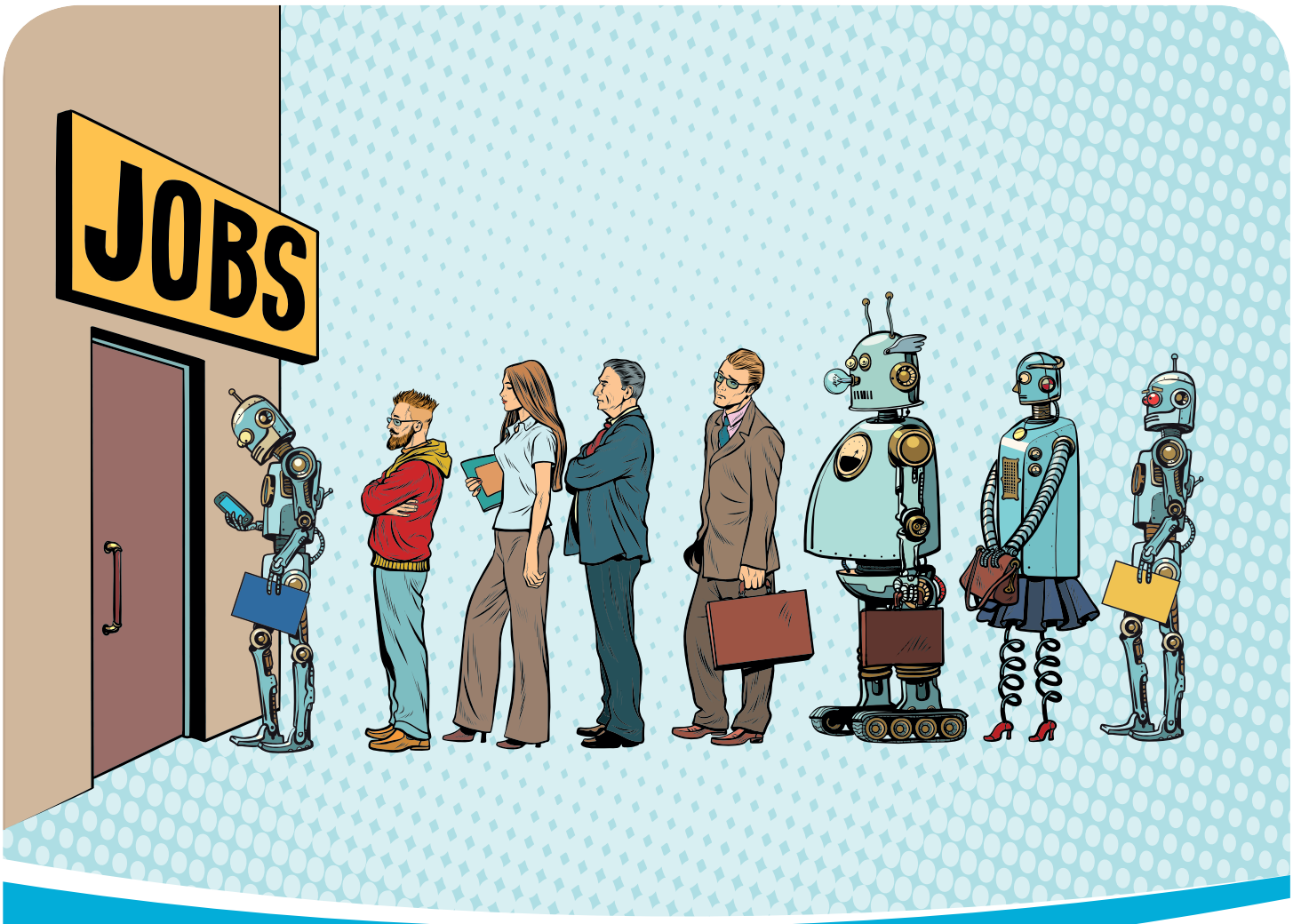

The Macroeconomic Effects of Common Minimum Standards for Unemployment Benefit Schemes in EU member states

STUDY

European Economic
and Social Committee

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General information

STUDY FOR	*The European Economic and Social Committee (EESC)*
REQUESTING SERVICE	*EESC Workers' Group*
STUDY MANAGING SERVICE	*Foresight, Studies and Policy Assessment Unit*
DATE	*1st July 2020*
MAIN CONTRACTOR	*IMK – Institut für Makroökonomie und Konjunkturforschung der Hans-Böckler Stiftung*
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		ISBN	doi
STUDY			
print	*QE-03-20-558-EN-C*	*978-92-830-4889-3*	*10.2864/823944*
PDF	*QE-03-20-558-EN-N*	*978-92-830-4890-9*	*10.2864/525188*

Abstract

This study examines the impact on the automatic stabilisation properties of national unemployment benefit systems of a European policy initiative that would introduce minimum standards to those systems. These minimum standards are a net replacement rate of at least 75%, a minimum duration period of 12 months and a coverage ratio of 50%. We conduct a number of simulations using the macroeconometric multi-country model NiGEM. We conclude that establishing these minimum standards, which would broadly mean national systems converging to the best performers on the three criteria, would strengthen the automatic stabilisers in Europe. Economic downturns and hikes in unemployment are cushioned somewhat. The effects we find are perceptible but not large. In part this is due to the fact that we cannot focus on the marginal propensity to consume out of additional income by unemployed households alone. Apart from its social-policy impacts, a strategy of raising minimum standards in national unemployment benefit schemes could make a contribution, along with other measures, to improving economic governance within Europe and especially the euro area.

Contents

Executive summary

High and persistent unemployment is a scourge of market economies. To address the problems of unemployment all EU member states have introduced, over an extended period of historical development, in some cases going back a century or more, mechanisms that provide wage-replacement benefits to those unable to find work. Such mechanisms are highly complex within themselves, with different rules applying to different categories of worker, and also vary widely between EU member states. Alongside their impact on the individuals (and their families) in receipt of benefits, maintaining their income during job-search, unemployment benefit systems have important macroeconomic effects. Of particular relevance in context of this study is their function as automatic stabilisers. During a downturn – when demand is falling and unemployment rising – government expenditure on unemployment (and some other social) benefits increases; at the same time government revenues from taxation and social insurance contributions decline as firms' profits contract and workers lose their jobs.

This study examines the impact on the automatic stabilisation properties of national unemployment benefit systems of a European policy initiative that would introduce minimum standards to those systems. These minimum standards are:

- Net replacement rate of at least 75% of net earned income (reference group: childless, average earners before unemployment, without housing assistance, without claiming other benefits)
- Minimum duration period of 12 months (based on previous employment of 12 months)
- Coverage ratio of 50% (proportion of unemployment benefit claimant in the first year)

Broadly speaking, introducing minimum requirements at such levels would bring national UB systems up to the standards achieved by member states that currently perform best on these criteria.

While there is no doubt that more generous benefit systems increase the automatic stabilisation properties of welfare states, assessing the quantitative importance of such a policy shift is far from a straightforward task.

To shed light on this matter we deploy the widely used macroeconometric model NiGEM. This allows us to measure and compare macroeconomic effects across countries, and also take into account stabilisation effects that work across national borders: stabilisation in one country is advantageous also for its trading partners. On the other hand, NiGEM models the welfare state, on the spending and financing side, only at a high level of aggregation. Against the background of the complexity of national benefit systems, this requires a number of simplifying assumptions to be made. Essentially our approach assesses, for each country, the gap between the existing levels and the proposed minimum standards for each of the three criteria. This gap is converted into an increase in benefit payments (and thus also financing needs), at a given level of unemployment, for each country. The effect is therefore larger in countries with currently Spartan systems compared to those which already make generous provisions. The model then allows us to perform simulation exercises that illustrate the extent to which automatic stabilisation would be enhanced if the proposed policy regime were realised. We find the following:

- A simulation of developments during the Great Financial Crisis of 2009 in which overall social transfers are shocked by +1% of GDP points to a partial cushioning of the recessionary impact. Consumption and GDP in Germany are higher (by 1.0% and 0.5% respectively), and unemployment is slightly (-0.25pp) lower than the baseline. The effects are perceptible, but quantitatively fairly limited. This is largely due to the fact that all benefits are included. These

are quantitatively dominated by pensions. The marginal propensity to consume – the proportion of additional income that is spent on consumption – is the average across the whole household sector. Yet this average is highly likely to be considerably lower than for unemployment benefits, which partially offset a fall from a previously higher earned income for affected households. The stabilising impact also occurs in the subsequent upturn, where taxes are raised to recoup the higher expenditure during the recession.

- The impact of the proposed unemployment benefit regime is assessed against the background of the current COVID19-induced crisis. We estimate that under the proposed minimum standards GDP would have been around 0.7 percentage points higher and unemployment around 0.3 pp lower than with the existing UB systems, thanks to the increased automatic stabilization capacity. This is primarily due to stabilization within national systems; only to a smaller degree is this effect accentuated by the cross-border stabilisation effect. Here, too, only the average marginal propensity to consume is used; to this extent the findings are indicative of the lower bound of the additional stabilization capacity brought about by the set of minimum requirements.
- We lack information with which to adjust the marginal propensity to consume so that it better reflects what might be expected for unemployment benefits lone. As an illustrative exercise we adapted the parameter in the relevant NIGEM equation that links the number of unemployed persons to the size of benefit payouts. This acts as a sort of "functional equivalent" to higher consumption from a given increase in benefit. For a plausibly higher parameter value we find that German GDP is 0.6% higher and unemployment 0.3% lower than baseline in response to a simulated negative shock of 10% to German exports.

Overall we conclude that, on top of their distributional and social-policy effects, national unemployment benefit systems meeting the minimum requirements described above would make an important additional contribution to automatic stabilisation. This is particularly welcome in the context of the Euro Area where the exchange-rate adjustment mechanism is lacking. It goes without saying that the effect does not obviate the need for discretionary counter-cyclical policies. Equally there are other channels by which national automatic stabilisers could additionally be strengthened, while the scope for cross-border stabilisation through, for instance, reinsurance of national benefit systems remains to be exploited. All these measures are potentially complementary.

Further research, possibly incorporating finer-grained models, would be needed to look more closely at issues such as the impact of other forms of welfare support, differential propensities to consume out of benefits by different household types and cross-country linkages.

Study

1. Introduction and scope of the study

High and persistent unemployment is a scourge of market economies. It causes income loss and often poverty, with accompanying social and health-related problems, for the individuals and families directly affected. At the macroeconomic level it signals a loss of actual output – and thus material living standards – and is also a burden on public finances. Via deskilling and demotivation effects, the actual output losses, if not quickly recovered, can become long-lasting: a country's potential output also declines, which become increasingly difficult to address with demand-side policies. The dramatic impact of high rates of unemployment was particularly visible in the global economic and financial crisis, and the subsequent euro crisis, which pushed up unemployment to extremely high levels in many EU member states. At the time of writing the impact of the Corona pandemic has also led to a marked increase in unemployment, again affecting all member states negatively, but to widely varying extents.

To address the problems of unemployment all EU member states have introduced, over an extended period of historical development, in some cases going back a century or more, mechanisms that provide wage-replacement benefits to those unable to find work. Such mechanisms are highly complex within themselves, with different rules applying to different categories of worker, and also vary widely between EU member states.

Alongside their impact on the individuals (and their families) in receipt of benefits, maintaining their income during job-search, unemployment benefit systems have important macroeconomic effects. Of particular relevance in context of this study is their function as automatic stabilisers. During a downturn – when demand is falling and unemployment rising – government expenditure on unemployment (and some other social) benefits increases; at the same time government revenues from taxation and social insurance contributions decline as firms' profits contract and workers lose their jobs. This boost to aggregate demand – the private sector has higher incomes than it otherwise would have – has a stabilising effect, limiting the overall contraction of demand and output and thus also the concomitant rise in unemployment. The reverse happens during a boom: government benefit payments decline as unemployment falls, while the tax/contribution take rises, dampening the upswing. A recent empirical study finds substantial stabilisation impacts of social insurance systems (Gechert/Paetz/Villaneuva 2020).

Compared with discretionary measures, automatic stabilisers have a number of attractive features, but also limitations (Watt 2011). They are timely, as they kick in without the need for lengthy legislative deliberation and implementation. They are by their nature temporary, reversing as the economy turns from upswing to downturn and back. Whether they are targeted – the third "T" of appropriate counter-cyclical policy – depends on their specific nature. This is likely to apply in the specific case of unemployment benefits, as these target individuals and families who would, on losing paid employment, otherwise suffer a sharp loss of income, forcing cuts in spending. On the other hand, whether the stabilisers are of adequate size is in a sense a mere byproduct of an historical development in which tax and spending schemes of various types were developed primarily with a view to social policy rather than macroeconomic policy objectives. A concern is that liberally-inspired attempts to

reduce the role of the state in the economy have had the unintended consequence of reducing the effectiveness of automatic stabilisers (Watt 2011: 208).

This study considers the impact of the introduction of binding common minimum standards for national unemployment insurance schemes. The motivation for introducing such standards is primarily framed in terms of upwards social convergence and contributing to strengthening the European Pillar of Social Rights (EPSR). As the EESC opinion on minimum standards in unemployment benefit systems notes, the EPSR calls, in its principle 13, for member states to ensure that the unemployed enjoy "the right to adequate unemployment benefits of reasonable duration, in line with their contributions" (EESC 2019: 3). Already this formulation points to the decisive parameters of the coverage and duration of unemployment benefit entitlement and its replacement rate, with respect to previous earned incomes (and thus usually also to previous contributions). Equally, though, a policy of strengthening minimum standards has macroeconomic implications. Specifically, such a policy would have the effect of strengthening the automatic stabilisers. Other things equal, the economy will run more smoothly, that is the amplitude of the business cycle will be attenuated.

This has desirable properties particularly in the context of European Monetary Union (EMU). A major underlying cause of the euro crisis was the build-up of unsustainable macroeconomic imbalances between the member states, with some countries experiencing self-perpetuating booms and others debilitating periods of stagnation; for a detailed discussion of the mechanisms see Koll/Watt (2018). By attenuating national business-cycle amplitudes, stronger automatic stabilisers in each member state exert positive effects also across borders. By helping to stabilise output close to potential in important trading partners such a policy has positive knock-on effects on all member states of the EMU, which, to recall, lack the ability to offset competitiveness issues and imbalances through exchange-rate adjustment. Watt (2011) called for the use of the open method of coordination to strengthen national benefit systems to this end.

Such between-country effects are, of course, particularly strong in the case of explicit cross-border stabilisation mechanisms. The proposal on which discussions have progressed furthest is for a partial Europeanisation of unemployment benefit schemes (e.g. Dullien 2017; Sabato et al 2019: 19ff.). The schemes can be designed in various ways, but in essence they transfer money (and thus demand) from countries in which aggregate demand is buoyant (with respect to domestic supply) to those in which it is stagnant. The European Commission's recent proposal, in the context of measures to address the Corona crisis, for a scheme to underpin national short-term working schemes (SURE, see Andor 2020) is an interesting recent development, whereby the emphasis is on maintaining employment, rather than financing unemployment. While we look very favourably on such schemes, the political feasibility ambitious (re)insurance schemes with a substantial cross-border stabilisation capacity remains to be proven; current proposals in the political process are only for loans between national systems. In any case, the key point in the context of this study is that the two approaches are complementary. Indeed, minimum standards in national schemes are likely to be a condition of providing partial reinsurance at EU level, so as to reduce the relevance of (moral hazard) concerns, namely the fear that given partial re-insurance at EU level countries will seek to design their national systems in such a way as to draw maximum benefit from European solidarity.

The task of this study is to estimate the impact of the implementation of minimum standards in national unemployment benefit systems on automatic stabilisation in Europe. Specifically the following standards are examined:

- Net replacement rate of at least 75% of net earned income (reference group: childless, average earners before unemployment, without housing assistance, without claiming other benefits)
- Minimum duration period of 12 months (based on previous employment of 12 months)
- Coverage ratio of 50% (proportion of unemployment benefit claimant in the first year)

In its 2019 Opinion cited earlier the EESC did not itself specify threshold values. The figures used here were set in the terms of reference for this study. As discussed below (section 3.2.), the reference values imply the realisation across the EU of levels currently attained by the best-performing member states (cf. Bruckner 2019). In addition to the three criteria of replacement rate, duration and coverage, the EESC (2019: 4) also called for minimum standards in the area of active labour market policy and (re)training for the unemployed. This aspect does not form part of the present analysis. This is not due to doubts about the positive economic impacts of such policies; not least in the context of technical change including digitalisation the recommendation is surely sensible and can be expected to increase potential output. However, the interest here is in macroeconomic stabilisation and the effects from enhanced active labour market policies cannot be assessed with the tools which we bring to bear on the other three minimum standards.

The study addresses the question as to the likely impact on automatic stabilisation capacity of the realisation of the three minimum standards by all EU countries as follows. In the next section we look briefly at the tool we will use to analyse the macroeconomic effects – the NIGEM model – pointing out some of the advantages, but also the limitations of the approach adopted (3.1 and Infobox). We then map the existing unemployment benefit systems of the EU member states in terms of the three criteria: replacement rates, duration and coverage. This enables us to describe the gaps between existing systems and the new minimum standards (3.2). The task of section 3.3 is to transform these gaps into increases in unemployment benefit payments (and implicitly also financing needs); as will be explained this exercise must address some data limitations and the fact that the three minimum standards are not fully independent of one another.

Armed with these estimates we proceed to use NIGEM to estimate the improved stabilisation properties in a number of different scenarios (4). After briefly discussing how transfer benefits work in the NiGEM model (4.1), we show how the sensitivity of unemployment benefits to the number of unemployed helps to stabilise the business cycle (4.2). Our first scenario then asks the question how Europe's economies would have evolved during the Great Financial Crisis if welfare benefits had been higher (4.3). In a second scenario, we evaluate how the EESC's proposal of common minimum standard for European unemployment benefit schemes, as operationalized here with the three criteria, would have stabilised the economies during the recent Covid-19 crisis (4.4). Initially focusing on the example Italy, our results support the consumption stabilising effects of higher benefits. We also provide estimates for other major countries and the EU as a whole. The effects are positive in terms of stabilisation but, in the context of the major hit to demand and output caused by the Covid crisis relatively small; discretionary measures are certainly necessary to limit the declines in GDP and employment rates rising sharply. In a concluding section the main findings are summarised and policy conclusions drawn.

2. Empirical Methodology

This section explains how imposing the proposed minimum standards in national unemployment benefit rules affect unemployment benefits that are paid out for a given level of unemployment.

2.1 Calculating benefit levels

NIGEM is not a tax-benefit model, but a macroeconometric model. The variable through which the proposed changes to national UB systems affects the macroeconomy in NIGEM is through the monetary value of unemployment benefits. The provision of more generous benefits has implications both on the spending side and on the financing side, both of which will have macroeconomic effects. The latter will depend on how the financing is arranged. This is discussed below.

In NIGEM benefits are a catch-all category covering all social benefits. This variable corresponds to the AMECO variable "social benefits other than in kind, general government" (UYTGH). There is no disaggregation for unemployment benefits. AMECO does, however, have figures for "total expenditure" on social protection by general government (UUTG10), for which a disaggregation for unemployment is provided (UUTG105). To give an idea of the relative orders of magnitude, the overall benefit variable for the EU-28 (in 2018) is around €2.4 trillion, while that for total expenditure is €2.9 trillion.

We therefore proceed by calculating the proportion of total social *expenditure* that is accounted for by spending on unemployment for each country; to indicate an order of magnitude, the EU28 average is 6.8%. We apply these national percentage figures to the overall social *benefits*, i.e. to the somewhat smaller variable in NIGEM. This gives estimates for spending on unemployment *benefits* in each country which will be correct to the extent that the proportion of total government spending on unemployment that consists of benefits is equal to the average proportion benefits in all spending types. We do not have information on whether this is the case, but we have no reason to believe that this systematically distorts the estimate either upwards or downwards. It would obviously be better to have direct information on unemployment benefits, but in their absence this approximation seems acceptable for the purposes of estimating orders of magnitude.

Infobox: Modelling benefit systems – some advantages and limitations of our approach

National tax benefit systems are enormously complex and vary substantially across Europe. Mechanisms that provide wage-replacement benefits to those willing but currently unable to work form an integral part of such systems and are themselves highly complex. In most countries there are multiple systems that provide benefits that vary in terms of level, conditionality etc. according to criteria such as the length of previous employment, the previous wage, family status, age, sector etc. Typically unemployment benefit schemes, in the narrow, sense, give way as unemployment duration increases to schemes that offer a lower replacement rate or a flat-rate, often means-tested benefit (often also conditional on family status). Some people, particularly youngsters with little or no work history, find themselves in such schemes from the outset of unemployment. These benefits in turn are often linked to other benefits such as housing allowances, in-kind benefits, but also the provision of state-financed further training and other labour market policies.

Fine-grained models exist, closely linked to administrative data mapping the structural composition of the unemployed in a given country, which can perform microsimulations on, for instance, the inequality impacts of changes in individual benefit rates and other entitlement conditions; for the best-known, Euromod, see Sutherland/Figari (2013). At the same time such models largely blend out the macroeconomic context, are static and do not capture the impact of changes in one country on another.

The questions to which this study seeks answers are fundamentally macroeconomic in nature: what stabilisation properties on demand, and thus output and employment, can be expected from setting minimum standards for member states' unemployment benefit systems. As discussed in the report, determining the impact of these minimum standards on spending by member states on wage-replacement benefits is far from trivial given the complexity of these systems. A considerable number of simplifying assumptions need to be made to make the available data tractable within NIGEM. In particular we cannot examine the income situation of those currently not covered by UB systems. Essentially we assume that they rely on savings or family networks. Accepting those necessary assumptions, the advantages of a multi-country macroeconometric model come to the fore. We can obtain orders of magnitude for the stabilising effects that are comparable across a wide range of countries. We can allow for cross-border stabilization impacts. A fuller answer to the questions raised by this study would require the integration of micro-simulation and macroeconometric modelling, which is a promising field for future research.

2.2 Assessing existing unemployment benefit systems in EU28

The next step is to map the existing unemployment benefit systems in the EU28 MS with respect to the three criteria: net replacement rates, duration, and coverage.

For net replacement rates (target = 75%) we used the relevant OECD indicator, available for all 28 countries. In line with the definition given in the technical specifications, we chose the figures for a single, childless worker earning the average wage and not in receipt of housing or other benefits. The OECD figures are available for unemployed persons after 2, 4, 6, 8 and 12 months of unemployment. It should be noted that these replacement rates are not limited to unemployment benefits in the narrow sense, but also indicate (estimates for) wage replacement by secondary support systems, where these exist. This explains why the duration rates discussed below can be shorter; these refer only to unemployment benefit systems in the narrow sense.

We do not, of course, know the composition of the pool of the unemployed in a given country in terms of their individual duration at any given time; this figure also varies counter cyclically. It would not be entirely unreasonable therefore to take a simple average of the five figures as the average replacement rate. However, it is true that, while all persons entering unemployment will receive the initial, usually most generous, replacement rate (that after 2 months), some will leave the unemployment line before progressing to – in many countries – lower replacement rates as unemployment duration increases. This would tend to bias the estimate of the average replacement rate downwards, justifying an approach that gives additional weight to replacement rates for short-duration vis-a-vis longer-duration unemployment. Lacking a clear basis to calibrate the weighting, we opted pragmatically for a simple degressive scale, set as follows: 0.3, 0.25, 0.2, 0.15 and 0.1.

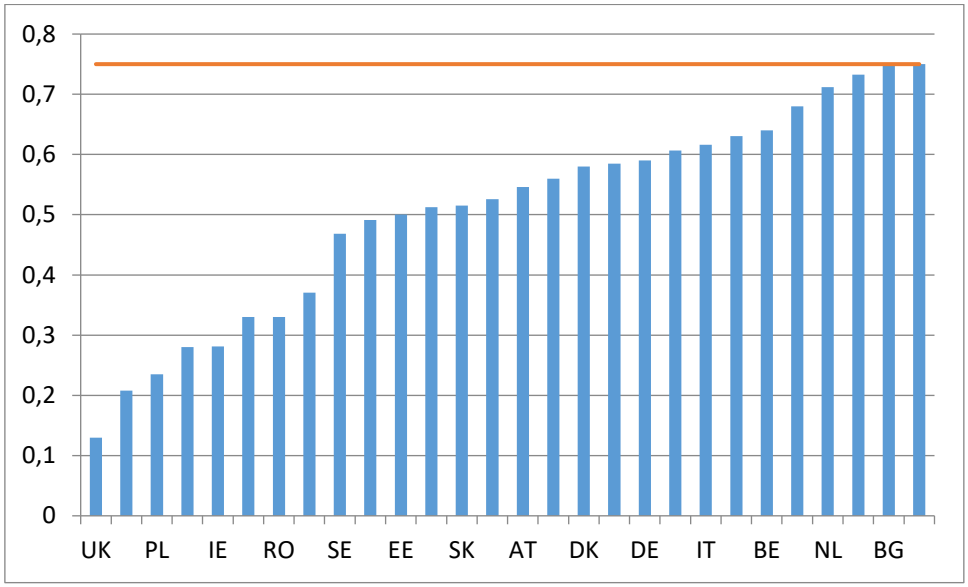
For the EU28 as a whole applying the weighting raised the replacement rate only slightly (from 0.49% to 0.51%). In some countries where replacement rates fall appreciably over the first year of unemployment the weighting has a somewhat greater effect. Clearly the use of a "pragmatic" weighting is not entirely satisfactory, but errs on the side of a more conservative estimate of the stabilisation effects. Member states with NRRs above 75% were coded as 0.75 because countries with more generous systems are not obliged by the new minimum standard to change policy. For the same reason we did not take into account replacement rates above one year of unemployment, as – implicitly – these are unaffected by the simulated policy regime.

For the second element, entitlement duration (after a period in employment of one year, target = 12 months), we took figures from the EU Commission's Joint Employment Report 2019. These are based on the MISSOC database. The coding of existing duration entitlements was capped at the proposed target value of 12 months. The same source was used for the third element in the policy package, the benefit coverage of the short-term unemployed (less than one year); here the target is 50%.[1] Bruckner (2019) expresses reservations about the quality of the duration data, but we are not aware of a better source of data.

The existing situation (2018) regarding unemployment benefit systems in the EU member states with regard to the three parameters is summarized in Figs. 1-3.

[1] The data underlying Fig. 53 and Fig. 51 in the Joint Employment Report were kindly provided to us by the authors.

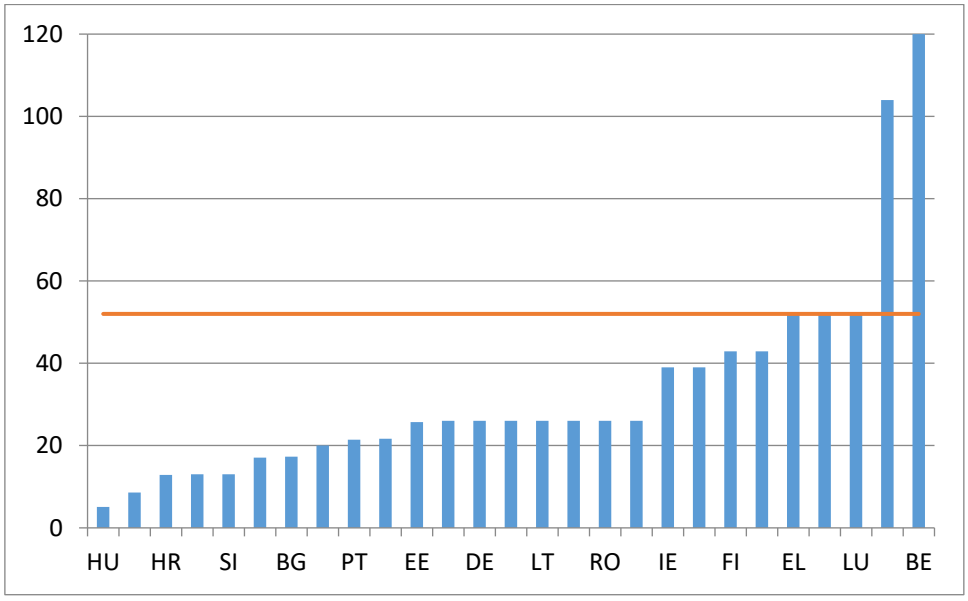
Fig. 1: Net replacement rate (single worker without children, earning average wage) 12 month previous employment), in % previous wage, 2018



Source: OECD. Own calculations. The figures are a weighted average of the replacement rates at 2, 4, 6, 8 and 12 months (see text).

Introducing a minimum standard at a 75% replacement rate (for this category of worker) implies bringing up virtually all member states to the level of the two best performers, Bulgaria and Luxembourg. Some countries do provide high replacement rates initially, but these tail off degressively, in some cases very sharply (e.g. Latvia). Replacement rates are very low (below a third) in a number of eastern European countries, but also in UK and Ireland.

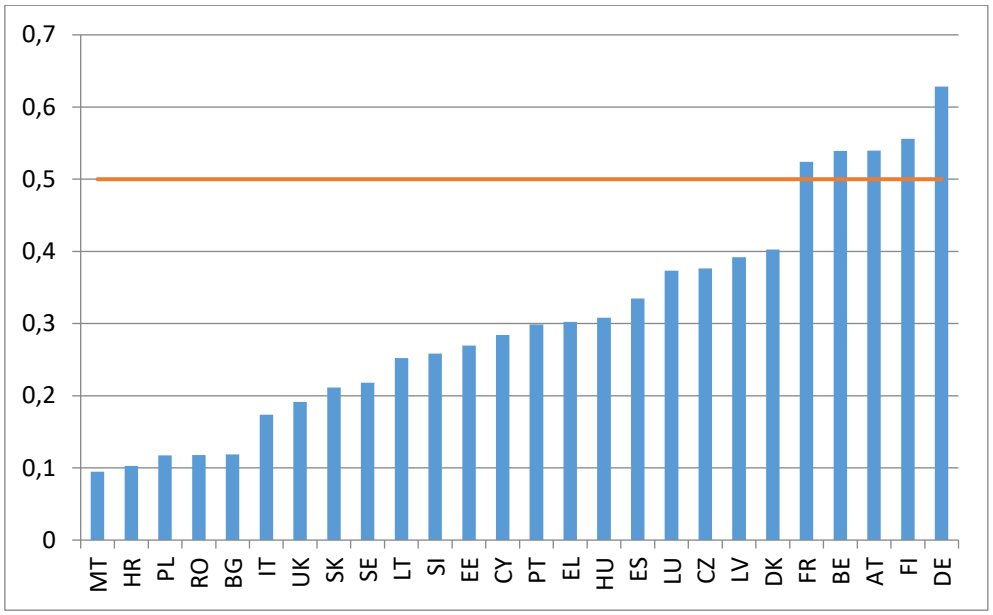
Fig. 2: Duration of entitlement to unemployment benefit (12 month previous employment), weeks



Source: Joint Employment Report 2019; no data for SK.

Three countries (Greece, France and Luxembourg) provide unemployment benefit for the proposed minimum standard of 52 weeks, while Denmark and Belgium exceed the threshold; in principle at least, in Belgium entitlement can be indefinite under certain conditions. Eight countries provide benefits for only half that period (26 weeks) and ten countries for an even shorter period; beyond that date other assistance schemes may, subject to conditionality, apply.

Fig. 3: Coverage of unemployment benefit (for those up to 12 months' unemployment), 2017, in %



Source. Joint Employment Report 2019; no data for IE, NL.

The distribution of member states for the criteria coverage resembles that for entitlement duration (to which, as described below, it is related). Only five countries (France, Belgium, Austria, Finland and Germany) provide unemployment benefit to more than half of the unemployed (out of work for a year or less). In seven countries less than one in five of the short-term unemployed receives unemployment benefit. The remaining 14 countries for which data are available are grouped between 20 and 40%. The EU average is under a third, indicating that introducing the minimum standard of 50% would require considerable efforts on the part of most member states.

2.3. Calculating the impact of the new policy regime on benefit levels

The next step is to apply the differences between the actual and the desired settings of the three policy variables in order to estimate the increase in unemployment benefit payouts. This is not an entirely straightforward exercise, and some approximations and simplifications are called for. By way of illustration, consider a country with existing levels of net replacement rates at 35.5%, benefit entitlement duration of 6 months, and coverage of 25%. In each case this is half the respective target level. It might initially seem that the total volume of unemployment benefits to be paid out would need to be doubled three times, i.e. increased by a factor of eight. Following this logic the more general case would be calculated as follows:

UBms = UBac * (NRRms/NRRac) * (DURms/DURac) * (COVms/COVac)

Where:

UB = unemployment benefits (€billions)

NRR = net replacement rate

DUR = benefit duration in weeks

COV = coverage rate

And the suffixes ms and ac refer to the situation under the proposed minimum standard and the actual values respectively, whereby NRRms = 0.75, DURms = 52, COVms = 0.5

However, there are a number of reasons why this simple approach can be potentially misleading, and is likely to generate an exaggerated estimate of the amount of unemployment benefits paid out under a future minimum-standards regime,. Let us consider the elements in turn.

The duration criterion brings with it the first complication. If the existing entitlement duration in a country is 12 months or less it means that all the unemployment benefits currently being paid out (UBac) are affected by the three new minimum standards. If, on the other hand, benefit entitlement extends beyond 12 months, then the existing benefit payouts will partly consist of payments that are not affected by the new minimum standards, as these are assumed to apply only to workers during the first year of unemployment. (More specifically: we do not assume that countries make changes to other categories of the unemployed. They might well do so for political reasons, but they would not be obliged to.) In these cases the value for UBac would need to be disaggregated into that for short and long-run employment.

Empirically, though, this adjustment only needs to be considered in the case of two small countries, Denmark and Belgium, where benefit entitlement is two years and, in principle, unlimited, respectively.[2] On closer examination of the data for the two countries we opted not to adjust for this factor. In Belgium, it is true that on average only some 36% of the unemployed are in the category of under one year. However those above one year experience a degressive replacement rate which depends on a complex formula depending on individual characteristics and also involves support via other non-wage-linked benefits. In Denmark rather small numbers of the unemployed are registered above one year. Those that are are often in a social benefit system (as, indeed, are a substantial

[2] For Belgium figures on the distribution of the unemployed by duration were taken from the annual report of the labour market authority: https://www.rva.be/sites/default/files/assets/publications/Rapport_Annuel/2019/Rapport_annuel_NL_Vol2.pdf p. 41. Data on the composition of the unemployed in Denmark are available at: https://www.statistikbanken.dk/AULK10

proportion of the short-term unemployed). For pragmatic reasons, therefore, and given that there are in any case considerable uncertainties regarding the coverage of benefits in our scenarios, we decided not to make an (in any case rough) adjustment for this factor in these two cases.

For the other countries which are at or below the 12 month threshold can we calculate the impact of any increases in duration using the middle term of the first equation? The answer is yes to the extent that the number of unemployed persons is proportionally the same below and above the existing legal limit. (In the simple case where the current upper limit is 26 weeks, the assumption then is that the number of persons unemployed for between 1 and 26 weeks is equal to that between 27 and 52 weeks.) How plausible is such an assumption? In times of rather low and stable unemployment it is likely not to hold, as discussed above in the context of average replacement rates. Persons losing their jobs gradually find work during the first year, so that the size of unemployed cohorts tends to decline month by month: more people have been unemployed for one month than for 12 months. In an economic downturn, though, it can happen that a "bulge" of unemployed persons moves through the benefits system so that the size of unemployed cohorts in weeks that are currently not covered by the national benefit system could be higher than those below it. This would be temporary, but it would also occur precisely when stabilisation through the benefit system is most needed. For these reasons, we consider it an acceptable simplification to apply the middle term of the formula to calculate the effect of extending duration, i.e. to adjust the benefit volume in accordance with the proportional increase in duration due to the new minimum standard.

Turning to net replacement rates, a simple multiplication based on the ratio of existing and the new policy-induced rates – as in the formula – is valid subject to the assumption that the replacement-rate increase for the category of unemployed persons that is specifically covered by the new minimum standard – i.e. single childless workers – applies proportionally also to other categories of the unemployed. Let us again take the simple example in which the NRR for childless single workers is 37.5% and is thus doubled under the minimum standard. Suppose that other categories of the unemployed (couples and those with children) initially have a NRR of 40%. Applying the above formula is then valid provided their NRR is increased in parallel, i.e. to 80%. Although it is not explicitly stipulated in the technical requirements for this study, this seems a reasonable assumption in terms of practical policymaking. For otherwise it would imply that policymakers improve standards – in some cases dramatically – for just one category of the unemployed (single, childless), which would produce a relative deterioration in the benefits position of all other categories. Politically this is hard to imagine. We therefore use the ratio to calculate the impact of any increase in NRRs.

Turning, finally, to the issue of coverage, the question arises as to how the coverage increase required to meet the new minimum standard comes about: what changes in the definition of benefit entitlement bring about the increase in coverage? This is not defined in the standard itself. A problem arises if it is brought about by increasing the duration of benefit entitlement, as this is already counted under that category. To put it another way, the problem here is that the coverage and duration standards are not independent of one another. We therefore need to adjust for any coverage-increase up to the new 50% threshold[3] that is brought about under the new regime through an increase in duration, in order to avoid double counting. This is done by setting either the duration or the coverage factor – whichever is smaller – to one.[4] Once this is done, we will assume that the changes that bring about any further increase in coverage rates up to the new minimum standard are such that they do not affect the

[3] Empirically 5 MS already have a coverage rate of 0,5. In addition, given missing data, this was assumed for IE and NL. In these cases any increase in duration has its full effect on the overall benefit increase.

4 In Table 1 the "total factor" (third-last) column is divided by the figures in the "adjust double counting" (second-last) column. This has the effect of setting the factor for duration or coverage, whichever is smaller, to one (i.e. no change).

structure of the unemployed persons receiving benefits. We have no basis to judge this, but as a baseline it seems reasonable as higher and lower benefit entitlements appear equally likely.

It bears repeating here that we focus here primarily on unemployment benefits in the narrow sense (at least with regard to duration). Any increase in unemployment benefits paid out might be partially offset by a decrease in other social benefits. This will occur if, for instance, some categories of the unemployed who after the policy change get unemployment benefits are currently drawing (means tested) social benefits rather than unemployment benefits. These are, however, covered in the replacement rate data. As already noted it would require a much more detailed country-by-country modelling approach to take this factor into account to the full extent. For this analysis we abstract from this possibility. The resulting "benefit increase" may therefore overstate the actual increase in public spending by not fully allowing for a concomitant reduction in other social benefits, i.e. that the new beneficiaries previously relied entirely on their own and family resources.

In summary we make some simplifications that enable us to apply the above multiplicative formula, after removing double counting between duration and coverage. Adjustments to increase accuracy would be possible only on the basis of more granular data about the structure of the unemployed. However the relevant assumptions either seems politically plausible (e.g. in the case of the replacement rate different household-types of the unemployed) or the issues relate to a few smaller countries. Overall we believe that these approximations can be justified in terms of calculating plausible orders of magnitude.

On the basis of these considerations, a factor is determined for each country which is then applied to the benefit level of the country. This serves as the basis for most of the subsequent macroeconometric simulations using NiGEM. The constituent factors and the final factor for each country are indicated in Table 1.

Table 1: The impact of the minimum policy standards on unemployment benefit levels

	NRR ac	**NRR ms**	**NRR factor**	**Duration ac**	**Duration ms**	**Duration factor**	**Coverage ac**	**Coverage ms**	**Coverage factor**	Total factor NRR*D*C	**adjust double counting**	Benefit impact factor
AT	0,55	0,75	1,37	20,00	52	2,60	0,50	0,5	1,00	**3,57**	1,00	**3,57**
BE	0,64	0,75	1,17	52,00	52	1,00	0,50	0,5	1,00	**1,17**	1,00	**1,17**
BG	0,75	0,75	1,00	17,30	52	3,01	0,12	0,5	4,21	**12,64**	3,01	**4,21**
CY	0,51	0,75	1,46	26,00	52	2,00	0,28	0,5	1,76	**5,15**	1,76	**2,93**
CZ	0,37	0,75	2,02	21,70	52	2,40	0,38	0,5	1,33	**6,44**	1,33	**4,85**
DE	0,59	0,75	1,27	26,00	52	2,00	0,50	0,5	1,00	**2,54**	1,00	**2,54**
DK	0,58	0,75	1,29	52,00	52	1,00	0,40	0,5	1,24	**1,61**	1,00	**1,61**
EE	0,50	0,75	1,50	25,70	52	2,02	0,27	0,5	1,85	**5,63**	1,85	**3,04**
EL	0,28	0,75	2,68	52,00	52	1,00	0,30	0,5	1,65	**4,43**	1,00	**4,43**
ES	0,56	0,75	1,34	17,10	52	3,04	0,33	0,5	1,49	**6,09**	1,49	**4,07**
FI	0,53	0,75	1,43	42,90	52	1,21	0,50	0,5	1,00	**1,73**	1,00	**1,73**
FR	0,68	0,75	1,10	52,00	52	1,00	0,50	0,5	1,00	**1,10**	1,00	**1,10**
HR	0,49	0,75	1,53	12,90	52	4,03	0,10	0,5	4,87	**29,98**	4,03	**7,44**
HU	0,21	0,75	3,61	5,10	52	10,20	0,31	0,5	1,62	**59,68**	1,62	**36,76**
IE	0,28	0,75	2,67	39,00	52	1,33	0,50	0,5	1,00	**3,56**	1,00	**3,56**
IT	0,62	0,75	1,22	26,00	52	2,00	0,17	0,5	2,88	**7,01**	2,00	**3,51**
LT	0,63	0,75	1,19	26,00	52	2,00	0,25	0,5	1,98	**4,71**	1,98	**2,38**
LU	0,75	0,75	1,00	52,00	52	1,00	0,37	0,5	1,34	**1,34**	1,00	**1,34**
LV	0,61	0,75	1,24	39,00	52	1,33	0,39	0,5	1,28	**2,10**	1,28	**1,65**
MT	0,33	0,75	2,27	8,60	52	6,05	0,09	0,5	5,27	**72,47**	5,27	**13,74**
NL	0,71	0,75	1,05	13,00	52	4,00	0,50	0,5	1,00	**4,21**	1,00	**4,21**
PL	0,24	0,75	3,19	26,00	52	2,00	0,12	0,5	4,26	**27,20**	2,00	**13,60**
PT	0,73	0,75	1,02	21,40	52	2,43	0,30	0,5	1,67	**4,16**	1,67	**2,49**
RO	0,33	0,75	2,27	26,00	52	2,00	0,12	0,5	4,24	**19,28**	2,00	**9,64**
SE	0,47	0,75	1,60	42,90	52	1,21	0,22	0,5	2,29	**4,45**	1,21	**3,67**
SI	0,59	0,75	1,28	13,00	52	4,00	0,26	0,5	1,93	**9,91**	1,93	**5,13**
SK	0,52	0,75	1,46	21,70	52	2,40	0,21	0,5	2,37	**3,45**	2,37	**1,46**
UK	0,13	0,75	5,77	26,00	52	2,00	0,19	0,5	2,61	**30,14**	2,00	**15,07**

Source. Own calculations on OECD and European Commission data. Missing values for SK (duration), IE, NL (coverage) estimated.

3. Macroeconometric simulation Results

We use NiGEM, the multi-country macroeconometric model of the NIESR, to simulate the macroeconomic impact of the proposed changes in national unemployment benefit rules. Three approaches are taken to evaluate the proposed changes. In the first approach we analyse the macroeconomic stabilising effects of the proposed minimum standards over the business cycle. In the second approach, we evaluate how effective more generous benefit systems would have been during the Great Financial Crisis (GFC) if they had been implemented then. Thirdly we evaluate the extent to which the EESC's proposal of common minimum standard for European unemployment benefit schemes, as operationalised using the three minimum standards, would have stabilised the economies during the recent Covid-19 crisis.

3.1 Transfer benefits, household consumption and the government budget in NiGEM

As mentioned above, NiGEM captures all social welfare benefits in a single variable called "transfers". Transfers consist primarily of pensions and to a lesser extent of other social benefits, including for unemployment. Higher transfers increase households' disposable income, which is used for saving and consumption purposes. Thus, an increase in transfers mainly affects the economy through higher consumption expenditures by private households. This raises aggregate demand and – if the economy has unused resources – raises output and employment.

The extent to which higher transfer benefits increases expenditure is determined by the marginal propensity to consume. One would usually assume that most of the additional *unemployment* benefits will be consumed by the unemployed, as these are in any case lower than the previous earned income. In contrast one might assume a lower share of additional *pension* benefits being consumed by pensioners (saving for bequest motives and/or because the pension is not offsetting a temporary decline in earned income). As NiGEM does not, however, distinguish between unemployment benefits and other types of benefits, all benefits are treated equally and the marginal propensity to consume in the model is the same for unemployment benefits as it is for pensions. In fact it is the average across all households for any given increase in disposable income. This should ceteris paribus lead us to underestimate the additional household consumption expenditure forthcoming from an increase in unemployment benefits in NiGEM.

Additionally, the additional transfers need to be financed. As NiGEM does not model contributions to welfare benefits explicitly, we need to use the taxes that are incorporated in NiGEM. The easiest way to model the financing side is through increases in the personal income tax rate. Actual unemployment insurance systems contain a built-in buffer stock which increases with higher contribution payments in boom times and declines with higher benefit pay-outs in times of recessions. To accommodate this important mechanism in NiGEM we model the additional unemployment benefits in a recession as initially being debt-financed, and then subsequently financed through (small) increases in personal income tax rates once the economy is recovering again. This introduces an additional automatic stabilising effect on the revenue side of the government budget (taxes/contributions), complementing that on the spending side (benefits).

3.2 Proposed minimum standards and their stabilising effects over the business cycle

As a starting point we analyse the macroeconomic implications of higher transfer benefits over the business cycle. We systematically evaluate how introducing more generous unemployment benefits endogenously stabilises the economy over the business cycle. To that end we adjust the way transfer benefits change with the number of unemployed persons, as a first step towards systematically evaluating the impact of the above-mentioned changes in the unemployment benefit systems on benefit pay-outs.

A simplified representation of the way transfers are modelled in NiGEM is given in this equation:

$$\Delta \ln(TRAN) = \alpha_1 + \beta_1 \Delta \ln(POPR) + \beta_2 \Delta \ln(LF - E) + (1 - \beta_1 - \beta_2)\Delta \ln(POPWA - LF)$$
$$-\lambda\{\ln(TRAN)_{-1} - \ln(WAGE_{-1} * HOURS_{-1}) - \ln(POPR_{-1} + POPWA_{-1} - E_{-1})\}$$

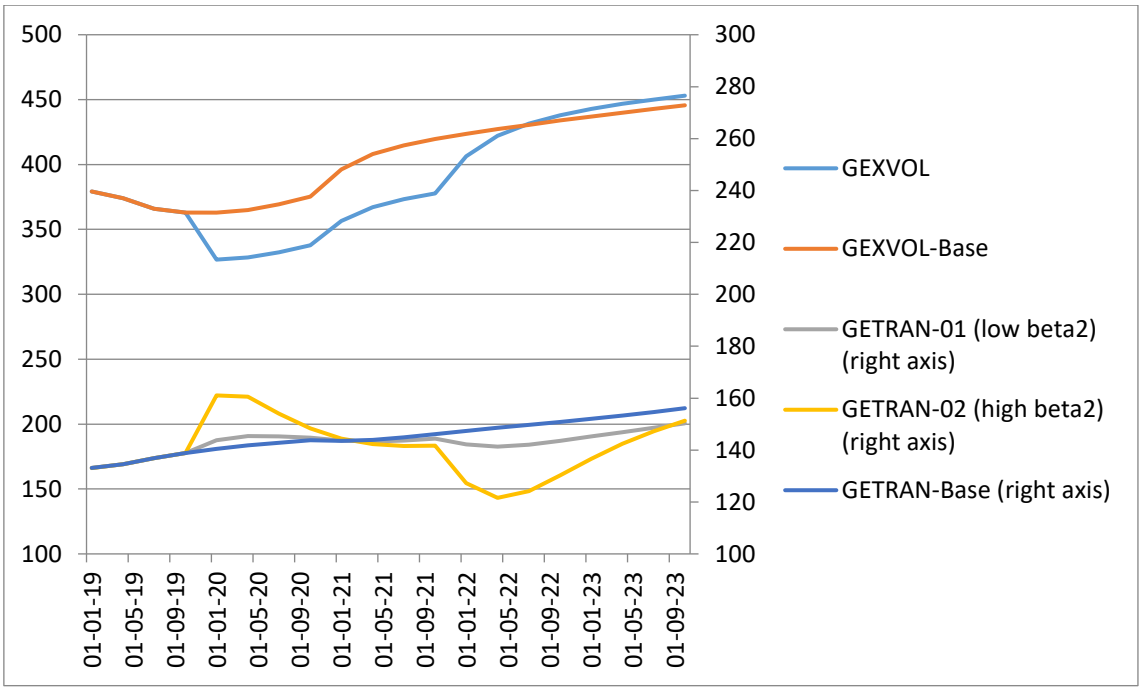
TRAN: Transfers
POPR: Population (retired - 65+), thousands
LF-E: Number of unemployed, thousands
POPWA-LF: Persons of working age, but out of the labour force, thousands

The equation shows how the size of transfers depends on the number of retired people, the unemployed, and those of working age but out of the labour force. As is typical in NiGEM the equation contains a so-called short-run part (the entire first line) and a long-run part (the term in curly brackets on the second line). The short-run part of the equation determines the immediate adjustment of transfers to changes in the size of the three groups, whereas the long-run part implies that transfers grow with wages and the number of dependent persons over the long-run.

Most important for our analysis, however, is the how transfers change when the number of unemployed persons changes. Technically this is given by the parameter β_2. More precisely, β_2 measures the elasticity of transfer benefits with respect to a 1-percentage change in the number of unemployed. Introducing minimum standards with the effect of higher replacement rates, duration and coverage of benefits increases this sensitivity, and the higher this parameter, the more important should be the automatic stabilising role of transfer benefits.

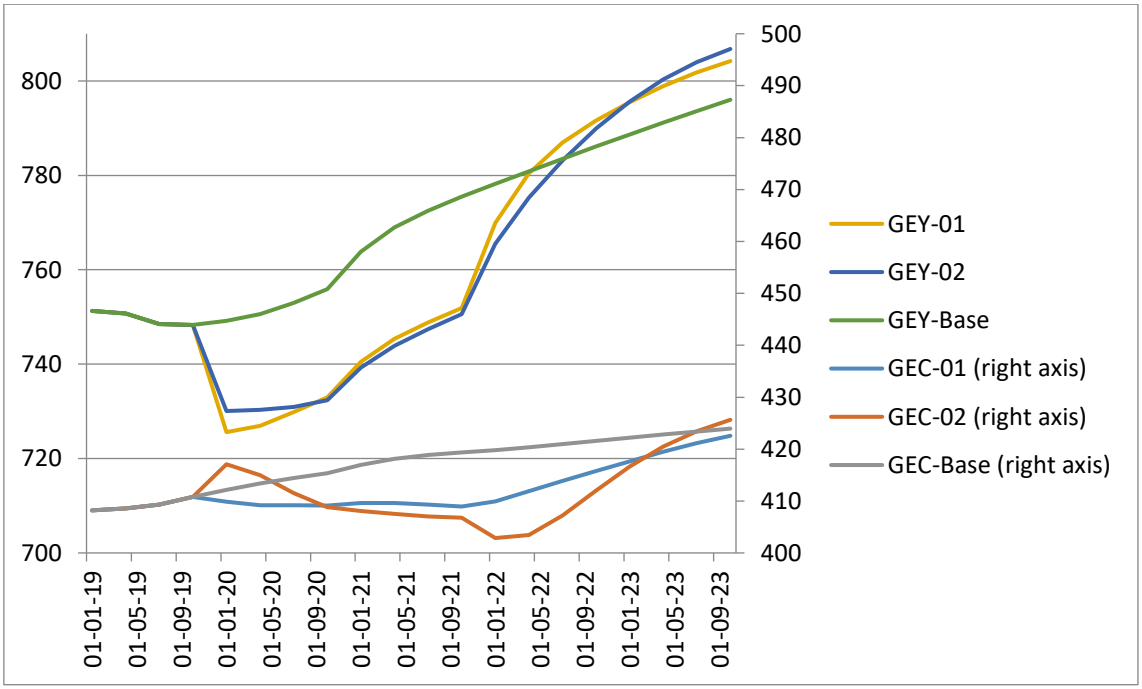
Figure 4 shows this effect for a scenario which simulates a fall in German exports of 10% in 2020Q1 and lasting until 2021Q4. Indeed transfer benefits respond more strongly to higher unemployment caused by the drop in exports if β_2 is higher. Figures 5 and 6 show the effects of the different sensitivities of unemployment benefits on the responses of household consumption, GDP, and the unemployment rate to the simulated fall in exports. The figures show that transfers and consumption do help to stabilise the economy to a greater extent if unemployment benefits respond more strongly to a hike in joblessness. This effect is rather modest on GDP developments and on the unemployment rate, though: For a plausibly higher parameter value we find that German GDP is 0.6% higher and unemployment 0.3% lower than baseline in response to a simulated negative shock of 10% to German exports.

Fig. 4: The role of the elasticity of transfer benefits to the number of unemployed: the response of German transfer benefits to a slump in exports



GEXVOL: German exports of goods and services, in bn euro, real terms, 2010 prices
GETRAN-01: German transfer benefits **with low β_2**, in bn euro, real terms, 2010 prices
GETRAN-02: German transfer benefits **with high β_2**, in bn euro, real terms, 2010 prices
Source: IMK calculations based on NiGEM.

Fig. 5: The role of the elasticity of transfer benefits to the number of unemployed during a slump in German exports: consumption and GDP developments



GEY-01: German GDP **with low β_2**, in bn euro, real terms, 2010 prices
GEY-02: German GDP **with high β_2**, in bn euro, real terms, 2010 prices
GEC-01: German consumption **with low β_2**, in bn euro, real terms, 2010 prices

GEC-02: German consumption **with low β_2**, in bn euro, real terms, 2010 prices
Source: IMK calculations based on NiGEM.

Fig. 6: The role of the elasticity of transfer benefits to the number of unemployed during a slump in German exports: the development of unemployment

GEU-01: German unemployment rate **with low β_2**
GEU-02: German unemployment rate **with high β_2**
Source: IMK calculations based on NiGEM.

3.3 Effect of higher transfer benefits during the Great Financial Crisis

As a next step we study the macroeconomic implications of increasing social transfers during a recessionary phase, for which we take as an example the 2009-10 Global Financial Crisis (preceding the European Debt crisis). An increase in transfer benefits should help stabilise aggregate demand at a time when it is most needed. For this simulation we exogenously increase total social transfers by an amount of 1% of nominal GDP for all European countries included in NiGEM and lasting from 2009Q1 to 2010Q4.[5] The increased transfer benefits are initially debt-financed with personal income tax rates rising only afterwards.

This subsection discusses in detail our results for Germany. Results for France, the UK, the euro area, and the EU are given in Appendix A1. The Global Financial Crisis (GFC) hit the German economy in late 2008 with German export volumes of goods and services in 2009 contracting by 154bn euro or almost 14% compared to 2008. GDP in 2009 contracted sharply, by 5.6%, and unemployment was rising. Due to discretionary policy measures (public spending increases and introduction of short-term work) the increase in the unemployment rate was comparatively small, however, with the unemployment rate rising only 0.3 percentage points to 7.7% in 2009 (see Table 2).

5 These are Belgium, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Austria, Poland, Portugal, Sweden, Spain, and the UK.

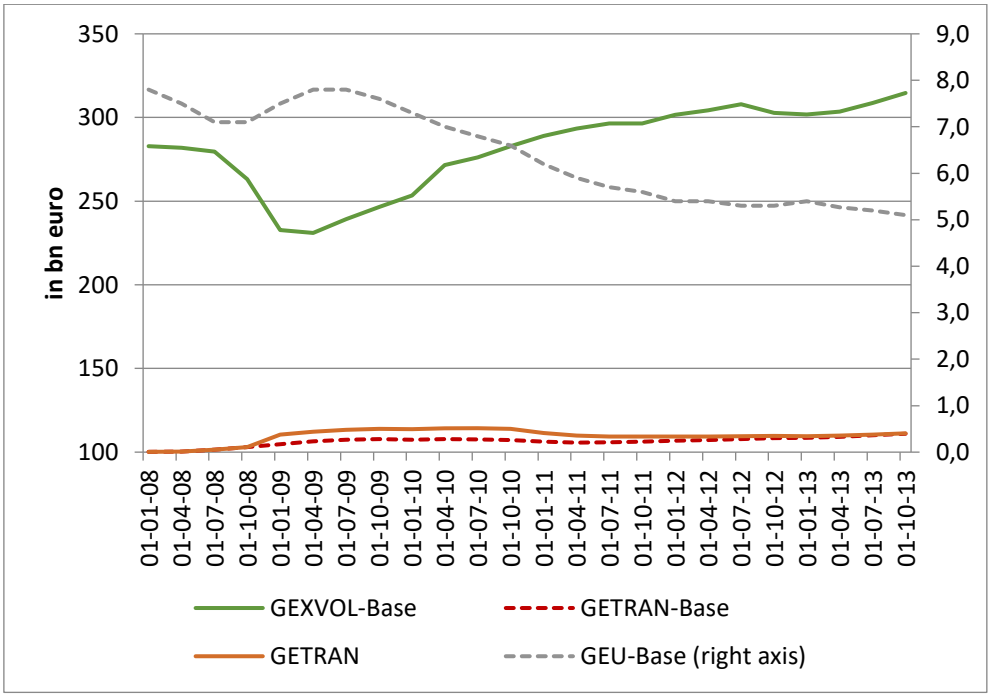
Table 2: Macroeconomic effects of a 1% (of GDP) increase in social transfers in Germany during the GFC

GERMANY	Export (growth rate)	Unemployment rate	Social Transfers	Consumption (growth rate)		GDP (growth rate)		Unemployment rate	
	Baseline	Baseline	additional transfers used in simulation	Baseline	Simulation	Baseline	Simulation	Baseline	Simulation
2008	1,3	7,4	0,0	0,4	0,4	0,8	0,8	7,4	7,4
2009	-14,3	7,7	23,6	0,3	1,2	-5,6	-5,1	7,7	7,5
2010	14,2	6,9	26,0	0,3	0,4	3,9	3,9	6,9	6,9
2011	8,4	5,9	15,9	1,3	0,7	3,7	3,2	5,9	6,0
2012	3,5	5,4	7,7	1,4	0,6	0,7	0,2	5,4	5,6
2013	1,0	5,2	2,3	0,6	0,5	0,5	0,7	5,2	5,2

Source: IMK calculations based on NiGEM.

In the NiGEM-simulation we assume a discretionary increase in transfer benefits by 1% of nominal GDP in 2009. This corresponds to around 23.6bn euro additional transfers in 2009, giving an average level of quarterly transfers of 112.5bn euro, compared to baseline quarterly transfers of 106.6bn euro (Figure 7). As mentioned above, the additional (unemployment) transfers increase households' disposable income and their consumption. Consumption in 2009 is around 13.4bn euro higher than it would have been without the additional transfers and around 15.2bn euro higher in 2010. The fact that private consumption expenditure cushions some of the recessionary effects from the fall in exports leads to a somewhat smaller decline in GDP compared to baseline. The rise in the unemployment rate is also somewhat smaller as a result of the additional transfers (Figures 8 and 9).

Fig. 7: Higher transfer benefits during the Great Financial Crisis: the case of Germany

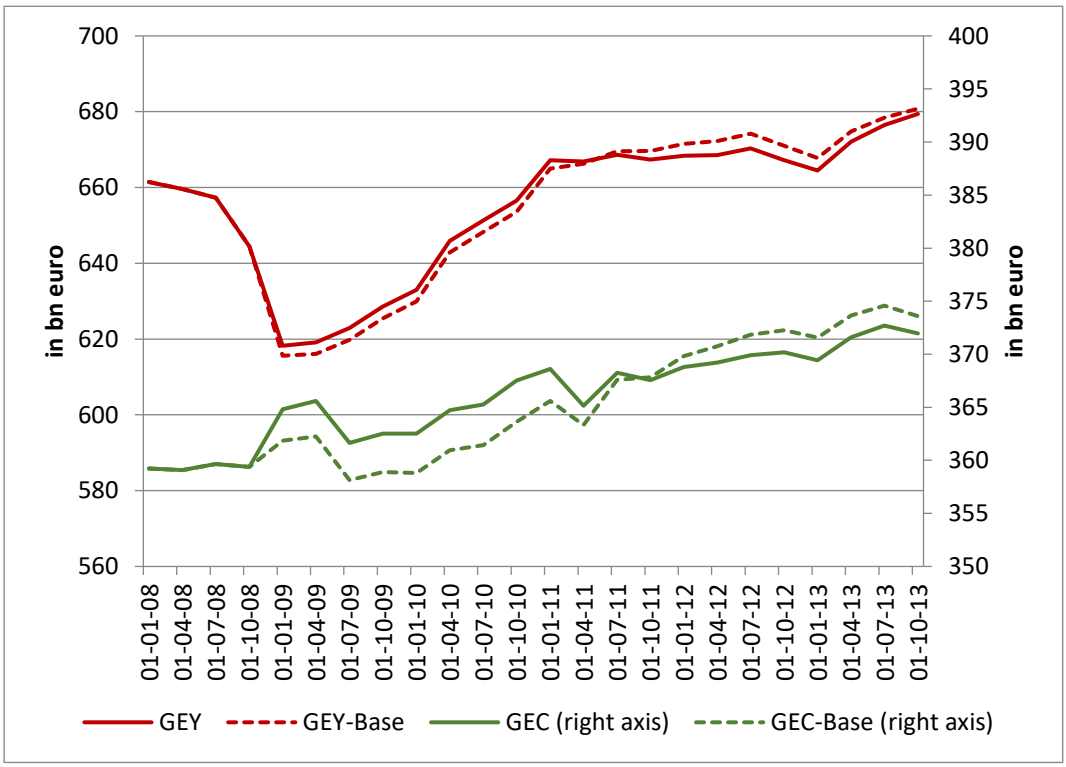


GEXVOL: German exports of goods and services, in bn euro, real terms, 2010 prices
GETRAN: German transfer benefits, in bn euro, real terms, 2010 prices
GEU: German unemployment rate
Source: IMK calculations based on NiGEM.

Moreover, Figures 8 and 9 show how the policy measure stabilises the economy over the entire business cycle. The higher social transfers during for the two years (2009 and 2010) are initially financed through additional debt which is subsequently paid off through higher taxes and thus reduces aggregate demand in the subsequent boom. The solid lines in the figures which show the transfer scenario are always less volatile than the dashed lines of the baseline scenario, illustrating the automatic stabilising effect. The additional transfer benefits due to higher unemployment in the recession years 2009-2010 are paid back through somewhat higher personal income tax rates from 2011 on. Consequently, the government budget deficit initially rises somewhat more vis-a-vis baseline, but reverts back to baseline when the tax rates have increased sufficiently (Figure 10).

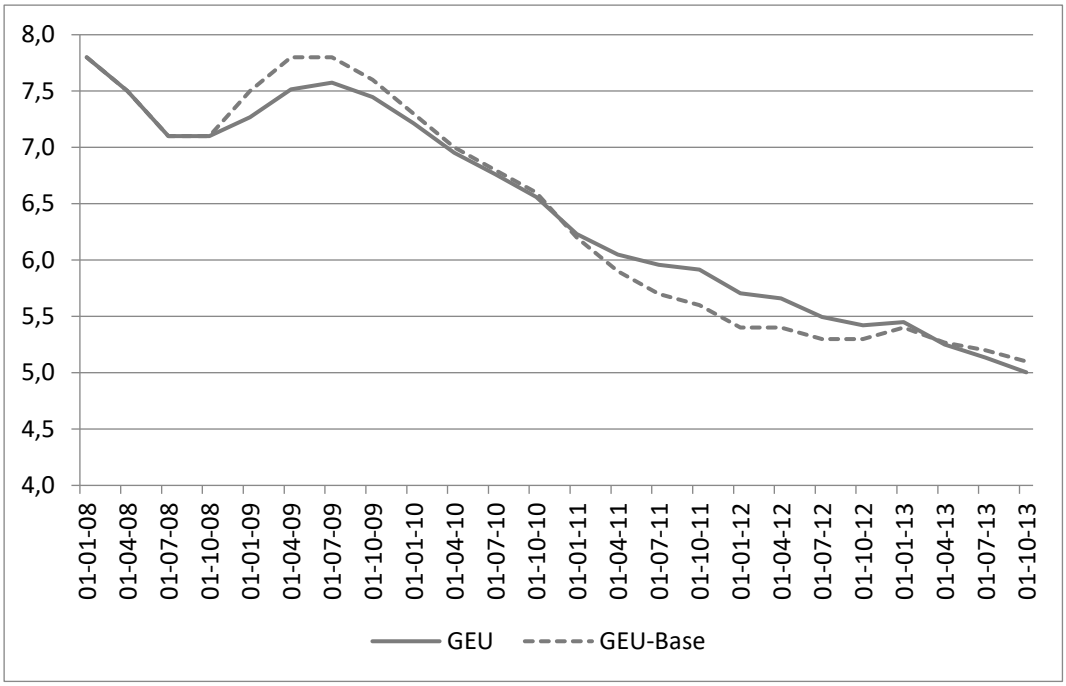
The preliminary conclusion we draw from this sub-section is that higher transfer benefits during times of economic crisis do indeed automatically stabilise the economy. The automatic stabilisers here at work are two: first through increasing aggregate demand by providing benefits to households that would otherwise have sharply curtailed their expenditures, and second through dampening the increase in aggregate demand when incomes are on the rise through higher contributions (direct personal income taxes in our simulation). As noted above, the effects are expected to be relatively (i.e. euro for euro) stronger for an increase in unemployment benefits alone, as these go directly to households who have suffered a loss of income.

Fig. 8: Higher transfer benefits during the Great Financial Crisis: consumption and GDP developments in Germany



GEY: German Gross Domestic Product (GDP), in bn euro, real terms, 2010 prices
GEC: German private consumption expenditures, in bn euro, real terms, 2010 prices
Source: IMK calculations based on NiGEM.

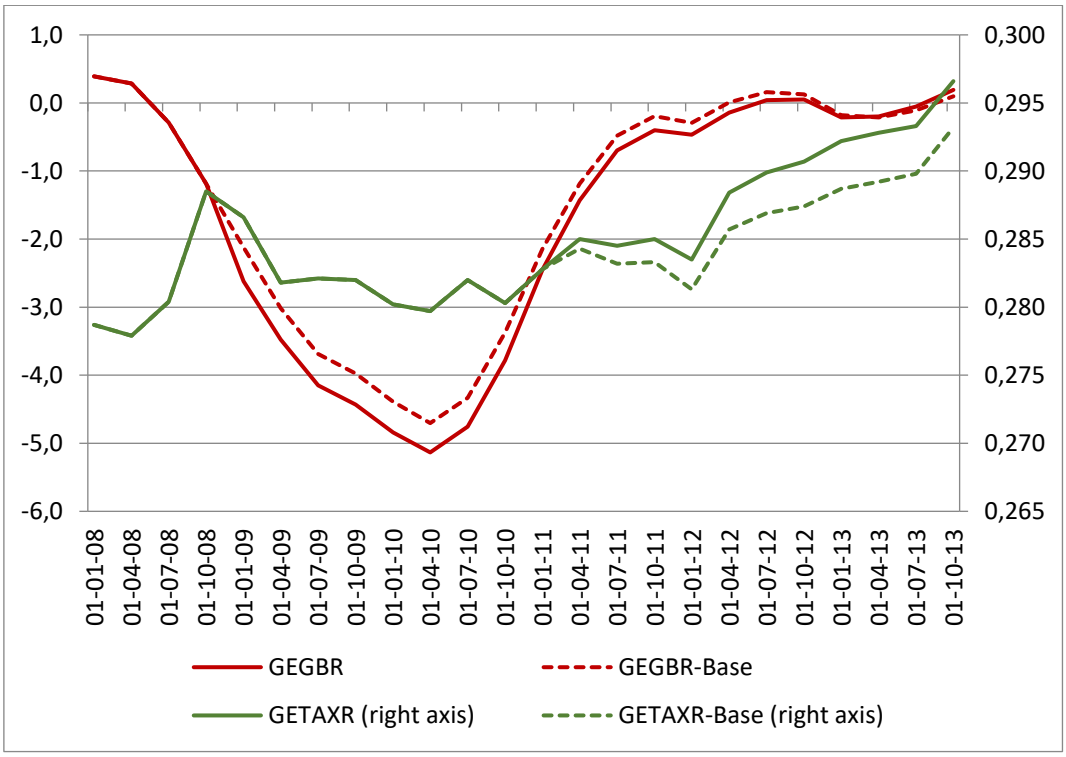
Fig. 9: Higher transfer benefits during the Great Financial Crisis: the development of German unemployment



GEU: German unemployment rate

Source: IMK calculations based on NiGEM.

Fig. 10: Higher transfer benefits during the Great Financial Crisis: the development of public finances in Germany



GEGBR: German government budget balance, percentage of GDP

GETAXR: German direct tax rate (household), percent

Source: IMK calculations based on NiGEM.

3.4 Macroeconomic effects of EESC's proposal on minimum standards during the recent Covid-19 crisis

In this sub-section, we use NiGEM to study the impact of the EESC's proposal on the European macroeconomies during the most recent Covid-19 crisis. To this end we make use of the unemployment benefit impact factors calculated in section 3 and presented in Table 1 above. To map the benefit impact factors into impulses on social transfers which can be used in NiGEM, we first calculate the impact factors' equivalent increase as a fraction of each country's GDP (Table 3). To evaluate how an increase in unemployment benefits along the lines proposed would affect the European economies we simulate increases in social transfers of the size shown in table 3 for all countries simultaneously during the recent Covid-19 crisis. More precisely, we simulate an increase in transfers taking place in 2020q1 and lasting permanently. The simultaneity means that we capture also cross-border stabilisation effects. For the first two years, the additional transfer payments are entirely debt financed, with personal tax rates rising only later.

Table 3: Increase in social transfers as a % of GDP (for all EU-countries included in NiGEM)

	Benefit impact factor (from table 1)	**Corresponding increase in transfers (in % of GDP) in NiGEM-simulation**
AT Austria	3,6	3,0
BE Belgium	1,2	0,2
CZ Czechia	4,9	0,7
DK Denmark	1,6	1,0
DE Germany	2,5	2,0
EL Greece	4,4	1,6
ES Spain	4,1	4,5
FI Finland	1,7	1,2
FR France	1,1	0,2
HU Hungary	36,8	9,3
IE Ireland	3,6	2,3
IT Italy	3,5	2,6
NL Netherlands	4,2	3,6
PL Poland	13,6	4,3
PT Portugal	2,5	1,1
SE Sweden	3,7	2,2
UK United Kingdom	15,1	1,2

Source: IMK calculations based on NiGEM.

We discuss here in greater detail our results for Italy, one of the European countries most heavily affected by the pandemic and then turn to the euro area/EU. Detailed results for all countries are shown in Appendix 2. Our results indicate that social transfers would rise by more than 40 bn euros this year (Fig. 11 and Appendix A2). The additional consumption generated by the policy change amounts, however, to only 6.4 bn euros this year, rising to around 17 bn euros in 2022. Despite private consumption expenditures declining somewhat less during the deep economic crisis due to increased social transfers, the stabilisation effect on GDP is rather small, at least measured against the size of the negative shock. As shown in figure 12 GDP is by about 0.5-0.6 % higher compared to the baseline forecast without the increase in welfare benefits. In other words, although higher unemployment benefits do stabilise private consumption, given the dramatic scope of the recession it is in no way sufficient on its own to stabilise aggregate demand and thus GDP. This is reflected in the labour market with unemployment rates rising somewhat less dramatically if benefits are increased, but only to a limited extent (around 0.2 percentage points).[6]

Finally, we discuss the results of the higher minimum standards on the aggregate euro area and the EU itself. Figures 13 and 14 show the results. As in the individual country case of Italy, consumption is stabilised through the higher unemployment benefits; the effects here are stronger (by around 1.5 % vis-à-vis baseline in the euro area). This supports the level of GDP itself: GDP is around 0.7 % higher compared to the baseline in both the euro area and the EU. This effect is reflected in labour market developments, with the unemployment rate for both the euro area and the EU being 0.3 percentage points lower than in the baseline case with no increase in transfer benefits.

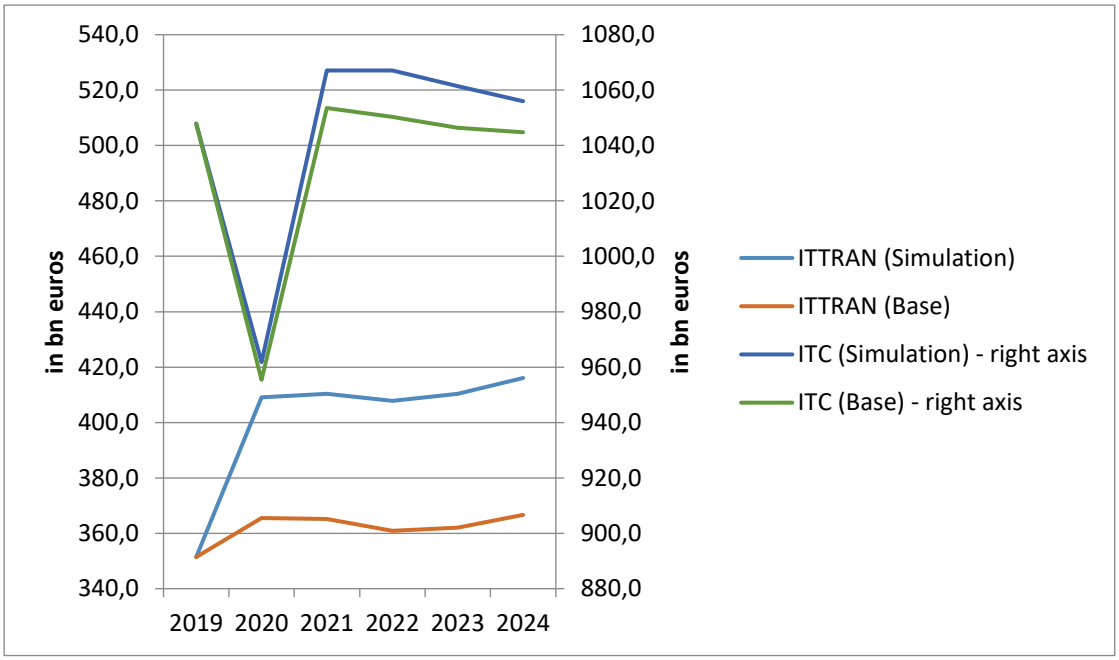
Overall, and in line with the above analysis, the simulation shows the additional stabilising effect of higher unemployment benefits over the business cycle, but also shows that by itself is not enough to cushion deep recessions like the recent Covid-19 crisis. Clearly discretionary policies are needed and they are indeed being implemented in such a dramatic situation. The Bruegel Institute provides an updated overview on member state discretionary measures (Anderson et al. 2020). As of the end of June, very substantial fiscal packages had already been implemented in some EU countries, notably in Germany at 13.3% of annual GDP in actual spending or tax cuts[7]; other countries are much more constrained in their attempts to stimulate their economies, however. The problem of fiscal constraints has led to the implementation of a series of policies also at European level, the debate on which continues; for an overview see Watt (2020). Of these only the Recovery Plan proposed by the Commission, with its headline volume of €750bn, would provide macroeconomically substantial fiscal support to countries in need, in the form of grants (rather than cheap loans). At the time of writing the Recovery Plan still awaits (unanimous) political agreement on the Council.

For present purposes the point is that the discretionary stabilisation measures are unprecedented, but so also is the scale of the crisis. Even if unprecedented, such measures take time to negotiate and implement. As noted in the introductory section, automatic stabilisers have the notable advantage that they kick in immediately. This means that output and employment losses due to policy implementation delays would be partially avoided if the automatic stabilisers were strengthened as proposed. And in the case of more normal fluctuations of the labour market, even small percentage–point reductions in the unemployment rate thanks to a better-developed unemployment benefit system would be important welfare-enhancing measures.

[6] Due to the financing through higher tax rates kicking in after 2022, the unemployment rate moves higher than in the baseline scenario without additional benefits.

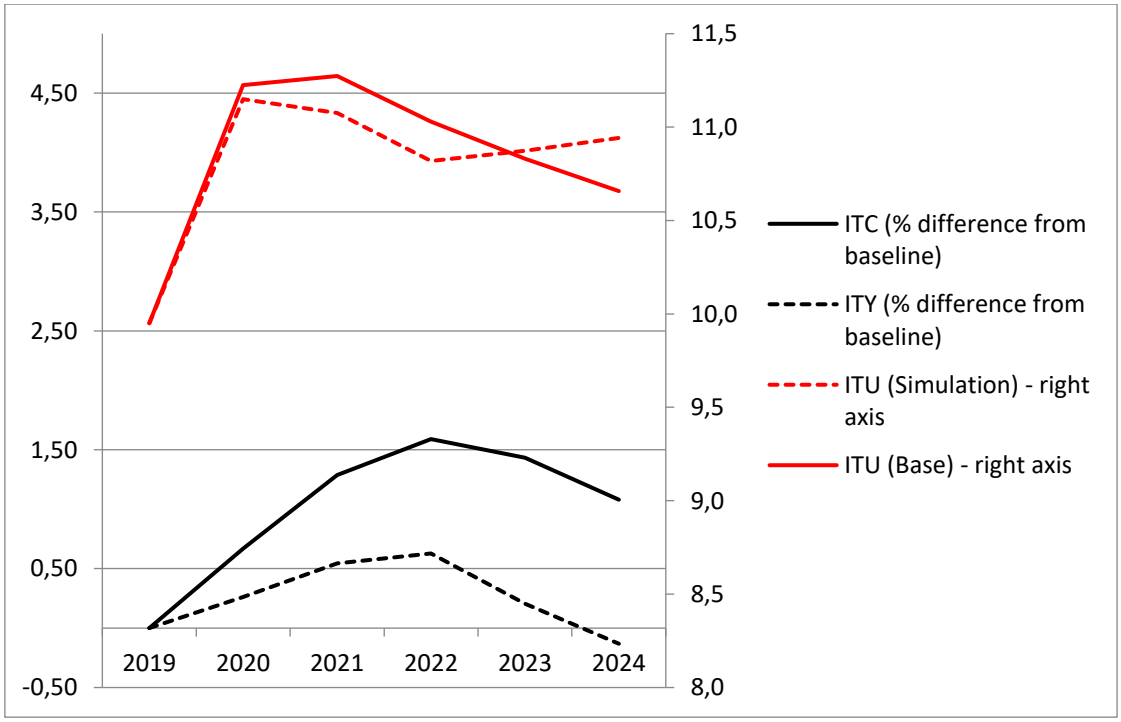
[7] The estimates are uncertain. In addition countries have offered liquidity support and guarantees whose value is uncertain as it depends on take up by potential beneficiaries.

Fig. 11: Introducing minimum standards during the recent Covid-19 Crisis: transfers and consumption developments in Italy



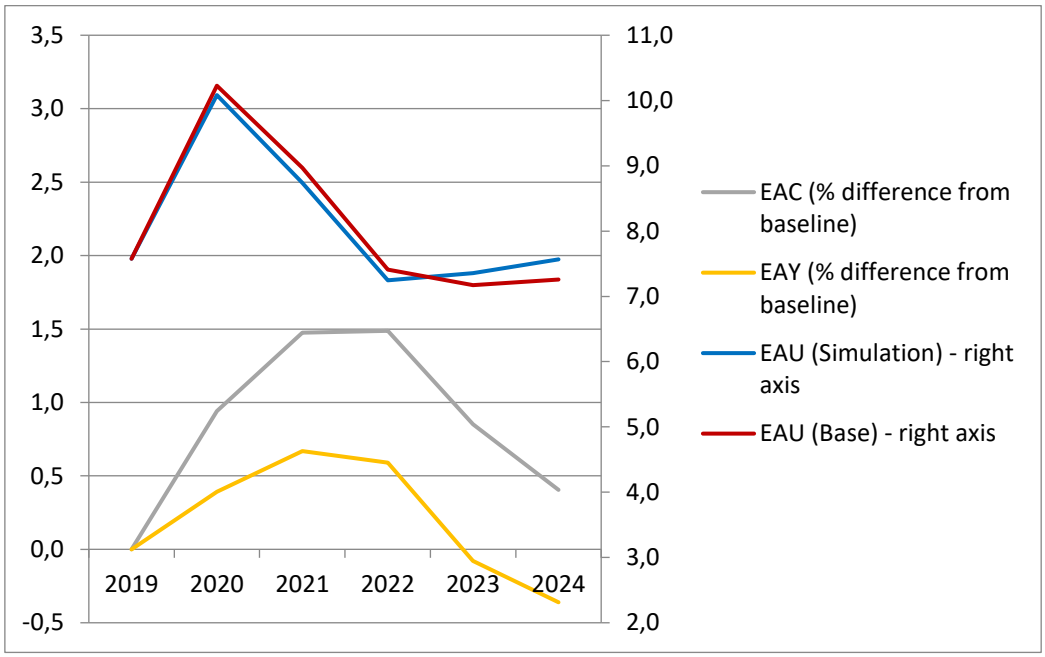
ITTRAN: Italian transfer benefits, in bn euro, real terms, 2010 prices
ITC: Italian private consumption expenditures, in bn euro, real terms, 2010 prices
Source: IMK calculations based on NiGEM.

Fig. 12: Introducing minimum standards during the recent Covid-19 Crisis: consumption, GDP and unemployment developments vis-à-vis baseline in Italy



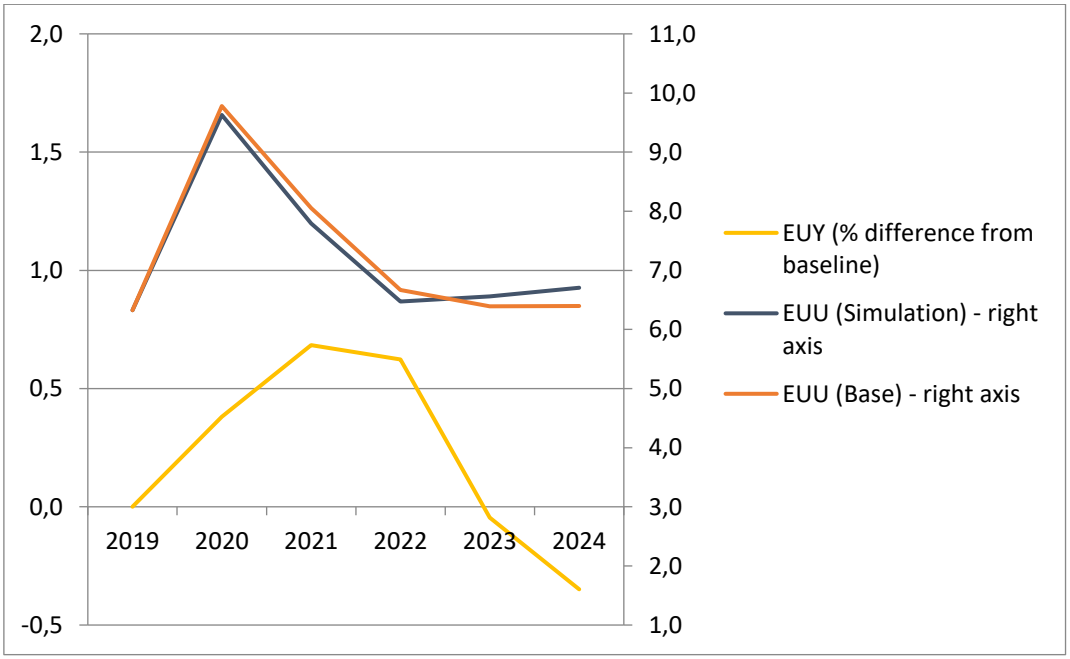
ITC: Italian (real) private consumption expenditures, percentage difference from baseline
ITY: Italian (real) GDP, percentage difference from baseline
ITU: Italian unemployment rate
Source: IMK calculations based on NiGEM.

Fig. 13: Introducing minimum standards during the recent Covid-19 Crisis: consumption, GDP and unemployment developments vis-à-vis baseline in the euro area



EAC: Euro Area (real) private consumption expenditures, percentage difference from baseline
EAY: Euro Area (real) GDP, percentage difference from baseline
EAU: Euro Area unemployment rate
Source: IMK calculations based on NiGEM.

Fig. 14: Introducing minimum standards during the recent Covid-19 Crisis: consumption, GDP and unemployment developments vis-à-vis baseline in the EU



EUY: EU (real) GDP, percentage difference from baseline
EUU: EU unemployment rate
Source: IMK calculations based on NiGEM.

4. Conclusion

This study has examined the impact on the automatic stabilisation properties of national unemployment benefit systems of a European policy initiative that would introduce minimum standards to those systems. Under the initiative, national benefit regimes would offer jobseekers, at minimum, a wage-replacement rate of 75% for at least 12 months and the system would cover at least 50% of those without work during the first year. Broadly speaking, introducing minimum requirements at such levels would bring national UB systems up to the standards achieved by member states that currently perform best on these criteria.

There is no doubt that more generous benefit systems increase the automatic stabilisation properties of welfare states. This works both on the expenditure side (i.e. the benefits) and on the financing side (the contributions or taxes needed to finance them). Spending is bolstered in a crisis and restrained in a boom. The greater the spending (and financing need) for a given level of unemployment, the bigger the stabilising effect can generally be expected to be. Assessing the quantitative importance of such a policy shift is far from a straightforward task, however.

To shed light on this matter we deploy the widely used macroeconometric model NIGEM. This allows us to measure and compare macroeconomic effects across countries, and also take into account stabilisation effects that work across national borders: stabilisation in one country is advantageous also for its trading partners. On the other hand, NIGEM models the welfare state, on the spending and financing side, only at a high level of aggregation. Against the background of the complexity of national benefit systems, this requires a number of simplifying assumptions to be made. Essentially our approach assesses, for each country, the gap between the existing levels and the proposed minimum standards for each of the three criteria. This gap is converted into an increase in benefit payments (and thus also financing needs), at a given level of unemployment, for each country. The effect is therefore larger in countries with currently Spartan systems compared to those which already make generous provisions. The model then allows us to perform simulation exercises that illustrate the extent to which automatic stabilisation would be enhanced if the proposed policy regime were realised. We find the following:

- A simulation of developments during the Great Financial Crisis of 2009ff in which overall social transfers are shocked by +1% of GDP points to a partial cushioning of the recessionary impact. Consumption and GDP in Germany are higher (by 1.0% and 0.5% respectively), and unemployment is slightly (-0.25pp) lower than the baseline. The effects are perceptible, but quantitatively fairly limited. This is largely due to the fact that all benefits are included. These are quantitatively dominated by pensions. The marginal propensity to consume – the proportion of additional income that is spent on consumption – is the average across the whole household sector. Yet this average is highly likely to be considerably lower than for unemployment benefits, which partially offset a fall from a previously higher earned income for affected households. The stabilising impact also occurs in the subsequent upturn, where taxes are raised to recoup the higher expenditure during the recession.
- The impact of the proposed unemployment benefit regime is assessed against the background of the current COVID19-induced crisis. We estimate that under the proposed minimum standards GDP would have been around 0.7 percentage points higher and unemployment around 0.3 pp lower than with the existing UB systems, thanks to the increased automatic stabilization capacity. This is primarily due to stabilization within national systems; only to a smaller degree is this effect accentuated by the cross-border stabilisation effect. Here, too, only the average marginal propensity to consume is used; to this extent the findings are

indicative of the lower bound of the additional stabilization capacity brought about by the set of minimum requirements.

- We lack information with which to adjust the marginal propensity to consume so that it better reflects what might be expected for unemployment benefits lone. As an illustrative exercise we adapted the parameter in the relevant NIGEM equation that links the number of unemployed persons to the size of benefit payouts. This acts as a sort of "functional equivalent" to higher consumption from a given increase in benefit. For a plausibly higher parameter value we find that German GDP is 0.6% higher and unemployment 0.3% lower than baseline in response to a simulated negative shock of 10% to German exports.

Overall, we conclude that on top of their distributional and social-policy effects, national unemployment benefit systems meeting the minimum requirements described above would make an important additional contribution to automatic stabilisation. This is particularly welcome in the context of the Euro Area where the exchange-rate adjustment mechanism is lacking. It goes without saying that the effect does not obviate the need for discretionary counter-cyclical policies. Equally there are other channels by which national automatic stabilisers could additionally be strengthened, while the scope for cross-border stabilisation through, for instance, reinsurance of national benefit systems remains to be exploited. All these measures are potentially complementary.

Further research, possibly incorporating finer-grained models, would be needed to look more closely at issues such as the impact of other forms of welfare support, differential propensities to consume out of benefits by different household types and cross-country linkages.

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6. Appendix

A1: Detailed results for effects of higher transfer benefits during the Great Financial Crisis

FRANCE	**Export (growth rate)**	**Unemployment rate**	**Social Transfers**	**Consumption (growth rate)**		**GDP (growth rate)**		**Unemployment rate**	
	Baseline	Baseline	additional transfers in simulation	Baseline	Simulation	Baseline	Simulation	Baseline	Simulation
2008	0,0	7,5	0,0	0,4	0,4	0,1	0,1	7,5	7,5
2009	-10,7	9,1	19,5	0,4	1,1	-2,8	-2,5	9,1	9,0
2010	8,4	9,3	20,3	1,8	2,0	1,8	1,9	9,3	9,1
2011	6,6	9,2	11,8	0,6	0,2	2,2	2,0	9,2	9,2
2012	3,0	9,8	6,5	-0,4	-0,9	0,4	0,0	9,8	10,0
2013	2,1	10,3	3,9	0,6	0,5	0,6	0,6	10,3	10,5

GERMANY	**Export (growth rate)**	**Unemployment rate**	**Social Transfers**	**Consumption (growth rate)**		**GDP (growth rate)**		**Unemployment rate**	
	Baseline	Baseline	additional transfers used in simulation	Baseline	Simulation	Baseline	Simulation	Baseline	Simulation
2008	1,3	7,4	0,0	0,4	0,4	0,8	0,8	7,4	7,4
2009	-14,3	7,7	23,6	0,3	1,2	-5,6	-5,1	7,7	7,5
2010	14,2	6,9	26,0	0,3	0,4	3,9	3,9	6,9	6,9
2011	8,4	5,9	15,9	1,3	0,7	3,7	3,2	5,9	6,0
2012	3,5	5,4	7,7	1,4	0,6	0,7	0,2	5,4	5,6
2013	1,0	5,2	2,3	0,6	0,5	0,5	0,7	5,2	5,2

U.K.	**Export (growth rate)**	**Unemployment rate**	**Social Transfers**	**Consumption (growth rate)**		**GDP (growth rate)**		**Unemployment rate**	
	Baseline	Baseline	additional transfers in simulation	Baseline	Simulation	Baseline	Simulation	Baseline	Simulation
2008	0,3	5,7	0,0	-0,6	-0,6	-0,3	-0,3	5,7	5,7
2009	-8,3	7,6	15355,9	-2,9	-2,6	-4,2	-4,0	7,6	7,5
2010	5,6	7,9	15885,8	0,7	1,0	1,7	1,9	7,9	7,6
2011	6,4	8,1	8447,6	-0,7	-0,8	1,6	1,5	8,1	7,9
2012	1,5	8,0	4481,7	1,5	1,0	1,4	1,0	8,0	8,1
2013	1,6	7,6	3229,5	1,8	1,7	2,0	1,9	7,6	7,9

EURO AREA	**Unemployment rate**	**Consumption (growth rate)**		**GDP (growth rate)**		**Unemployment rate**	
	Baseline	Baseline	Simulation	Baseline	Simulation	Baseline	Simulation
2008	7,6	0,3	0,3	0,4	0,4	7,6	7,6
2009	9,7	-1,0	-0,5	-4,5	-4,2	9,7	9,5
2010	10,2	0,7	1,0	2,0	2,1	10,2	10,1
2011	10,2	0,0	-0,3	1,7	1,4	10,2	10,2
2012	11,4	-1,2	-1,6	-0,8	-1,2	11,4	11,5
2013	12,0	-0,6	-0,7	-0,2	-0,2	12,0	12,1

EU	**Unemployment rate**	**Consumption (growth rate)**		**GDP (growth rate)**		**Unemployment rate**	
	Baseline	Baseline	Simulation	Baseline	Simulation	Baseline	Simulation
2008	7,0	0,1	0,1	0,4	0,4	7,0	7,0
2009	9,0	-1,3	-0,8	-4,3	-4,0	9,0	8,8
2010	9,7	0,8	1,1	2,0	2,1	9,7	9,5
2011	9,7	-0,1	-0,4	1,8	1,6	9,7	9,6
2012	10,5	-0,6	-1,1	-0,3	-0,8	10,5	10,7
2013	10,9	0,0	-0,2	0,3	0,3	10,9	11,0

A2: Detailed results for macroeconomic effects of EESC's proposal on minimum standards during the recent Covid-19 crisis

The following tables compare the scenario results with the baseline results (baseline always given under the "Base" column).

Variables explanation: first two letters are country code, followed by:

- TRAN: (nominal) transfer benefits
- C: (real) private consumption expenditures
- Y: (real) GDP
- U: unemployment rate
- GBR: government budget ratio (in % of GDP)
- TAXR: direct tax rate (on households)

Unit explanation: all columns headed by "Levels" in currency units; the two right-most columns given as percentage deviation from baseline.

Missing values in tables for EU and euro area due to non-availability in NiGEM.

BELGIUM	**BGTRAN**	**Base**	**BGC**	**Base**	**BGY**	**Base**	**BGU**	**Base**	**BGGBR**	**Base**	**BGTAXR**	**Base**	**BGY**	**BGC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
Euro Bn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	79,9	79,9	227,7	227,7	443,6	443,6	5,4	5,4	-0,4	-0,4	0,3373	0,3373	0,0	0,0
2020	87,2	86,3	209,6	209,4	423,7	422,2	9,6	9,7	-3,6	-3,5	0,3373	0,3373	0,4	0,1
2021	88,1	87,1	227,6	227,2	446,6	444,1	6,2	6,6	0,9	0,9	0,3373	0,3373	0,6	0,2
2022	96,7	95,7	226,6	226,1	447,6	446,4	5,4	5,7	1,3	1,3	0,3378	0,3380	0,3	0,2
2023	106,5	105,4	226,3	226,4	451,6	454,4	5,6	5,2	0,4	0,6	0,3420	0,3412	-0,6	-0,1
2024	112,3	111,2	227,2	227,8	459,0	462,3	5,7	5,2	0,1	0,3	0,3459	0,3428	-0,7	-0,3

FINLAND	**FNTRAN**	**Base**	**FNC**	**Base**	**FNY**	**Base**	**FNU**	**Base**	**FNGBR**	**Base**	**FNTAXR**	**Base**	**FNY**	**FNC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
Euro Mn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	42745,0	42745,0	110498,0	110498,0	205227,0	205227,0	6,7	6,7	-0,2	-0,2	0,3	0,3	0,0	0,0
2020	45536,8	42832,5	101490,8	101336,0	192410,7	191817,9	8,3	8,4	-3,4	-2,7	0,3	0,3	0,3	0,2
2021	43991,9	41071,8	112904,0	112331,7	207101,7	206052,7	7,0	7,1	0,1	0,7	0,3	0,3	0,5	0,5
2022	44650,3	41657,0	113261,9	112403,6	208686,1	207921,6	6,7	6,9	0,2	0,7	0,3	0,3	0,4	0,8
2023	46180,1	43102,8	113653,9	113047,4	210194,8	210765,1	6,9	6,8	-0,1	0,2	0,3	0,3	-0,3	0,5
2024	47963,5	44803,8	114324,8	114019,7	212186,4	213066,2	7,1	6,8	-0,5	-0,3	0,3	0,3	-0,4	0,3

FRANCE	**FRTRAN**	**Base**	**FRC**	**Base**	**FRY**	**Base**	**FRU**	**Base**	**FRGBR**	**Base**	**FRTAXR**	**Base**	**FRY**	**FRC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
Euro Bn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	471,2	471,2	1249,4	1249,4	2316,9	2316,9	8,5	8,5	-2,8	-2,8	0,3	0,3	0,0	0,0
2020	498,5	493,8	1147,0	1145,2	2197,5	2193,5	10,9	11,0	-6,0	-5,9	0,3	0,3	0,2	0,2
2021	500,3	495,5	1234,3	1231,6	2309,6	2303,1	9,7	9,9	-3,6	-3,5	0,3	0,3	0,3	0,2
2022	498,4	493,4	1241,9	1242,0	2333,6	2330,8	7,9	7,9	-2,4	-2,3	0,3	0,3	0,1	0,0
2023	512,7	507,6	1248,9	1254,8	2363,4	2372,7	8,0	7,7	-2,6	-2,3	0,3	0,3	-0,4	-0,5
2024	534,6	529,3	1259,1	1267,2	2401,9	2413,7	8,3	7,9	-2,6	-2,5	0,3	0,3	-0,5	-0,6

GERMANY	**GETRAN**	**Base**	**GEC**	**Base**	**GEY**	**Base**	**GEU**	**Base**	**GEGBR**	**Base**	**GETAXR**	**Base**	**GEY**	**GEC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
Euro Bn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	540,3	540,3	1709,8	1709,8	3246,0	3246,0	3,2	3,2	1,3	1,3	0,308	0,308	0,0	0,0
2020	686,0	619,8	1606,5	1578,3	3079,6	3064,3	5,4	5,7	-5,2	-4,2	0,308	0,308	0,5	1,8
2021	670,4	600,5	1756,9	1722,9	3221,9	3202,4	4,2	4,3	-1,9	-0,9	0,308	0,308	0,6	2,0
2022	660,0	587,8	1761,5	1737,4	3271,7	3258,6	3,2	3,2	0,1	0,9	0,310	0,307	0,4	1,4
2023	675,2	600,9	1758,7	1756,8	3294,9	3303,6	3,2	3,0	0,1	0,7	0,313	0,304	-0,3	0,1
2024	702,1	625,4	1775,8	1781,8	3337,1	3350,6	3,1	3,1	-0,2	0,1	0,314	0,300	-0,4	-0,3

GREECE	**GRTRAN**	**Base**	**GRC**	**Base**	**GRY**	**Base**	**GRU**	**Base**	**GRGBR**	**Base**	**GRTAXR**	**Base**	**GRY**	**GRC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
Euro Bn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	32,4	32,4	130,9	130,9	194,2	194,2	17,3	17,3	0,4	0,4	0,2	0,2	0,0	0,0
2020	35,5	32,9	117,1	115,7	182,2	180,9	22,9	23,0	-6,7	-5,8	0,2	0,2	0,7	1,2
2021	33,9	31,1	127,4	125,6	192,2	190,4	17,8	18,0	-2,8	-2,0	0,2	0,2	0,9	1,4
2022	32,2	29,1	126,9	125,3	195,6	194,4	12,6	12,6	-1,2	-0,5	0,2	0,2	0,6	1,2
2023	32,0	28,9	125,7	125,0	198,1	198,8	12,6	12,3	-0,9	-0,3	0,2	0,2	-0,3	0,5
2024	32,5	29,2	125,3	125,2	201,2	202,6	13,1	12,7	-0,6	-0,2	0,2	0,2	-0,7	0,1

IRELAND	**IRTRAN**	**Base**	**IRC**	**Base**	**IRY**	**Base**	**IRU**	**Base**	**IRGBR**	**Base**	**IRTAXR**	**Base**	**IRY**	**IRC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
Euro Mn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	24957,9	24957,9	108119,0	108119,0	339207,0	339207,0	5,0	5,0	0,0	0,0	0,3	0,3	0,0	0,0
2020	37161,6	29574,7	101114,0	99794,3	321444,1	321032,1	9,5	9,6	-3,7	-2,0	0,3	0,3	0,1	1,3
2021	36299,1	27995,7	117296,9	114525,7	344634,6	343424,6	8,5	8,6	-1,8	-0,2	0,3	0,3	0,4	2,4
2022	36248,5	27400,3	120533,0	116462,6	359446,1	357648,6	5,7	5,8	-0,7	0,5	0,3	0,3	0,5	3,5
2023	37905,6	28587,9	122370,9	118355,8	370013,5	368824,6	5,0	5,0	-0,3	0,3	0,3	0,3	0,3	3,4
2024	40235,3	30441,6	124608,2	122267,1	379867,3	379716,6	4,9	4,8	-0,4	-0,2	0,3	0,2	0,0	1,9

ITALY	**ITTRAN**	**Base**	**ITC**	**Base**	**ITY**	**Base**	**ITU**	**Base**	**ITGBR**	**Base**	**ITTAXR**	**Base**	**ITY**	**ITC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
Euro Bn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	351,4	351,4	1047,9	1047,9	1723,2	1723,2	10,0	10,0	-1,8	-1,8	0,3	0,3	0,0	0,0
2020	409,0	365,5	961,8	955,4	1602,4	1597,8	11,1	11,2	-6,2	-4,5	0,3	0,3	0,3	0,7
2021	410,3	365,2	1067,2	1053,5	1656,8	1646,6	11,0	11,3	-4,4	-2,9	0,3	0,3	0,6	1,3
2022	407,8	360,9	1067,1	1050,3	1696,2	1684,2	10,8	11,0	-3,1	-2,1	0,3	0,3	0,7	1,6
2023	410,4	362,1	1061,3	1046,4	1710,6	1708,4	10,9	10,8	-2,6	-2,1	0,3	0,3	0,1	1,4
2024	416,1	366,6	1055,5	1044,8	1717,2	1722,4	11,0	10,7	-2,6	-2,2	0,3	0,3	-0,3	1,0

NETHERLANDS	**NLTRAN**	**Base**	**NLC**	**Base**	**NLY**	**Base**	**NLU**	**Base**	**NLGBR**	**Base**	**NLTAXR**	**Base**	**NLY**	**NLC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
Euro Mn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	82914,3	82914,3	333176,0	333176,0	757798,6	757798,6	3,4	3,4	1,1	1,1	0,323	0,323	0,0	0,0
2020	119198,4	91910,1	313079,6	307462,6	717146,3	711520,1	5,9	6,1	-4,4	-2,3	0,323	0,323	0,8	1,8
2021	122299,0	92560,2	345771,9	334599,3	777495,0	767893,1	4,5	4,9	-3,3	-1,5	0,323	0,323	1,3	3,3
2022	120769,4	90246,3	347055,1	335470,8	785062,0	777678,4	3,4	3,5	-2,3	-0,8	0,329	0,323	0,9	3,5
2023	123354,0	92080,1	342661,6	336025,5	786653,6	788507,1	4,2	3,7	-2,1	-1,1	0,344	0,323	-0,2	2,0
2024	127533,3	95425,1	343870,6	341544,0	793896,9	798951,6	4,6	4,0	-1,7	-1,3	0,354	0,325	-0,6	0,7

AUSTRIA	**OETRAN**	**Base**	**OEC**	**Base**	**OEY**	**Base**	**OEU**	**Base**	**OEGBR**	**Base**	**OETAXR**	**Base**	**OEY**	**OEC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
Euro Mn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	70789,2	70789,2	191674,4	191674,4	374713,1	374713,1	4,5	4,5	0,4	0,4	0,3	0,3	0,0	0,0
2020	89750,6	77961,6	177665,2	175782,0	361302,3	359685,8	5,4	5,5	-6,7	-4,8	0,3	0,3	0,4	1,1
2021	89678,1	77067,5	199287,7	195913,1	378403,9	375490,3	4,7	4,9	-3,0	-1,4	0,3	0,3	0,8	1,7
2022	91030,4	77959,7	201143,3	197224,1	382911,8	380045,4	4,6	4,6	-1,0	0,2	0,3	0,3	0,8	2,0
2023	95489,7	81950,3	202696,6	199376,4	385694,7	385471,6	4,8	4,5	-0,6	0,0	0,3	0,3	0,1	1,7
2024	100525,5	86512,7	205874,2	203314,2	389839,3	390675,9	4,3	4,1	-0,6	-0,2	0,3	0,3	-0,2	1,3

PORTUGAL	**PTTRAN**	**Base**	**PTC**	**Base**	**PTY**	**Base**	**PTU**	**Base**	**PTGBR**	**Base**	**PTTAXR**	**Base**	**PTY**	**PTC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
Euro Bn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	33,9	33,9	131,1	131,1	202,4	202,4	6,6	6,6	0,4	0,4	0,2	0,2	0,0	0,0
2020	39,7	37,5	120,1	119,8	188,1	187,4	9,9	10,0	-7,0	-6,2	0,2	0,2	0,4	0,2
2021	38,7	36,2	132,3	131,4	209,1	207,6	7,3	7,6	-2,2	-1,5	0,2	0,2	0,7	0,7
2022	38,2	35,7	132,8	131,7	210,9	209,5	6,2	6,5	0,3	0,7	0,2	0,2	0,7	0,9
2023	39,3	36,7	132,7	132,1	211,6	211,9	6,9	6,7	0,1	0,5	0,2	0,2	-0,1	0,4
2024	40,7	38,1	133,7	133,5	213,8	214,7	7,5	7,1	-0,4	-0,1	0,2	0,2	-0,4	0,1

SPAIN	**SPTRAN**	**Base**	**SPC**	**Base**	**SPY**	**Base**	**SPU**	**Base**	**SPGBR**	**Base**	**SPTAXR**	**Base**	**SPY**	**SPC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
Euro Bn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	183,4	183,4	686,3	686,3	1192,4	1192,4	14,1	14,1	-1,9	-1,9	0,3	0,3	0,0	0,0
2020	240,0	186,2	636,2	630,7	1134,3	1129,1	16,9	17,1	-7,2	-4,0	0,3	0,3	0,5	0,9
2021	237,7	180,7	704,7	685,8	1198,7	1182,2	15,7	16,3	-5,3	-2,5	0,3	0,3	1,4	2,7
2022	238,5	179,3	727,7	700,5	1232,1	1210,7	12,0	12,8	-3,3	-1,4	0,3	0,3	1,8	3,9
2023	246,3	185,0	738,0	711,8	1244,7	1233,0	11,9	12,1	-2,3	-1,4	0,3	0,3	1,0	3,7
2024	256,6	193,0	745,1	723,5	1253,1	1252,0	12,9	12,3	-2,2	-1,6	0,3	0,3	0,1	3,0

CZECHIA	**CRTRAN**	**Base**	**CRC**	**Base**	**CRY**	**Base**	**CRU**	**Base**	**CRGBR**	**Base**	**CRTAXR**	**Base**	**CRY**	**CRC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
CZK Mn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	682467,6	682467,6	2342513,0	2342513,0	4859080,0	4859080,0	2,0	2,0	0,7	0,7	0,3	0,3	0,0	0,0
2020	867285,0	828125,3	2048853,0	2043765,5	4560195,0	4545737,0	5,6	5,7	-5,3	-4,9	0,3	0,3	0,3	0,2
2021	846134,3	804238,8	2210132,8	2193475,0	4835997,0	4800816,0	3,9	4,1	-3,5	-3,2	0,3	0,3	0,7	0,8
2022	859824,2	815530,9	2409288,8	2385097,3	5013020,5	4972576,5	3,4	3,6	-2,0	-1,8	0,3	0,3	0,8	1,0
2023	901260,1	854824,2	2502548,3	2484036,0	5098003,5	5084591,5	3,7	3,6	-1,8	-1,7	0,3	0,3	0,3	0,7
2024	944874,4	896523,4	2545910,0	2537831,5	5158149,5	5165742,0	3,7	3,5	-1,9	-1,8	0,3	0,3	-0,1	0,3

DENMARK	**DKTRAN**	**Base**	**DKC**	**Base**	**DKY**	**Base**	**DKU**	**Base**	**DKGBR**	**Base**	**DKTAXR**	**Base**	**DKY**	**DKC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
DKr Mn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	365027,7	365027,7	965920,0	965920,0	2131883,0	2131883,0	5,0	5,0	1,3	1,3	0,3	0,3	0,0	0,0
2020	416077,6	393951,5	904137,8	903207,5	2016351,8	2011598,6	6,8	6,8	-3,5	-2,9	0,3	0,3	0,2	0,1
2021	417773,8	393784,1	993245,9	989636,2	2129924,3	2119776,5	5,6	5,8	-1,2	-0,7	0,3	0,3	0,5	0,4
2022	420129,3	395187,3	1010697,1	1005038,9	2165132,5	2155373,8	5,4	5,5	0,3	0,6	0,3	0,3	0,5	0,6
2023	437779,5	412211,3	1013901,4	1008710,6	2181342,0	2181416,5	5,7	5,5	0,4	0,6	0,3	0,3	0,0	0,5
2024	458633,9	432452,3	1026708,0	1022220,1	2200523,5	2204171,5	5,7	5,5	0,1	0,2	0,3	0,3	-0,2	0,4

HUNGARY	**HUTRAN**	**Base**	**HUC**	**Base**	**HUY**	**Base**	**HUU**	**Base**	**HUGBR**	**Base**	**HUTAXR**	**Base**	**HUY**	**HUC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
HUF Mn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	5140580,0	5140580,0	17074660,0	17074660,0	29077872,0	29077872,0	3,5	3,5	-2,8	-2,8	0,3	0,3	0,0	0,0
2020	10260985,0	5962654,0	16683710,0	16172383,0	27533238,0	27156890,0	13,9	14,4	-12,3	-5,9	0,3	0,3	1,4	3,2
2021	10338555,0	5323565,0	19478302,0	17852524,0	31842766,0	30905380,0	4,3	5,3	-8,4	-2,4	0,3	0,3	3,0	9,1
2022	11395736,0	6070058,0	21355860,0	19088904,0	32530300,0	31473396,0	4,2	5,0	-7,2	-2,8	0,3	0,3	3,4	11,9
2023	12413645,0	6733767,5	22055028,0	20163392,0	32630384,0	32088658,0	4,4	4,3	-5,4	-3,0	0,3	0,3	1,7	9,4
2024	13485868,0	7463591,0	22145900,0	21042056,0	32634286,0	32519920,0	4,8	4,3	-4,5	-3,2	0,3	0,3	0,4	5,2

POLAND	**POTRAN**	**Base**	**POC**	**Base**	**POY**	**Base**	**POU**	**Base**	**POGBR**	**Base**	**POTAXR**	**Base**	**POY**	**POC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
Zloty Mn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	327559,1	327559,1	1149522,9	1149522,9	1984917,1	1984917,1	3,3	3,3	0,3	0,3	0,2534	0,2534	0,0	0,0
2020	448577,9	354862,0	1088333,1	1073297,3	1877767,9	1864263,6	7,0	7,3	-6,4	-3,5	0,2534	0,2534	0,7	1,4
2021	456481,5	352876,8	1223775,1	1175984,0	2088076,3	2048974,9	4,1	4,6	-3,1	-0,7	0,2534	0,2534	1,9	4,1
2022	475306,6	364693,1	1282216,6	1216794,4	2175422,0	2126349,5	2,7	3,1	-2,0	-0,3	0,2604	0,2532	2,3	5,4
2023	503135,3	387302,1	1291086,1	1238566,5	2196903,0	2168557,8	2,7	2,6	-1,9	-0,9	0,2735	0,2530	1,3	4,2
2024	534299,4	413780,9	1298706,0	1268784,3	2218192,5	2212533,5	2,9	2,5	-2,1	-1,3	0,2841	0,2548	0,3	2,4

SWEDEN	**SDTRAN**	**Base**	**SDC**	**Base**	**SDY**	**Base**	**SDU**	**Base**	**SDGBR**	**Base**	**SDTAXR**	**Base**	**SDY**	**SDC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
SEK Mn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	657509,3	657509,3	2184935,0	2184935,0	4899396,0	4899396,0	6,8	6,8	0,3	0,3	0,258	0,258	0,0	0,0
2020	884332,0	774772,3	2042129,3	2022808,8	4764028,5	4749559,5	8,1	8,2	-7,6	-6,2	0,258	0,258	0,3	1,0
2021	861211,5	743298,1	2271681,0	2236113,3	5018756,0	4992719,5	7,1	7,2	-2,7	-1,5	0,258	0,258	0,5	1,6
2022	853435,8	729977,2	2280650,3	2240546,0	5118064,0	5090392,5	7,0	7,0	-1,4	-0,6	0,262	0,258	0,5	1,8
2023	880471,8	751867,3	2302786,8	2270575,5	5172744,5	5170179,0	7,1	7,0	-1,1	-0,6	0,270	0,258	0,0	1,4
2024	918238,0	784717,8	2334403,3	2310072,0	5228077,5	5239269,5	7,0	6,9	-1,0	-0,8	0,275	0,258	-0,2	1,1

UK	**UKTRAN**	**Base**	**UKC**	**Base**	**UKY**	**Base**	**UKU**	**Base**	**UKGBR**	**Base**	**UKTAXR**	**Base**	**UKY**	**UKC**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
GBP Mn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019	277850,0	277850,0	1363303,0	1363303,0	2089519,0	2089519,0	3,8	3,8	-2,1	-2,1	0,223	0,223	0,0	0,0
2020	363638,2	338609,4	1196335,5	1191995,6	1945362,0	1940094,3	8,3	8,5	-10,0	-9,2	0,213	0,213	0,3	0,4
2021	354928,2	327920,3	1339702,0	1330811,6	2081480,6	2071472,9	6,2	6,5	-6,4	-5,6	0,228	0,228	0,5	0,7
2022	335440,4	307523,3	1372517,3	1364067,6	2125527,5	2117053,3	5,2	5,4	-4,4	-3,7	0,233	0,231	0,4	0,6
2023	339522,8	310567,7	1388984,8	1388859,6	2156807,0	2161790,0	5,0	4,9	-3,8	-3,3	0,239	0,231	-0,2	0,0
2024	348539,3	318465,8	1406075,5	1410839,8	2189333,0	2200543,3	4,9	4,5	-3,2	-3,0	0,242	0,231	-0,5	-0,3

EU	**EUY**	**Base**	**EUU**	**Base**	**EUGBR**	**Base**	**EUY**
	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
Euro Bn	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)
2019	16100,3	16100,3	6,3	6,3	-0,8	-0,8	0,0
2020	15200,0	15142,2	9,6	9,8	-6,3	-5,1	0,4
2021	16106,4	15997,0	7,8	8,1	-3,4	-2,4	0,7
2022	16411,6	16310,1	6,5	6,7	-1,9	-1,1	0,6
2023	16587,0	16594,5	6,6	6,4	-1,7	-1,2	0,0
2024	16790,4	16849,2	6,7	6,4	-1,7	-1,4	-0,3

EURO AREA	**EAC**	**Base**	**EAY**	**Base**	**EAU**	**Base**	**EAGBR**	**Base**		**EAY**	**EAC**
		EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2	EU-TRAN-07-03F.NI2
Euro Bn		Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	Levels(Y)	% Diff(Y)	% Diff(Y)
2019		6094,3	6094,3	11352,1	11352,1	7,6	7,6	-0,6	-0,6	0,0	0,0
2020		5660,9	5608,1	10744,1	10702,2	10,1	10,2	-5,5	-4,3	0,4	0,9
2021		6199,2	6109,0	11310,2	11235,0	8,7	9,0	-2,9	-1,8	0,7	1,5
2022		6243,0	6151,5	11498,4	11431,1	7,2	7,4	-1,4	-0,6	0,6	1,5
2023		6252,6	6199,8	11606,5	11615,8	7,4	7,2	-1,3	-0,8	-0,1	0,9
2024		6292,9	6267,6	11741,9	11784,3	7,6	7,3	-1,4	-1,1	-0,4	0,4

European Economic and Social Committee

Rue Belliard/Belliardstraat 99
1040 Bruxelles/Brussel
BELGIQUE/BELGIË

Published by: "Visits and Publications" Unit
EESC-2020-75-EN

www.eesc.europa.eu

Print
QE-03-20-558-EN-C
ISBN 978-92-830-4889-3
doi:10.2864/823944

Online
QE-03-20-558-EN-N
ISBN 978-92-830-4890-9
doi:10.2864/525188

EN