

A Service of



Leibniz-Informationszentrum Wirtschaft Leibniz Information Centre for Economics

Schratzenstaller, Margit

Article

Tax-based Own Resources as a Core Element of a Future-Oriented Design of the EU System of Own Resources

Intereconomics

Suggested Citation: Schratzenstaller, Margit (2018): Tax-based Own Resources as a Core Element of a Future-Oriented Design of the EU System of Own Resources, Intereconomics, ISSN 1613-964X, Springer, Heidelberg, Vol. 53, Iss. 6, pp. 301-306, https://doi.org/10.1007/s10272-018-0772-1

This Version is available at: https://hdl.handle.net/10419/196592

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.





Margit Schratzenstaller

Tax-based Own Resources as a Core Element of a Future-Oriented Design of the EU System of Own Resources

Member States' reactions to the proposal for the next Multiannual Financial Framework (MFF) that the European Commission presented in May 2018 have been dominated by a focus on two aspects: the overall size of the next EU budget; and national contributions EU Member States will have to expect, particularly considering the imminent exit of the United Kingdom (UK) as the third largest contributor to the EU budget. Thus, it is obvious that the net position approach – well-known from previous MFF negotiations – is also shaping the current debate. Member States primarily consider their individual net positions, i.e.

Margit Schratzenstaller, Austrian Institute of Economic Research (WIFO), Vienna, Austria.

the difference between their payments into the EU budget and the transfers they receive out of it, when determining the benefits derived from the EU (budget). Much less attention is paid to indirect benefits from EU membership and expenditures, which generally exceed Member States' contributions to the EU budget considerably. As pointed out by the final report of the High Level Group on

^{*} The research leading to these results has received funding from the European Union's Horizon 2020 research and innovation programme 2014-2020, grant agreement No. FairTax 649439. This article is a considerably shortened and slightly modified version of M. Schratzenstaller: Brexit and EU Budget, in: L. Zamparini, U. Villani-Lubelli (eds.): Features and Challenges of the EU Budget: A Multidisciplinary Analysis, Cheltenham 2019, Edward Elgar Publishing, forthcoming. The author is grateful to Andrea Sutrich for careful research assistance.

For a recent estimation of Member States' benefits from European integration see G. Felbermayr, J. Gröschl, I. Heiland: Undoing Europe in a New Quantitative Trade Model, ifo Working Paper No. 250, 2018.

Own Resources (HLGOR) chaired by Mario Monti, this net position thinking is one of the key obstacles to a fundamental reform of the structure of the EU's expenditures.²

Long-term challenges for the European Union and European added value

There is a broad consensus among experts that the current structure of the EU budget is inadequate to cope with the long-term challenges confronting the EU including digitalisation, recent and imminent rounds of enlargement, structural problems of the southern countries, persisting regional divergences, demographic change, climate change and energy transition, digital change and (refugee) migration.³ Key EU initiatives and strategies, such as the Europe 2020 Strategy, the 2030 Agenda for Sustainable Development, the EU Action Plan for the Circular Economy, and the efforts to combat tax avoidance and evasion are insufficiently supported by the current MFF.

Obviously, the MFF's overall approach needs to consider which one of the five scenarios put forward in the European Commission's 'White Paper on the Future of Europe' will be pursued eventually.4 The European Commission addresses the implications of each of these five scenarios as they apply to: the policy priorities guiding the expenditure structure, the EU budget's overall volume, the shares of expenditure under the various headings of the MFF and the revenue system in its 'Reflection Paper on the Future of EU Finances' presented in mid-2017.5 Accordingly, the structure of expenditures and revenues remains more or less unchanged (although based on a considerably lower overall volume of the EU budget) in the 'Doing less together' scenario. In the other four scenarios however, the introduction of new own resources - or at least of other revenue sources - would be required as well as structural shifts in EU expenditure.

There are strong arguments for a fundamental reform of the MFF regardless of the envisaged future integra-

2 High Level Group on Own Resources (HLGOR): Future Financing of the EU, Final report and recommendations of the High Level Group on Own Resources, 2016. tion scenario.⁶ Such a fundamental reform should aim at creating higher European added value through the EU budget. While it is difficult to measure and quantify the exact European added value,⁷ it is generally created when EU level action results in a higher value than separate national actions.⁸ Therefore, the EU budget should focus on those policy areas in which uncoordinated actions at the Member State level would be insufficient due to free riding, coordination problems and cross-border issues, or on policy areas in which common European interests are at stake.

Options to create EU added value through reform of the EU own resources system

Such far-reaching reform aimed at reinforcing the European added value provided by the EU budget should not be restricted to EU expenditures but should also include its revenue system. The current EU system of own resources certainly has its merits: it provides steady, predictable and reliable revenues; it guarantees a balanced budget; and it allows Member States to freely decide about the distribution of the financial burden among individual taxpayers. Nonetheless, the current financing system has been attracting various criticisms over the last few decades. These relate to its complexity and lack of transparency, as well as the fact that the EU system of own resources does not contribute to central EU strategies and policies.⁹

Figure 1 shows that over the last few decades, traditional 'true' own resources (i.e. sugar levies and customs) have been continually decreasing in importance, leaving national contributions (GNI- and VAT-based own resources) as the dominant revenue source for the EU.¹⁰

In 2017, the VAT-based own resource accounted for 14.7% of overall own resources (down from 70.4% in 1990), while

- 6 J. Haas, E. Rubio: Brexit and the EU Budget: Threat or Opportunity? Jacques Delors Institute/Bertelsmann-Stiftung Policy Paper No. 183, 2017; M. Schratzenstaller: The Next Multiannual Financial Framework (MFF). Its Structure and the Own Resources, European Parliament, 2017.
- 7 F. Heinemann: Strategies for a European EU Budget, in: T. Büttner, M. Thöne (eds.): The Future of EU Finances, Tübingen 2016, Mohr Siebeck, pp. 95-112.
- 8 Bertelsmann-Stiftung, op. cit.; European Commission: The Added Value of the EU Budget, Commission Staff Working Paper, SEC (2011) 867 final. 2011.
- 9 M. Schratzenstaller, A. Krenek, D. Nerudová, M. Dobranschi: EU Taxes for the EU Budget in the Light of Sustainability Orientation, in: Journal of Economics and Statistics (Jahrbücher für Nationalökonomie und Statistik), Vol. 237, No. 3, 2017, pp. 163-189.
- 10 See for a detailed overview over the evolution of the EU system of own resources in the long run M. Schratzenstaller, A. Krenek, D. Nerudová, M. Danuše, M. Dobranschi: EU Taxes as Genuine Own Resource to Finance the EU Budget: Pros, Cons and Sustainability-oriented Criteria to Evaluate Potential Tax Candidates, FairTax Working Paper No. 3, 2016.

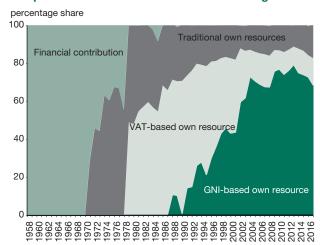
³ See e.g. High Level Group on Own Resources, op. cit.; J. Núñez Ferrer, J. Le Cacheux, G. Benedetto, M. Saunier: Study on the Potential and Limitations of Reforming the Financing of the EU Budget, European Commission, 2016; Bertelsmann-Stiftung: How Europe can deliver, Optimising the division of competences among the EU and its member states, Gütersloh 2017, Bertelsmann-Stiftung.

⁴ European Commission: White Paper on the Future of Europe. Reflections and Scenarios for the EU27 by 2025, COM(2017) 2025, 2017.

⁵ European Commission: Reflection Paper on the Future of EU Finances, Brussels, European Commission, COM(2017) 358, 2017.

Figure 1

Composition of EU own resources in the long-term



Source: Own calculations based on European Commission data; data 1995-2016 from European Commission: EU Budget 2017. Financial Report, 2018; data 1958-1994 from European Commission: EU Budget 2008. Financial Report, 2009.

the share of the revenues from the GNI-based own resource has increased to more than two-thirds of total own resources. Thus, the share of GNI- and VAT-based own resources together increased from less than half of overall own resources at the end of the 1970s to about 83% in 2017. Traditional own resources, which had made up for about 67.5% in 1976, contributed a relatively meager 17.7%. Neither of these revenue sources has any bearing on key EU strategies and objectives.

Central EU policies aimed at improving economic, social and environmental sustainability could be supported by sustainability-oriented tax-based own resources partially replacing Member States' national contributions. Such taxes would directly promote certain objectives such as climate change goals in the case of environmental taxes. Moreover, the resulting decrease of national contributions would allow Member States to cut more harmful taxes at the national level, particularly high taxes on labour, which would imply a fiscally neutral yet sustainability-enhancing tax shift. To meet additional revenue needs e.g. to cover the Brexit gap or to expand the EU budget volume, tax-based own resources are preferable to raising national contributions.

Taxes that cannot be enforced effectively at the national level due to tax competition based on highly mobile tax bases and/or tax subjects are obvious candidates for sustainability-oriented tax-based own resources. The

case for Pigovian taxes at the EU level is strengthened further if tax rates are set at sub-optimal levels due to cross-border externalities which are not considered by national governments. In addition, unilateral tax measures aimed at reducing cross-border externalities, e.g. externalities caused by emitting greenhouse gases, may alleviate the pressure on other countries to implement unilateral tax measures themselves as they can act as free-riders. Following the reasoning of Keen et al., it can be argued that revenues from taxes levied on tax bases characterised by international spillovers (e.g. CO₂ emissions) should be used to finance a supranational budget that cannot be assigned to a specific country.

Table 1 contains several candidates for sustainability-oriented tax-based own resources: including taxes on flight tickets, net wealth, nuclear power and financial transactions; a share of a common (consolidated) corporate tax base and a supplement on national fuel tax rates; and revenues from a border carbon adjustment for the European Emission Trading System.¹⁵

Several of these options are also addressed in the Final Report of the HLGOR. According to this report, a basket of tax-based own resources is preferable to introducing one single tax-based own resource. In such a 'basket solution', country-specific differences of individual taxes would cancel each other out in some cases; the need for correction mechanisms would therefore be less urgent. Moreover, such a broad-based approach to the introduction of tax-based own resources would stabilise overall revenues.

The implementation of tax-based own resources does not necessarily require own genuine taxation power, i.e. full legislative and revenue authority for the EU, and is therefore also compatible with the current legal and institutional set-up (i.e. the 'carrying on' scenario). Under this scenario, tax-based own resources could be introduced based on some kind of remittance system, with Member States' tax administrations collecting revenue and transferring it (par-

¹¹ M. Schratzenstaller, A. Krenek, D. Nerudová, M. Dobranschi, op. cit.

¹² B. Jones, M. Keen, J. Strand: Fiscal Implications of Climate Change, World Bank Policy Research Working Paper No. 5956, The World Bank, 2012.

¹³ H. Auerswald, K. Konrad, M. Thum, P. Marcel: Adaptation, Mitigation and Risk-taking in Climate Policy, CESifo Working Paper Series No. 3320, CESifo Group Munich, 2011.

¹⁴ M. Keen, I. Parry, J. Strand: Market-based Instruments for International Aviation and Shipping as a Source of Climate Finance, World Bank Policy Research Working Paper No. 5950, The World Bank, 2012.

¹⁵ These sustainability-oriented candidates for tax-based own resources are explored in the FairTax project, funded by the European Union's Horizon 2020 research and innovation programme 2014-2018, see www.fair-tax.eu.

¹⁶ High Level Group on Own Resources (HLGOR), op. cit.

Table 1

Sustainability-oriented tax-based own resources to finance the EU budget

Study	Potential tax-based own resource	Reference year	Member States involved	Details	Potential revenues, billion euro
Krenek/Schratzenstaller (2017) ¹	Carbon-based flight ticket tax	2014	EU28	Carbon price €25 to €35 per tonne carbon emissions	4 to 5
Dellinger/Schratzenstaller (2018) ²	Nuclear power tax	2014	EU14 (Member States producing nuclear power)	One percent per kW electricity produced and tax on windfall profits for carbon price of €25	8 to 19
Krenek/Schratzenstaller (2018) ³	Net wealth tax	2014	EU20 (Member States for which HFCS ⁸ data are available)	One percent on household net wealth above €1 million; 1.5% on household net wealth above €1.5 million	156
Krenek/Sommer/Schratzenstaller (2018) ⁴	Border carbon adjustment	2021	EU28	Carbon price €54 per tonne carbon emissions embodied in imports	27 to 84
Nerudová/Schratzenstaller/So- lilová (2017) ⁵	Financial transaction tax	2016	EU10 ('Coalition of the Willing')	0.1% on equity; 0.01% on derivatives	4 to 33
Nerudová/Dobranschi/Solilová/ Schratzenstaller (forthcoming) ⁶	Supplement to national fuel tax	2014	EU28	0.05 cent to 0.20 cent per liter fuel	13 to 86
Nerudová/Solilová/Dobranschi (2016) ⁷	CCCTB-based own resource	2015	EU28	National corporate tax rates of 2015 applied on CCCTB ⁹	202

¹ A. Krenek, M. Schratzenstaller: Sustainability-oriented tax-based own resources for the European Union: a European carbon-based flight ticket tax, in: Empirica, Vol. 44, No. 4, 2017, pp. 665-686; ² F. Dellinger, M. Schratzenstaller: Sustainability-oriented Future EU Funding: A European Nuclear Power Tax, in: International Journal of Energy Economics and Policy, Vol. 8, No. 6, 2018, pp. 346-353; ³ A. Krenek, M. Schratzenstaller: A European Net Wealth Tax, WIFO Working Paper No. 561, Österreichisches Institut für Wirtschaftsforschung, 2018; ⁴ A. Krenek, M. Schratzenstaller: Sustainability-oriented Future EU Funding: A European Border Carbon Adjustment, FairTax Working Paper No. 15, 2018; ⁵ D. Nerudová, M. Schratzenstaller, V. Solilová: The Financial Transactions Tax as Tax-based Own Resource for the EU Budget, FairTax Policy Brief No. 2, 2017; ⁶ D. Nerudová, M. Dobranschi, V. Solilová, M. Schratzenstaller: Sustainability-oriented Future EU Funding: A Fuel Tax, FairTax Working Paper, 2018, forthcoming; ⁷ D. Nerudová, V. Solilová, M. Dobranschi: Sustainability-oriented Future EU Funding: A C(C)CTB, FairTax Working Paper No. 4, 2016. ⁸ HFCS = Household Finance and Consumption Survey; CCCTB = Common Consolidated Corporate Tax Base.

Source: M. Schratzenstaller: Brexit and EU Budget, in: L. Zamparini, U. Villani-Lubelli (eds.): Features and Challenges of the EU Budget: A Multidisciplinary Analysis, Cheltenham 2019, Edward Elgar Publishing, forthcoming.

tially) to the EU budget. A uniform call-up rate as a percentage of Member States' GNI could be fixed for a basket of several tax-based own resources. This call-up rate could be applied to Member States' overall revenue from tax-based own resources to determine the amount to be remitted to the EU budget. The remaining revenue would go into national budgets. Such a pragmatic approach would not restrict national tax sovereignty and could thus be more acceptable to (the overwhelming majority of) Member States' governments and parliaments who are reluctant to give up some of their taxation powers.

Sustainability-oriented tax-based own resources would do more than just help to close the existing sustainability gaps in EU taxation. Due to their sustainability-promoting effects, they are likely to be socially and politically more acceptable than other tax-based own resources which are pure revenue-raising instruments lacking any desirable steering effects and may even be perceived as unfair, as for example the VAT-based own resource suggested by Cipriani.¹⁷

Not least the sustainability-oriented tax-based own resources suggested above have the potential to alleviate the net position problem: by loosening the direct link between national transfers to, and payments received from, the EU budget. There is no, or only a rather loose, link between the activities and tax bases affected by the taxes in question and the tax-collecting Member States, so that revenues can hardly be assigned to individual Member States. Moreover, these taxes are somewhat 'additional', as they can be enforced only insufficiently, or not at all, at the national level. This additionality has two further advantages: Firstly, there would be no, or very few, Member States already levying the respective tax at the national level, so that neither significant resistance nor demands to be compensated for the foregone revenue would be expected.¹⁸ Secondly, issues of vertical tax competition and of tax-base co-occupation through exploiting certain tax bases simultaneously at the

¹⁷ G. Cipriani: Financing the EU Budget: Moving Forward or Backwards?, London 2014, Rowman & Littlefield International.

¹⁸ Obvious exceptions are the corporate income tax and a fuel tax, whose partial transfer to the EU might inspire demands for compensation by Member States. This is why we suggest a surcharge on national fuel tax rates, whose revenues should go to the EU.

level of Member States and the EU would be of limited relevance.¹⁹

Fears expressed from a political economy perspective that tax coordination would be equivalent to forming a tax cartel of national governments at the expense of citizens appear unfounded:²⁰ there is well-documented evidence of undertaxation in the areas addressed by our sustainability-oriented tax-based own resources.²¹ Therefore, the beneficial effects of tax coordination can be expected to exceed the potential welfare-enhancing effects of tax competition.²²

The European Commission's reform proposal for the EU system of own resources

The proposal for the MFF 2021-2027 launched by the European Commission on 2 May 2018 in fact aims at enhancing the EU budget's European added value.²³ To address the long-term challenges the EU is facing, the European Commission proposes a combination of expanding the EU budget volume and shifting the structure of EU expenditures as well as revenues.

- 19 C. Kotsogiannis: European Union and Own Revenue Resources. (Brief) Lessons from Fiscally Decentralized Economies, in: T. Büttner, M. Thöne, op. cit., pp. 47-61.
- 20 P. Bernholz, F. Schneider, R. Vaubel, F. Vibert: An Alternative Constitutional Treaty for the European Union, in: Public Choice, Vol. 118, No. 3-4, 2004, pp. 451-468.
- 21 For the financial sector, see e.g. G. Cannas, J. Cariboni, M. Marchesi, G. Nicodème, M. Petracco Giudici, S. Zedda: Financial Activities Taxes, Bank Levies and Systemic Risk, European Commission Taxation Paper No. 43, 2014; European Commission: Corporate Income Taxation in the European Union, Commission Staff Working Document SWD (2015) 121 final, 2015, for the profits of multinational enterprises; or M. Keen, I. Parry, J. Strand: Planes, Ships and Taxes: Charging for International Aviation and Maritime Emissions, in: Economic Policy, Vol. 28, No. 76, pp. 701-749, for international aviation and shipping.
- 22 The Political Economy literature suggests that competition among governments for internationally mobile tax bases is beneficial because it generates strong incentives for governments to reduce government inefficiencies (e.g. G. Brennan, J.M. Buchanan: The Power to Tax: Analytic Foundations of a Fiscal Constitution, Cambridge 1980, Cambridge University Press).
- 23 European Commission: A Modern Budget for a Union that Protects, Empowers and Defends the Multiannual Financial Framework. COM(2018) 321 final, 2018; European Commission: Proposal for a Council Regulation Laying Down the Multiannual Financial Framework for the Years 2021 to 2017, COM(2018) 322 final, 2018; European Commission: Proposal for a Interinstitutional Agreement between the European Parliament, the Council and the Commission on Budgetary Discipline, on Cooperation in Budgetary Matters and on Sound Financial Management, COM(2018) 323 final, 2018; European Commission: Proposal for a Regulation of the European Parliament and of the Council on the Protection of the Union's Budget in Case of Generalised Deficiencies as Regards the Rule of Law in the Member States, COM(2018) 324 final, 2018; European Commission: Proposal for a Council Decision on the System of Own Resources of the European Union, COM(2018) 325 final, 2018; European Commission: Financing the EU Budget. Report on the Operation of the Own Resources System, SWD(2018) 172 final, 2018.

The European Commission suggests several structural reforms for the EU system of own resources which are based on the recommendations derived by the HLGOR.²⁴ These reforms include a simplification of the system of own resources. Along with the elimination of the UK rebate, which will become obsolete after Brexit, all other rebates for certain net contributing countries will be phased out. Moreover, the calculation method for the VAT-based own resource would be simplified. These welcomed proposals will make the own resources system less complicated and more transparent.

In addition, the European Commission's plans foresee a diversification of own resources: new 'true' own resources will replace or complement, respectively, the EU's current funding sources. Concretely, the European Commission proposes to channel 20% of the revenues from auctioning emission trading certificates, the revenues from a three percent common consolidated corporate tax base (CCCTB), and the revenues from a tax of 80 euro cents per kilogram of non-recycled plastic waste into the EU budget. These new own resources are expected to raise the share of overall EU revenues to 12% in the future, thereby reducing the share of national contributions from over 80% to 71% by 2027.

Indeed, the three new own resources suggested by the European Commission appear to be 'natural' true own resources for the EU. The plastic tax due to the cross-border nature of the environmental damage associated with plastic waste and the use of fossil fuels for plastic production. The other two options – i.e. a share of the revenues from auctioning off emission trading certificates and a share in a harmonized corporate tax base - are directly connected with EU policies to cope with important European challenges transgressing national borders. However, the financial contribution of these new own resources would be rather moderate in quantitative terms. Therefore, the introduction of further tax-based own resources beyond the European Commission's proposals, along the lines presented above, can be expected to create considerable additional European added value.

Conclusions and outlook

A central prerequisite for the implementation of tax-based own resources is a parallel far-reaching shift in the EU's spending priorities.²⁵ Otherwise, the introduction of tax-based own resources may rather reinforce Euroscepti-

²⁴ European Commission: Proposal for a Council Decision on the System of Own Resources of the European Union, op. cit.

²⁵ High Level Group on Own Resources (HLGOR), op. cit.

cism in the EU, as they are much more visible for citizens than the current revenue sources.

Despite some long-term shifts in EU expenditure, the EU budget still creates too little European added value.²⁶ The current MFF is still dominated by the common agricultural policy (CAP) which makes up almost 40% of overall EU expenditures. Cohesion policy consumes another 34% of EU spending, while a still moderate share of 7.3% is dedicated to Horizon 2020, the European research framework programme and another two percent is spent on transborder infrastructure (Connecting Europe Facility). Only about two percent of overall expenditure is dedicated to development assistance within the regular EU budget,²⁷ and Schengen-related spending (asylum, migration, borders and internal security) amounts to only one percent of the current MFF.²⁸

The recent proposal by the European Commission aims at a rather moderate restructuring of EU expenditures.²⁹ The share of agricultural and of cohesion expenditures (regional and social funds) will be reduced to 29% of overall expenditures respectively. The share of the research framework programme Horizon would increase from 7.3% to 7.6% of overall expenditures, while the share dedicated to cross-border infrastructure (Connecting Europe Facility) would stagnate at about two percent. The largest in-

creases are foreseen for the areas of migration, asylum, border management, defence and external relations, which together will more than double their share in overall expenditures from currently 7.7% to 15.5%.

Ultimately EU Member States need to overcome the net position thinking currently blocking the route to an EU budget that is adequate in structure and size to meet future challenges. This again requires the acknowledgment of the manifold benefits provided to all EU countries by their EU membership. Substituting a major share of national contributions by sustainability-oriented tax-based own resources may act as a catalyst to secure net contributors' agreement to maintain or even increase the current spending level in exchange for a far-reaching reform of EU expenditure to enhance European added value. Therefore, one crucial success factor for a future-oriented reform of EU finances is to understand the need for package solutions,30 comprising the expenditure as well as the revenue side of the EU budget. An obvious example is the concentration of cohesion funds on 'poorer' Member States. Currently, the majority of the EU Member States strongly object to any tax coordination as they regard the option of tax cuts or lower tax levels as one of the few instruments available to them to secure their competitiveness. Another package deal may include the introduction of carbon levies and decarbonisation measures in heavily affected countries,31 possibly contained within agricultural or cohesion funds or expenditure on cross-border infrastructure.

²⁶ Bertelsmann-Stiftung: How Europe can deliver..., op. cit.

²⁷ In addition, another €30 billion is foreseen within the European Development Fund outside the MFF.

²⁸ M. Schratzenstaller: The Next Multiannual Financial Framework (MFF), op. cit.

²⁹ M. Schratzenstaller: Brexit and EU Budget, op. cit.

³⁰ J. Núñez Ferrer et al., op. cit.

³¹ Ibio