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What budget for the EU? – Principles, spending priorities and the impact of Brexit

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Summary

This note takes a birds' eye perspective on the EU budget. We start by discussing the budget arrangements in the United States and the literature on fiscal federalism. The United States has a substantial federal level of government spending. However, since the US political union was formed at a time when public spending was low, federal spending did not develop at the expense of state and local spending but rather grew in the 20th century as the government took on new functions. This experience contrasts with the development of the EU fiscal relations: The European Union is a group of developed states with significant and large government sectors. Therefore, major further functions can be delegated to the EU level only if member states are ready to reduce their activities, because for example they agree that such tasks can be provided more effectively at the EU level. This puts a focus on the question what the EU could do better than each member state alone.

The EU budget discussion in our view rightly focuses on strengthening public goods such as border control and immigration policy, defence cooperation, climate policy and research. In contrast, the effectiveness of EU common agricultural policy is less clear and the empirical assessments of the effectiveness of cohesion policy is also mixed at best. This suggests that some budget shifts away from cohesion and agriculture to new spending priorities should be feasible without sacrificing the achievement of major policy goals. Finally, as regards stabilisation policy, all relevant systems are at the national level. The key for better macroeconomic stabilisation policy is therefore in national counter-cyclical policy, better coordination and ideally some fiscal capacity to deal with major shocks that could be organised through the EU budget. A significant euro area-wide stabilisation function would require shifting major spending items under EU authority, an unlikely step.

We provide numbers on how the MFF could develop post Brexit. We model first a scenario where the UK would completely disappear as a net contributor and we put in place a hard re-orientation of spending priorities. In particular, we assume that revenues will increase with GNI, i.e. increase by about 28% nominally compared to the previous MFF. Spending on CAP and cohesion, in contrast, gets fixed at the current MFF levels in nominal terms while the remainder increases by 28%. This would result in an overall surplus in the MFF for new spending priorities of about 100 billion. In contrast, if all spending increases in line with GNI, Brexit will create a major hole in the next MFF of some €93 billion or €13 billion per year.

We show the possible contributions of the UK. We estimate the UK net contribution after the rebate adjustment according to the financial settlement to amount to 17 billion for 2021-27 to honour the existing commitments. In addition, the final deal may involve some financial contribution of the UK to have some form of access to the EU's market.

1. Introduction

The informal European Council meeting of 23 February 2018 kick-started formal negotiations for the post-2020 EU budget. Heads of states or governments emphasised the importance of spending more on limiting illegal migration, on defence and security, as well as on the Erasmus+ programme, while some of them stressed the continued importance of the cohesion policy, the Common Agricultural Policy, investments in research and innovation, and pan-European infrastructure[1].

While some of the existing EU spending is undoubtedly useful, an insistence on the status quo and the fact that unanimity is needed to approve the new Multiannual Financial Framework (MFF) increases the likelihood that inertia will be a key determinant. However, the changing global environment with increased security risks, turmoil in the EU's neighbourhood, heightened immigration pressures and more uncertain US commitment to NATO cooperation, as well as question marks about the effectiveness of a large share of current EU spending, would call for a fundamental rethinking of the EU budget.

In this paper, we take a step back and review the federal fiscal structure in the US and highlight that a significant increase in EU spending would likely require a stronger political integration. We then discuss on a conceptual level how EU fiscal relations could evolve further with a special focus on the EU budget. Lastly, we discuss the current EU budget, show how strongly it deviates from priorities elsewhere and make suggestions for changes going forward.

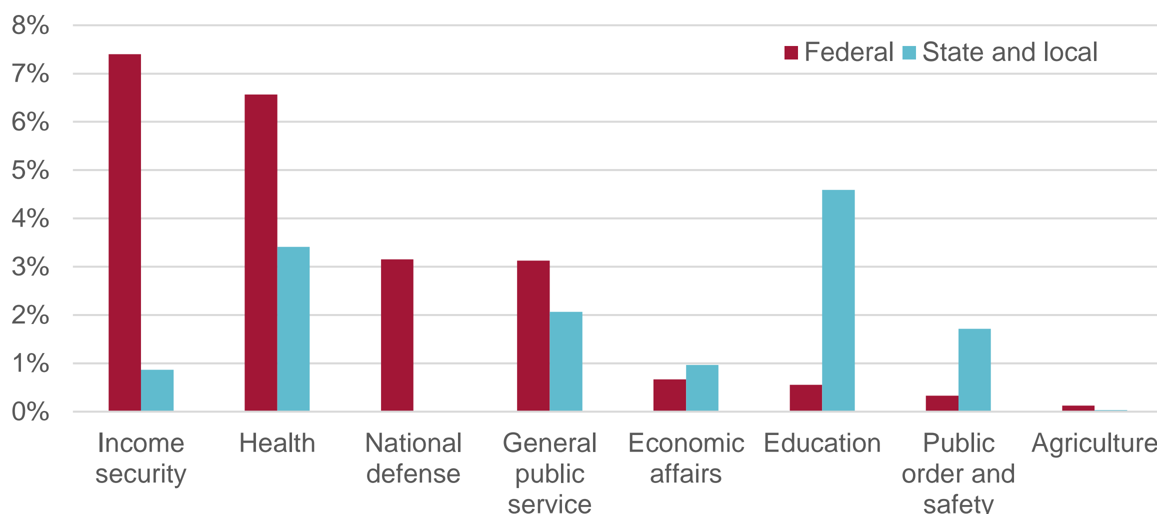
2. Budget structures in the US

In this section, we document the fiscal structure of an established federation, the United States. Under the U.S. Constitution's Tenth Amendment, states possess all powers not specifically granted to the federal government. In practice, the US federal government spends 61.6% of total government spending. Chart 1 shows that federal government spending dominates income security, health, and national defence spending but also plays a larger role than the local and state level in general public services and agriculture. In contrast, in education, "economic affairs", public order and safety, the state and local level dominates spending.

The US federal budget involves significant net balances in contributions and payouts across states (Chart 2). Some states pay 10 and more percent of their GDP more in taxes than they receive in spending. Others receive several percentages of spending more than they pay.

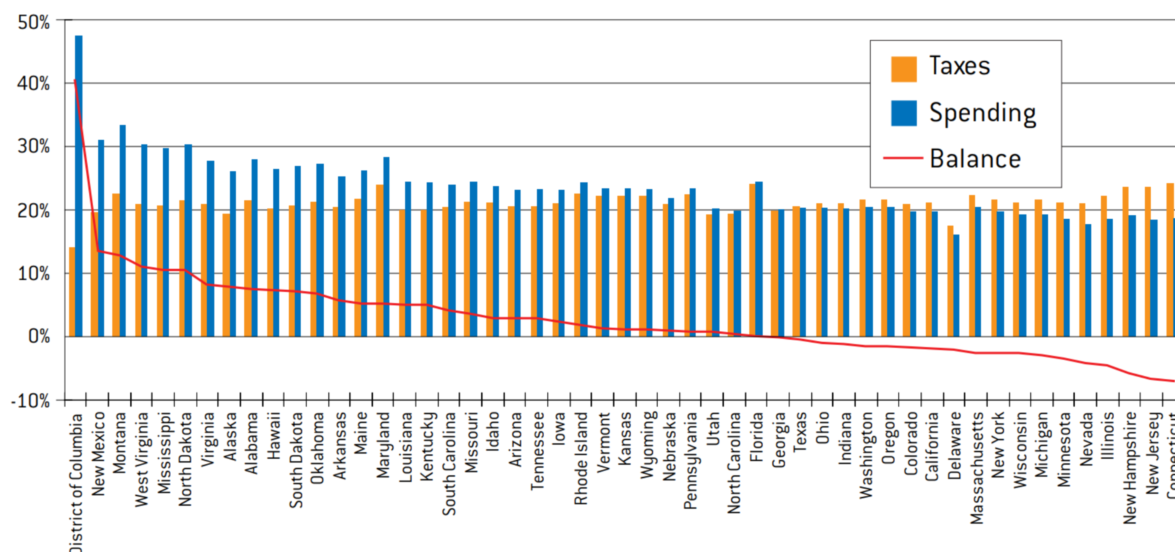
[1] http://www.consilium.europa.eu/en/meetings/european-council/2018/02/23/

Figure 1: Government expenditure by function in the United States, 2016, % GDP



Source: Bureau of Economic Analysis

Figure 2: US federal budget: taxes from, spending in, and balance with states, 1999, % state GDP

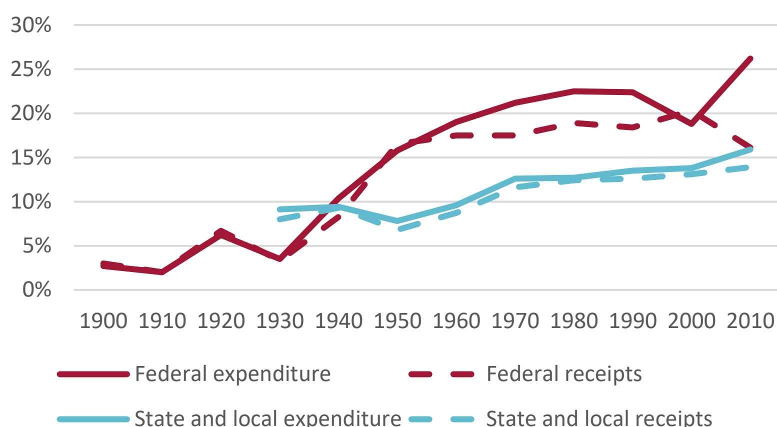


Source: Figure 2 of Darvas (2010), which is based on data from [*http://www.hks.harvard.edu/taubmancenter/publications/fisc/*](http://www.hks.harvard.edu/taubmancenter/publications/fisc/) *(fiscal data) and OECD regional database (GDP).*

It is important to understand how such a large federal level of government could develop. Initially, the federal government concentrated on a few tasks, such as providing for the national defense, administering a relatively small set of federal laws, and operating a national mail service. In 1930, approximately half of civilian federal employees worked for the Post Office Department. The size of the federal government in percent of GDP was 3.3% and significantly smaller than the combined spending of states and local governments. State government expenditures, in turn, were once small compared with those of local governments. In the course of the 20th century, the size of the federal

government expanded significantly and surpassed that of the sub-federal level in the late 1930s (see Chart 3). Ever since, federal spending exceeded sub-federal spending by a significant margin and even grew slightly more strongly than the sub-federal one, which also showed positive growth.

Figure 3: US federal and state/local government expenditure, % of GDP



Note: Some expenditures and receipts, notably federal grants-in-aid, are counted in both the federal and S&L series. The NIPA accounts net them out in the series for the total government sector.

Source: Schuyler (2014)

This US experience bears a number of interesting lessons for the European Union. First, the United States has a substantial federal level of government spending. However, since the US political union was formed at a time when public spending was low, federal spending did not develop at the expense of state and local spending but rather grew in the 20th century as the government took on new functions. This experience contrasts with the development of the EU fiscal relations: The European Union is a group of developed states with significant and large government sectors. With the exceptions of cross-country redistribution, EU administration, support for research and development and foreign aid, other functions, such as social security, health care and defence that are provided by the US federal state are provided by national states in the EU (foreign aid and research support are provided both by the EU and member states). Therefore, further functions could be delegated to the EU level only if member states are ready to reduce or give up their activities in these areas, because for example they agree that such tasks can be provided more effectively at the EU level. Since spending shifts from the national to the EU level does not seem to have political backing, the EU budget is likely to remain relatively small.

Second, the federal level does provide for important functions that are relevant to not just nation-wide public goods but also nation-wide stabilisation policy. Put differently, the US does assign significant parts of its fiscal stabilisation policy to the federal level and these stabilisation policy functions are intrinsically linked to the allocative function of public finance, i.e. redistribution across individuals living in different parts of the US.

Box 1: First principles and the EU budget relations

The theory of fiscal federalism provides some conceptual guidelines about the distribution of fiscal tasks between central and sub-central governments. While the EU is not a political and fiscal union, the theory is still helpful in thinking about the distribution of fiscal functions in the EU. A specific question is whether certain tasks which could be centralised relate to the euro area or the EU as a whole. This question is all the more important, because Brexit will mean that the euro area will account for 85% of EU GDP and 76% of the EU's population.

Recent Commission proposals include some elements which might have a specific euro-area relevance. In line with an earlier German idea, it proposes "technical support" for structural reforms, which may be open to all member states but perhaps seems more necessary in euro-area countries. It suggests that EU budgetary payouts could be linked to "upholding EU core values", which is perhaps more relevant concerning some countries currently outside the euro area. It also suggests that the EU budget could play a role in providing some of the stabilisation function that the Commission reflection paper on the future of monetary union is proposing for the euro area.

The analytical framework proposed by the seminal work of Musgrave (1939) helps to think about this question. Musgrave (1939) defined allocation, re-distribution and stabilisation as key functions of a fiscal federation.

Allocation describes the role of public finance in allocating tax resources to public goods that would not or could not easily be provided by private actors. One typically thinks of the services provided by the public sector, of defence, foreign policy, of public infrastructure, of networks, environmental regulation and the like. For most of European-level public goods, we would primarily think of the EU as being the appropriate entity to provide those goods. For example, considering European networks, there are no euro-area network for gas or telecommunications which would look like distinct from an EU network. The externalities arising play at the EU level or even at the global level so EU-level provisioning makes sense.

There is one possible exception: financial stability. While financial stability is a global and an EU-wide public good, the euro area creates its own specific financial stability challenges that are intrinsically connected with the Euro. For example, the ECB provides liquidity to all banks in the euro area – so a euro area-level deposit insurance would usefully complement the banking union and in certain circumstances reduce the exposure of the ECB to possible bank runs. Yet current proposals for a European Deposit Insurance System (EDIS) does not foresee the involvement of the EU budget, so this euro-area specific discussion could be left out of the thinking about the future of the EU budget.

Redistribution refers to the role of the budget in redistributing tax resources from people with greater ability to pay to people that may be in need of additional resources. Redistribution is a political choice and different countries and societies have chosen very different levels of redistribution. The Sloterdijk (2017) expressed the opinion that solidarity systems can so far only be sustained in national frameworks, including political unions like the US. And indeed, modern solidarity systems have been built around the nation state – replacing them with European ones will be an uphill struggle. Possibly, however, the European level could complement the national solidarity systems.

This then raises the question of which "European level". Is there a dimension inherent to the EU or inherent to the euro area that would speak in favour of exercising redistribution at that level? The EU has so far related redistributive elements to the creation and the deepening of the single market. It is well known that the removal of trade barriers can create losers and winners. The single market

goes far beyond the removal of trade barriers, establishing also the free movement of labour, capital and services on top of the free movement of goods. This can lead to significant tensions in both countries with higher GDP levels and countries with lower GDP levels. The EU's redistributive system focuses on providing support so that economies can catch up and economies can cope with the pressures of the single market. And while the effectiveness of that system can be discussed, it is clearly linked to the EU.

But does the euro have additional social implications? The European Commission has framed its discussion of the social pillar around monetary union but does not provide a justification for that choice.

The euro is, of course, a means to establish greater market integration by removing exchange rate uncertainty. And if one accepts that the single market requires a redistributive element, then it would only be logical to also require an additional redistributive element in the deeper single market that monetary union is supposed to constitute.

However, the evidence that the euro has created much deeper labour, service or goods integration as compared to the EU is not very strong. Effects on trade are more modest than was hoped for. We are also not aware that migration numbers within the euro area are superior to migration numbers in the EU as a whole, or that the creation of the Euro has led to additional migration. Also, to our knowledge, the notion that the Euro as such has created agglomeration effects is not supported by any empirical evidence.

There is, however, one redistributive question related to the Euro: the euro area remains a highly imbalanced currency area. Not only are income levels very different but there are different varieties of capitalism. The mechanisms through which euro-area economies adjust to shocks are also different. Taken together, this has all meant that market forces to correct imbalances are either ineffective or slow. For example, without a nominal exchange rate, real adjustment happens only very slowly and gradually. And current account surpluses remain elevated for extended periods of time without visible adjustment.

Redistribution could be a way to compensate for such lasting imbalances. However, we would consider this as undesirable, for both political and economic reasons. From a political point of view, long-lasting transfers in the monetary union could be unsustainable for the countries providing the payments. From an economic point of view, long-lasting transfers only cement and sustain the very same imbalances. It would be preferable to address these imbalances more proactively instead.

Stabilisation policy is the ability of the state to borrow in the markets in recessionary times at low costs and spend so as to increase aggregate demand when the private sector is retrenching. When the recession is asymmetric, such policy also involves risk-sharing between different parts of the federal area. When an EU country is not a member of the euro area, it could rely on both monetary and fiscal policies to stabilities the economy – by respecting of course EU treaties and other regulations. But monetary union has removed country-specific interest rates and exchange rates and the ECB's overall monetary stance, as well as the adjustment of the external exchange rate of the euro, might not be sufficient to stabilise the economy. Furthermore, when fiscal positions are weak, national governments might become more constrained in their use of fiscal policy as a stabilisation tool inside the euro area than outside.

The euro area has addressed this issue with three tools so far. First, it has prescribed that governments discipline their fiscal policy in good times so as to create sufficient fiscal space in bad times. Such restrictions are somewhat weaker for non-euro EU countries. The reality is that the set of rules to achieve this has largely failed to deliver. Second, it has created the ESM. The ESM has

been successful in increasing the ability of governments to continue to borrow at low rates. But it has been deeply unpopular due to the conditions attached to it and the guarantee given by stronger countries. Third, it has created the OMT programme which allows governments to significantly increase their borrowing ability as long as there is political support by all other euro-area member states.

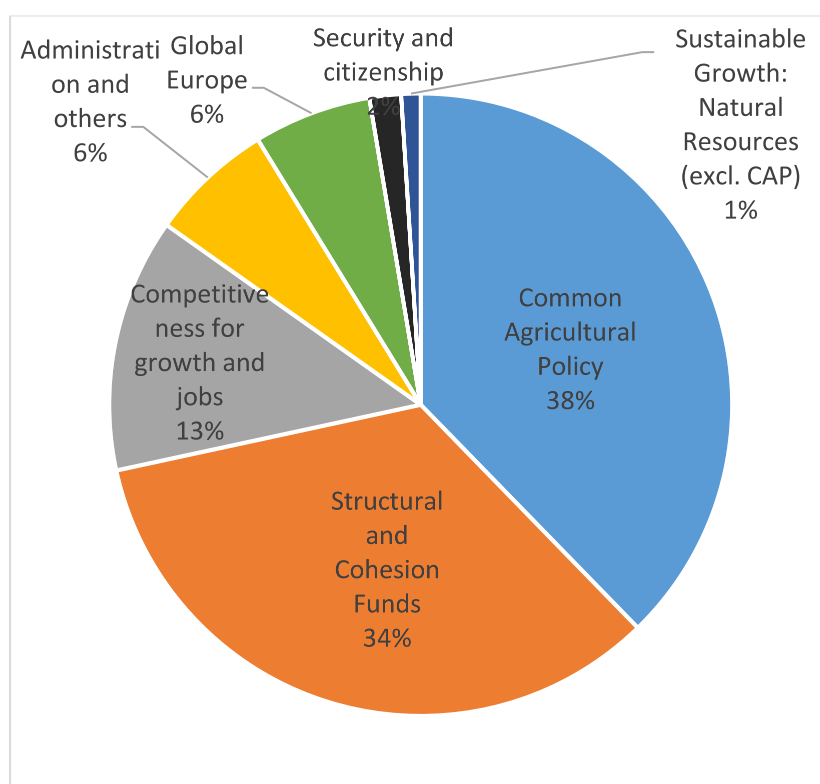
It is thus clear that the euro area has created a set of problems regarding stabilisation policy that is distinct from the EU budget. EU countries outside of the euro area are not confronted with the same stabilisation policy issue.

3. The current EU budget

The EU budget is financed by EU Member States' contributions, primarily related to gross national income and value added taxes. 80% of customs duties on imports from outside the EU and sugar levies are also transferred to the EU, while member states keep 20% for collection costs. Some additional revenue arise from fines imposed by the EU. The overall budget is slightly larger than 1% of EU GNI and it has to be balanced, i.e. no permanent debt accumulation is possible.

EU budget revenues are used to carry out common European policies. Figure 1 shows the budget allocation across different policy themes in the 2014-2020 period.

Figure 4: The distribution of the 2014-2020 MFF ceilings



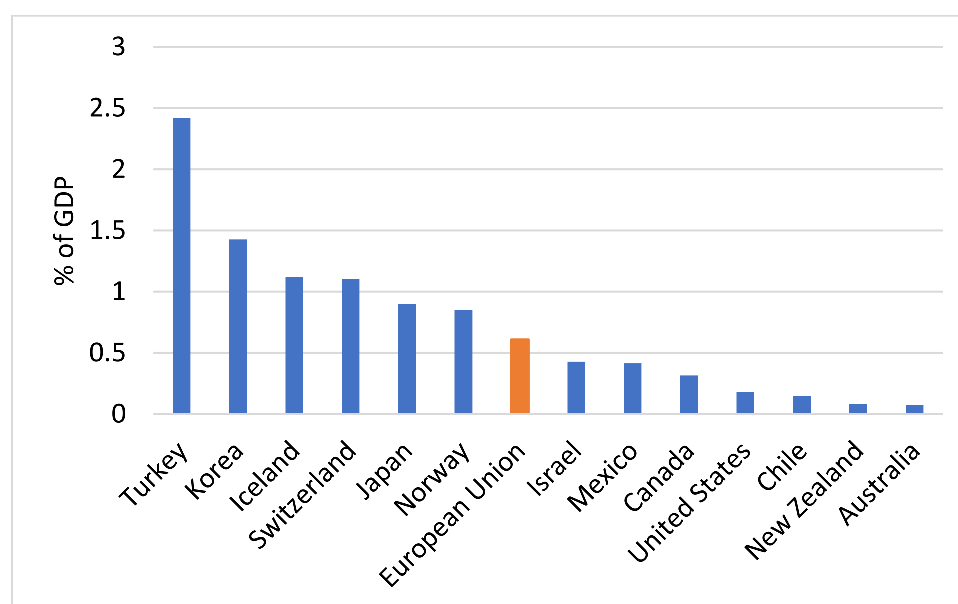
Source: European Commission, Bruegel.

The largest main spending category is the Common Agricultural Policy (CAP), which is followed by the Structural and Cohesion Funds. Together, they account for 72% of EU spending, with €775 billion in 2014-2020. "Competitiveness for growth and jobs" is the third biggest component, with €142 billion. This theme includes several well-known programmes such as Horizon 2020 (for Research & Innovation) and Erasmus+. Administration covers payments related to the operational costs of EU institutions. With €66 billion, "Global Europe" includes the EU foreign policy instruments – notably aid, neighbourhood policies and other external actions. "Security and citizenship" covers domestic issues such as health, consumption, justice and asylum – totalling €18 billion. Finally, "Sustainable Growth: Natural Resources" is allocated €11 billion, mostly for Maritime Affairs and Fisheries. We zoom on the two largest spending categories.

3.1 The Common Agricultural Policy (CAP)

The EU spends more on agriculture than the US and several other OECD countries. Figure 5 shows the spending in percent of GDP. In fact, European spending is about twice as large.

Figure 5: Net support to agricultural producers OECD economies, 2016, % of GDP



Source: OECD Agricultural Policies database.

Note: Producer Support Estimate (PSE): The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on farm production or income. It includes market price support, budgetary payments and budget revenue foregone, i.e. gross transfers from consumers and taxpayers to agricultural producers arising from policy measures based on: current output, input use, area planted/animal numbers/receipts/incomes (current, non-current), and non-commodity criteria.

Such quite large spending aims to achieve the following 5 objectives of CAP are as outlined in article 39 of the TFEU:

The 5 objectives of CAP are as outlined in article 39 of the TFEU:

i) greater agricultural productivity by promoting technical progress and the optimal use of factors of production,
ii) fair standard of living for agricultural community, by increasing the individual earnings of persons engaged in agriculture,
iii) market stabilization,
iv) support the availability of supplies, and
v) reasonable prices for consumers.

Moreover, Regulation 1306/2013 has specified three further CAP's objectives:

- viable food production,
- sustainable management of natural resources and climate action, and
- balanced territorial development.

More broadly, the CAP also contributes to the EU 2020 Strategy and the UN 2030 Agenda for Sustainable Development.

The Common Agricultural Policy has a budget of €408 billion for the period 2014-2020. Of this amount, the largest spending item is the income support to agricultural producers, €294 billion expected for 2014-2020. Intervention in case of adverse shocks on agricultural markets is expected to amount to €18 billion.

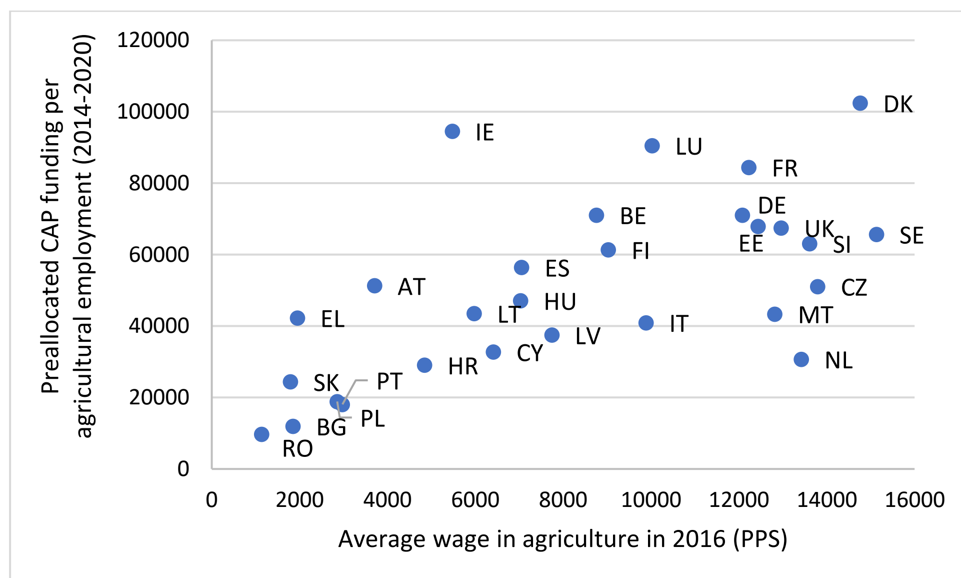
The underlying rationale for CAP is that the European agricultural sector is crucial for the food supply of EU citizens. Through the "greening" and "cross-compliance" conditions on subsidies, it attempts to incentivise best practices with regards to environment and animal welfare. The EAFRD's mission is to help rural communities develop and diversify economically, by funding regional projects.

There is no numerical formula on the cross-country distribution of CAP funding. Instead, the Committee for Direct Payments[2], which includes representatives of each member states, negotiate and vote on the national ceilings per direct payment programmes. Then the Commission passes it as a Commission Implementing Regulation[3]. As a result, CAP payments by country is rather uneven across member states.

Since one of the CAP goals is to support earnings of agricultural workers, Figure 6 shows the relationship between CAP payments per agricultural workers and the income of such workers. Since the purchasing power of one euro differs across member states, we express income in purchasing power standards (PPS). Clearly, higher CAP payments are associated with higher agricultural wages. This association could indicate that either that CAP is effective in increasing wages (which would be a positive reading), but also that those countries receive more CAP funding where wages are already higher (a negative reading). Whatever is the proper interpretation, larger CAP payments go to richer farmers across the EU. Moreover, European Commission (2018)[4] also highlights that 80% of direct payments go to 20% of farmers, which raises major question marks about the fair distribution of CAP allocations.

[2] Established by REGULATION (EU) No 1307/2013.
[3] E.g. for 2017: COMMISSION IMPLEMENTING REGULATION (EU) 2017/1272.
[4] https://ec.europa.eu/commission/sites/beta-political/files/communication-new-modern-multiannual-financial-framework_en.pdf

Figure 6: Relation between CAP funding and wages in agriculture



Source: Bruegel calculation using Eurostat data.

To our knowledge, no independent evaluation encompassing all aspects of the CAP has been undertaken in recent years. Nevertheless, a 2017 report[5] prepared for the European Commission by a group of external experts suggest inefficiencies in bettering environmental impact, while Pe'er et al (2014) concluded that the new environmental prescriptions are so diluted that they are unlikely to benefit biodiversity. More fundamentally, the attempted studies often point to the need to collect more data and to make CAP evaluations more systematic. A 2017 report by the European Court of Auditors[6] found the CAP's "greening" policies to likely be ineffective at improving European agriculture's climate impact. A 2016 report[7] prepared for the European Commission raised concerns about the Member States' implementation and impact of the CAP. It highlights that the priorities chosen are ill-advised and the implementation is often problematic.

Overall, CAP spending goes to richer farmers and 80% of spending is concentrated on a happy 20% of farmers. Moreover, several studies suggest that CAP is ineffective or possibly counterproductive in achieving the goal of greening European farming. Both the distribution of CAP spending across and within countries, as well as the effectiveness of CAP spending are therefore questionable, and call for a fundamental reform as well as possibly reductions in the overall size of CAP.

3.2 Regional policy

A key objective of the European Union is to strengthen economic, social and territorial cohesion, by reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions (Article 174 of TFEU).

[5] https://ec.europa.eu/agriculture/evaluation/market-and-income-reports/greening-of-direct-payments_en
[6] https://www.eca.europa.eu/Lists/ECADocuments/SR17_21/SR_GREENING_EN.pdf
[7] https://ec.europa.eu/agriculture/external-studies/mapping-analysis-implementation-cap_en

The Regional Policy has a budget of €367 billion for the period 2014-2020, allocated between the European Regional Development Fund (ERDF, 55%), the European Social Fund (ESF, 23%), the Cohesion Fund (20%) and, sometimes included, the Youth Employment initiative (1%). These funds are the main instruments to ensure cohesion and convergence among EU regions: alongside Member States, they co-fund economic development projects drawn up by regions. These projects must demonstrate how they contribute to progress on a broad range of objectives – from research and development activities and small- and medium-sized enterprises, to public administration and social inclusion – meant to fulfil the Europe 2020 strategy. The underlying objective of this policy is to reduce the socioeconomic disparities within the EU.

In order to stimulate convergence within the Union, the ERDF and ESF have separate budget subdivisions for different regions based on their GDP per capita. €185 billion is set aside for "less developed regions" (with GDP-per-capita [GDP/cap] of less than 75% of the EU average). "Transition regions" (with GDP/cap between 75% and 90% of the EU average) receive €36 billion. "More developed regions" (with GDP/cap above 90% of the EU average) receive €56 billion.

A comprehensive literature survey of Marzinotto (2012) concluded that the impact assessments of regional fund spending depend on the methodology used. While Macroeconomic model simulations conclude that such funds have a positive impact, the results of empirical studies are more mixed. She concludes that by and large, the available literature shows that the most growth-enhancing investments are infrastructure and education, but studies reaching such conclusions typically abstract from the actual allocation of EU funds across themes of intervention and sectors. More direct empirical tests sometime find a positive, even if often small, impact of EU funds on growth convergence. In particular, investment in human capital and R&D generates positive long-term effects on growth convergence, while other spending, such as infrastructure, might deliver only a short-term effect. Yet there is no consensus in the literature and other studies do not find that the rate of convergence has been higher in funded regions in comparison with non EU-funded regions.

More recent works find similarly mixed results. For example, Pinho *et al* (2015) find that regions in the cohesion group (i.e. the poorest group) are not able to turn funds into growth. Fratesi and Perucca (2014) reach a more nuanced conclusion by finding that regional policy is not effective per se, but positive in regions more endowed in territorial capital and are more able to take advantage of it. On the other hand, Pellegrini *et al* (2013) find positive growth impact of EU regional policy, with a boost to annual growth between 0.6-0.9 percentage points per year. Similarly, Crescenzi and Giua (2017) conclude that cohesion policy leads to stronger growth rates in all regions, and the effect is even stronger if other programmes are also used. Yet they also find that the Rural Development Programme on its own is not systematically linked with growth, but only for already developed areas. Becker *et al* (2017) conclude that regional policy has a positive effect on growth, but this effect is not long-lived: losing eligibility is negative and offsets previous positive effects. In a European Commission report Pienkowski and Berkowitz (2015) also conclude a comprehensive literature survey and conclude that most studies find a positive but small impact, especially in less developed regions. Some studies find no significant impact of even negative impact.

Overall, the surveys of Marzinotto (2012) and Pienkowski and Berkowitz (2015), as well as our overview of more recent works, suggest the conclusion that EU funds have a growth potential but may not deliver in practice either because they are poorly managed or used for the wrong types of investment. These problems, and the inconclusive literature calls for a major rethinking of regional policy.

4. The future EU budget

It is unfortunately that discussion about the EU budget is frequently centred about net balances, the balance between payments into the EU budget and EU spending in the particular country. Such an approach is rather inappropriate. On the one hand, countries receiving more from the EU budget than what they pay into it (central and some southern European countries) might not benefit as much as the numbers show. Certainly, by definition, more spending generates more output in the short run but the longer term growth impact is less clear-cut as various surveys show. On the other hand, net contributors (most western and norther European countries) should not look at their contribution to the EU budget as a kind of "loss" to domestic taxpayers. On the contrary, the indirect benefits may offset the direct financial contribution, partly because of the direct involvement of companies incorporated in net payer countries in projects financed by cohesion funds, partly by the imports of cohesion countries generated by cohesions funds, but also because if these funds improve the economic outlook of cohesion countries (even in short-term), it also implies a larger European market benefitting all countries.

Having this overreaching observation in mind, we discuss four priorities of the future EU budget.

4.1 Fundamental rethink of EU spending

Like many, we consider the first priority in the EU spending debate to increase the efficiency and effectiveness of current programmes. Our literature review suggests indeed that cutting spending while improving targeting should be a possible road to keep the achievement of goals at the same level. In particular, as the European Commission suggests, cutting spending on industrial farming while keeping support for small farmers may be one good option to limit the political costs while improving the greening goals of farming policy. Similarly, focusing cohesion and structural funds on those regions that are truly in need of catching up or that are truly poor suggests to deliver the best growth dividends.

Below we provide a simple scenario calculation, in which we freeze spending on CAP and on cohesion money nominally. I.e., we do not let it increase with growth of nominal income. De facto, that would amount to a significant cut in spending on these items in percentage points of the EU budget. The simulations suggest that such an approach would go a long way in addressing the budget short-falls resulting from a no-deal Brexit scenario and still

Depending on whether one can fully freeze or at least partially reduce cohesion and CAP spending in percent of GNI, more or less significant resources necessary for obtaining the new political priorities would become available. The new political priorities, such as the immigration file, may indeed require a substantial increase in resources if tangible results are to become visible to citizens. The Commission's calculation on Frontex thereby only cover a part of the overall financial costs related to immigration.

A second important question of priorities is whether there is a need for a specific euro-area fiscal stabilisation instrument (see Box2), and if so, whether it should be within the EU budget or outside of it as a new instrument.

Box 2: Is there a need for a euro area stabilisation instrument?

Claeys and Wolff (2018) argue that two different cases for a euro area level stabilisation instrument can be made. The first concerns asymmetric shocks while the second one concerns symmetric shocks. A euro area wide instrument is most useful as insurance for asymmetric shocks. For symmetric shocks a combination of monetary policy and coordinated national fiscal policies is probably the most sensible option for the euro area.

For strong asymmetric shocks, the euro area currently has only one joint insurance, which is the European Stabilisation Mechanism (ESM) and the European Central Bank's Outright Monetary Transactions (OMT). The ESM can provide financial assistance loans to euro-area members states under conditionality, while OMT could lead to the ECB purchase of government securities of a country which is under an ESM programme. Both are absolutely essential. However, they are only activated when a country is already pushed to the brink. It is therefore useful to explore insurance that could kick in earlier to support a country.

To be clear, such insurance is more important for fiscally weaker than for stronger countries. Fiscally strong countries are more able to borrow and insure themselves in the markets than weaker countries, that are more easily at risk of losing market access while still engaging in sensible macroeconomic stabilisation policy. As desirable as insurance is for the functioning of a monetary union, it is this asymmetry that makes the introduction of insurance in the euro area so difficult.

As regards symmetric shocks, a euro area wide stabilisation instrument is more difficult to construct. In fact, for any symmetric shock that is large, a coordination of national fiscal policies together with a strong response of the ECB is the natural response. Federal borrowing would not solve the problem of the coordination of spending. After all, if borrowing happened centrally and was distributed to national budgets, the fungible resources could still be used to just reduce national borrowing. So if one wanted to create a truly centralised stabilisation capacity adequate to for the euro area as a whole, one would not only have to centralise borrowing, but also centralise the resources to pay for the debt and centralise actual spending. De facto, this would mean federalising the euro area and shifting government tasks away from national to euro area institutions. It would bring the euro area closer to the US case. But as we have described above, achieving such an outcome is highly unlikely as it would mean taking away important government functions from countries.

The stabilisation function proposal in the Communication of the European Commission[8] is not fully fledged out and not all details are provided. Contrarily to other more developed part of package (such as the EMF regulation proposal or the directive to integrate the fiscal compact into EU legislation), it seems that the Commission is still in the early stages of its reflection process and intends to publish a detailed proposal in May 2018[9].

Whatever the concrete proposal will look like, we expect that the Commission's proposals on a stabilisation function will not be a game changer for stabilisation policy in Europe. The main reason for this assessment is that the political will to create an additional fund is very low at this stage – the precise institutional form is of secondary importance.

[8] European Commission (2017b)

[9] The Commission outlines that it "intends to present its proposals in May 2018, as part of the post-2020 Multiannual Financial Framework, which would include […] a stabilisation function for euro area Member States and open to all, in the event of large asymmetric shocks".

If a political decision will be reached on the establishment of a euro-area fiscal stabilisation instrument, the institutional question is whether to create it within the EU budget or outside of it. There are several advantages to resorting to an EU budget line to create a stabilisation tool for EMU (as discussed for instance by Wolff, 2017). An EU budget line would avoid creating a new ad-hoc (probably inter-governmental) institution. Moreover, it would avoid creating an additional political and financial wedge between euro and non-euro area countries.

The most important argument for keeping the euro area budget line in the EU budget is however a political economy one. Creating new budgetary resources for the euro area is not only facing fierce resistance because insurance is more useful for fiscally weaker countries than for stronger. But because there is rather widely shared perception that the existing EU resources are poorly used. Politically, an important precondition for mobilizing new resources is therefore a better use of existing EU resources. That puts the reform of the EU budget at the centre stage of the budgetary discussion. Creating the euro area line within the EU budget institutionalises this need to reform the budget.

However, the drawbacks are also not negligible. The EU budget is based on a rather complicated set of treaty rules, allowing for limited flexibility and essentially no borrowing capacity (beyond financial assistance programmes[10]). Apart from the relatively small amounts of fines and custom duties (representing less than 10% of the revenues), the EU budget does not have direct revenues, nor a borrowing capacity. Unless there are major changes in the EU budget (which would most probably involve Treaty changes), the euro area stabilisation tool as a part of the EU budget would thus not allow the euro area budget to function with taxation and borrowing. The establishment of direct revenues (more substantial than regulatory taxes, like environmental taxes) for the EU budget would need unanimity of EU members and a Treaty change.

4.2 EU budget revenues

Setting spending priorities, along with setting the total volume of the EU budget, necessitates parallel thinking about the revenue side. One discussion is whether the EU budget revenues should increase beyond the current level in percent of GNI. A second debate is about whether new resources should be created. The high level group on EU resources (Monti *et al*, 2016) made a number of proposals on how to reform the revenue side of the EU budget. In this note, we do not look into the revenue side in detail. We note that many countries have already voiced their clear opposition to increasing their contribution relative to GNI. We therefore consider it as important that the EU starts having a serious debate on direct tax resources. Tax resources such as a tax on CO2 emissions would not only constitute a welcome source of revenue, they would also be feasible without treaty change in the EU and a sensible way of advancing the European Union's climate goals.

[10] As far as borrowing capacity in the EU budget is concerned, under the current Treaty, EU borrowing is only permitted to finance back-to-back loans to countries. The EU cannot borrow to finance its budget, since Article 310. 2 of TFEU states that "The revenue and expenditure shown in the budget shall be in balance". The EU as currently three loan programmes to raise funds and pay for financial assistance to countries experiencing financial difficulties: Balance of payments assistance (for non-euro MS), European Financial Stability Mechanism (for all EU MS), Macro-Financial assistance to non-EU partner countries. The funds are raised by issuing bonds on international financial markets on behalf of the EU.

5. Modelling the next MFF after Brexit with frozen CAP and cohesion spending

We check how much saving in EU spending would result if CAP and cohesion spending would be frozen nominally, but the contributions of the 27 EU member states would remain the same a percentage of their GNI.

Panel A of Table 1 presents the current MFF. Data on commitment ceilings is available both for the total MFF and for subheadings, but data on payment ceilings is available only for the total[11]. We therefore assumed that the ratio of payment ceilings to commitment ceilings is the same for CAP, cohesion spending and all other spending as the ratio between the totals. As regards revenues, beyond member states contributions the EU has "other revenues", mostly fines. We calculate the average annual of such revenues between 2010-16 and multiply by 7 to get an estimate for the possible total such revenues in 2014-2020, which is €48 billion. The rest, that is the difference between total payment ceilings and these other revenues are to be collected from member states, which is called "total own resources" in EU budget terminology and comprise of GNI-based and VAT-based member states contributions and customs duties.

In turn, Panel (B) of Table 1 excludes the UK from the current MFF. Data is available on CAP and cohesion commitment ceilings for the UK, but not for other EU spending commitments: for this other EU spending category we assumed that the UK's share is 5.7%, which was the average share of the UK in the actual implementation of the 2014-2016 annual budgets. To calculate payment ceilings for subheadings we follow the same methodology as in Panel (A), namely we apply the ratio of total payments to total commitments. On the revenue side we subtract the UK's expected contribution in 2014-2020 to get the value for the 27 member states. This projection is based on European Commission November 2017 GNI forecast for the UK. We have no information to estimate the share of the UK in "other revenues", which is expected to amount to €48 billion in 2014-2020. We just assume that the UK's share in these revenues is 10% and thereby for the 27 member states the value of these revenues would be €43 billion. Our calculations show that without the UK on both the spending and the revenue sides, the 2014-2020 EU budget would have missed €73 billion.

Finally, we project payments and revenues assuming that CAP and cohesion payments remain unchanged nominally, while other spending and all revenues increase with GNI (Panel (C) of Table 1). That is, we assume that the contributions of the 27 EU member states remain the same as a share of their GNI. We estimate[12] that the total GNI of the 27 member states will be 28% higher in 2021-27 than in 2014-2020. Therefore, for our 2021-27 EU budget projection, we increase other spending, member state contributions and other revenues by 28% from 2014-2020 to 2021-2027, while fixing, in nominal terms, CAP and cohesion spending. Panel (C) shows that this would lead to a surplus of €102 billion, that is, a nominal freeze of CAP and cohesion spending along with the same percentage

[11] Source for payment ceilings: European Commission (2017) 'COM(2017) 473 final', p.5 http://ec.europa.eu/budget/mff/lib/COM-2017-473/COM_2017_473_EN.pdf
Source for commitment ceilings: European Commission, DG Budget website, retrieved in February 2018 from http://ec.europa.eu/budget/mff/programmes/index_en.cfm

[12] The November 2017 European Commission forecast include GNI forecasts up to 2019 that we use. The IMF October World Economic Outlook includes GDP growth and CPI inflation forecasts up to 2022. In order to obtain nominal GDP growth, we reduce the product of real GDP growth and corrected CPI, whereby we correct CPI inflation forecasts with the 2010-2019 difference (as included in the Commission forecast) between CPI inflation and the GDP deflator (which is 0.2% per year). For 2023-27 we use the 2022 values. We assume that GNI growth is the same as GDP growth.

share of GNI contributions by the 27 member states would more than offset the missing UK contributions.

Table 1: A simplified projection of the 2021-2027 MFF with zero UK contribution and zero spending in the UK, assuming that CAP and cohesion spending in the 27 EU member states is fixed nominally at the 2014-2020 level (€ billions)

(A) The current 2014-2020 MFF (28 Member States)

	Commitment ceilings	Payment ceilings	Revenues	
CAP	408	387	Total own resources	978
Cohesion	367	348	Other revenues	48
Other spending	307	291		
Total	**1,082**	**1,026**	**Total**	**1,026**
			Balance	**0**
Total % GNI	1.0	1.0	Total % GNI	1.0

(B) The 2014-2020 MFF for 27 Member States excluding the UK from both revenues and spending

	Commitment ceilings	Payment ceilings	Revenues	
CAP	381	362	Total own resources	856
Cohesion	355	336	Other revenues	43
Other spending	290	275		
Total	**1,026**	**973**	**Total**	**900**
			Balance	**-73**
Total % GNI		1.1	Total % GNI	1.0

(C) 2021-2027 MFF for 27 countries, no contribution by the UK and spending in the UK)

		Payment ceilings	Revenues	
CAP		362	Total own resources	1,097
Cohesion		336	Other revenues	55
Other spending		352		
Total		**1,050**	**Total**	**1,152**
			Balance	**102**
Total % GNI		0.9	Total % GNI	1.0

Source: authors' calculation as described in the main text.

There is a major uncertainty concerning possible UK contributions to the future EU budgets. Prudent planning requires not to take into account further UK contribution to EU budget, because that's uncertain at the moment. Since the UK was a net payer to the EU budget, without any UK contribution there would be a large financing gap in the next MFF even if all planned EU spending in the UK would be scrapped (the 2014-2020 EU budget commitments involves a significance amount of spending in the UK after 2021). Between 2010-16, the average net annual contribution of the UK to the EU budget was €7.1 billion per year (the so-called "operating budgetary balance", which

includes all kinds of own resources provided by the UK, less the UK rebate, less EU spending in the UK and adjusted by spending on EU administration[13]). This amount could be completely missing from next MFF. If the next MFF will be again 7-year long, then approximately €50 billion (in net terms) will be missing if the UK will not pay a penny and all post-2020 UK spending plans (which are derived from the 2014-2020 MFF) will be scrapped.

However, the UK might substantially contribute to the next MFF if:

(a) an exit deal will be signed and the principles laid down in the December 2017 agreement between the EU27 and the UK closing the first phase of the negotiations will be implemented, and
(b) the EU and UK will sign a comprehensive economic partnership agreement for the post-2020 period, which would involve a UK contribution to the EU's budget, similarly e.g. to Norway's contribution.

As regards the first issue, the December 2017 agreement resulted in the acknowledgement of the broadest possible liabilities for the UK: for 2019-2020, the UK will contribute as if it was a member of the EU and for the post-2020 period the UK will pay its share in all liabilities and commitments that the EU will accumulate by 31 December 2020. Moreover, the UK will not benefit from a share of EU assets. We quantify possible UK payments to the EU budget using the methodology developed in Darvas, Efstathiou and Gonçalves Raposo (2017).

The December 2017 document clearly explain the principles of financial settlement with the exception of one important question, namely whether the rebate-adjusted or non-adjusted historical contributions will be used to calculate the UK's share in post-2020 contributions[14]. Informally, we heard that the rebate-adjusted share is planned to be used, but since this is not clear from the published document, we calculate two scenarios (Table 2).

[13] An adjustment for EU administration costs is necessary, because for example EU spending related to the Brussels arms of the European Commission, European Parliament and all other EU institutions and agencies should not be counted as a spending in Belgium.

[14] The December 2017 agreement included the following: "*Except for the UK payments relating to UK participation to Union annual budgets to 2020 as set out in paragraphs 59 and 60, the UK share in relation with the Union budget will be a percentage calculated as the ratio between the own resources made available by the UK from the year 2014 to 2020 and the own resources made available by all Member States, including the UK, during the same period.*" However, the June 2017 Commission paper in principles of financial settlements said that: "*Should the financial settlement include all the obligations mentioned above, the United Kingdom share of the Union obligations should be established as the ratio (in percentage) between all own resources transferred by the United Kingdom to the EU budget and the total own resources transferred by the Member States (EU28) over 2014-2018. These amounts include all specific adjustments of national contributions as defined by the ORD.*" That is, in June 2017 the guideline added a specific sentence saying that "*all specific adjustments of national contributions*" are to be considered when calculating the share, but this sentence was missing from the December 2017 agreement.

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Table 2: Our estimate for the UK's net contribution to the EU budget after 2020 from the financial settlement of EU membership (€ billions)

	2021-27	Post-2027
Net UK contribution (if non-rebate adjusted share)	28	8
Net UK contribution (if rebate adjusted share)	17	6

Source: Authors' calculations using the methodology of Darvas, Efstathiou and Gonçalves Raposo (2017).

Note: the overall "exit fee" is larger than the numbers included in the table, because typically, the "exit fee" expression used to refer to the UK's post-Brexit net contribution to the EU budget based on 2014-2020 MFF commitments and other liabilities (such as pension of EU employees), but the table does not include UK contributions in April 2019 – December 2020, which is a period following the likely Brexit date. The calculation requires an estimate for the UK's share in EU budget contributions in 2017-2018: we made such projections using the European Commission's GNI growth forecast and assuming that the exchange rate between the pound sterling and the euro will remain unchanged.

Certainly, Table 2 includes our estimates and actual outcomes might be different, though we would not expect big deviations, because the 2014-2020 MFF commitments are known and we assumed a usual amount of de-commitments for 2017-2020 (which is quite small)[15]. Still, there is some uncertainty about the magnitude, which would also depend on economic developments and the changes in the exchange rate of the pound sterling and the euro. Moreover, the December 2017 agreement has not yet been ratified. The UK's exit fee contributions will be known with certainty only after an exit deal has been ratified, which is not expected before March 2019. Since the amount in question is substantial, between €17-28 billion in 2021-27, a possible approval of the next MFF before the next European Parliament elections would involve this uncertainty.

Moreover, the exit fee might not be the only UK's contribution to the post-2020 EU budgets. If the UK and the EU will sign a comprehensive economic partnership agreement for the post-2020 period, the UK might additionally contribute to the EU budget annually, similarly to Norway. Table 3 shows that Norway's net contribution was similar to the contribution of the United Kingdom: it was somewhat smaller when expressed as a % of GDP, and somewhat larger when expressed in per capita terms. Whether the UK will contribute, and if so by how much, to the EU budget in exchange for a preferential access to the EU's markets, will be probably not known before the next MFF is agreed.

[15] See Darvas, Efstathiou and Gonçalves Raposo (2017) for a discussion of the various uncertainty factors.

Table 3: Historical annual net financial contribution to the EU

	% GDP	€ per capita
Iceland	-0.05%	-25
Switzerland	0.02%	12
Liechtenstein	0.03%	40
Norway	0.16%	115
United Kingdom	0.25%	79
Italy	0.29%	79
France	0.32%	100
Netherlands	0.36%	140
Germany	0.39%	131

Sources: Darvas (2016), based on European Commission data on the EU budget for EU countries, data received from the Directorate-General for Budget of the European Commission for the four non-EU countries upon my request, Eurostat for GDP and population for all countries except GDP of Liechtenstein, which is based on UN data.

Note: average of 2008-2014 for EU countries, average of 2014-15 for the four non-EU countries.

Therefore, if there will be both an exit deal and a new comprehensive economic partnership agreement between the EU and the UK, not much will be missing from the EU budget due to Brexit. Furthermore, we cannot exclude the outcome that the UK might pay even more in 2021-2027 than it paid in 2014-2020, if it will pay similar amounts (per capita) as Norway paid for the EU market access and the UK will also pay an exit fee balancing its commitments originated from its EU membership. But since this contribution is uncertain at the moment, these eventual UK contributions should be planned as contingent contributions in the next MFF.

6. Conclusions

In conclusion, the EU budget is and will remain far away from what public finance theory or experience of fiscal federations suggests about spending priorities. The key direction of spending reform should be to focus on true European public goods which can be more efficiently provided jointly than by all member states separately. Our review of CAP & cohesion funding suggests that there is scope for some cuts and efficiency gains, which combined would allow to cover some of the hole in the MFF arising of Brexit. But it is unrealistic to expect that it will be possible to cut in these areas so severely that new spending priorities for EU public goods such as immigration policy and border control could be covered from these. The EU MFF debate will therefore also feature a debate on increasing revenues or possibly the creation of a dedicated EU tax, for example in form of a carbon tax.

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