and practice for emerging economies*, World Bank, Washington DC: 31–80.

Boadway, R. and Shah, A. (2009). Fiscal Federalism – Principles and Practice of Multiorder Governance. Cambridge University Press, Cambridge.

Bird, R. (2008). Tax assignment revisited. Andrew Young School of Policy Studies, WP 08-05.

Boitier, B. (2012). CO2 emissions production-based accounting vs consumption: Insights from the WIOD databases, WIOD conference paper 2012.

Bordignon, M. and Scabrosetti, S. (2016). “The Political Economy of Financing the EU Budget”, in Buettner, T. and Thöne, M. (eds.) *The Future of EU-Finances*, Working Papers for the Brussels Symposium on 14 January 2016. Cologne 2016.

Buettner, T. and Thöne, M. (eds.) (2016). *The Future of EU-Finances*, Working Papers for the Brussels Symposium on 14 January 2016. Cologne 2016.

Buiter, W. (2008). “Seigniorage” CEPR Discussion Paper No. DP6152.

Böhm, M.J., Metzgerand, D. and Strömberg, P. (2018). “Since You’re So Rich, You Must Be Really Smart: Talent and the Finance Wage Premium”, Riksbank Research Paper Series No. 137.

Case (2017). “Study and Reports on the VAT Gap in the EU-28 Member States: 2017 Final Report”, TAXUD/2015/CC/131. Center for Social and Economic Research, Warsaw.

Christiansen, V. (2017A). “Indirect Taxation of Financial Services”, CESifo Working Paper Series No. 6675. CESifo Group Munich.

Christiansen, V. (2017B). “Taxation of Insurance”, CESifo Working Paper Series No 6830. CESifo Group Munich.

Cnossen, S. (2013). “A proposal to apply the Kiwi-VAT to insurance services in the European Union”, *International Tax and Public Finance* 20: 867–883.

Coelho, M. (2016). “Dodging Robin Hood: Responses to France and Italy’s Financial Transaction Taxes”. https://ssrn.com/abstract=2389166

Davidsson, D.S. and Thorleifsdottir, G. (2013). “Financial Sector Taxation in Iceland: National Report to the Nordic Research Council”, Ministry of Finance and Economic Affairs, Department of Taxation and Revenue.

Dharmapala, D. (2014). “What Do We Know About Base Erosion and Profit Shifting? A Review of the Empirical Literature”, CESifo Working Paper No. 4612.

Dharmapala, D. (2016). “The Economics of Corporate and Business Tax Reform”, CESifo Working Paper No. 5864.

Diemer, R. (2011). “Revision of the Energy Tax Directive – technical press briefing”, European Commission, DG Taxation and Customs Union.

Egger, P.H. and Stimmelmayr, M. (2017). “Taxation and Multinational Firm”, CESifo Working Paper No. 6384.

EPRS (2017). “European Travel Information and Authorisation System (ETIAS)”. European Parliamentary Research Service, 3 October 2017, Second edition.

European Commission (2010). “Financial Sector Taxation”, Staff Working Paper No. 25. Publications Office of the European Union, Luxembourg.

European Commission (2011). “Impact Assessment”, European Commission Staff Working Paper. COM(2011) 169.

European Commission (2014). “European Union, public finance”, 5th Edition. Publications Office of the European Union, Luxembourg.

European Commission (2016a).” Proposal for a COUNCIL DIRECTIVE on a Common Corporate Tax Base”, COM(2016) 685 final, Strasbourg 25.10.2016.

European Commission (2016b). “Proposal for a COUNCIL DIRECTIVE on a Common Consolidated Corporate Tax Base (CCCTB)”, COM(2016) 683 final, Strasbourg 25.10.2016.

European Commission (2016c). “Proposal for a COUNCIL DIRECTIVE laying down rules against tax avoidance practices that directly affect the functioning of the internal market”, COM(2016) 26 final, 2016/0011(CNS), Brussels, 28.1.2016.

European Commission (2017a). “Excise duty tables, Part II Energy products and Electricity”, European Commission, 2017.

European Commission (2017b). “Excise duty tables: Tax Receipts – Energy products and electricity”, European Commission, 2017.

European Commission (2017c). “Fair taxation of the digital economy”, Inception Impact Assessment – Ares(2017)5253058. https://ec.europa.eu/info/law/better-regulation/initiative/123606/attachment/090166e5b608e808_en

European Commission (2018). “A new, modern Multiannual Financial Framework for a European Union that delivers efficiently on its priorities post-2020”, 14.2.2018 COM(2018) 98 final.

Financial Times (2017). “VW, BMW and Fiat face big fines over CO2 targets”. Financial Times September 22, 2017.

Fuest, C. (2017). “Reforming the EU Budget: Small changes can bring considerable improvements. ifo Schnelldienst 06/2017, 9-11. ifo Institut, München.

Gomber, P., Haferkorn, M. and Zimmermann, K. (2016). “Securities Transaction Tax and Market Quality – the Case of France”, *European Financial Management* 22, 313–337.

Heinemann, F. (2016). “Strategies for a European EU Budget”, in Buettner and Thöne (eds.) The Future of EU-Finances, Working Papers for the Brussels Symposium on 14 January 2016. Cologne 2016.

Hemmelgarn, T., Nicodeme, G., Tasnadi, B. and Vermote, P. (2016). “Financial Transaction Taxes in the European Union”, *National Tax Journal* 69, 217–240.

HLGOR (2014). “First Assessment Report”, High Level Group on Own Resources, Brussels. Available at: http://ec.europa.eu/budget/mff/hlgor/library/reports-communication/FirstAssessmentReport-December2014.pdf

HLGOR (2016). “Future financing of the EU”, High Level Group on Own Resources, Brussels. Available at: http://ec.europa.eu/budget/mff/hlgor/library/reports-communication/hlgor-report_20170104.pdf

IFS (2011). “A retrospective evaluation of elements of the EU VAT system”, Final report TAXUD/2010/DE/328 FWC No. TAXUD/2010/CC/104. Institute for Fiscal Studies, London.

IMF (2010). “A Fair and Substantial Contribution by the Financial Sector”, Final Report for the G-20, June 2010.

Inman, R. and Rubinfled, D. (2014). *Economic Federalism*. Oxford Handbook of Law and Economics.

Keen, M. (2011). “Rethinking the Taxation of the Financial Sector”, CESifo Economic Studies, Vol. 57, 1/2011.

Keen, M., Krelove R. and Norregaard, J. (2010). “The Financial Activities Tax”, in Claessens, S., Keen, M. and Pazarbasioglu, C. (eds.) Financial Sector Taxation – The IMF’s Report to the G-20 and Background Material, 117–143. IMF.

Keen, M., Krelove, R. and Norregaard, J. (2016). “Policy Forum: The Financial Activities Tax”, *Canadian Tax Journal/Revue Fiscale Canadienne* 64: 389–400.

Leen, A.R. (2011). “Seigniorage, its history, its present, and its future for the European Union”, *Archives of Economic History*, 23: 7–16.

Luptáčik M. and Luptáčik P. (2016). Analysis and quantification of a new fiscally neutral European tax, Study for European Economic and Social Committee.

Matheson, T. (2011). “Securities transaction taxes: issues and evidence”, *International Tax and Public Finance* 19, 884–912.

Mirrlees Review (2011a). “Taxing goods and services”, In Mirrlees, J. et al. (eds.) *Tax by Design: The Mirrlees Review*, 148–166. Institute for Fiscal Studies and the Oxford University Press.

Mirrlees Review (2011b). “VAT and financial services”, In Mirrlees, J. et al. (eds.) *Tax by Design: The Mirrlees Review*, 195–215. Institute for Fiscal Studies and the Oxford University Press.

Nielsen, S.B., Raimondos-Moller, P. and Schjelderup, G. (2010). “Company taxation and tax spillovers: Separate accounting versus formula apportionment”, *European Economic Review* 54, 121–132.

Norwegian Tax Administration (2018). “Financial activity tax”. http://www.skatteetaten.no/en/business-and-organisation/reporting-and-industries/financial-activity-tax/

Nunez Ferrer, J., Le Cacheux, J., Benedetto, G. and Saunier, M. (2016). “Study on the Potential and Limitations of Reforming the Financing of the EU Budget: Expertise Commissioned by the European Commission on behalf of the High Level Group on Own Resources”. (1 ed.) Centre for European Policy Studies. Brussels.

Oates, W. (1999). An Essay on Fiscal Federalism. *Journal of Economic Literature* 37, 1120–1149.

OECD (2013a). “Addressing Base Erosion and Profit Shifting”, OECD Publishing.

OECD (2013b). “Action Plan on Base Erosion and Profit Shifting”, OECD Publishing.

OECD (2015). “Addressing the Tax Challenges of the Digital Economy, Action 1 – 2015 Final Report”, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing.

Poddar, S. and Kalita, J. (2010). “Treatment of Financial Services under a UAE VAT”, ch. 10 in *Fiscal Reforms in the Middle East*, Edward Elgar Publishing.

Sato, M. (2014). Embodied carbon in trade: a survey of the empirical literature, Journal of economic surveys, 28(5), p. 831–861.

Schratzenstaller, M., Krenek, A., Nerudová, D. and Dobranschi, M. (2016). “EU taxes as genuine own resource to finance the EU budget – Pros, cons, and sustainability-oriented criteria to evaluate potential tax candidates”, FairTax WP-Series No. 3.

Schratzenstaller-Altzinger, M. (2017). “The next Multiannual Financial Framework (MFF), its Structure and the Own Resources”. IN-DEPTH ANALYSIS, Policy Department for Budgetary Affairs.

Stiglits, J. (1989). “Using Tax Policy to Curb Speculative Short-Term Trading*”, Journal of Financial Services Research* 3, 101–115.

Summers, L. and Summers, V. (1989). “When Financial Markets Work Too Well: A Cautious Case for a Securities Transaction Tax”, *Journal of Financial Services Research* 3, 261–286.

Suvanto, A. (2013). ”Rahoitusmarkkinavero, likviditeetti ja rahapolitiikka”, BoF Online 2-2013, Suomen Pankki.

Umlauf, S.R. (1993). “Transaction taxes and the behavior of the Swedish stock market,” Journal of Financial Economics, Elsevier, vol. 33(2), pages 227–240, April.

Van der Horst, A., Bettendorf, L. and Rojas-Romagosa, H. (2007). “Will Corporate Tax Consolidation improve Efficiency in the EU?”, Tinbergen Institute Discussion Paper, No 07-076/2, Tinbergen Institute Erasmus University, Rotterdam.

Vella, J., Fuest, C. and Schmidt-Eisenlohr, T. (2011). “Response on EU Proposal for a Financial Transaction Tax”, Oxford University Center for Business Taxation WP 11/17.

Vergote, O., Studener, W., Efthymiadis, I. and Merriman, N. (2010). “Main Drivers of the ECB Financial Accounts and ECB Financial Strength Over the First 11 Years”. ECB Occasional Paper No. 111.



VALTIONEUVOSTON
SELVITYS- JA TUTKIMUSTOIMINTA

tietokayttoon.fi

ISSN 2342-6799 (pdf)
ISBN 978-952-287-533-4 (pdf)