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FORUM

The Future of EU Public Finances

Lourdes Acedo Montoya, Iain Begg, Margit Schratzenstaller, Marta Rodríguez-Vives, Armin Steinbach, Kalin Anev Janse

Editorial
Towards a Reform of the EU Budget
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Economic Growth
Revisiting Baumol's Disease: Structural Change, Productivity Slowdown and Income Inequality
Jochen Hartwig, Hagen M. Krämer

Migration
The Challenges of Integrating Ukrainian Economic Migrants and Refugees in Poland
Sabina Kubiciel-Lodzińska, Brygida Solga

Small and Medium-Sized Enterprises
Impact of the COVID-19 Pandemic on Different Groups of SMEs in Germany and Their Recovery
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Economic and Monetary Union
The Divergence of Price Levels in the European Union
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Letter from America
The Grandchildren of Keynes
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Contents

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Intereconomics

Review of European Economic Policy

Editorial

Marco Buti — Towards a Reform of the EU Budget 286

Forum

The Future of EU Public Finances

Introduction 288

Lourdes Acedo Montoya — Rethinking the EU Financial Architecture 289

Iain Begg — EU Finances in Search of a New Approach 295

Margit Schratzenstaller — Elements of a European Green Fiscal Policy 300

Marta Rodríguez-Vives — Towards a Common EU Debt: Where Do We Stand? 305

Armin Steinbach — Tax and Debt Financing the EU 311

Kalin Anev Janse — Developing European Safe Assets 315

Articles

Economic Growth

Jochen Hartwig, Hagen M. Krämer — Revisiting Baumol's Disease: Structural Change, Productivity Slowdown and Income Inequality 320

Migration

Sabina Kubiciel-Lodzińska, Brygida Solga — The Challenges of Integrating Ukrainian Economic Migrants and Refugees in Poland 326

Small and Medium-Sized Enterprises

Volker Zimmermann, Fritzi Köhler-Geib — Impact of the COVID-19 Pandemic on Different Groups of SMEs in Germany and Their Recovery 333

Economic and Monetary Union

Rainer Maurer — The Divergence of Price Levels in the European Union 342

Letter from America

Dietrich Vollrath — The Grandchildren of Keynes 347

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Towards a Reform of the EU Budget

Twenty years ago, the Sapir report famously defined the EU budget as a "historical relic". Today, the EU budget remains outdated and unfit to face current EU policy challenges. Over the years, priority has been given to stability and budgetary peace, with limited attention paid to more strategic goals linked to the EU's domestic and international agenda. The size of the EU budget (€160-€180 billion annually, 1% of the EU GDP) remains inadequate. Importantly, as a response to the pandemic, the budget has been supplemented by NextGenerationEU (NGEU) with the Recovery and Resilience Facility (RRF) at its heart, but this programme is set to expire in 2026. Given its composition, the EU budget cannot credibly deal with the green and digital transition, preparedness in case of a resurgence of the pandemic, the fallout of the war in Ukraine and in the Middle East, and ongoing migration inflows. Such a state of affairs could have been acceptable in a relatively stable environment, but it has become increasingly costly in uncertain times. Unless the EU budget is reformed in earnest, the forthcoming enlargement – that will bring the EU to over 35 members – might lead to a breaking point. To live up to expectations and effectively tackle these challenges, the EU budget needs to be radically reformed both on the revenue and expenditure side.

The spending side of the EU budget has evolved at a glacial pace. While the share of the Common Agricultural Policy and the Cohesion Funds has shown a gradual erosion, the composition of the budget has remained broadly unchanged, thereby increasingly diverging from what the new European priorities dictate. A reformed EU budget should embrace a European public goods (EPGs) approach, meaning that it should focus on matters where the EU can bring real added value. In line with this approach, the expenditure side of the EU budget could be divided into two main categories: RRF-type programmes and genuine EPGs.

The first category represents those expenses involving transfers to member states. These are financed at the EU level but delivered at the national level. Here, a rethinking should exploit the advantages of the experience with the RRF. Two innovative aspects of the RRF are its focus on both reforms and investment in exchange for financial support, and its performance-based approach. Hence, EU programmes involving transfers to member states should be designed by considering these two aspects.

The second category, genuine EPGs, represents those projects financed and delivered at the EU level to directly tackle EU challenges. These projects should in principle be politically less contentious compared to other forms of central fiscal capacity as they weaken the *juste retour* (or net balance) narrative and, by doing away with the risk of moving to a "transfers union", they should lessen the tensions between "creditor" and "debtor" countries. Identifying genuine EPGs is easier in practice than in theory. The areas where EPGs remain under-supplied are digital transition, "green" transition and energy, social transition, essential raw materials, security and defence, and health. These broadly correspond to the European priorities identified in the informal European Council meeting in Versailles in March 2022.

A pragmatic idea to ensure the delivery and financing of genuine EPGs would be to rely on the "vehicles" offered by existing EU programmes that should be revamped and refocussed on cross-country projects. Some parts of the REPowerEU could support common initiatives at the EU level; the same applies to other programmes of NGEU such as Connecting Europe Facility, InvestEU and Horizon. European initiatives are also the core of the Innovation Fund. Moreover,

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if reformed to allow financing via EU resources and devoted to genuinely EU-wide interventions, the Important Projects of Common European Interest would offer a very useful tool.

The credibility of such a spending programme relies on the robustness of the EU revenue. Although politically difficult, the issue of ensuring adequate own resources cannot remain a residual item. Currently, the EU can count on several own resources, in particular the customs duties, the value added tax own resource, a contribution based on the amount of the non-recycled plastic packaging waste, and a resource based on Gross National Income (GNI, this last one is not really "own"). Traditionally, spending has driven revenue: when new priorities arose, additional spending was agreed upon and the necessary revenue was procured, most frequently through the adjustment of the "fourth resource", i.e. the GNI resource. However, a reformed EU budget supplying EPGs cannot rely on such an approach: new and permanent revenue, however difficult to identify, needs to be part of the equation from the beginning.

A number of future own resources are on the table, including resources from the EU carbon border adjustment mechanism, revenues from the emissions trading system, a statistical contribution on corporate profits, a temporary own resource from 2024, revenue from the implementation of the OECD agreement on a re-allocation of taxing rights. These proposals should be adopted as a matter of priority. Looking forward, a promising option appears to be a resource based on corporate income taxation, building on the recent proposal by the Commission on corporate taxation (the so-called BEFIT). The other side of the financing coin is represented by the issuance of EU bonds by the Commission. Their amount has grown exponentially since 2020 with SURE and NGEU reaching a stock of over €400 billion. The two sources of financing are inextricably linked: credible own resources are necessary for the market attractiveness of bonds issued by the European Commission. The key issue is that investors and markets penalise bonds issued by the Commission since they do not see the EU as a permanent player in the securities market with its bonds backed by a credible stream of revenue. Hence, agreeing on robust, permanent own resources is essential whether one envisages financing the larger budget directly via revenue, or as a fiscal backing for the issuance of EU bonds.

I have argued for refocussing the EU budget on EPGs, that is, on projects addressing EU priorities, financed and delivered at the EU level. What are the political conditions that would make such an ambitious reform a reality?

First of all, trust has to be rebuilt among EU members and between the latter and EU institutions. Credible, enforceable and enforced fiscal rules as well as an effective implementation of the RRF are conditions *sine qua non*. Furthermore, national and European authorities should strive to lengthen the time horizon of policymakers in order to internalise the advantages of supranational solutions, such as the creation of a more ambitious common budget. This requires that national governments find a way to shield their EU decisions from short-term political fibrillation, thereby being able to apprehend the medium- to long-term benefits of a reformed EU budget.

That is difficult but not impossible. During the global financial crisis, the moral hazard paradigm dominated and the policies were characterised by short-term bias. In contrast, the response to the pandemic was better suited as the palpable concerns over EU dissolution had countries gone on separate tracks led national governments to cross "deep red lines". The response was large and decisive, although cautious due to the temporary nature of NGEU and focus on transfers rather than on common projects. The new institutional cycle after the next European elections should acknowledge the geopolitical threats surrounding the EU and build trust, starting from the agreement on a new fiscal framework. A sufficiently low "political discount rate" will be needed to embody the structural priorities of the Union and the future pattern of risks.

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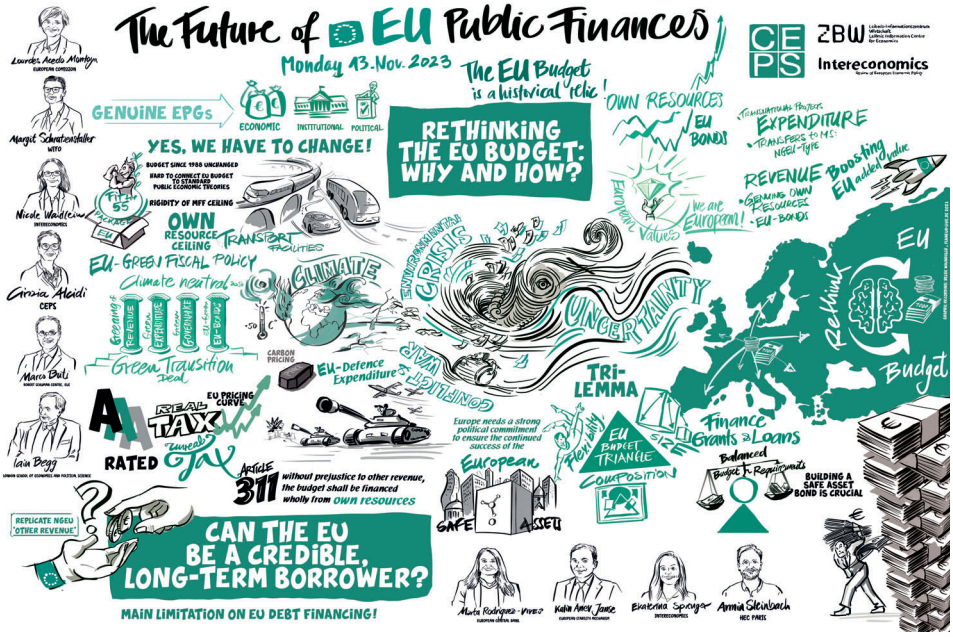
The Future of EU Public Finances

The European Union has weathered a number of turbulent storms in recent years from the COVID-19 pandemic to the ongoing war in Ukraine. These crises have highlighted the limitations of the EU budget and the need for the flexibility to adequately respond to challenges in real time. They have also raised questions about the legal feasibility of more common debt following a dramatic increase in EU borrowing. What are the obstacles – and the opportunities – for the EU's public finances in the face of the numerous crises of our time? Is it possible to balance predictability for long-term investments and flexibility to react to unexpected turns of events? This Forum addresses these questions and builds on the discussions at the 2023 joint Intereconomics/CEPS conference.



Rethinking the EU Financial Architecture

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EU Finances in Search of a New Approach

Iain Begg, London School of Economics and Political Science, UK.

Elements of a European Green Fiscal Policy

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

Towards a Common EU Debt: Where Do We Stand?

Marta Rodríguez-Vives, European Central Bank, Frankfurt, Germany.

Tax and Debt Financing the EU

Armin Steinbach, HEC Paris, France; and Bruegel, Brussels, Belgium.

Developing European Safe Assets

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Forum

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Rethinking the EU Financial Architecture

The multiannual financial framework (MFF) promotes and finances EU priorities across the member states and beyond the external borders of the EU. It provides for the financing of programmes and actions in all policy areas, from agriculture and regional policy, to research, enterprise and space, in line with the EU's long-term priorities.

The past, present and future of the long-term EU budget: Setting the scene

While faithful to its original endeavour to foster long-term investments, the EU must respond to the increasingly urgent calls to do something about cross-border needs and recurrent crises. The agreement on the MFF 2021-2027 together with the NextGenerationEU (NGEU) recovery instrument was a clear example thereof. The Union provided a timely and sizeable response to the COVID-19 pandemic and its economic fallout with a €2 trillion budget, the largest ever. It is also a transformative response with new and reinforced priorities accounting for 31% of the MFF (see Figure 1) and 50% when considering NGEU altogether.

The current MFF and NGEU brought further novelties. First, driving the climate and digital transformations is a common feature across the MFF and NGEU. Furthermore, with the Recovery and Resilience Facility (RRF), the EU finances reforms for the first time with a strong link to the European Semester and puts a stronger focus on performance-based spending. In another first on the financing side, the Union issues common debt with NGEU to finance spending programmes through the EU budget. This borrowing is guaranteed by a dedicated own resources ceiling fully enshrining the response to the crisis in the "community method" – contrary to past experiences in which intergovernmental solutions were sought.

Over the past three years, the EU has faced a series of unprecedented and unexpected challenges: Russia's brutal invasion of Ukraine and its fallout; surging inflation on the account, notably of high energy prices; an unprecedented rise in interest rates; the resurgence of migration after the pandemic; natural disasters in several member states; and most recently the Israeli-Palestinian conflict with devastating humanitarian consequences.

The EU has successfully reacted to the various challenges and has achieved a great deal. The EU budget has been instrumental in powering the Union's response. On top of built-in budget flexibilities, there has been extensive use of redeployments and reprogramming. For example, cohesion funds were mobilised to support people fleeing from war in Ukraine as well as the destination member states. REPowerEU, which aims to end the EU's dependence on Russian fossil fuels and tackle the climate crisis, is financed mostly through repurposing other funds. In only three years, nearly three-quarters of the budget margins have been used or planned. The availabilities of the special instruments and programme specific flexibilities, like the Neighbourhood, Development and International Cooperation Instrument (NDICI – Global Europe) are also being rapidly exhausted. Against the backdrop of a fundamentally changed context and rapidly decreasing available resources, the Commission proposed a revision of the MFF on 20 June 2023.

In fact, compared to national budgets, the EU budget is very rigid. Expenditure ceilings are set for seven years, whereas national fiscal frameworks often last around three or four years and work with adjustable ceilings (European Commission, 2023). Under the MFF, there is virtually no flexibility across the different headings. Expenditures in the EU budget are often set for the whole period being pre-allocated to member states or to specific programmes with limited flexibility to adjust. This results in a setup where it is very difficult to reprioritise and ultimately to react to new circumstances and priorities. Predictability of investments and member states' contributions to the budget currently carry more weight than flexibility.

Challenges ahead

Moreover, with the repayment of NGEU and further upcoming challenges, the future EU budget will face in-

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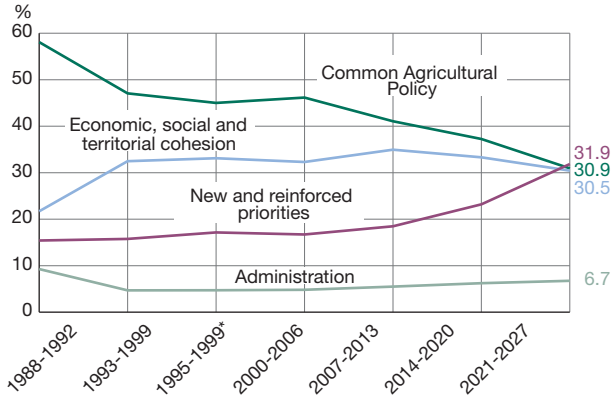
Figure 1
Share of the main policy areas in the multiannual financial frameworks without NextGenerationEU



Note: * MFF revised due to enlargement.

Source: European Commission (2021).

creased pressure. The world is changing and there are several challenges ahead that require deep and far-reaching transformations that should guide the framing of the next MFF to optimise the possibilities of the EU financial architecture (see Figure 2).

Global changes

First, global competition is strong, and if the EU wants to avoid falling behind, action is needed. It will be necessary to future-proof the EU's economic model and build comparative advantages, which will require a reassessment of our budgetary instruments to adjust, as necessary, to this new reality. For instance, this could be done by achieving climate neutrality and reaping the benefits of the digital transition, as well as pushing the technology frontier and reducing technological gaps between the EU and the United States and China (Steinberg and Wolff, 2023). Furthermore, creating secure supply chains, including the safeguarding of open strategic autonomy in key economic sectors, is highly important. Finally, investments in skills and re-skilling workers will be crucial to implement these economic transitions.

The world is changing, with important geoeconomic and geopolitical transformations on the way. An assertive Europe in this new world requires changes in the status quo of the EU budget both for external and internal instruments. External instruments should become even more strategic. With global conflicts and tensions on the rise, joint financing for defence and space will likely necessitate larger financial support from the budget. Furthermore, the EU should reduce its dependency on strategic goods, such as energy, and make supply chains more resilient overall. Additionally, migration has been an escalating challenge, both internally and externally. This is unlikely to disappear and could rather become an even more pressing issue in the future, which will require coordinated EU action. In general, the shifting geopolitical context requires the EU to clarify its role in the global system and develop a new vision for external and internal action. A common EU response will require financial resources that correspond to the challenges ahead. Furthermore, political discussions are ongoing about a potential EU enlargement. The timing and scope of such an enlargement are key variables that are impossible to foresee today. However, it is clear that a potential enlargement will bring additional challenges to the EU budget that need to be considered in the design of future policies, both for pre-accession financial support as well as for internal policies.

Cross-cutting transformations

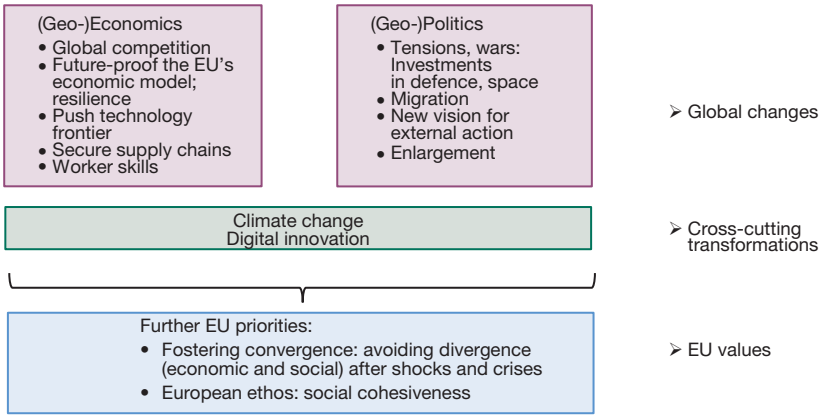
The second challenge is the transformation of economies in view of digital innovation and climate change. For instance, the European Chips Act will bolster the EU's competitiveness in semiconductor technologies and applications (European Commission, n. d.). Actions taken by the EU to achieve a climate-resilient economy cover both climate change mitigation and adaption (Council of the EU, 2021). Hence, efforts to promote the transitions of the economies are underway but the investment needs are very substantial and will span decades. The budgetary architecture of the future must be able to support these transformations through investments, while also providing flexibility in case of unforeseeable developments or crises.

EU values

Third, even with the vast and many challenges, it remains important to safeguard central EU values and not overlook non-economic public goods. This includes fostering economic and social convergence between the member states and regions. It should continue to be a core EU value to mitigate economic and social divergence after crisis shocks as well as to promote stronger resilience of the economies to prevent bigger slowdowns and divergence. Social cohesiveness across Europe and support for EU values – e.g. rule of law, education, justice – will remain essential to a strong Europe in a fragmented world.

Optimising the EU financial architecture and financial possibilities of the Union will be necessary in light of these important needs. This means, first and foremost, that new own resources for the EU budget are key. It also means considerations as to how to best combine EU and member states fiscal efforts, as well as how to best use the EU budget to crowd in private investments or whether the

Figure 2
The next multiannual financial framework in context: Issues to address



Source: Own illustration.

provision of loans guaranteed by the budget bring an additional value in specific cases.

Reflections on future EU financial architecture

Reflections on future EU financial architecture could be organised along four blocks: areas of expenditure at the EU level, expenditure instruments, financing instruments and governance structures. These blocks also provide the structure for the remainder of this article.

EU added value: Areas of expenditure

There is consensus that the EU budget should finance areas of strong EU added value, which some call European public goods. These are areas that are best financed at a supranational level for several reasons. First, public goods are characterised by non-excludability and/or non-rivalry. That is, actors not contributing to the good cannot be excluded from its benefits, or its use by one more actor only has a marginal and decreasing cost (Buti et al., 2023). For the EU, this would mean that individual member states might have too little incentive – or capacity – to provide enough of these goods. Second, European public goods are characterised by economies of scale and scope, meaning that pooling the production will reduce the price. They include a cross-border dimension, which implies a less effective provision of the good by individual countries. These goods are key to pursuing the EU's strategic priorities. Thus, providing the public goods at the EU level would be more efficient.

The creation of EU added value also comes from coordination and spill-over effects, due to the high degree of economic integration within the EU. For instance, quantitative analysis suggests that the effect of NGEU on EU aggregated GDP is one-third larger when explicitly accounting for spill-over effects across countries (Pfeiffer et al., 2021).

To maximise the positive effects of EU spending, both economic efficiency and shared political objectives should be considered. The latter may include asserting Europe's role in the world and ensuring its open strategic autonomy, the means to combat economic divergence and macroeconomic instability, and achieving key transformations towards a future-proof Europe. The green transition and energy, for instance, can only be tackled meaningfully and efficiently if coordinated at the EU level. At the same time, despite all the new priorities arising from the changed geoeconomic and geopolitical context and large transformations, EU core values of convergence and cohesion must not be forgotten. The EU budget can also foster political priorities; for instance, it helps to safeguard the rule of law in the EU. Furthermore, the RRF has shown that the EU budget can also finance and stimulate reforms that contribute to the green and digital transition and also support economic and social cohesion. Both reforms and investments will be key for a competitive, resilient and cohesive Europe in the future.

The EU budget also contributes to economic stabilisation. There is a role for the EU to intervene in the event

of shocks, to counteract imbalances between member states and to help avoid sovereign debt crises. The SURE (Support to mitigate Unemployment Risks in an Emergency) instrument, which provides loans to member states, as well as the Recovery and Resilience Facility, are examples of an economic stabilisation function albeit of a temporary nature. On a smaller scale, cohesion policy or the European Globalisation Fund have also provided economic relief in the face of an economic shock. Going forward, it could be considered whether stabilisation brings EU added value and should be provided by the EU budget.

The EU budget can also create added value through the way it is financed. The new own resource based on non-recycled plastic packaging waste can serve as an example here. It is linked to the EU's policy objectives and can create an incentive for member states to improve recycling. NGEU also shows that the EU can borrow commonly to help counter financial imbalances and needs across member states. This suggests that revenue and expenditure should be considered jointly as both support political priorities, and coherence between them can create additional value.

Expenditure instruments

Not only the question of what the EU budget should finance is important, but also how it should be delivered. To reap the full benefits of the EU budget, the delivery method should be carefully crafted, and several factors should be considered. The policy objectives must come first, as they set the priority for what should be achieved. Then, the most efficient financing for achieving the stated objectives needs to be found. Paying close attention to the link between on *what* and *how* money is spent is crucial.

There are several potential delivery tools. They include guarantees, grants, or loans, as well as the choice between different management modes (direct, indirect, or shared management). The different modes of spending should correspond to distinct spending logics: either pre-allocated envelopes based on national plans that consider the specific context of the member states or non-pre-allocated programmes based on competition between member states, organisations and other stakeholders. The latter are in principle equally accessible to all. Each delivery mode can – and should – create EU added value. In defining a delivery mode, different combinations of the discussed elements may be optimal depending on the policy area or priority.

The role of performance-based spending could also be strengthened. It has the potential to increase the effectiveness of EU expenditure. The performance framework has already been upgraded in the MFF 2021-2027. However, there is still room for improvement. One option to explore could be to integrate performance considerations to a larger extent in the design of the annual budget as well as the next MFF. For this, an all-encompassing review of EU spending and its structure, including performance-based indicators, would be necessary. At the same time, it might be worth taking stock of and optimising the EU's different systems of tracking, monitoring and evaluation. The resulting insights may then be used to simplify the structure of the EU budget, for example, by reducing the number of programmes where it makes sense. This could also help reduce costs and increase efficiency, transparency and accountability.

Lastly, sound financial management could be further improved by enhancing coordination of the various control mechanisms. The MFF 2021-2027 already brought important changes to achieve sound financial management. The objective is to ensure effective budget protection at minimal cost.

Simplicity and efficiency should be the guiding principles of future financing instruments. This simplicity could take the form of a critical assessment of the number of instruments to reduce potential overlaps and exploit positive synergies. Simpler applications for beneficiaries and strong coordination between instruments that have similar policy objectives but that are implemented through different modes should also be further developed. Efficiency will ensure that funds can reach the ground as quickly as possible and that they are designed to deliver on their policy objectives and to ensure sound financial management.

Financing instruments

To leverage the full capacity of the EU budget, all possible sources of financing as well as their efficiency and fitness for purpose should be considered.

New own resources are key to balance the revenue structure of the budget in light of future expenditure needs. The Commission has proposed new own resources linked to the Emissions Trading System and Carbon Border Adjustment Mechanism as well as a new statistical own resource based on company profits. The earlier the agreement on these resources, the better. These proposed new own resources are closely aligned with our common policy objectives, and therefore have the potential to also bring EU added value through the revenue side of the budget.

While joint borrowing is not an objective on its own, it is an instrument that can contribute to the enhancement of the financial capacity of the Union and contribute to efficient delivery of spending instruments. Joint borrowing also brings side benefits insofar as it promotes the international role of the euro and deepens EU capital markets. It enables risk-sharing among member states and increases the financial capacity of the EU budget. For decades already, the Union has been borrowing to support member states and third countries with loans to address balance of payments crises. NGEU borrowing provides loans and grants for expenditure programmes in the EU budget, whether implemented by member states such as the RRF or the European Agriculture Fund for Rural Development or at the EU-level such as InvestEU or EU4Health. The EU budget headroom, which is the difference between the own resources ceiling and the expenditures of the EU budget, guarantees these liabilities, including with a dedicated own resources ceiling solely for the purposes of NGEU.

In the case of loans to third countries, the latest loans to Ukraine are covered by the headroom of the EU budget and in other cases a provisioning fund also provides first coverage via the budget. Finally, the SURE instrument provides loans to member states, which are partly guaranteed by member states and partly by the EU budget. While the repayment of loans is done by the beneficiary countries, the repayment of grants and in some cases an interest rate subsidy to Ukraine is done via the EU budget. All of those are examples of how borrowing can be an instrument to deliver on EU policies and needs which should be assessed in the next cycle with the same objectives of simplicity and efficiency.

External assigned revenue could continue to play a certain role. It has been highly important, with NGEU but also with the EU's Emissions Trading System financing the Social Climate Fund. External assigned revenue, however, deviates from the principles of universality and unity and should not be the norm. However, it could still play a role, ancillary to budget financing, for example, for member state's contributions to external action programmes or with third countries' contributions to Union programmes.

Crowding-in other sources of funding should also be further explored. Co-financing by member states or other beneficiaries can bring more complementarities between member states and EU-level expenditures and increase the available resources for European priorities. Private sector participation in programmes can also help deliver a higher share of investments with the backing of the EU budget.

Governance structures

The MFF includes many elements that are deeply interlinked. Beyond the policy priorities and delivery mechanisms, important elements are the governance structure and the duration of the MFF. On the one hand, a certain length is required to enable long-term investments, which are underpinned by multi-annual programmes. On the other hand, a longer duration means a less responsive budget to react to crises and new needs and raises questions of democratic legitimacy.

Finally, the MFF and its programmes could be brought closer to existing EU governance processes, as has already been done in a few cases. The RRF brings the EU budget and the European Semester very close, and this can set a positive precedent for the future to guide the most important economic reforms and investments in member states that contribute to shared goals like the provision of European public goods or strengthening the long-term growth potential. The Social Climate Fund will rely strongly on the governance of the Energy Union and the national energy and climate plans. Similarly, a closer interlinkage between external policy objectives and EU external action instruments could also be sought in the future. A close coordination between governance structures and EU budget instruments can leverage the Union's overall impact within and outside of its frontiers.

Concluding remarks

The EU budget is the financial arm of the Union's policy goals. In assessing the MFF and looking ahead, several conclusions can be drawn. First and foremost, the added value created through the EU budget should be maximised by taking an all-encompassing view of the budgetary architecture, including the revenue side and the coherence between financing and spending elements. Second, spending on the EU level benefits all member states, and not just those directly receiving funding. Hence, the EU budget should not be seen as a zero-sum game. Third, flexibility, simplicity and efficiency will be guiding principles in the design of the next generation of programmes. The structure of EU spending should also be reviewed, e.g. the number of programmes, and the connection between the budget and other governance processes. Fourth, the budget architecture should optimise all financial means through a closer interlinkage between member states and EU-level expenditures, crowding in private expenditures. Most importantly, the introduction of new own resources is essential to better balance the revenue structure of the budget.

In conclusion, significant and important work lies ahead to ensure an EU budget that is better, more efficient, more flexible and policy-oriented. An EU budget with a bigger impact will be the task for 2027.

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EU Finances in Search of a New Approach

It has been said before, too many times: the EU budget is overdue for reform. Despite many changes in detail, the shape and procedures of the budget in 2023 would be easily recognisable to those who negotiated and implemented its major reform in 1988. So too would be many of the points of contention about it, such as the large proportion of spending allocated to Cohesion Policy and direct payments to farmers, the lack of flexibility, the impasse over new own resources and the persistence of rebates accorded to some member states on their gross contributions to EU revenue.

What would not be recognisable to a time traveller from the late 1980s is the proliferation of off-budget mechanisms through which important EU policies are funded. They include the various means by which financial assistance to third countries is distributed, ad hoc responses to crises (such as the sovereign debt crisis, starting with Greece, then dealing with refugees in 2015) and, most recently, the large programmes associated with the NextGenerationEU (NGEU) package, launched in 2020 in response to the COVID-19 pandemic. Borrowing and lending was not, of itself, a new phenomenon, with the European Investment Bank (EIB), in particular, being long established as a source of funding for investment projects. As Laffan (1997, 217) pointed out, there was a sharp contrast between "the fierce battles about the size distribution and objectives of the community budget and the largely uncontested second arm of the EU's finances".

However, the resort to off-budget mechanisms has a number of consequences that call for a recasting of the governance of EU finances. The prospect of a further substantial enlargement of the EU adds urgency to the issue and was explicitly mentioned by Ursula von der Leyen in her 2023 State of the Union address. Reflecting on what would need to be done prior to the accession of Ukraine and other likely candidates, she singled out the budget:

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* Some elements of this piece build on Grund and Steinbach (2023).

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"We need to discuss the future of our budget – in terms of what it finances, how it finances it, and how it is financed" (von der Leyen, 2023).

The latter half of her statement is succinct, but it is worth elaborating on its meaning. "What it finances" invites a reappraisal not only of the different headings of spending that have dominated EU budgets for decades, but also asking whether a more wide-ranging review of the expenditure side is needed. There are several facets of "how it finances it" to consider. Among them are: the choice between grants and loans, the extent of conditionality, and whether (or when) co-financing by member states or other interests is justified. "How it is financed" could be somewhat narrowly understood to be the mix of EU revenue, currently dominated by net contributions, and the scope for boosting the share of "genuine" own resources. Having crossed the Rubicon of funding EU policies by direct borrowing from financial markets for NGEU, albeit temporarily, a separate aspect is whether borrowing should become a routine source of funds.

These three dimensions of the EU budget help to frame this article and are expanded in the sections that follow. However, there is another dimension to take into account. It stems from the broadening of EU finances, with the implication that they now need to be analysed as a whole, rather than being equated largely with the EU budget. Doing so requires attention to be paid not only to the different components of the galaxy of EU finances (Begg et al., 2022), but also to the complexities of the interactions between the different components. A key proposition of this article is that there is a need to develop an EU-level fiscal framework, distinct from those of member states.

What it finances: EU expenditure

The EU's expenditures derive from a combination of Treaty obligations, political choices made decades ago as well as more recently, pressures to support sectors and territories affected by economic integration, and some areas for which a case can be made that the EU is the most appropriate level of governance to undertake the spending. It is often described as a budget for investment, an assertion that can be defended for spending on Cohesion Policy and research, but is more questionable for direct payments (most of which go to farmers and still account for over a quarter of EU expenditure) and for a proportion of external action.

If, however, EU budget specialists were asked today to start with a blank sheet of paper and write down what the EU should spend on, it is a safe bet that it would be very different from the current list. But rather than focus on specific spending lines, the upstream question that needs to be answered is why the EU spends and what spending should be assigned to it in a multi-level system of public expenditure. Fuest and Pisani-Ferry (2019) list eight broad areas for European public goods (EPGs) and argue persuasively for putting the provision of public goods at the heart of European integration. They assert that "enhanced provision of European public goods requires additional funding, but it should not increase the overall tax burden for EU citizens"; their reasoning is that "the overall tax burden should decline if public goods are more efficiently provided at European than at national level" (Fuest and Pisani-Ferry, 2019, 2).

A useful approach to EPG is provided by Buti et al. (2023) who distinguish between: provision by the EU level in the pursuit of EU policy goals; transfers to member states, nevertheless aimed at EU objectives; and inter-governmental transfers to member states to fund national public goods. Buti et al. argue that the first category is the easiest to justify and, as a corollary, least prone to the disputes about net contributions and *juste retour* that have been so toxic over the decades. It potentially encompasses a variety of public spending, including responses to climate change, much of EU external action (although there can be overlap with national policies) and administrative activities required to sustain the Union.

The second category is exemplified by how the funding from NGEU is distributed, with the obligation to devote much of the funding to climate actions and digitalisation – the twin transitions at the heart of current EU policy narratives. However, there are sizeable net fiscal transfers from the Recovery and Resilience Facility (RRF), which, though temporary, enable net recipients to boost public investment without aggravating fiscal policy stresses, thereby fulfilling a macroeconomic stabilisation function. EU funding of national public goods is both allocative – investments intended to promote economic growth – and distributive, albeit between member states, rather than in the sense conventionally used in public economics (dating from the seminal work of Musgrave, 1959) of between richer and poorer households or citizens. The investment supported by, above all, cohesion policy encompasses infrastructure and other goals such as enhancing skills, social inclusion or territorial balance.

Discussion of what constitutes EU added value (EVA) is closely related to EPGs, but finding agreement on it is difficult. In some respects, EVA is an intuitively obvious concept, yet also a devilishly slippery one. A comprehensive special issue of the European Court of Auditors Journal (2020) illustrates its complexity and offers a plethora of interpretations. Often, discussion of EVA slides into justification of EU integration overall, with many contributors to the special issue emphasising the broad regulatory role of the EU. However, in considering the EU finances, it can help to narrow the debate to simpler aspects of EVA. While economic efficiency – whether through economies of scale and scope, or elimination of damaging externalities, such as adverse spillovers – is a powerful rationale, it cannot be the sole justification for EU-level spending. A related rationale is to ensure that a suitable quantity of public goods is produced, a goal that may be compromised at other levels of government if they are unable to appropriate the benefits of its spending and, consequently under-invest. In addition, as Rubio (2020) stresses, there are political considerations which sometimes over-ride economic principles.

How it finances it: Mechanisms for, and governance of, spending

EU funding can be split along a number of dimensions. Grants from Brussels were traditionally the mainstay of EU budget funding, but loans (known as financial instruments) have been used to a limited extent in cohesion policy. More recently, as noted above, loans have acquired greater prominence, especially in pandemic-related actions.

Borrowing by the EU to enable EU policies to be funded operates in different ways. The EIB has its own legal personality and funding arrangements and funds projects largely on a commercial basis, entailing investment appraisal intended to verify the validity of the project. Other EU borrowing is to fund loans for a specific purpose, ranging from Macro-Financial Assistance (Ukraine is a significant beneficiary today) to the temporary SURE instrument (agreed in 2020 and taken up by most member states) which sought to underpin national initiatives to maintain employment during the pandemic. These are back-to-back loans, which means the EU borrows (exploiting its favourable credit rating) then lends on to recipients who benefit from better loan terms than if they sought to borrow directly from financial markets. Recipients are responsible for repaying and servicing the loans, with the EU guaranteeing the loans.

NGEU was a new departure. Its loan component also operates through back-to-back loans, but the grant component means that future EU budgets become liable for debt service and repayment, the latter probably only starting

from 2028 and extending for up to three decades. This has ramifications. First, the debt-related outlays will be a first call on the EU budget, outside the control of the Budgetary Authority (the Council and the European Parliament) in the sense that it cannot choose to alter the amount.

This, in turn, prompts questions about how these new payments are accommodated: essentially a choice between cutting other expenditure or raising additional revenue, although a possibility would be more extensive co-financing, either at the national level or other stakeholders. In this context, there has long been pressure from net contributors to keep the headline total of the EU budget low as a means of capping what they have to contribute. Unsurprisingly, net recipients, the Commission and the European Parliament take the opposite view. The principal alternative is to raise additional revenue, either through higher national contributions or through new own resources; neither is easy.

Conditionality has been a vexed question. On one side, pressures have grown over the years to ensure programmes are well-conceived – *ex ante* conditionality – with the goal of making it more likely that money will be well spent; this is not especially contested. Macroeconomic conditionality – requiring member states to adhere to sound fiscal policy – has been much more controversial, partly because it can be seen as punishing regions for the failings of national governments, but partly also because it can undermine economic development. Rule of law conditionality, as applied to funds from the Recovery and Resilience Facility (the main mechanism of NGEU), elicits the most rancour, because it imposes a political test on disbursement of funds, not just an economic one.

Related to conditions is evolution in the approach to monitoring and evaluation. The direction of change is towards performance-based budgeting (PBB), defined by the OECD (2023) "as the systematic use of performance information to inform budget decisions, either as a direct input to budget allocation decisions or as contextual information to inform budget planning". It entails a focus on what the policy produces by way of direct outputs and broader results, a contrast with the more conventional input approach under which recipients had only to show funds were being used in accordance with sound financing rules. The RRF, with its use of milestones and targets as the basis for disbursements, adopts a PBB approach, although work by Darvas et al. (2023) suggests it falls short of its stated ambitions. An open question in this regard is how useful common indicators can be in assessing programme success.

How it is financed: EU revenue

Proposals for new own resources to cover the NGEU repayments are set out in a roadmap in Annex 2 of the 2020 Interinstitutional Agreement,[1] and in the 2021 Own Resources Decision[2] which also included the introduction of a plastics levy as a new resource. The European Commission (2021) put forward a range of proposals, but conceded 18 months later (European Commission, 2023) that "the legislative discussions on the proposal made in December 2021 have made limited progress".

There are many obstacles to the introduction of "genuine" own resources, as distinct from national contributions (even though these are formally designated as own resources, meaning the member states are committed to honouring them), so much so that no new resources were approved between 1988 and 2021. Fundamentally, the problem is that member states are loath to accord a "power to tax" – a key feature of most polities – to the EU. The need for unanimity is also a deterrent to selecting new resources.

While there has been no shortage of studies and ideas on possible new resources (High Level Group on Own Resources, 2016; Schratzenstaller et al., 2022), a persistent difficulty is their uneven incidence on particular member states. Candidates proposed over the years include carbon taxes to be collected by the EU, a share of corporate income tax, financial transactions taxes, obscure sources such as the monetary income of central banks, and even a small charge on every SMS text message sent. It does not take much imagination to see why member states using low corporate taxes as an instrument of industrial policy to attract inward investment would oppose an EU corporate tax, or why those with comparatively high proportions of fossil fuels in their energy mix would object to EU carbon taxes.

From the perspective of most member states, the largest share of own resource – the GNI contribution – has notable attractions. The formula behind it may be impenetrable to citizens, but for national finance ministries, it is a distinct line in their budgets and elicits only limited contestation once the septennial deal on the multiannual financial framework (MFF) and the own resources decision is concluded. For the EU level, the GNI resource has one key attribute which is to rise or fall as expenditure occurs, thereby balancing the budget while also assur-

1 Official Journal of the European Union, L 433 of 16 December 2020, 28-46.
2 Official Journal of the European Union, L 424 of 15 December 2020, Council Decision (EU, Euratom) 2020/2053.

ing the EU level of certain revenue. Many possible own resources would lack such certainty. Over the years, the GNI resource has also been one of the means by which member states that claim to face unfair net contributions have had them abated.

These "corrections" can seem perverse, especially when they routinely result in the gross contributions of richer member states as a proportion of GNI being lower than their poorer partners, but they have proved vital to overall agreement since first being conceded to the UK in 1984. They are nevertheless a decidedly peculiar way of managing the revenue side of the budget and there was a hope in 2020 that Brexit would allow a phasing-out of corrections. That it did not happen highlighted the deeply political nature of the EU budget. Although the plastics levy, introduced in 2021, is an innovation, it is tied to gross national income and is, consequently, de facto also a national contribution, leading some member states to argue that it adds to administrative costs for negligible benefits. Moreover, even this limited innovation is subject to a form of correction favouring member states with GNI per capita below the EU average.

An EU fiscal framework

The combination of conventional EU budget programmes and off budget mechanisms has come about more as a result of exceptional circumstances than explicit design. As the European Court of Auditors (2023, paragraph 93) explains, although "there were reasons for creating new types of instruments, the piecemeal approach taken to set up the EU's financial landscape has resulted in a patchwork construction of instruments with different sources of finance and governance arrangements".

Interactions between income and expenditure on one hand, and public debt on the other, are central to public finances in most polities and, it is worth recalling, are the subject of intrusive oversight at the EU level. It is, therefore, something of an irony that the implications of having EU debt have been insufficiently analysed. Begg et al. (2023) propose five dimensions for a putative EU fiscal framework: the first two are the traditional income and expenditure; then there is management of risks; and governance of decision-making and legitimation complete the framework.

The various linkages between the five dimensions are crucial for an EU fiscal framework (see Figure 2 of Begg et al., 2023). Increased debt service costs (or risks of default), for example, affect choices on income or expenditure. Risks generated by choices made by the Council and Commission, with the Parliament only consulted, can leave the Budgetary Authority to deal with the consequences. Much depends on how guarantees and provisioning are structured.

In the EU setting, the own resources ceiling plays a vital role because it does two things. First, the headroom between the MFF ceilings for expenditure and the own resources ceiling provides an assurance that member states will increase their contributions if called, for example, to cover defaults on loans. As a result, financial markets can regard lending to the EU as safe. Second, as occurred with NGEU, raising the own resources ceiling can boost the EU's capacity to borrow. Guarantees are also offered by a Common Provisioning Fund, established under Article 212 of the Financial Regulation, inside the EU budget, as a first line of support for certain loans.

Conclusions

The status quo bias afflicting the budget should be no surprise because it is the result of difficult compromises between competing sectoral interests, as well as those of member states with widely differing priorities and expectations of what the EU should fund. Equally, it is hard to deny that there are unrealistic expectations of what EU budgetary interventions should do, especially in alleviating crises, given the constraints on budgetary autonomy at the EU level, i.e. a capability-expectations gap. Insights from public economics may be useful, even if due allowance is made for the *sui generis* nature of the EU and its budgetary distinctiveness. For example, some of the propositions found in fiscal federalism, such as the principle of equivalence, might be adduced. This principle suggests that expenditure should be undertaken and financed in the territory where its benefits accrue, both to reflect preferences and to align incentives. It might reasonably be applied in support of funding demonstrably European public goods by genuine own resources.

The pathologies of the EU budget, and its finances more generally, are well known and point the way to a reform agenda. Considering recent demands for budgetary responses, enhancing the agility and flexibility of the EU level is a high priority, though the rigidity of the MFF model is an obstacle. An approach best characterised as incremental to altering the budget entrenches the status quo, and key governance mechanisms, not least the need for unanimity, make more radical change difficult. Yet the prospect of enlargement, as signalled in the quotation above from von der Leyen (2023), provides opportunities to rethink what purposes the budget serves. Answers should be rooted in a fresh look at the EPGs that the budget is best equipped to provide and improved understanding of how value is added by spending at the EU level.

The EU needs, in parallel, to decide how best to use borrowing and lending as an integral part of its budgetary strategy. Grund and Steinbach (2023) show convincingly that there is scope to do so without Treaty change. The piecemeal approach undoubtedly helped find solutions to, for example, the migrant crisis (the Facility for Refugees in Turkey) or the rapid implementation of SURE, but the EU should not rely repeatedly on cobbling together a package. A more comprehensive and considered framework would also enhance the "agility" of the EU budget by adding to options for actions.

Although the EU has repeatedly shown it can act quickly when pushed, the frequent use of Article 122 as the legal base for emergency action not only stretches the intent of the article, but also gives a disproportionate role to the Council in decision-making. The corollary is that the European Parliament is side-lined, undermining legitimation. A better approach would be to work towards an EU fiscal framework in which the interactions between the income and expenditure accounts and the balance sheet of EU finances are more coherent in how interventions are devised. Doing so would ease the sorts of complications that have arisen, such as the difficulties associated with servicing and repaying debt incurred to fund NGEU grants.

Regarding how to proceed, a first opportunity is the mid-term review of the MFF, currently in progress. It is unlikely to shift the dial massively, but could begin to alter the terms of debate on future EU finances. Proposals on the next MFF, likely to be put forward in the course of 2025, are a second opportunity, and also one with scope for greater innovation, because they will have to emerge early in the mandates of the next Commission and European Parliament.

What is it to be, yet another rerun of "groundhog day" or acceptance that the "time for a change" is now?

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Elements of a European Green Fiscal Policy

The European Green Deal, the core project of the current European Commission, envisages a green transition in the EU, which aims at making the 27 EU member states climate-neutral by 2050 and at reducing greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels in a first step. Since it began in February 2022, Russia's war of aggression against Ukraine has been intensifying the urgency of the green transition, which would make Europe independent of fossil fuels imported from third countries and secure an affordable energy supply. Such an ambitious green transition requires a comprehensive "green fiscal policy" as one element of a broad mix of measures at the EU level to complement and reinforce member states' initiatives to green national public finances. A European green fiscal policy rests on four pillars, which are partly elements of the Fit for 55 package[1] aiming at achieving the goals of the European Green Deal (see Figure 1): the greening of revenues, the greening of EU expenditure, the greening of EU governance and European green bonds. Green implementation mechanisms can initiate and facilitate greening initiatives in a systematic way in the four green fiscal policy pillars.

Four pillars of greening EU fiscal policy

Greening of revenues at EU level

The first pillar of a European green fiscal policy is the greening of revenues at the EU level, which comprises two interrelated elements: carbon pricing and green own resources to finance the EU budget. Carbon pricing at the EU level includes the EU Emissions Trading System (EU ETS), the EU Carbon Border Adjustment Mechanism (CBAM), the EU Energy Tax Directive (EU ETD) and potential green EU levies. As part of the Fit for 55 package, the current EU ETS 1 covering industry and energy generation will be supplemented by a new EU ETS 2 for the building and the transport sector as of 2027. The EU CBAM was introduced in October 2023 starting with a transition phase and will be effective as a carbon pricing instrument as of 2026. The revision of the EU ETD, another measure of the Fit for 55 package, is still pending.

The coordinated implementation of further green levies in EU member states has not found its way onto the European agenda yet.

Currently, the lion's share of EU revenues are national contributions from member states (see Figure 2). In 2022, the VAT-based own resource contributed 8% of overall revenue including other revenue (€19.7 billion), the GNI-based own resource 42.4% (€103.9 billion) and the plastic own resource 2.6% (€6.3 billion). The share of custom duties, which since the end of the sugar quota system are the only remaining traditional own resource, amounts to 10.5% (€25.9 billion). The remaining revenues stem from other revenue and the balance carried over from the previous year.[2]

It is obvious that the EU system of own resources in its current form contributes in a very limited extent only to central EU objectives and policies (Schratzenstaller et al., 2017, 2022). Recently, the need to repay NextGenerationEU (NGEU) debt, newly emerging potential genuine own resources and mounting long-term challenges for the EU (e.g. climate, digital and demographic change) have provided new impulses to the long-standing debate about a fundamental reform of the EU revenue system.

Green own resources appear as particularly relevant in this context, as they would strengthen the link between EU revenues and EU spending and thus coherence between EU budget policies addressing climate change. The EU ETS, the EU CBAM and green EU levies offer themselves as green own resources.

The Interinstitutional Agreement accompanying the agreement of 2020 on the multiannual financial framework (MFF) and NGEU (which together form the European COVID-19 Recovery Plan) includes a roadmap for the stepwise introduction of new own resources as of 2021,

1 See Tagliapietra (2021) for an overview of the 13 elements of the Fit for 55 package.

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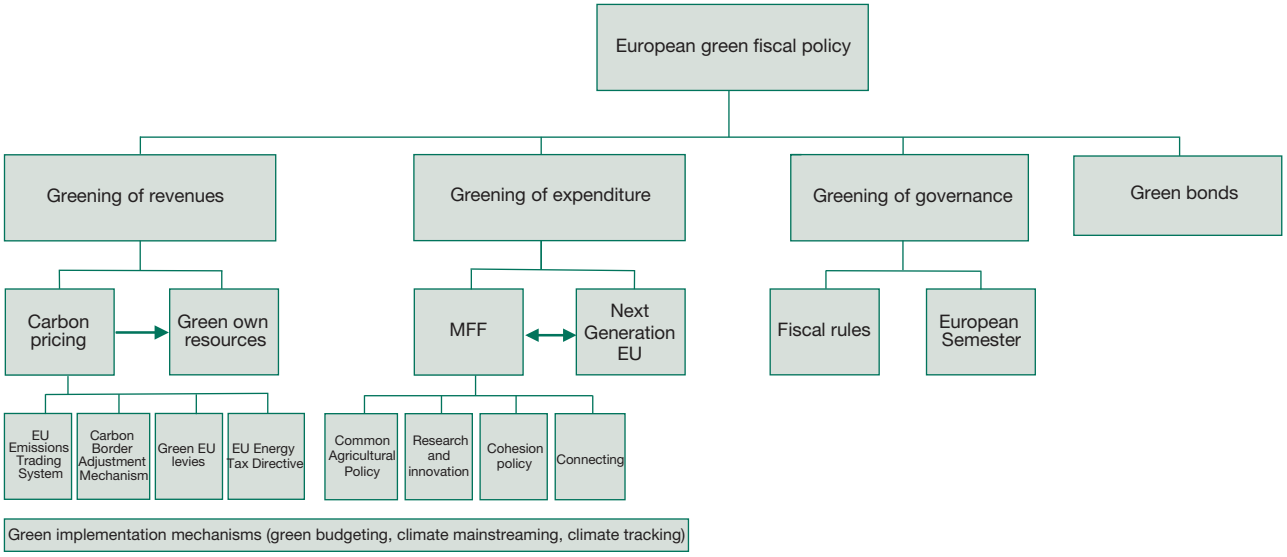
2 The volume of other revenue has been increasing markedly since 2021, as grants and loans provided to member states through NGEU are financed through EU debt, which also constitutes other revenue of the EU; however, this effect is only temporary.

Figure 1
The green transition: Pillars of a green fiscal policy in the EU



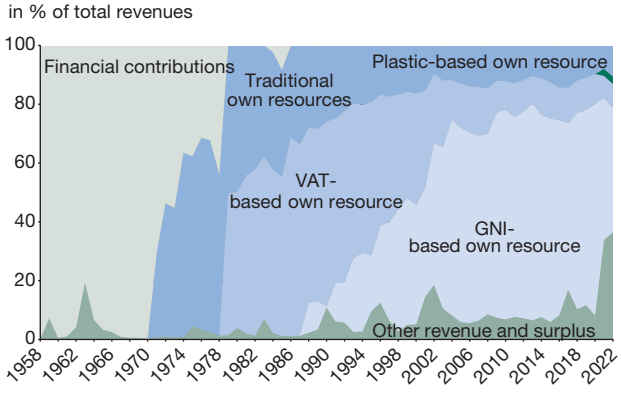
Source: Enhanced version from Schratzenstaller (2022).

which, inter alia, comprise green own resources. As a first step, a contribution based on the non-recycled plastic packaging waste was introduced as a new own resource in January 2021. At 2.6%, its contribution to EU revenues is rather modest, and it is expected to fall over the medium run, with non-recycled plastic waste decreasing. Moreover, the Commission put forward a proposal for a first basket of new own resources, comprising, inter alia, new own resources based on revenues from the EU ETS and the EU CBAM with a view to their introduction in 2023 (Schratzenstaller et al., 2022), which, however, has not been agreed on. As part of the MFF midterm review, the Commission released an adjusted first basket of new own resources in June 2023 to be introduced in 2024 (European Commission, 2023a).

This adjusted first basket includes an ETS-based own resource: 30% of all revenues from ETS 1 and ETS 2 shall be dedicated as EU revenues, with expected revenues for the EU of annually €7 billion as of 2024 and €19 billion as of 2028. In addition, a CBAM-based own resource is proposed: 75% of the revenues from the EU CBAM applying a carbon price from imports from third countries not applying carbon pricing to cement, steel and iron, aluminium, fertiliser, and electricity, with expected revenues for the EU of €1.5 billion per year as of 2028.

The revenues from the EU ETS and CBAM are particularly suitable as own resources to finance EU expenditure (Fuest and Pisani-Ferry, 2020): they stem from Union policies and can thus be considered genuine own resources of the EU. Moreover, they would not exist without EU-wide coordination, and emissions as the base of these revenues cannot be attributed properly to particular member states because of their cross-border nature. Moreover, they could be introduced without treaty changes (Schratzenstaller et al., 2022), and they

Figure 2
Composition of EU revenues in a long-term perspective, 1958 to 2022, including other revenue[1]



Note: [1] Other revenue includes taxes on the salaries of EU staff, contributions from non-EU countries to certain EU programmes, remaining UK contributions, fines and EU borrowings.

Source: European Commission (2023b), own representation.

would shift the burden from financing the EU budget from the general population to polluters. They should be introduced as soon as possible and complemented by additional green own resources options based on further green levies introduced in a coordinated way in EU member states, particularly those that are hard to implement effectively on a bilateral level. Promising candidates are taxes on cryptocurrencies, which are increasingly critisised due to their negative climate impact (Baer et al., 2023) or on aviation (Krenek and Schratzenstaller, 2017).[3] Statistical own resources similar to the plastic own resource (which is based on the amount of non-recycled plastic waste in member states) are also of interest, for example based on biowaste. They contain incentives to introduce measures at the member state level to decrease the respective environmentally harmful base (Büttner, 2023). New green own resources should – in addition to servicing NGEU debt – also be used to replace a part of current national contributions to the EU budget (Schratzenstaller, 2021). This would allow a reduction of the member states' national contribution and thus tax cuts at member state level, enabling a supranational green tax shift.

The greening of member states' tax systems would be supported by the revision of the EU ETD, which originally was envisaged for 2023, but is still pending. Accordingly, energy taxation shall be based on the energy content of the energy sources. Energy tax rates are to be increased stepwise between 2023 and 2033 and regularly adjusted for inflation. Moreover, sustainable energy sources shall be taxed at lower rates than non-sustainable ones.

Greening of EU expenditure

The second pillar of greening European fiscal policy is the greening of EU expenditure. The centerpiece of spending at the EU level is the EU budget in the narrower sense, i.e. the MFF 2021-2027. In addition, there is the COVID-19 Recovery Package NGEU, which was adopted in 2020 and is implemented as a temporary facility between 2021 and 2026.

The MFF is explicitly being used as an instrument of climate protection since the 2014-2020 programming period, by introducing climate mainstreaming – including a target of 20% of all expenditure for climate protection spending. The European Recovery Plan (i.e. the MFF and NGEU), provides for a climate mainstreaming target of 30% of total expenditure for the current MFF period. In addition, the do-no-significant-harm (DNSH) principle applies, according to which EU expenditure should not violate environmental targets. The climate protection target is supplemented by a biodiversity target, according to which in 2024, 5% of MFF expenditure is to be dedicated to the promotion of biodiversity, and another 10% in both 2026 and 2027.

The potential of the MFF to make an increasing contribution to climate protection is not being fully realised, however. According to the European Court of Auditors (2022), the actual contribution of the Common Agricultural Policy (CAP) in particular, but also of cohesion and infrastructure funding to the EU's climate targets in the last MFF period 2014-2020, was significantly below the stated values. At around 13%, the share of climate expenditure as a part of total expenditure fell significantly short of the climate mainstreaming target of 20%.

The CAP and cohesion policy are still dominating the current MFF, each accounting for about 30% of the total MFF volume. The European Court of Auditors (2022) expressed particular doubts as to whether the CAP, which is supposed to make the greatest contribution to climate protection, can actually achieve the targeted 40% climate protection expenditure. At the same time, the large volume of the CAP and cohesion policy severely constrains other areas of expenditure that could make important contributions to climate protection. This applies in particular to the Connecting Europe Facility (CEF), which among other things, finances cross-border infrastructure for transport and energy supply, whose share of expenditure has stagnated in comparison to the previous MFF. It also applies to the Horizon Europe research framework programme, whose share of expenditure has only slightly increased. Strengthening the impact of the MFF regarding the green transformation requires a reduction in the expenditure share of the CAP in particular in order to free up more funds for the CEF and the research framework programme (and here in particular for green research). In addition, the CAP and cohesion policy must be even more closely linked to climate targets.

Greening of EU governance

The green transformation is associated with challenges for EU governance, in particular with regard to fiscal rules (Pekanov and Schratzenstaller, forthcoming) and the European Semester.

To achieve the objectives of the European Green Deal, the European Commission (2021) estimates a green investment gap for the current decade of €520 billion per year (3.7% of 2019 GDP) compared to the previous

3 See Schratzenstaller et al. (2022) for a more detailed discussion of potential green own resources.

decade. A significant part of this green investment gap needs to be covered by the private sector. In face of its remarkable size, the remainder of the green investment gap will need to be financed by the EU and EU member states (Claeys and Tagliapietra, 2020; European Commission, 2022a). Hereby the existing EU fiscal framework acts as a constraint to the expansion of (debt-financed) green public investment at the member state level (Bénassy-Quéré, 2022). The proposal for the reform of the EU fiscal framework put forward by the Commission and currently negotiated at the EU level does not explicitly account for the increasingly pressing need for investment in climate protection and climate change adaptation measures. The current discussion should therefore seriously consider options to green the EU fiscal framework, e.g. a green golden rule, country-specific recommendations for green public investment via the European Semester, or an EU Climate Fund (Pekanov and Schratzenstaller, forthcoming).

The European Semester, which serves to coordinate economic, fiscal, labour and social policy within the EU, has been expanded in recent years from a relatively narrow focus on budgetary and economic policy to other policy areas. Currently, environmental aspects are primarily taken into account by monitoring the implementation of national recovery and resilience plans as part of the European Semester. Further steps in the ongoing efforts at the EU level towards greening the European Semester may include a regular monitoring of the development of the green investment gap, of environmentally harmful subsidies, and of a labour market policy adapted to the requirements of the green transformation (Simon et al., 2022).

EU green bonds

Green bonds are the fourth pillar of a European green fiscal policy. NGEU contains a commitment from the Commission to raise up to 30% (about €250 billion) of the funds borrowed on capital markets to finance NGEU via NGEU green bonds, making the EU the largest green bond issuer (Christie et al., 2021). Projects financed through the Recovery and Resilience Facility (RRF), as the core of NGEU, can be financed through NGEU green bonds if they contribute to climate and environmental objectives (such as biodiversity) and comply with the DNSH principle. This ensures that measures financed via green bonds support environmental objectives and do not significantly harm other environmental objectives.[4] The Commission has established the independently evaluated NGEU Green Bond framework[5] setting out the conditions for green bonds, which refer to the green expenditure categories for which green bonds proceeds may be used as well as the evaluation and selection, the tracking, and the impact reporting on the projects that may be financed through green bonds.

In a recent report, the European Court of Auditors (2023) criticises the fact that the Commission, in some cases, considered activities that do not meet the EU Taxonomy criteria to determine the contribution of RRF investments and reforms to the green transition. This implies that some share of green NGEU bond proceeds are not used according to the EU Taxonomy and the upcoming EU green bonds standard.[6] In addition, Commission reporting up until now does not include the actual amount of expenditure financed through NGEU green bonds aligned with the EU Taxonomy. Therefore, a stricter implementation of the NGEU Green Bond framework is called for. Generally, with increasing popularity of green bonds, the adoption of an official European green bond standard aligned with the Taxonomy currently under negotiation should be accelerated.

Conclusions

The greening of European fiscal policy can be expected to provide a powerful lever to support the European climate targets at the EU and member state level. To support and facilitate as well as to coordinate the greening of the four pillars of a European green fiscal policy outlined in this contribution, implementation mechanisms are required. These can build on existing institutional structures and mechanisms, in particular climate mainstreaming, green budgeting, or climate tracking. However, they need to be focused and strengthened to reinforce their effectiveness (Levarlet et al., 2022), and they should be embedded in the ongoing efforts to strengthen the EU budget's impact orientation. Moreover, greening efforts need a broader focus beyond climate change, considering also other important environmental problems, such as biodiversity loss. Not least, the greening of European fiscal policy needs to be accompanied by a comprehensive overall just transition strategy to avoid undesirable distributional effects and to secure public acceptance.

4 See Levarlet et al. (2022) for details.

5 https://commission.europa.eu/strategy-and-policy/eu-budget/eu-borrower-investor-relations/nextgenerationeu-green-bonds_en.

6 See Spinaci (2023) for a brief overview of the current status quo regarding an official European green bond standard.

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Marta Rodríguez-Vives*

Towards a Common EU Debt: Where Do We Stand?

We are in a historical moment where Europe has reached a certain maturity in policy choices at the common level and has tested different policy instruments and interactions across countries. Without being an exhaustive list, the European Union and the euro area have experienced since the inception:

- common fiscal rules (the Stability and Growth Pact)
- the adaptation of state aid rules to crisis situations
- the resolution of several EU country crises during the sovereign debt crisis, with bilateral loans and supranational funding facilities (the European Financial Stability Facility (EFSF) and the European Stability Mechanism (ESM))
- the start of the banking union (the Single Supervisory Mechanism and the Single Resolution Mechanism, although the European Deposit Insurance Scheme component is still missing)
- the implementation of unconventional monetary policy instruments, including what is often labelled "quantitative easing".

The 2020-2021 pandemic crisis represented an inflexion point in supranational borrowing. With the European instrument for temporary Support to mitigate Unemployment Risks in an Emergency (SURE) of up to €100 billion, and notably with the NextGenerationEU (NGEU) and its core component, the Recovery and Resilience Facility (RRF) of up to €723.8 billion, the EU has reached another milestone. Since 2020, the European Commission (EC), on behalf of the EU, began issuing EU debt on a large scale to fund these temporary programmes via grants and loans. These programmes were launched in addition to the long-term EU budget for 2021-2027 (€1,211 billion), which is funded via national contributions.

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This has several implications. First, it is the first time that the EC aims at providing a joint fiscal effort on a meaningful scale, thus complementing the ECB's monetary response to the pandemic shock. Second, this makes the EC a major (temporary) issuer of government borrowing in euros worldwide. This brings the EC into a prominent place in the landscape of supranational euro debt issuers, together with the EFSF/ESM and the European Investment Bank (EIB).[1] The NGEU programme could lead to a new net borrowing activity above €700 billion by the end of 2026. Third, this initiative provides a substantial amount of burden sharing between countries. There is a solidarity element for the first time with a substantial grant component (direct transfers) in the equation that could serve as a catalyst towards a common fiscal capacity if successfully implemented.

With the latest economic and geopolitical developments, there is a renewed interest by policymakers and academic researchers in the possibility of joining forces to go beyond the national goods to European goods. Moreover, the EMU is still incomplete, and the idea of a permanent countercyclical fund for shock absorption is still being debated. There are many angles to be analysed about the possibility of creating a permanent common fiscal capacity, ranging from the legal aspects to the political economic arguments and moral hazard. Much of the past debate has focused on the role of fiscal rules and fiscal discipline and the compliance with the SGP. Either way, further integration would require additional funding. According to one view, a possible roadmap might include the continuation in some form of the NGEU project beyond its end in 2026, towards a more permanent central fiscal capacity. This may play a role in enhancing macroeconomic stabilisation and convergence in the euro area in the longer run. This view, however, is not reflected in the current policy agenda.

Against this backdrop, this article explores some aspects surrounding the idea of EU borrowing. It first focuses on the concept of EU debt and then elaborates on some related concepts, including considerations around the guarantees and feasibility of a common EU debt. Third,

1 According to the European Court of Auditors (2023), the EC moved from the 15th largest debt issuers in the euro area in 2019 to 5th in 2021, only behind France, Germany, Italy and Spain. The EIB was 8th and the EFSF/ESM was 11th.

it points to some aspects relevant for the creation of a permanent common fiscal capacity, which would also entail the issuance of common EU debt. Finally, it then discusses what purposes could justify continued borrowing beyond 2026.

Common EU debt: Where do we stand?

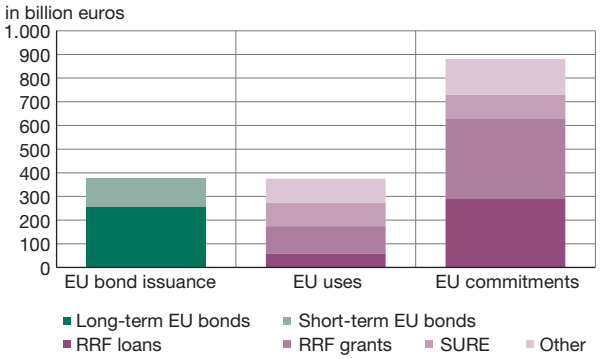
The concept of common EU debt is an aggregated statistical construct obtained by adding the debt of individual member states. A key measure is the "Maastricht debt" (also known as EDP (Excessive Deficit Procedure) debt), which is the outstanding gross debt (defined as currency and deposits, loans and securities other than shares) at nominal value and consolidated between and within the sectors of general government (Lojsch et al., 2011). This covers the general government sector of the member states, intergovernmental lending and the EC as it possesses tax redistribution power and capacity to issue debt. The EC has been issuing bonds to support different EU policies for the last 40 years,[2] but it only became a prominent debt issuer as of 2020.

On 22 October 2023, Eurostat published the aggregated EU debt, which amounts to €16 trillion or 91% of GDP (the euro area debt amounts to around €13 trillion or 90.9% of GDP). This figure accounts for loans provided by the EFSF/ESM to the beneficiary member states (i.e. Ireland, Greece, Portugal, Cyprus and Spain) and the RRF loans once payments have been finalised. Borrowing in the markets undertaken by the EC to finance the RRF grants is also considered EU debt.[3] However, the debt issuance associated with the past funding of the RRF grants is not reflected yet in the national and EU debt aggregates of 2021 and 2022, pending future Eurostat publications.

Focusing on the supranational new net borrowing activity from the EC, which is part of the EU debt, Figure 1 shows that around €375 billion have been raised from several new EU bond issuances over 2020-2023. This issuance activity compares with the €78 billion of new securities issued over 2009-2019. The EC has issued mostly long-term EU bonds (around 70%). The main uses of the common pool have been to finance SURE (€98.4 billion) and the RRF. The disbursement process is well on track as the member states are receiving their funds when requested. The disbursement proceeds from the RRF facility are directly transferred to the member states, while the non-RRF funds are transferred to the EU budget. The EC has already disbursed to EU member states around €174 billion, with around two-thirds of disbursements in the form of RRF grants. The main beneficiaries of the RRF funds by now are Italy (€85.4 billion), Spain (€37 billion), France (€12.5 billion) and Greece (€11.1 billion).

The NGEU programme (with a total envelope up to €806.8 billion, of which €723.8 billion constitutes the limit of the RRF) was designed with a RRF-grant element (up to €338 billion), a RRF-loan element (up to €385.8 billion) and a non-RRF element (€83.1 billion) to top-up other EU programmes (e. g. ReactEU). The actual amount of funds to be borrowed by the EC by 2026 for the RRF will depend on the final implementation of the Recovery and Resilience Plans (RRPs) by the member states. The most updated funding needs for the RRF are around €630 billion, after the call for requests for loans ended on 31 August 2023.[4] This is in addition to the NGEU's €83 billion contribution from the non-RRF programme. The EC average annual expected funding needs are still at around €150 billion

Figure 1
EU debt by the European Commission, 2020-2026
New bond issuance and uses (2020-2023) and commitments (2020-2026)



Notes: The cut-off date is 09/11/2023. Other refers to the aggregation of estimated resources to fund other programmes, e.g. NGEU's non-RRF, MFA, MFA+, and EFSM.

Source: Author's elaboration based on data from the European Commission.

2 The EC has issued bonds to finance, among others, the Macro-Financial Assistance (MFA) programme with loans for non-EU countries, the European Financial Stabilisation Mechanism (EFSM) to support EU countries under financial stress, Balance of Payments (BoP) assistance for non-euro area EU countries with BoP difficulties. Since 2023, there is the new MFA+ which includes concessional loans for Ukraine.

3 It must be noted that the debt issued by the ESM is now recorded in the EU debt (and not in the rest of the world sector (S.212) as before). The EIB and the European Investment Fund are, however, classified outside the EU debt: they are classified within the financial corporations sector (S.12).

4 Out of €385.8 billion available for RRF loans, 76% have been committed, which has brought the total RRF loan requests to almost €293 billion. This is also the final amount of RRF loan requests, as, based on Art. 14(2) of the RRF Regulation, the loan requests had to be made by 31 August 2023. As a result, out of a total RRF envelope of almost €724 billion, €631 billion (87.2%) have been already committed: €338 billion in grants and €293 billion in loans.

per year until 2026. The amount that will finally be issued by the EC, whether to be disbursed to the countries via grants or loans, will increase the stock of EU debt aggregate going forward.

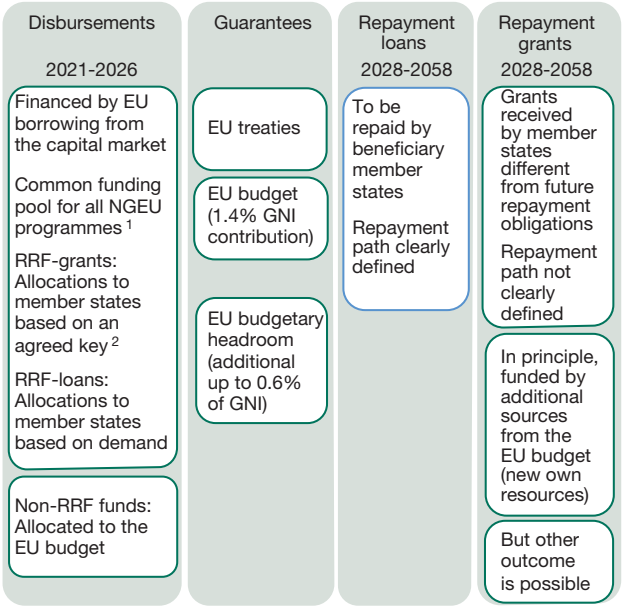
The economic case for common EU debt

There are several economic aspects regarding the feasibility of common EU debt.

Figure 2 summarises the solvency aspects of the EU debt linked with the temporary NGEU programme. The EU Treaties allow the EC to borrow from capital markets on behalf of the EU. This implies that the EC borrowing represents direct and unconditional obligations of the EU to service its debt. The EU's debt service is further guaranteed by the loan agreement, as the beneficiary member states have always been able to service their debt. Regarding the future repayment of the grant component, there is still a lack of clarity of which common resources will be raised at the EU level. However, there is a direct guarantee from the EU budget, as the EU is the ultimate guarantor of the EU debt. Moreover, the governments have committed to providing an additional ceiling of up to 0.6% of their national resources (gross national income) if additional revenues are needed.[5] This represents a contingent liability to the member states that ensures that the EU debt is viable. Overall, the borrowing activity of the EC is considered with a low risk of default.[6]

From an operational perspective, the EC moved from the back-to-back funding typically used to fund previous lending programmes to a new diversified funding strategy for the NGEU. The main difference is that it decouples the timing, volume and maturity of the borrowing transactions from the timing of the reimbursement of funds (European Court of Auditors, 2023). The rollover profile ensures a smooth repayment profile. Most of the debt to be issued will be long-term debt, and repayments (of debt and interest costs) are expected over 2028-2058. The final borrowing cost is unknown at the moment, but the prospects are good (e.g. Claeys et al., 2023), given some considerations: i) the cost of funding in the short term is increasing with the nominal interest rates, ii) the borrowing cost of the EU debt is still above that of Germany and France (but below that of Spain and Italy), and iii) the market liquidity of the EU bonds is not as high as, for instance, the German bonds. Some reasons might be linked to the defined duration of the EU bond issuance with a clear cut-off date by the end of 2026 and that investors may deter to include EU bonds in their long-term investment strategies (e.g. Bletzinger et al., 2023).

Figure 2
Key features of EU debt within the NGEU programme



Note: [1] The common pool of funding is EU borrowing to fund NGEU (RRF and non-RRF programmes), SURE, EFSM, BoP assistance facility, MFA and Euratom. The actual amount of funds borrowed by the Commission for the NGEU will depend on the final implementation of the RRPs by the member states. [2] Allocation key depending on change of real GDP in 2020 and 2020-2021, relative unemployment rate, population and reversed GDP per capita. The initial allocations of grants in 2021 have been slightly revised during 2022 based on the updated statistics for 2021.

Source: Author's elaboration based on publications from the European Commission and the European Court of Auditors.

The current debate centres around the concept of debt sustainability analysis (DSA) and the ongoing European governance reform package, which also tackles the government debt angle. One of the expected consequences of the RRF design is that by improving, *ceteris paribus*, growth prospects and lowering the cost of financing (implying some interest savings), the RRF will help to somewhat mitigate debt sustainability concerns in vulnerable countries and may provide more fiscal space for economic stabilisation in the future (Freier et al., 2021). In the countries with high debt-related risks, it is also key with

5 If there are difficulties in raising extra revenues during 2028-2030, when there is a peak of financing needs, then there might be a need to opt for additional avenues. Further options may include, for example, the reduction of other EU expenditures, the increase of national contributions (beyond the agreed limit of additional contributions up to 0.6% on GNI) or the reduction of the expenditure in the countries with high DSA risks.

6 The EU bonds have a high rating from the credit agencies, ranging from AAA (Fitch, Scope and DBRS)/Aaa (Moody's) to AA+ (S&P), all with outlook stable.

respect to reducing the stock of government debt through more favourable economic conditions and improved quality of public finances.

From the DSA perspective, country-specific concerns have improved in the highly indebted countries. The channels accounted for in the DSA are a combination of favourable risk premium effect, the impact of the fiscal stimulus on growth and inflation, and the effect of structural reforms on potential output. Overall, it is estimated to have the potential of reducing the government debt ratio by around 14 percentage points of GDP in Spain and 12 percentage points of GDP in Italy by 2031 (Bankowski et al., 2022). These favourable debt trajectories will depend on the future evolution of interest rates and on the timely and efficient implementation of the reforms and investment plans outlined in the RRPs.

Towards a permanent common fiscal capacity: Allocation vs. stabilisation

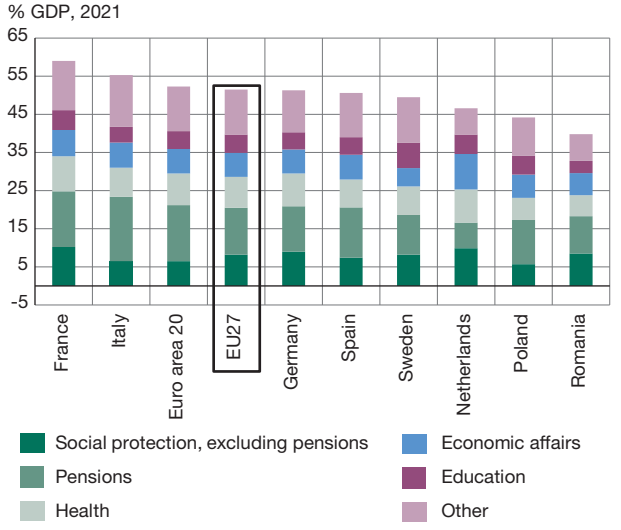
In brief, there are two main purposes for making the case for a permanent central fiscal capacity: allocation of resources and stabilisation of the economic cycle.

The temporary NGEU is a mix of both objectives, as its resources are mainly used to support structural reforms and the investment capacity towards the green and digital transitions (mainly via direct government investment and capital transfers to the private sector). The component of stabilisation comes from the possibility to respond counter-cyclically to an economic shock (e.g., the COVID-19 crisis or an energy shock). Moreover, the countries that were most hit, Italy and Spain, receive the most funds, pointing to an element of solidarity.

Currently, there is a discussion ongoing on the need for centralised financing of common EU investment needs (e.g. Panetta, 2023; Draghi, 2023). This could range from defence and migration to economic challenges such as ageing populations – with the associated costs in pensions and health care – or the centralisation of purchases of raw materials. A related concept is the European public goods (EPGs), that entails, among other features, both common EU financing and the joint production of goods (Buti et al., 2023). The experience of the NGEU shows that less than 5% of the investment projects are cross-national in nature: in other words, the projects funded by the EU are mostly nationally produced and, therefore, would not qualify for EPGs.

The key question is whether we could converge towards the provision of more common public goods. European governments spend, on average, the highest amounts of

Figure 3
Where do EU governments spend their national budgets?



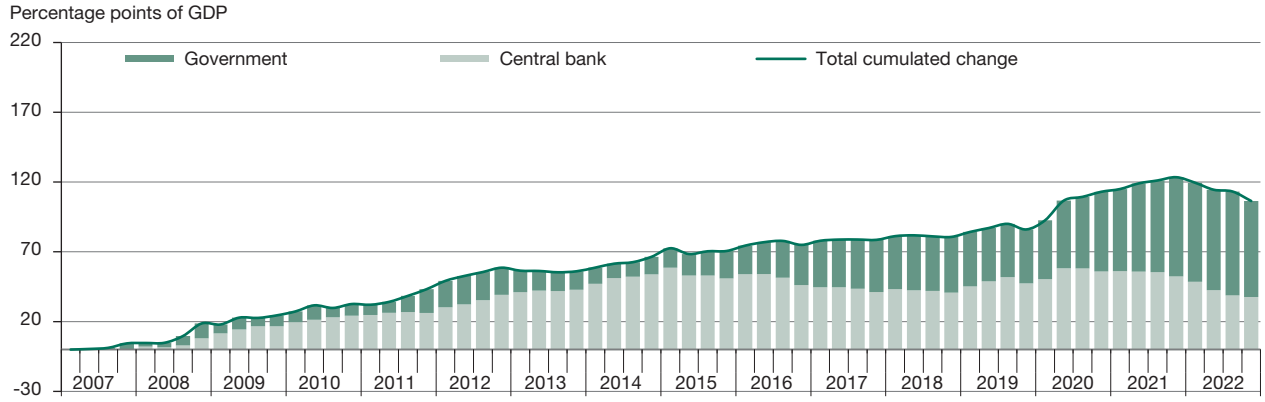
Notes: Other includes the remaining economic activities, namely general public services, military expenditure, public order and safety, environmental protection, housing and community amenities, and recreation, culture and religion.

Source: Author based on COFOG data (Eurostat).

funds in the world (in percentage of GDP) for the provision of public goods and services. Yet, there are different preferences and fiscal capacities. Figure 3 shows how the EU, the euro area and selected countries spent their budgets in different economic functions. The main function is redistribution, with social protection (including pensions) being the largest component of public expenditure in all countries, amounting to 21% of GDP on average. Pension payments represent around 60% of this expenditure on average. Other priorities (although with different national preferences) are health, economic affairs and education. In contrast, most of countries spent the lesser resources in defence (1.3% of GDP) and environmental protection (0.9%) in 2021. Some of these goods and services could be eventually brought at the European level, with the subsequent issuance of more common EU debt.

On the other hand, a permanent fiscal stabilisation capacity is still missing in the Economic and Monetary Union (EMU) architecture. The idea put forward by several researchers and commentators is to introduce a permanent countercyclical central capacity to respond in cases of economic country-specific shocks – or common shocks with asymmetric effects across countries – when national fiscal stabilisers are impaired or when countries face difficulties to

Figure 4
Increase of leverage in the euro area by contribution, governments and central bank, 2007-2022



Source: Girón and Rodríguez-Vives (forthcoming).

borrow on financial markets (e.g. Beetsma et al., 2021). This concept has been largely debated in academia and in European fora, with contributions from the macroeconomics and political economy literature. The discussions on the trade-offs of a permanent common fiscal capacity and its optimal size are beyond the scope of this paper, but some momentum might emerge in view of the recent developments. Regarding the potential moral hazard argument, a push factor would be the implementation of an improved fiscal governance framework in the EU as of 2024. Concerns over the possible generation of permanent transfers among countries, could be partly alleviated by the NGEU programme being a success story and by introducing safeguards in the design of the central fiscal capacity itself. For example, transfers – for each country – could be calibrated to deviations from historical growth, not on growth differences between countries (see, e.g. Beetsma et al., 2022). The non-repayable part (transfers) constitutes around half of the total envisaged NGEU envelope, which implies a step forward in cross-country risk sharing at the EU level. A possible permanent common fiscal capacity would likely be limited to euro area countries, instead of the EU. One of the main arguments is that euro area countries do not have the possibility to use their national currency to devaluate in case of major economic shocks.

Finally, another related important angle is the role of the central banks as lenders of last resort, which is explained in Girón and Rodríguez-Vives (forthcoming). Figure 4 shows the combined leverage response in the euro area over 2007-2022. It is clear from the figure that the contribution of the Eurosystem to the combined euro area fiscal-monetary policy response (measured in leverage) has increased over time. The ECB has supported the ability of national fiscal policies to stabilise the cycle beyond automatic stabilisers in the presence of increases in sovereign spreads.[7]

Conclusions

A precondition for thinking beyond the 2026 deadline for more EU common debt would be that the NGEU programme is perceived overall as successful from different perspectives, ranging from the operational borrowing performance to the materialisation of the macroeconomic expected impacts.

The effectiveness of the NGEU will crucially depend on a timely and effective implementation of the RRPs. However, it is too early to assess the implementation. Implementation risks relate to possible lower-than-expected absorption capacities, with the substitution of productive investment expenditure with consumption/social expenditure, or the possibility that the investment targets are not fully met by 2026. A careful monitoring and implementation of the reporting and review mechanisms in place at the European and national level is key for the success of the NGEU project. The European Court of Auditors has been relatively positive in its initial assessment over the 2021-2022 implementation. In 2024, there will be an audit to assess the mid-term review of the programme, which will be key for public trust in this novel policy instrument.

7 For instance, the public sector purchase programme initiated in March 2015 implied the expansion of the asset purchase programme that started in 2014. See https://www.ecb.europa.eu/mopo/implement/app/html/index.en.html.

In view of the current developments, choices on how to better allocate public resources are becoming even more crucial. New economic and geopolitical challenges are impacting national and EU budgets (e.g. digitalisation trends, climate change, deglobalisation trends, defence expenditure, war in Ukraine), while several countries face increasing challenges (e.g. immigration, energy supply costs, high stock of debt, ageing populations). Looking ahead, the urgency of further sharing the public goods and burdens across EU countries may increase. Moreover, the higher frequency of economic shocks may justify the room for a permanent joint rainy fund and accelerate the process of completing the EMU.

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Tax and Debt Financing the EU

EU financing can in principle draw from two sources – from "own resources" as well as from "other revenues".[1] No binding definition exists as to what kind of resources can qualify as own resources. With no substantive limitation, own resources can draw from various sources. In the past, member state contributions were the predominant sources, while EU taxes or borrowing are increasingly taking centre stage. This article addresses both – taxes and borrowing – and emphasises the legal leeway and limitations on using these financial resources for the EU budget.

The claims put forward in this contribution relate to the suitability of taxes and borrowing to finance the EU budget. First, not only does the EU have limited taxation power and there is no taxation power falling into its competence for public finance purposes; most tax proposals currently envisaged as own resources create "unreal" tax revenues on the basis of statistical values which cover the fact that they are nothing other than ordinary member states' budget contributions running under the fake title of a tax. Second, repeating off-budget EU borrowing akin to NextGenerationEU (NGEU) is generally possible but faces the constraint that the space for additional EU borrowing is limited until NGEU repayments have brought "other revenue" back to magnitudes that are only marginal in relation to the amount of "own resources". Third, EU borrowing on-budget for the EU budget would be unprecedented but possible, though with severe limitations, in particular associated with the requirement that all debt service having to do with EU borrowing must be backed, by legal requirement, by unconditional non-borrowed own resources.

Real versus unreal EU taxes

With respect to taxes, a distinction must be made between taxes identified as "own resources" in the Own Resource Decision (ORD) and taxes that are actually implemented (at the EU level or at the member state level). This distinction is important because the "own resources" (the current as well as probably much more future ORDs) draw from "imaginary", statistical-based taxes that oblige member states to pay the EU a virtual tax from their national budgets without this tax actually being implemented. In order to avoid misunderstandings, one should therefore distinguish between *real* und *unreal* taxes.

By real taxes, I refer to taxation power that is backed by an actual EU competence to tax or by a specific member state tax which is then passed on to the EU budget. There is indeed leeway for the EU to implement environmental taxes[2] as well as energy-related taxes.[3] But these tax regimes are not taxes that can be raised for public finance purposes – they are tied to environmental or energy objectives. In other words, these taxes cannot be raised in order to finance the EU budget – this function can only be a side effect of the primary policy-specific purpose of these taxes. The same applies to the EU's powers related to the internal market: the EU is allowed to harmonise taxes if this is necessary for the establishment and functioning of the internal market or required in order to eliminate distortions of competition in the internal market. Again, this cannot serve the EU to pursue public finance purposes. It is only permitted if harmonisation primarily pursues this objective.

"Unreal taxes" can be referred to as those identified as "own resources" – statistical-based revenues that determine the amount that member states must transfer to the EU budget. These sources are not necessarily levied in practice. Take the "plastic tax", which is currently an "own resource" to the 2021-2027 EU budget – it is a statistical-based tax which many member states do not implement. The tax revenue of the plastic tax is hypothetically computed and member states pay this national contribution to the EU from their domestic budgets. The same applies to the various other tax revenues that have been in the policy debate, such as a new corporate tax based on operations and levied on companies.

The tax policy debate on "own resource" is thus a "ghost debate" in a certain way – it introduces imaginary taxes for which the EU has no compentece and which the EU cannot oblige member states to implement. The invention

1 Article 311 of the Treaty on the Functioning of the European Union (TFEU).

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* Some elements of this article build on Grund and Steinbach (2023).

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2 Article 192 para. 2 subpara. 1 a) TFEU.
3 Article 194 para. 3 TFEU.

of statistical-based taxes for the purpose of generating "own resources" is even misleading to the extent that they engender tax increases other than the one for the "own resources". This is so because a statistical-based own resource implies an increased transfer in the national contributions to the EU budget, for which each member state has to find financial cover. Practically, this implies that member states must consider domestic tax increases to ensure the transfer to Brussels (unless they are able to cut other expenditures).

Overall, the tax revenue debate for "own resources" should acknowledge that we are not talking about genuine EU taxes, nor do we necessarily talk about taxes that are actually implemented. The Union is not able to raise taxes for the purpose of budget financing (hence to finance the EU budget). The few tax powers the EU has are confined to their purpose to deal with sectoral policy objectives (i.e. climate, energy). Drawing from these sources for the purpose of "own resources" must remain a side benefit of sectoral taxation.

Repeating NGEU

From taxes, we turn to debt as a funding source for the EU budget. Two possible avenues for debt financing of EU public goods can be distinguished. First, debt financing can be used for the purpose of repeating a temporary, "one-off" and "off-budget" fund like NGEU that was set up to borrow (and spend) for a specific purpose. Second, we look into the EU engaging in borrowing in order to fund the regular EU budget, hence creating a permanent, "on-budget" debt-financing capacity. While this avenue has been used on various occasions in the past (basically for back-to-back lending operations), allowing debt as an own resource would be a major innovation under EU budget practice. This has occassionally been employed on a small scale by exploiting the budgetary headroom or margin under the EU budget, although only featuring a back-to-back funding mechanism (the European Financial Stability Mechanism is the most important example).

NGEU was built on unprecedented legal architecture that engaged the issuance of bonds with a quasi-mutualiasing effect, which had previously been ruled out given its distributive nature. There is no general barrier to adopting an NGEU-type approach for the purposes of financing specific future expenditures of the EU. This would require an amended ORD, which would authorise borrowing up to a maximum amount and for a specific purpose, and adjust the own resources ceiling to ensure that borrowing can be repaid.

However, repeating NGEU meets at least two limitations. The first barrier results from the Treaty's expectation that own resources are the primary source for financing the EU. As mentioned above, there are in general two sources – "own resources" and "other revenues".[4] NGEU was introduced as "other revenue" off-budget and as externally assigned revenue into the EU finances. The primacy of "own resources" as the main sources of revenues would be challenged if a large and increasing portion of EU expenditure were to be financed off-budget via "other revenues", including borrowing, rather than "own resources". Put differently, "other revenues" must be small in relation to the own resources. A budgetary framework in which off-budget financing in the form of other revenue exceeds the financing from own resources would not comply with this requirement of the Treaty – no matter whether the economic purpose supports off-budget expenditure. Given the sizeable magnitude of off-budget NGEU resources, the expectation of the legal requirements is that other revenues will decline to a fraction of own resources until NGEU is repaid entirely in 2058. Against this background, while repeating NGEU is generally possible, doing so in the near future would significantly reduce the permissible amount of off-budget borrowing (given the still existing amounts of NGEU funds).

The legal requirement of "other revenues" to be only a fraction of the budget has been articulated by the German Constitutional Court. Some are tempted to argue that it is only the European Court of Justice (ECJ) that gives authoritative interpretations of EU law (which is formally correct), and thus one should ignore the interpretation of a domestic court. This attitude – which seems popular among those fed up with a German court that constantly opposed the various anti-crisis measures adopted in the Economic and Monetary Union in the past decade – would be disregarding the political repercussions. A German government that is bound to both the rulings of the ECJ as well as the domestic constitutional court would find itself in an extremely precarious situation, and the spillover effects for Europe are certain to be negative. As long as the ECJ itself has not ruled on certain Treaty provisions (such as the relationship between "other revenues" and "own resources"), there is (political) wisdom in paying attention to the concern expressed by national constitutional courts. Consequently, if the NGEU model were to be replicated to finance public goods in the coming years – as proposed, for example, by the European Central Bank in the form of an EU Climate Fund – the quantitative limit becomes binding, leaving only limited space for debt financing programmes for the budgetary period.

4 Article 311 TFEU.

The second point of contention is the "exceptional" character of NGEU. The "exceptionality" and the "temporary" character of NGEU were explicity stipulated in the current ORD. In the case of NGEU, the exceptional character was built on solidarity to respond to the uneven effects of the COVID-19 shock on member states (which legally translated into the use of the infamous solidarity clause of Article 122, which gives member states much leeway and circumvents the European Parliament). One question that lawyers have been discussing is whether repeating NGEU would again be linked to a solidarity situation such as the pandemic. However, there are convincing reasons to distinguish between the revenue and the spending side.

The *revenue* side is secured through the ORD – creating "off-budget" external revenues (within the quantitative limitations mentioned above), which require unanimity in the Council and even member states' ratification (i.e. through many national parliaments). For the *expenditure* side, it is not strictly necessary to limit a possible NGEU-successor to a solidarity-scenario akin to NGEU. This is in line with the previous borrowing practice of the EU: in borrowing for back-to-back lending for member states, the EU used a plethora of different justifications in addition to solidarity and emergency scenarios. Clearly, the EU is not entirely free to choose how it intends to use the revenues that it borrows. It must strictly apply with the legal core "principle of conferral", which allows the EU to act only where it has a legal basis in the EU Treaties. There is a number of possible policy fields where the expenditure could be used to attain policy objectives – for example, in the area of cohesion policy,[5] for environmental purposes,[6] for transnational infrastructure,[7] or for trans-European research.[8] Programmes pursuing objectives of cohesion akin to macroeconomic programmes addressing cross-border cooperation may be considered more generally as the climate emergency or environmental spending programmes.

Debt financing as an own resource?

Thinking one step further means considering an unprecedented move: allowing debt financing to be integrated as revenue into the general EU budget rather than borrowing funds for specific purposes as off-budget "other revenue". While borrowing under the EU budget is not a new practice, scholarship and jurisprudence are divided on whether the EU may finance its *general* budget with debt. There are good arguments to consider EU borrowing for the general budget to be compatible with the legal requirements, but there are also legal risks associated with it (just the same way as many European institutional innovations such as building an European Stability Mechanism or setting up NGEU came with residual legal risk). These risks can be mitigated by a restrictive practice of allowing borrowing.

Specifically, the Treaties neither deny nor explicitly empower the EU to finance its budget with debt. While the ORD and the EU Financial Regulation reflect the preferences of the EU legislators at the time of their adoption, it is undisputed that the Treaty does not contain an *absolute* prohibition against raising debt. The EU would need to add a new category of own resources in the ORD that allows borrowing. Also, there are in principle no quantitative limits on borrowing, but two major limitations impede the use of debt proceeds as own resources.

First, the EU must have adequate means to meet its debt service in any year, which must be secured by a sufficient amount of (non-borrowed) own resources. This flows from the Treaty-based balanced budget requirement. To that end, given that borrowed money does not become own resources indefinitely, there must be a safeguard to ensure the repayment of the debt. Thus, there is a need for a counterbalancing asset in order to ensure such a "irrevocable, definitive and enforceable guarantee of payment" (Council Legal Services, 2020) provided by the member states. What matters is budget neutrality – the resulting debt must be matched by a claim allowing the Union to cover the debt service. This must be ensured through definite, non-borrowed own resources – the EU must, for example, increase the amount of the GNI-ceiling in order to guarantee a balanced budget every year.

Second, the ORD, which requires ratification by all EU countries, must specify the permissible amount of borrowing. When the proceeds of debt financing become a new category of own resource, there is no other way than regulating the amount that will be issued in the ORD. The upfront specification is necessary for two reasons: in order to determine the precise amount of guarantee that is necessary to back "borrowed own resources", and in order to satisfy domestic (e.g. German) requirements emphasising that any financial transfer from a domestic to the EU budget must be *ex ante* foreseeable and quantifiable.

Borrowing on the regular budget rather than off-budget can build on several further advantages. The European Parliament is directly involved as co-legislator und must approve the EU budget – "on-budget" constructions thus enjoy greater legitimacy than "off-budget" solutions. On-budget solutions are fully transparent and subject to oversight by

5 Article 175 TFEU.
6 Article 192 TFEU.
7 Article 171 TFEU.
8 Articles 179 and 173(3) TFEU.

the European Court of Auditors. Finally, not only EU level legitimacy would be ensured through the European Parliament, but also national parliaments would remain in full control of the EU's revenue from borrowing operations via the ORD. With the Commission tied to the *ex ante* defined borrowing in the ORD, member states have full foresight of the risk that they subscribe to with the budget.

Economists are fond of revolving debt, and the question here is whether outstanding EU debt may be refinanced by issuing new EU debt. Under NGEU, the EU is not allowed to roll over debt, with the legal authorisation only empowering the raising of debt for the specific purpose described in the ORD. Whether this would be possible with respect to borrowing proceeds that are categorised as own resources is less clear and poses difficult legal questions. However, with the maximum possible borrowing specified *ex ante* in the ORD, revolving debt appears possible. What matters from an EU primary law perspective is that member states create sufficient non-borrowed own resources to repay the liabilities.

Finally, what can debt-financed "own resources" be spent on? Different considerations apply for on-budget EU debt than in the case of funding off-budget debt. Unlike off-budget debt, there is no strict requirement for earmarking expenditures. Rather, the budgetary universality and non-assignment rule applies, which means that revenues shall be used without distinction to finance all expenditure entered in the Union's annual budget. With this core budgetary principle, EU-borrowed funds can generally be spent on any budgetary item, provided that the expenditure is in line with an existing EU competence (as it is required for all EU expenditure irrespective of the funding type). However, one could generally consider an earmarking of on-budget debt-financed expenditure. This could be a sensible option in view of the German Constitutional Court's reservation to acknowledge that EU debt can finance the general EU budget. In order to accommodate the restrictive perspective, the EU budgetary lawmakers would need to lift the universality principle in order to allow for an earmarking of EU debt.

Conclusions

The policy debate on own resources does not lack creativity in identifying possible financial sources. However, the identification of tax instruments seems particularly misleading, because of its insufficient distinction between "unreal" and "real" taxes, with the former determining hypothetical statistical-based taxes for which the EU has no authority to collect, nor can the EU require member states to implement these taxes. These taxes imply a tax collecting and public finance power that does not exist. In fact, the EU has very limited taxing power, and no authority to tax for public finance purposes. Rather than creating new "unreal" taxes, the debate should focus on which genuine taxing powers the EU should gain for public finance purposes. That goes beyond singular sectoral taxing competences such as in energy and climate, and makes Treaty changes indispensable.

In turn, the debate can benefit from more creativity with respect to debt-financing the EU – this contribution highlighted leeway and limitation of replicating NGEU and debt-financing the regular EU budget. Repeating NGEU for other purposes requires an amendment to the ORD to borrow other revenue (external assigned revenue) and create an off-budget item. Unlike for the pioneering NGEU, a replication would face significant size restrictions. "Other revenues" must be marginal compared to "own resources" in order to comply with the EU legal framework, which makes a repetition of this instrument in the near future unlikely because NGEU debt must converge towards marginality in relation to own resources. Any future NGEU-like fund must likewise demonstrate it is a one-off and temporary measure.

Debt-financing the regular budget is not per se prohibited. Clearly, a new ORD would have to be adopted, with the legitimacy enhancing requirements accorded through unanimity and national ratification, and with the involvement of the European Parliament, unlike under NGEU-like off-budget solutions. However, the economic potential of borrowing for the EU budget would be severely impaired by the limitation that all debt service arising from the borrowing must be backed by non-borrowed own resources (e.g. through an increased GNI-ceiling like under NGEU) as well as by the predefined maximum amount of borrowing.

Spending is subject to less constraints than funding. Certainly, repeating NGEU would need to comply with the exceptional and temporary character of off-budget constructs and using the borrowing exclusively for predetermined purposes is indispensable. There is more flexibility under on-budget debt. All EU expenditure must comply with EU primary law, which suffices as a limitation to expenditure. Alternatively, if politically desired and in order to address remaining legal concerns, the earmarking of borrowed debt to certain on-budget EU expenditure is feasible.

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Kalin Anev Janse

Developing European Safe Assets

Safe assets rank as the most assured and reliable securities, commanding the highest credit ratings, and are a key component in a well-functioning capital market. Safe assets are critical for economies and their existence is especially welcomed in capital markets in times of market stress or uncertainty.

They are typically associated with three fundamental characteristics (Gorton 2017, Brunnermeier et al., 2016, 2017, Brunnermeier and Huang, 2018, Gorton and Ordonez, 2022): a high credit worthiness (asset "quality"), an ability to retain value in the event of adverse market price movements ("robustness") and a strong liquidity profile ("liquidity").

Thanks to these characteristics, market participants can use safe assets as a refuge in the event of market turmoil, as collateral in financial transactions, as a risk management instrument or as a reference for pricing other financial securities.

The European safe asset base includes government bonds from the highest rated euro area countries, as well as bonds issued by European supranational institutions that are backed by the European Union or euro area countries. German Bunds naturally form the first level of safe assets in the euro area. They are complemented by government bonds from euro area countries with ratings similar to those of Germany.

Bonds issued by European supranational issuers – the European Investment Bank (EIB), the EU, the European Financial Stability Facility (EFSF) and the European Stability Mechanism (ESM) – are part of this European pool of safe assets. They were created to respond to the various challenges Europe experienced. They are part of what markets define as the European safe assets.

The creation of the European safe assets stems from the important role that a deep safe asset base contributes to financial stability in times of crisis, such as the global financial crisis and the European sovereign debt crisis. We witnessed the positive market impact that the creation and usage of safe assets had (Figure 1). The creation of the EFSF in 2010 as well as the ESM in 2012 and the financial assistance programmes of these two institutions, combined with the European Central Bank (ECB) response, helped to reassure the market. This was manifest with reduced bond yield spreads relative to Germany in several euro area countries. The EFSF, the ESM, and the coordinated policy response with the EU, ECB and International Monetary Fund contributed to this success. During the COVID-19 pandemic, the initial €540 billon policy response of the ESM, the EIB and the EU, followed by the €800 billion NextGenerationEU (NGEU) post-pandemic recovery vehicle further eased upward pressure on euro area countries' bond yield curves.

As Figure 1 shows, the financial markets punished the absence of shock absorbers in Europe. But by 2015, when Greece needed more financial assistance, which the ESM provided, it was evident that even ten-year Greek government bond spreads versus German Bunds were less than half of those experienced five years earlier. By 2020, when the pandemic became a common shock for Europe, Greek government bond spreads widened even less. Over time, Europe's financial architecture reassured markets, and we see less volatility and narrower spreads. Europe was able to calm markets.

History of European safe assets

The EIB created the first European safe asset. It was founded in 1958 by the Treaty of Rome and was granted permission to issue bonds. From 1961 – when its initial loan of 20 million guilders was floated on the capital market of the Netherlands – to 1972 (just before the first enlargement of the European Economic Community), the EIB issued 99 loans for an equivalent amount of almost €2 billion (Bussiere et al., 2008). Initially, the EIB was backed by the six founding members: Luxembourg, Belgium, the Netherlands, Italy, France and Germany. Today, the EIB has 27 shareholders – the 27 member states of the EU.

The second European safe asset came from the EU. It issued several community bonds on private markets since the 1970s, which were guaranteed by the member states and distributed to countries where required (Meyer et al. 2020). The first European Community bond was issued in 1976 and used for Italy and Ireland.

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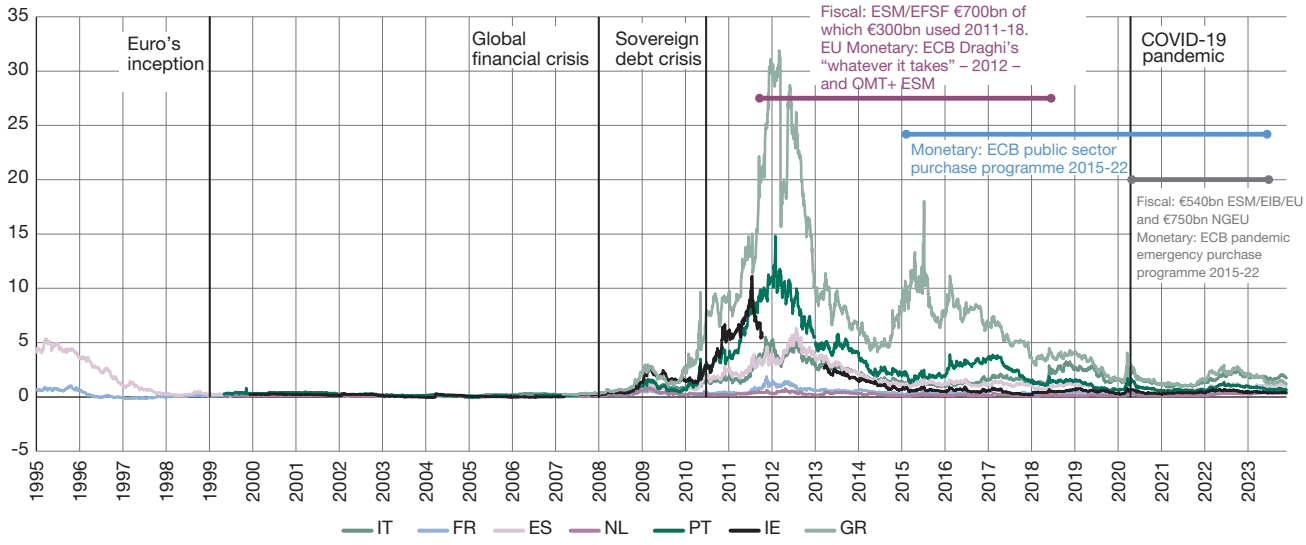
Kalin Anev Janse, European Stability Mechanism, Luxembourg, Luxembourg.

Figure 1
Yield spread evolution of euro area sovereigns against Germany
Percentage points, 1 January 1995 - 22 November 2023



Source: Bloomberg, ESM.

The third European safe asset issuer was the EFSF, which was created in 2010 as a response to the global financial crisis and the European sovereign debt crisis. The EFSF issued its first bond in 2011 for the Irish adjustment programme.

The fourth European safe asset issuer was the ESM. Founded in 2012, the ESM issued its first bond in 2013 for the Spanish bank recapitalisation programme.

Comparison of European safe assets

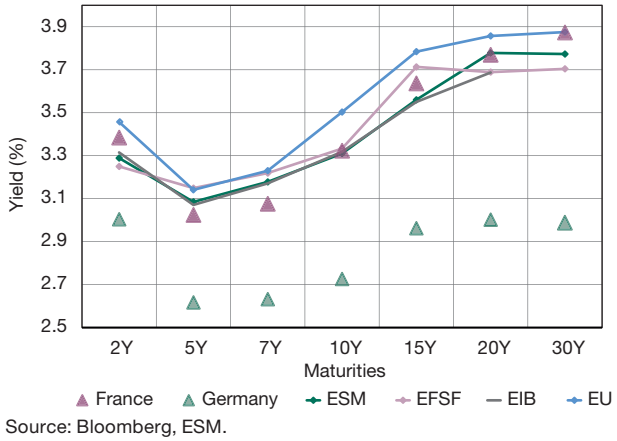
The four European supranational issuers have different institutional bases (see Table 1). The EFSF is a private company under Luxembourgish law owned by the 17 countries of the euro area upon its creation. It excludes Latvia, Lithuania and Croatia, who joined the currency bloc later. The EFSF has very limited capital, and its bonds are backed by explicit guarantees of the 17 countries. The six best credit-rated euro area countries (Luxembourg, Finland, the Netherlands, Germany, France and Austria) over-guarantee up to 165% in order to ensure a safe asset status and high credit rating.

The ESM is an inter-governmental institution under international law. It has a paid-in capital of €80.5 billion and callable capital of €624 billion. It is owned by the 20 countries of the euro area.

The EIB is owned by the 27 EU member states. Its paid-in capital is €22 billion, and it has €227 billion of unpaid subscribed capital. The EU is backed by its 27 member states, and it has no paid-in capital. The EU borrowing is guaranteed by the EU budget.

The four European supranational issuers accounted for almost €1 trillion in euro-denominated bonds and notes as of 6 November 2023. The EU, with €431.3 billion was the largest, followed by the EFSF/ESM with €276.7 billion and the EIB with €250.7 billion. The four European safe asset issuers price close to the strongest European sovereigns. They include a market premium compared to Germany and are close to France (Figure 2).

Figure 2
Yield curve of the four European supranational issuers versus Germany and France
As of 6 November 2023



Source: Bloomberg, ESM.

Table 1
Comparison of the four European supranational issuers

	European Financial Stability Facility	European Stability Mechanism	European Investment Bank	European Union
Ratings	Aaa/AA/AA-	Aaa/AAA/AAA	Aaa/AAA/AAA	Aaa/AA+/AAA
Ownership	Private company under Luxembourgish law owned by the 17 euro area member states at the time of EFSF creation	Inter-governmental under international law owned by the 20 euro area member states	Owned by 27 EU member states	Owned by 27 EU member states
Guarantee	Explicit	Implicit	Implicit	Implicit
Subscribed capital paid-in	€745mn	€81bn	€22bn	Non applicable
Subscribed capital unpaid	Non applicable	€624bn	€227bn	Non applicable
Risk weighting	0%	0%	0%	0%
Liquidity coverage ratio	Level 1	Level 1	Level 1	Level 1
Purpose	Limited to rolling over maturing debt (outstanding loans €172.6bn: 76% GR, 14% PT, 10%IE)	Permanent institution, to enable countries of euro area to avoid/overcome financial crises	To support investment in infrastructure projects, and SME development, and to mitigate the effects of global warming	To support recovery from the COVID-19 crisis and investments into a sustainable economy
Eligible for the public sector purchase programme	Yes	Yes	Yes	Yes
2023 funding (estimates)	€20bn (liquid benchmark bonds, up to 2056, private placements)	€8bn (liquid benchmark bonds EUR, USD, maturities 1 to 45y, private placements)	Up to €50bn (mainly EUR, USD, 3-5bn size, benchmarks 2-30y, green bonds)	€170bn borrowing authorisation for the year (liquid bonds from 3y, 30% green format)

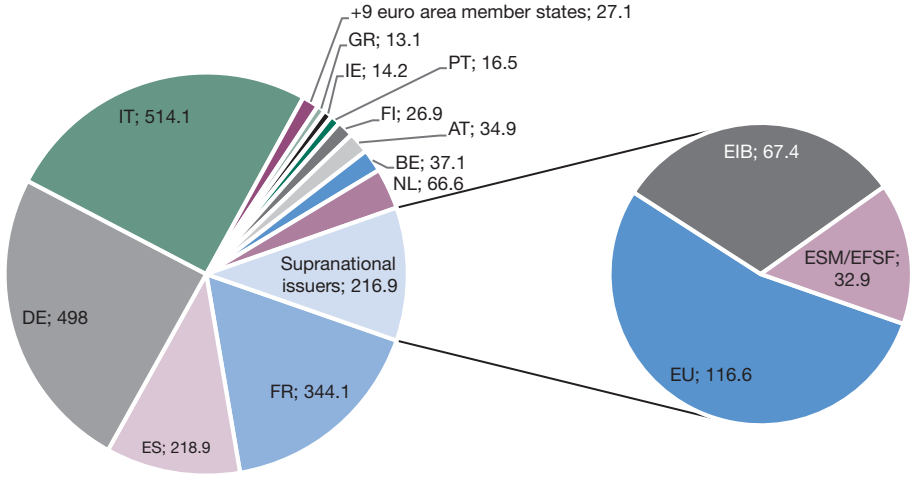
Sources: EU, EIB, ESM.

The longest established issuer, the EIB, has the tightest market pricing. It is followed by the European Stability Mechanism – with a strong capital base – and the EFSF. The EU trades the widest among the four issuers since the introduction of the NGEU vehicle.

In terms of market liquidity, the government bonds issued by Italy, Germany, France and Spain are the most liquid ones. The European safe assets are fifth in terms of liquidity. Figure 3 displays daily average traded volumes for the main government and European safe assets.

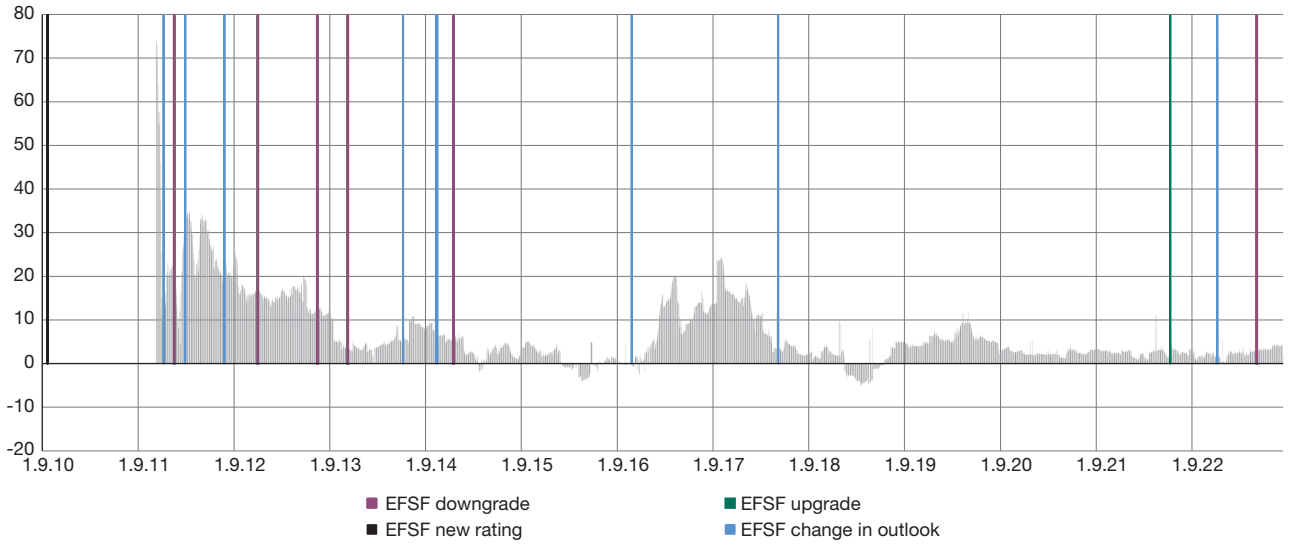
It is worth noting the difference between highly rated government bonds and the ones from the four European supranational issuers. The latter have an insurance component to break the link between sovereign and banking

Figure 3
Market liquidity: Daily average traded volumes for European safe assets versus the main euro area government bonds
in billion euros



Sources: AFME, Finbourn, October 2022.

Figure 4
EFSF yield spread versus EIB through rating agencies decisions on EFSF
EFSF-EIB yield spread (basis points)



Sources: Bloomberg, ESM.

risks and allow a safe harbour for flight (Brunnermeier et al., 2011, 2017). This led to the proposal of the creation of European Safe Bonds (ESBies). Papadia and Temprano Arroy (2022) take it a step further and state that safe assets labelled in euro are critical for creating deep banking and capital markets unions. They also illustrate how far we have progressed already in European supranational bonds.

The size of European safe assets has been increasing over time, and this accelerated during the pandemic with the introduction of the NGEU vehicle. We have come some way in establishing European bonds as benchmarks and large investment assets with blended risk.

Markets' appreciation

Developing a safe asset status takes time. When the EFSF was created, it traded 75 basis points above EIB in its early years, as shown in Figure 4. The EFSF follows closely the rating of France and has gone through similar upgrades and downgrades over the last decade. Over time, the market started recognising the EFSF as a European safe asset. Despite the upgrades and downgrades, the EFSF converged to the price of the EIB. Over the years, the spread came down to 25 basis points and now the price is similar with moments where the EFSF goes through the curve of the EIB.

This shows that the market – despite the volatility and different ratings, mandates and capital structures – sees these European issuers are safe assets.

We have seen a counter-intuitive phenomenon in the European safe assets since the beginning of 2022. Despite the high ratings and good liquidity profiles of the European safe assets, their yield spreads relative to Germany widened significantly. However, this trend reversed somewhat in 2023.

These developments are the result of a number of factors, the effects of which need to be curbed to ensure that they do not lead to increased fragmentation and price distortion within the European safe asset base.

From a conjunctural perspective, the reduction of ECB bond holdings in the context of Quantitative Tightening has disadvantaged European supranational issuers more than sovereigns in terms of yield trends. Indeed, during the quantitative easing phase of ECB monetary policy, the ECB was able to purchase up to 50% of each outstanding bond line from supranational issuers, whereas this ceiling was limited to 33% in the case of sovereign bonds. The ECB Pandemic Emergency Purchase Programme (PEPP) came on top of these numbers. Quantitative tightening is now leading to a faster increase in free float for supranational bonds than for sovereigns, pushing their yields higher.

Additionally, the heavy bond supply from the EU to finance the €100 billion SURE and €800 billion NGEU programmes has pushed yields of the four supranational issuers higher. Given its relative weight in the supranational market segment, the EU has indeed become the main driving force for yield spreads of the European safe assets. The EU has repeatedly secured a substantial order book with a high issuance premium. This has added to upward pressure on yields in the supranational market segment as a whole.

A number of structural factors also explain the yield trends that have been at work since the beginning of 2022 within the European safe assets pool.

Firstly, the ECB's new anti-fragmentation tool, the Transmission Protection Instrument (TPI), which aims to mitigate speculative market fluctuations for sovereign bonds, does not cover supranational issuers.

Secondly, in the absence of specific hedging instruments, such as bond futures for German Bunds, bonds of supranational issuers are priced using the euro-denominated interest rate swap curve as a benchmark. Against a backdrop of rising interest rates over the past two years and heavy use of interest rate swaps by financial investors to hedge their bond positions, the spread of interest rate swaps against German Bunds has sometimes widened sharply, mechanically pushing up yields on the four European supranational issuers.

Thirdly, the non-inclusion of European supranational issuers in global sovereign bond indices has also limited the interest of some index funds in their bonds.

Finally, the four supranational issuers lack security lending facilities similar to those used by sovereigns to manage the liquidity of their bonds.

Future considerations

Over and above these conjunctural and structural factors that are holding back the consolidation of the European safe asset base, Europe needs a strong political commitment to ensure the continued success of the four European safe assets.

In particular, the concerns in the market regarding the EU as a bond issuer are twofold. Firstly, the market is wondering what will happen once the temporary NGEU mandate expires and new loans cease after 2026. Secondly, questions relating to indirect and direct taxation, which would provide the EU with its own financial resources, similar to the competence of sovereigns to collect taxes, remain unresolved.

In the longer term, there are political issues beyond the scope of this article that will need to be addressed. But the prevalence of more safe assets supporting borderless investing across Europe from completion of a capital markets union and further internationalisation of the euro offer investors, businesses and citizens enormous advantages. These changes also place the European capital markets on a more level footing with their counterparts in other major economies such as the United States.

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Jochen Hartwig and Hagen M. Krämer

Revisiting Baumol's Disease: Structural Change, Productivity Slowdown and Income Inequality

The growing importance of services has led to significant structural change in advanced economies, with the service sector now accounting for the largest share of employment in developed countries. In his seminal model of the so-called cost disease of services, William Baumol noted that the prices of services, especially in health, education, arts and culture, tend to rise faster than the prices of material goods. Central to his model is the disparity in labour productivity growth rates between stagnant and progressive sectors. Baumol's model sheds light on the reasons behind the rising cost of services and provides a deeper understanding of its economic consequences. This article argues that Baumol's model of the cost disease of services retains its explanatory power and relevance today. It refutes criticisms that productivity growth in services is mismeasured and underestimated and that the increasing importance of services as inputs in manufacturing renders Baumol's model irrelevant. Instead, the article argues that Baumol's model can highlight the overlooked consequences of rising income inequality, particularly the severe impact of the cost disease, which disproportionately affects the poorer segments of the population.

The significance of services has steadily increased over time, resulting in substantial structural changes within the economies of advanced nations. The service sector contributes the largest share to aggregate output across all Organisation for Economic Co-operation and Development (OECD) countries, accounting for over two-thirds of the total GDP on average. As of 2020, approximately 70% of all employees in OECD countries were engaged in the service sector, a notable increase of ten percentage points since 1995 (Sorbe et al., 2018; OECD, 2023). Education, health and government services constitute major branches within the service sector. Currently, one quarter of all people employed in OECD countries are working in these three subsectors, with most employees providing personal services (Krämer, 2021).

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The prevailing trend towards a service-oriented economy aligns with expectations postulated by numerous economists throughout history. Notably, Sir William Petty expressed these expectations as early as 1691. In the 20th century, economists such as Allan G. B. Fisher, Colin Clark, Jean Fourastié, Martin Wolfe, William Baumol, Daniel Bell and Victor Fuchs further developed insightful explanations for long-term structural change. A common characteristic of most personal services is their limited potential for productivity growth. Based on this empirically verifiable fact, William Baumol formulated his renowned model of the cost disease of services in 1967.[1] This model elucidates the reasons behind the structural shift towards the service sector, highlighting the phenomenon of "unbalanced growth". Baumol's simple neoclassical growth model, comprising two sectors, demonstrates that aggregate productivity growth gradually diminishes in the long run, leading to economic stagnation. Baumol's model continues to hold significant relevance to this day.

1 The basic idea had already been exposed in Baumol and Bowen (1965, 1966).

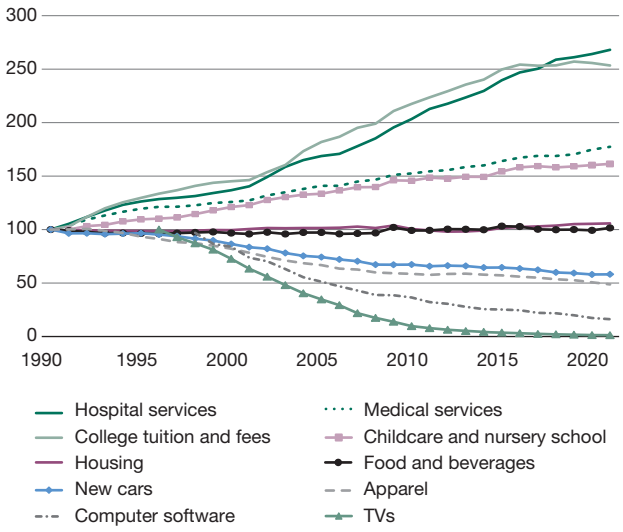
Nevertheless, various developments have necessitated a critical examination of the model since its inception. This article addresses some of these developments and starts with a brief introduction of Baumol's model and the main objections that are raised against this model today. The article then examines the challenges associated with measuring service productivity. It also discusses the consequences for Baumol's model when considering the significance of services as intermediate products and contrasts the theoretical considerations with the results of empirical studies. Subsequently, the article looks at the social consequences of trend-like increases in the price of personal services, as predicted by the Baumol model. It asks what could be done when poorer segments of the population cannot afford certain services in the face of increasing income inequality.

Baumol's model of unbalanced growth

In his 1967 paper "Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis", published in the *American Economic Review*, William Baumol was primarily interested in the long-term economic consequences that occur when economic sectors have systematically different rates of productivity growth. In his model, Baumol (1967) divided the economy into a "progressive" and a "non-progressive" sector. The "progressive" sector shows higher labour productivity growth – in the long run and on average – than the "non-progressive" sector. One can broadly think of the "non-progressive" sector as the service sector and the "progressive" sector as the manufacturing sector (or "industry"). Baumol assumes that wages grow in both sectors at a rate set by the productivity growth in the progressive sector. Under these assumptions, productivity growth that is "unbalanced" between industry and the rest of the economy triggers a long-term structural change in which most services become increasingly expensive. This phenomenon was first described by Vandermeulen (1968) as "Baumol's disease".[2]

The model predictions are consistent with the observed developments in reality. Figure 1 presents the development of prices of selected goods and services in the USA between 1990 and 2020. It shows that during this period, prices for healthcare and educational services or for childcare and kindergartens rose much more sharply than the general consumer price index. In contrast, consumer goods such as clothing, food and beverages, and televisions became relatively cheaper during this period.[3]

Figure 1
Price changes of selected goods and services in the USA relative to the consumer price index (1990-2020)
Index, 1990 = 100



Note: The base year is 1996 for TVs and 1997 for computer software.

Source: U.S. Bureau of Labor Statistics. The illustration is taken from Hartwig and Krämer (2022, 28).

Ever since Baumol's disease became known, this theorem has faced some objections. On the one hand, these objections express the hope that Baumol's cost disease will not break out in the first place. On the other hand, appropriate management of Baumol's disease is recommended to limit the consequences of the disease as much as possible. Some argue that service productivity actually increases beyond what is assumed due to measurement errors that produce false results. A second, more important, objection relates to services that enter the production process as intermediate inputs. Here, the argument goes that even weak productivity growth in the production of intermediate services increases the productivity in the final output. Therefore, a trend-like decline in aggregate productivity growth is not to be expected. A third point concerns the question of the social consequences of the cost disease of services. If personal services, in particular, are becoming relatively more expensive and disposable incomes grow unevenly, then the lower-income groups will no longer be able to afford certain services. These three topics are discussed in more detail below.

2 It is sometimes referred to as "Baumol's cost disease". Authors such as Helland and Tabarrok (2019) prefer to speak of the "Baumol effect" which only refers to the long-term relative increase in the price of services compared with industrial goods.

3 For a more detailed and formal exposition of Baumol's model of unbalanced growth see Hartwig (2015) and Hartwig and Krämer (2022).

Measurement problems

There are several fundamental difficulties in measuring productivity in general, which cannot be discussed in detail here.[4] We focus here on data collection and measurement problems in the service sector. In determining service productivity, it is usually not, or not exclusively, the quantity (such as the number of patients treated, the number of students taught or the number of cases processed in a government agency) that is relevant as a measure of output. Instead, for most services, quality is likely to be the decisive criterion. This is especially true for personal services, which are most relevant in our context. However, determining the quality of a service is anything but trivial. It depends very much on the subjective view of the customer and the recipient's involvement since he or she is often involved as an "external factor" in the provision of a service. The price obtained on the market can rarely be used as a suitable indicator of service quality because many service prices are regulated by the state (e.g. in health care), or the services in question are not offered on the market at all, such as in education (Helland and Tabarrok, 2019, 45).

In addition, the correct method for calculating value added at constant prices, which is necessary to determine productivity changes, is particularly complex in the case of services. This is because price adjustments are not made directly for services; instead, both the production value and intermediate inputs are price-adjusted separately, requiring an elaborate procedure. Despite these and other problems, official statistics have made significant progress in measuring productivity in the services sector in recent years. Therefore, data availability allows for general statements, even though numerous open questions remain.[5]

Finally, it is important to note that the challenges described relate in particular to the measurement of productivity levels. For rates of change in (labour) productivity, however, which are the focus of interest here, the problems are less grave. A constant measurement error does not play a role in the determination of growth rates. Therefore, rates of change in (labour) productivity can be validly calculated. In addition, several empirical studies have found that the productivity weakness of services in total cannot be explained by measurement errors (Sichel, 1997; Hartwig, 2008; Byrne et al., 2016, 2017). Even in empirical studies focusing on economic sectors whose value added is relatively easy to measure, the predictions of Baumol's model have not been refuted (Nordhaus, 2008; Hartwig, 2011).

Intermediate service inputs

A second challenge for Baumol's disease is the fact that services are becoming increasingly important as intermediate products. Baumol did not consider this type of service; he was concerned with services provided as a final product for private consumption. This is understandable since the increasing importance of services as an intermediate product did not emerge until the 1980s. At that time, outsourcing of services formerly provided within manufacturing companies began. Certain activities, such as operating canteens, car fleets or even IT centres, were outsourced. However, services as intermediate products have a very different impact on productivity growth than final products. We owe this insight to Oulton (2001), who has shown that services that act as intermediate inputs affect the aggregate productivity growth rate differently than services that enter final demand. In particular, even if they exhibit only low productivity growth, business services increase total factor productivity in industrial production and thus the aggregate productivity growth rate.[6]

Hartwig and Krämer (2019) have shown that although Oulton's claim is consistent from a theoretical perspective, the effects described by Oulton cannot be confirmed empirically. To illustrate why Oulton's objection does not hold empirically, let us first distinguish two cases that represent different ways in which the aggregate productivity growth rate can be affected:

The Baumol case. If manufactured goods are produced in the progressive sector and personal services in the stagnant sector, then the aggregate productivity growth rate tends to be lower than that of the manufacturing sector in the long run because the aggregate productivity growth rate is calculated as the weighted average of the two sectoral growth rates.

The Oulton case. Business services are provided in the stagnant sector and are included as intermediate inputs in the production of industrial goods. In Oulton's model, only industry manufactures final products. Under these conditions, business services used to produce industrial goods increase total factor productivity. Even if their pro-

4 See, for example, Moulton (2018) for a comprehensive discussion of productivity measurement issues.

5 To give a particularly striking example: in "business services", official statistics have been showing declining labour productivity in several developed economies (including Germany, France and Italy) for some time. There is a debate as to whether this is due to measurement errors or whether there are factual reasons for this (Hartwig and Krämer, 2019, 468-470; Flegler and Krämer, 2021).

6 Baumol later conceded that this phenomenon exists (Krueger, 2001).

ductivity growth is low, they increase total factor productivity in the industrial sector and thus the overall productivity growth rate.

Oulton's insight is important, and his argument is correct in principle. Nevertheless, it ultimately does not cancel out Baumol's cost disease for two reasons. First, Baumol effects occur as long as some form of low-productivity services are provided to final demand. Even though the share of business services has increased enormously in recent decades, personal services have not disappeared – and are very likely to remain in existence. Second, certain structural conditions must be in place for business services to have a positive effect on productivity growth in the economy as a whole: total factor productivity growth of business services must be positive, and the weight of these industries in total economic value added must tend to increase over time.

Using the EU KLEMS database, Hartwig and Krämer (2019) checked whether these conditions apply to six of the seven largest developed economies (the G7 countries except Canada). They have shown that the second condition is fulfilled. In line with the growing importance of business services for industrial production, the weight of these sectors (the so-called Domar weight) in total value added has tended to increase over time in all the countries studied.

The first condition is not met, however. For business services, total factor productivity growth is negative. As a result, the increasing weight of these industries contributes to a reduction in aggregate productivity growth. Therefore, the conditions for Oulton's theorem to hold in reality are not satisfied. For the sake of completeness, it should be added that the opposite is true for manufacturing in most countries: Total factor productivity increases, but the weight of the industry tends to decrease. This also harms aggregate productivity growth.

Hartwig and Krämer (2019) found that many business services exhibit negative productivity growth. This finding may seem surprising and implausible at first glance. Oulton (2016, 2017) has cast doubt on this kind of empirical data. Because he suspects measurement errors, Oulton makes various "corrections" that transform the productivity growth of the affected sectors from negative to positive values. Although initial scepticism about the data is quite understandable, it would be a mistake to rule out the possibility of technological regression in business services. In a sectoral study, Flegler and Krämer (2021) discuss various reasons why labour productivity declined in most business services in Germany in the period from 1991 to 2018. They argue that the organisational demands of digital transformation and a lack of support for it among the workforce tend to have a negative impact on firms' productivity in the short term. Nor should it be forgotten that business services include not only modern services in the field of information and communications technology (ICT) but also numerous labour-intensive services, such as maintenance, repair, cleaning, accounting, training, security, advertising and marketing. These services are frequently provided by small or micro-enterprises and require direct and personal contact between the provider and recipient of the service (Fernandez and Palazuelos, 2012, 245). Therefore, it is unsurprising that labour productivity either increases only slightly or even declines in these sectors.

In summary, business services, which enter production as intermediate inputs, did not positively affect overall economic productivity growth in the past. Oulton's theorem is theoretically valid but (so far, at least) not practically relevant. However, it is not evident a priori that even if business services were to positively impact aggregate productivity growth (as in the Oulton case), it would outweigh the negative productivity effect of personal services (as in the Baumol case). Thus, Baumol's prediction that productivity growth will decline continuously in the wake of tertiarisation remains valid.

Income inequality

Many empirical studies have shown that disposable income in industrialised countries is much more unequally distributed today than it was when Baumol developed his theorem (OECD, 2015, 2023; Alvaredo et al., 2017). Combined with the cost disease of services, this gives rise to new social and distributional policy challenges. Baumol noted in a book published towards the end of his life that the cost disease of services primarily impacts those with lower incomes. In his own words: "The cost disease disproportionally affects the poor" (Baumol, 2012, 59).

While it is justified to assume that in the long term each society will be able to afford ever more expensive services as long as overall economic productivity and thus incomes grow, it must not be overlooked that this is only true on average. If personal services are becoming relatively more expensive and disposable incomes grow unevenly, lower-income groups will no longer be able to afford certain services – in particular, in education and health. On the one hand, this is a social problem. On the other hand, it can also cause demand problems for service providers. This issue did not play a role in the original Baumol model since it was assumed that, although services are becoming increasingly expensive, they remain affordable because productivity in manufactur-

ing, and hence wages, continues to grow. Therefore, all services can always be sold in principle, despite price increases.[7]

However, this assumption may not be correct, given the recent increase in income inequality. The social dimension of Baumol's cost disease emerges because the less well-off rely on many of the services provided by the state (especially in health care, social services and education), which will become relatively more and more costly over time. The funding problems that will worsen in the future due to the cost disease in these areas are likely to trigger further distributional conflicts that must not be underestimated. Baumol's cost disease, therefore, also presents itself as a severe distribution problem that will become increasingly difficult to ignore.

How can we ensure that low-income households keep access to services affected by the cost disease? Healthcare is an area significantly affected by the cost disease of services and particularly important for providing essential services. The health sector is expected to witness a substantial increase in its nominal GDP share due to demographic changes, higher average income and rising unit labour costs due to low productivity growth. Traditional approaches aimed at cost control in healthcare have proven ineffective in many countries, underscoring policymakers' failure to comprehend the underlying causes of cost escalation in personal and public services. In some areas, there may be private solutions to the problem, like do-it-yourself or neighbourhood assistance. But in other areas – such as healthcare – this cannot be the general solution to the problem. Professional providers are needed here, and the high costs must be paid. To ensure that low-income groups keep access to services such as healthcare, the state must intervene. This could be done, for example, by organising service provision for all and financing it with progressive taxes.[8] A social insurance solution with income-dependent contributions can be designed in a similar way. Although the permanently increasing unit labour costs will have to be financed through fee or tax hikes, these will be difficult to implement in the current political climate. Therefore, funding these public services is expected to become more challenging and conflict-ridden. The recent disputes over wage increases for workers in sectors such as health, education, and transportation in many countries can be interpreted as a direct effect of Baumol's cost disease. Advice for economic policy could be: if society does not want to allow an ever-larger low-wage sector to develop, lawmakers must realise that cost increases in low-productivity services are unavoidable and must be adequately financed by the public sector.

However, not all services afflicted by the cost disease can or should be offered by the state or financed through social insurance. Think of activities in the cultural sphere. In order to ensure that lower-income groups can also participate in these, there is no alternative to redistributing income and wealth. There are many proposals on how the inequality that has increased since the 1980s could be reduced again (Atkinson, 2015; Milanović, 2016; Freeman, 2021). Although there have been no recent political majorities for such measures, this could change. Political pressure for greater redistribution is likely to grow as the cost disease makes personal services unaffordable for more and more people.

Concluding remarks

The model of the cost disease of services and unbalanced economic growth, developed by William Baumol more than 50 years ago, retains its explanatory power and relevance to the present day. The Baumol model has been repeatedly criticised. Criticisms include the claim that productivity growth in services is mismeasured and tends to be underestimated and that the increasing importance of services as an input in the production of manufactured goods would render Baumol's model irrelevant. We have argued that neither of these objections is valid. Moreover, Baumol's model can be used to reveal the neglected consequences of rising income inequality: the cost disease of services will have a particularly severe impact on the poorer segments of the population. In the future, economic and social policies will have to play an increasingly important role in solving this new distributive challenge.

Despite the explanatory power Baumol's seminal model still has today, its further developing is necessary and beneficial. For example, legitimate criticisms have been made of Baumol's neglect of aggregate demand. Some attempts have already been made to extend the model to incorporate the demand side and to eliminate the assumption of full employment (Notarangelo, 1999; Hartwig, 2015), but more research is needed on this issue.

Nonetheless, Baumol's cost disease remains a convincing and significant concept. The declining growth of aggregate productivity and the observed rise in relative service prices (depicted in Figure 1) indicate the continued

7 As Baumol (2012, xvii) notes, the British economist Joan Robinson had already brought this to his attention in the 1960s.

8 Mann and Pecorino (2023) present a model in which the state provides a good subject to Baumol's cost disease that is financed via income taxes. If this public good is a poor substitute for private goods then the tax rate rises monotonically up to the revenue-maximising level (the top of the Laffer curve). The tax increase need not happen, however, if both the public and private sectors provide stagnant services (see Andersen, 2016).

relevance of Baumol's ideas. Thus, his predictions have largely materialised, suggesting that we will continue to face the challenges posed by the cost disease in the future. Consequently, it is crucial to find appropriate responses to this phenomenon, particularly considering that many essential services vital to a good quality of life are affected.

Baumol's legacy serves as a warning against misguided policy choices. In the case of public services, the prevalent responses to the cost disease have predominantly entailed quality restrictions and attempts to impose cost limits, which represent misguided paths. The appropriate response to the cost disease is not to combat rising costs in healthcare, education or other personal services but, firstly, to acknowledge and, secondly, to address the inevitable price increases in stagnant sectors in a suitable manner. Baumol (2012) reminds us in his last book that, in principle, we can afford increasingly costly services. However, we must grapple with the accompanying distributional challenges. The social dimension of Baumol's cost disease lies in the fact that less affluent households rely heavily on numerous services provided by the state, particularly in healthcare, social services, and education. The funding predicaments arising from the cost disease in these areas are likely to exacerbate distributional conflicts in the future, demanding careful attention. As a result, Baumol's cost disease emerges as a significant distributional and social problem that will become increasingly important to tackle as time goes on.

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Sabina Kubiciel-Lodzińska and Brygida Solga

The Challenges of Integrating Ukrainian Economic Migrants and Refugees in Poland

In a relatively brief timeframe, Poland has witnessed a substantial increase in immigration, transitioning from predominantly an emigration country to one characterised by both emigration and immigration. Undoubtedly, with the outbreak of war in Ukraine, the need to implement integration measures has become even more critical. However, the problem is that there is no system of coherent migration and integration policy at the national level, so the effort to integrate foreigners, including refugees, is undertaken by individual Polish cities and regions. One of them is the Opolskie Voivodeship, a region with a high number of emigrants and therefore deep demographic problems and labour market shortages. The article presents the most important conclusions and recommendations for regional policy on integrating foreigners.

The scale of immigration in Poland has increased significantly in a fairly short time, transforming it from an emigration country to an emigration-immigration country (Solga and Kubiciel-Lodzińska, 2017). For several years, Poland has issued more first residence permits for third-country nationals than any other European Union member state. In 2021, more than 790,000 permits were issued, accounting for 27% of all permits released in the EU during this period. By February 2022, there were an estimated 2 million foreigners in Poland, the majority of whom, 1.35 million, were people from Ukraine (Duszczyk and Kaczmarczyk, 2022). By July 2023 there were approximately 970,000 Ukrainian refugees in Poland (Eurostat, 2023). Due to the rapid transformation of the country's migration status, public administration, the education system, healthcare and Polish society were not prepared for this change. The rhetoric of the policy implemented so far at the national level referred to a situation in which Poland, first slightly, and then quite widely, opened its doors to foreigners ready to work in Poland. The official message was that workers were welcome, but not necessarily potential residents. Today, it is already clear that some of the workers have also become residents. For this reason, the importance of economic and socio-cultural integration measures for foreigners has increased significantly.

The Russian invasion of Ukraine in February 2022 further changed the nature of the migration situation in Poland. Almost overnight, more than 1.4 million people fleeing war were given shelter in Poland, according to the PESEL[1] register (Solga and Kubiciel-Lodzińska, 2022). This is a completely new reality that Polish society has not known on such a scale until now. There is no doubt that with the outbreak of war in Ukraine and the influx of refugees, the need to implement integration measures has become even more important. Access to housing, inclusion of children in the education system, access to the labour market, ensuring access to health care and providing social support have become huge challenges.

In the longer term, broadly defined integration measures should address both pre-war migrants, some of whom have been in Poland for many years, and refugees. However, the problem is that the creation of a system of coherent migration and integration policy at the national level has been neglected, so the effort to integrate foreigners, including refugees, has been undertaken by Polish cities and regions. One of them is the Opolskie Voivodeship (NUTS 2 level), which has so far been the region with the

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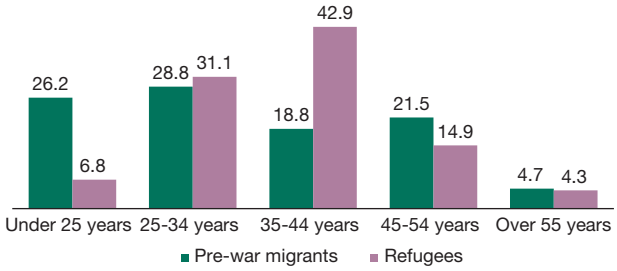
1 PESEL is a Polish acronym for Universal Electronic System for Registration of the Population.

Figure 1
Age of survey respondents from sample group of Ukrainian migrants in Poland
in %



Source: Own elaboration based on the study conducted by the Opole University of Technology, December 2022.

largest number of emigrants in the country and which is facing deep demographic problems and labour market shortages (Heffner et al., 2019).

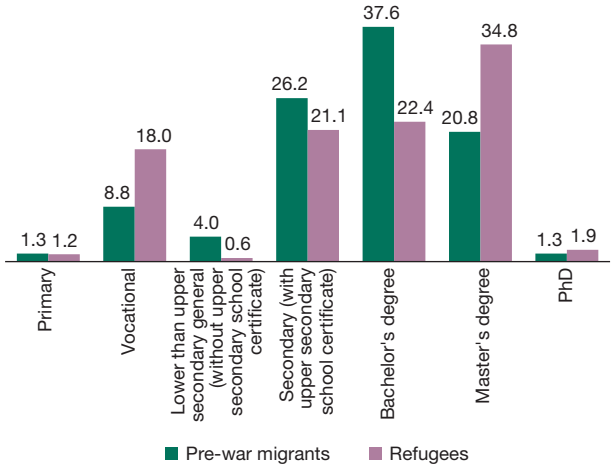
This article presents the study conducted by the Opole University of Technology in December 2022 on a sample of 311 immigrants from Ukraine, including 150 pre-war migrants and 161 refugees living in the Opolskie Voivodeship. It was carried out using computer-assisted web interviews (CAWI) with the help of a research panel. Respondents were selected purposefully: the aim was to obtain two comparable groups differing mainly in the character of their stay in order to gain information on the needs and expectations of people coming from Ukraine towards public administration, education and health services. The literature shows that migrants and refugees behave differently in the labour market (Cortes, 2004; Fasani et al., 2021; Ortensi and Ambrosetti, 2022). The purpose of this article is to determine whether the two groups of migrants from Ukraine differ in their integration needs.

Characteristics of economic migrants and refugees

Among refugees, there is a clear majority of women (93.8%). In the group of pre-war migrants, women are also in the majority, which confirms the observed general trend of an increase in the share of women in labour migration from Ukraine to Poland and is visible in the Social Insurance Institution (ZUS) data on the number of foreigners reported to the social security system.

The greater participation of women is also explained by the purpose of the study. On the one hand, women are key actors in the integration process, as they are usually responsible for the education of children, transmitting the traditions of their countries of origin and participating more actively in society. On the other hand, it is women who are more exposed to discriminatory actions, hence

Figure 2
Educational level of survey respondents from sample group of Ukrainian migrants in Poland
in %



Source: Own elaboration based the study conducted by the Opole University of Technology, December 2022.

the economic integration of female immigrants becomes a particular challenge (Kontos, 2011).

The age structure of pre-war migrants is relatively proportionally represented by all age groups, except for the oldest (55 years and over), who are the least represented (4.7%), as shown in Figure 1. The proportion of other age groups ranges from 18.8% (35-44 years) to 28.8% (25-34 years). In contrast, the age structure of refugees is more diverse. The 35-44 age group is by far the largest (42.9%), followed by the 25-34 age group (31.1%). The proportion of other groups is much lower, with 6.8% under 25, 14.9% between 45 and 54, and 4.3% are 55 and over. This means that the population of pre-war respondents is slightly younger, as it is dominated by 20- and 30-year-olds (55% of under-25-year-olds and 25-34-year-olds). In contrast, the refugee population is heavily dominated by 30- and 40-year-olds (74% of those aged 25-34 and 35-44).

As shown in Figure 2, among respondents with vocational education, the proportion of refugees is higher than that of pre-war migrants (18.0% and 8.8% respectively). Among individuals with a general education background, a larger proportion are pre-war migrants (30.2%) compared to refugees (21.7%). Differences can also be seen in the level of university education. Among pre-war migrants, 37.6% had a bachelor's degree and 22.4% had a master's degree. Among refugees, nearly 35% declared to have a master's degree and 20.8% a bachelor's degree.

Another key characteristic relevant from the perspective of immigrant integration efforts is the number of children

residing with migrants in Poland. More than 60% of pre-war migrants have no children in Poland. In comparison, about 80% of refugees came with children.

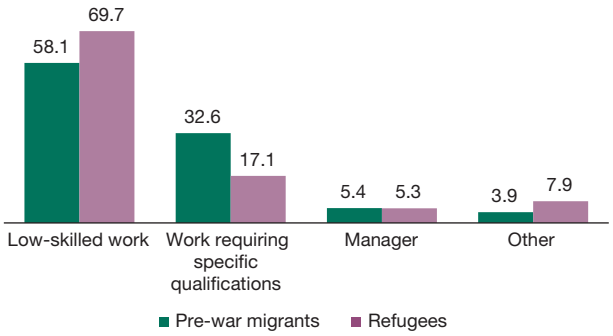
Integration of immigrants in Poland

Labour market

Immigrants from Ukraine are characterised by high labour market activity. Over 66% of respondents work in various capacities. For 46.9% of respondents, this is permanent work; for 13.2%, it is casual work; 4.2% work remotely for a company based abroad; and 1.9% are self-employed. A further 22.8% are not working but are looking for work and are ready to take up employment. This means that almost 90% of respondents are economically active. It is important to note the high labour force participation of refugees. A total of 84.6% of respondents coming from this group have already taken up employment or are looking for a job and are willing to start immediately. Of course, the economic activity of pre-war migrants is higher, but we have to remember that for this group of people the key reason for coming to Poland, especially for men, was to seek employment. The study group lacks significant representation of individuals who run their own businesses (1.9%). Professional activity is an important element of the economic integration of migrants – the higher it is, the more effective the integration process. Continuing measures to support this activity is essential, involving both entrepreneurs and labour market institutions. Entrepreneurs, in particular, face the challenge of attracting and retaining migrant workers in companies where the problem of labour shortages is set to grow dynamically. However, our research shows that labour force participation is also high here. It is also worth noting, that in Poland, the employment rate of refugees from Ukraine is 65% – the highest in Europe (OECD, 2023, 54). It is therefore a question of creating the right conditions for professional activation of this group of immigrants as well. At the same time, keep in mind that people with high qualifications needed in the region are more numerous among refugees than among pre-war migrants.

These conclusions are confirmed by further research results. It turns out that the majority of respondents perform simple work (62.4%), but at the same time quite a large group of people – 32.6% pre-war migrants and 17% refugees – declare that they perform work requiring specialist qualifications (Figure 3). This situation is a significant challenge from the perspective of integrating these people into the labour market. This is because, on the one hand, the influx of highly educated immigrants provides an opportunity to fill staff shortages in some sectors (for example in health care); but on the other

Figure 3
Work performed by survey respondents from sample group of Ukrainian migrants in Poland
in %



Source: Own elaboration based on the study conducted by the Opole University of Technology, December 2022.

hand, given the nature of the Opole labour market and the lack of high-quality jobs, there is a likelihood of depreciation of their qualifications. This phenomenon is already observed in Poland (Kubiciel-Lodzińska and Maj, 2021). The difficulty of making use of refugees' high qualifications, with the consequence of "brain waste", is also shown by the experience of other hosting countries. This process is observed among refugees in Turkey (Ünlütürk-Ulutaş and Akbaş, 2020) and in the Netherlands (de Lange et al., 2021). Refugees are inadequately prepared to enter the host country's labour market, often lack language skills, and consequently have very limited opportunities to use their qualifications (Brell et al., 2020; Lumley-Sapanski, 2021).

Transfer of qualifications is not always possible. A certain solution to this challenge would be to give refugees the opportunity to obtain other qualifications, enabling them to take up employment in an occupation from the primary labour market. For some refugees, it could be helpful to participate in vocational courses and training, which are an important element of economic integration. In the present study, the majority of people who are working have not yet participated in vocational training. This situation applies to almost half of all respondents, including, of course, most refugees. Of those who have participated in the training, the vast majority rate it well. Thus, both the organisation of training and vocational courses for foreign workers and support for those intending to start a business are important elements of the process of the economic integration of foreigners in the region. The opportunities for financing this type of support provided for in programmes implemented at the regional level (especially the European Funds for Opole 2021-2027 and the National Training Fund) should be used to the fullest extent possible. At the same time, it is worth noting those industries

in the region that can develop with a high proportion of migrants, such as senior care.

Survey results show that interpersonal relations in the workplace in the broadest sense are good. The majority of respondents rate the atmosphere at work as "well" (82.4%), and only 1.5% rate it "bad". It is interesting to note, however, that 10.7% are unable to make this assessment, and these are mainly pre-war migrants (14.7%), who have much more work experience. At the same time, the migrants' assessment of their relationship with their immediate supervisor is good. Relations with Poles at work are even better. Almost 90% of respondents (89.8%) rate them "well" and, at the same time, not a single person rated these relationships as "bad" or "rather bad". Similarly, relations with Ukrainians at work are rated as "good". This situation creates a solid basis for easier integration of foreigners in the workplace. The challenge, however, is to effectively manage diversity in companies, to implement programmes by entrepreneurs to support consensus-building in nationally diverse groups, and to move towards employing more immigrants in mixed crews (Maj, 2020), which will create more opportunities not only in economic but also social integration.

Language

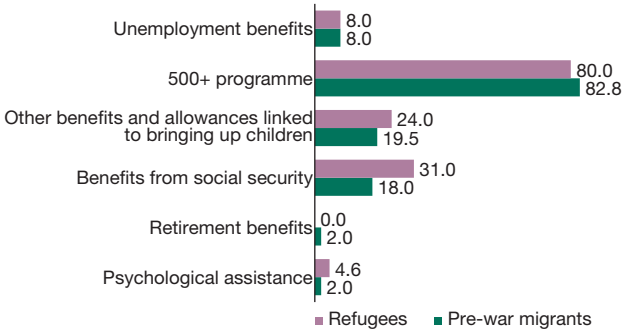
Our research shows that pre-war migrants most often declare their knowledge of spoken Polish at a good level, and refugees at an intermediate level. In the context of utilising refugees' qualifications and building up their position in the labour market, knowledge of the language of the host country is of primary importance (Kosyakova et al., 2022). Knowledge of other foreign languages varies among Ukrainian migrants. Respondents declare knowledge of Russian at the highest level, English at the medium level and German at the lowest level. Around 6.4% declare knowledge of other languages – Hungarian, Spanish, Czech, Belarusian and others.

Despite a relatively broad knowledge of Polish, at least spoken, the vast majority of Ukrainian immigrants are interested in participating in free Polish language courses. Almost three-quarters of them (70.4%) are willing to do so, and more often refugees than pre-war migrants.

Social assistance and health care

More than half of refugees and just over one-third of pre-war migrants benefit from social assistance. The scale of social support for Ukrainian refugees may become a source of future social tension. It is important to communicate clearly about the actual amount of this assistance. Most often, in more than 80% of cases, migrants (both pre-war and refugees) benefit from the 500+ programme, while social benefits are used much less frequently (31% of refugees and 18% of pre-war migrants), as shown in Figure 4. This means that migrants from Ukraine do not base their stay on the use of social benefits. Indeed, as indicated, migrants from Ukraine are characterised by high labour force participation and all indications point to the fact that access to social benefits is complementary in this case. However, in the long term, in the context of transparency about the use of social benefits, it is necessary, inter alia, to cooperate with organisations supporting migrants to carry out integration activities.

Figure 4
Benefits and allowances used by pre-war migrants and refugees in Poland
in %

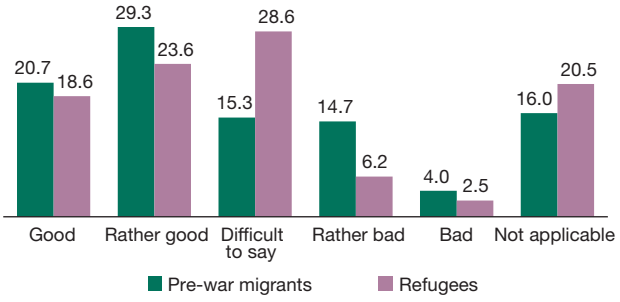


Note: More than one answer was possible. The 500+ programme allows families with dependent children to receive a parenting benefit of PLN 500 per child until the age of 18, irrespective of the family's income.

Source: Own elaboration based on the study conducted by the Opole University of Technology, December 2022.

It is also worth informing migrants about the possibility of obtaining not only unemployment benefits but also the status of a jobseeker (for those who do not have the right to receive unemployment benefits), as they can benefit from job placement, vocational counselling, training in the Polish language and apply for financal assistance with the costs of the nostrification procedure. Supporting the professional development of migrants is an activity that benefits society as a whole in the long term. Specific initiatives in this regard include (i) assessing the skills and experience of migrants and identifying their strengths and areas for improvement in order to form the basis for developing vocational training programmes that are tailored to their needs; (ii) developing and offering vocational training programmes for migrants; (iii) providing career counselling to help them make informed decisions about their vocational training and future careers; (iv) developing cooperation with local companies and professional organisations to provide

Figure 5
Assessment of institutional support in formal matters in Poland by Ukrainian migrants
in %



Source: Own elaboration based on the study conducted by the Opole University of Technology, December 2022.

Figure 6
Changes proposed by Ukrainian migrants to make it easier to stay and live in Poland
in %

Source: Own elaboration based on the study conducted by the Opole University of Technology, December 2022.

job and internship opportunities for migrants who have completed vocational training.

According to the survey, nearly 65% of pre-war migrants had health insurance with the National Health Fund; in the refugee group, just under 48% of respondents did, and as many as one-third said they did not have it at all. This is an important finding showing that a certain group of migrants remains outside the health care system, which in case of emergencies can be very problematic. It is therefore necessary to intensify efforts to ensure that migrants who are not insured with the National Health Service take out private insurance. This may not be easy, as the vast majority of refugees (85%) and more than 60% of pre-war migrants do not have private health insurance.

Formal matters

More than 50% of pre-war migrants and about 42% of refugees rated institutional support in the area of formal matters as "good" or "rather good" (Figure 5). Nearly one-third of refugees (and 15% of pre-war migrants) had no opinion on this. A relatively large number, nearly one-fifth of pre-war migrants rated access to information as "bad" or "rather bad". Among refugees, this figure was lower, 8.7%. The results relating to negative opinions are very worrying, as many as 40% of pre-war migrants rated the time taken to deal with formal matters as "bad". Far fewer refugees, only 6.2%, share this opinion. This concerns, among other things, residence formalities. This means that, despite the simplification in recent years of many procedures related to establishing residence and taking up employment for foreigners from Ukraine, as well as the full-time support and providing the officials serving immigrants in voivodeship structures, these measures are still insufficient given the persistantly large inflow of immigrants.

To the extent possible and necessary, employment policy in organisational structures should take into account the presence of persons with migrant and refugee experience, so that the composition of the staff reflects the diverse population (taking into account, of course, the legal provisions for persons without Polish citizenship acting as clerks/employees of the local government).

One of the objectives of the survey was to obtain information on changes expected by migrants that would make it easier for them to stay and work in Poland. Respondents could choose an answer from a catalogue in the survey (15 proposals) and/or indicate their own. They had the opportunity to select a maximum of three important elements from their point of view (Figure 6).

For pre-war migrants, the most important issue was the facilitation of matters related to the legalisation of residence, as indicated by more than 62% of respondents.

The second and third most frequent answers were easier access to rental housing (48%) and the possibility to obtain subsidies for rental housing (38%). Attention was also drawn to the need to facilitate the recognition of qualifications obtained in Ukraine and the recognition of Ukrainian diplomas. More than 35% of surveyed Ukrainians who were already in the region before the outbreak of the war in Ukraine expected information on working and staying in the region to be more accessible, preferably in one place (e.g. online platform, guidebook). Another important finding is that for one-third of the pre-war migrants, it is also important to have vocational courses, Polish language courses and assistance in finding employment. Thus, it appears that the development of the professional counselling sphere in Poland addressed to migrants is most needed. More than a quarter of the respondents expect assistance in setting up a business. Other changes were indicated less frequently, such as help in finding childcare (15.3%), the possibility of doing business in the Ukrainian language (14%) and psychological support (12%). Less than 9% expect support for children's education (assistant/translator), and 2% mentioned care services.

For more than half of the refugees, housing issues, including easier access to rent and financing, were most important. It is worth noting that more than half of the respondents believe that Polish language courses and assistance in finding a job would be helpful to them (48%). More than 40% of refugees would like the assistance of a translator during medical appointments. In their opinion, they also need easier procedures for legalising their stay (38.5%). For about one-third of the respondents, it is important to have better access to a wide range of information on residence and work, which would be available in one place, to recognise Ukrainian diplomas, and to receive free professional training. Approximately 26% of respondents mentioned the possibility of dealing with matters in Ukrainian. Slightly less frequently mentioned was support for children's education (16.1% – almost twice as often as in the group of pre-war migrants), assistance in finding childcare (13.7%) and assistance in setting up a business (13%). Only 11% of respondents expect psychological support (in the group of pre-war migrants it was 12%), and just over 4% said they need support with care services.

Conclusion

Specific initiatives for the economic and socio-cultural integration of foreigners should be multidimensional and take into account the diverse nature of immigrant groups.

Economic immigrants who arrived in the Opolskie province before the war in Ukraine are mostly men, relatively well educated, and have a specific professional background. There are numerous branches of the economy, for example construction, industry and services, that traditionally employ foreigners (Górny and Kaczmarczyk, 2020). Despite performing work that is often incompatible with their qualifications, Ukrainians are mostly satisfied with their work. However, they rate job satisfaction and remuneration as average, which may mean that they have higher expectations regarding the nature of employment and especially higher compensation. Work that is below their skill level is a downgrade and may result in a reluctance to settle permanently, which is certainly not conducive to the transformation of temporary migration into settlement and family reunification.

The outbreak of war in Ukraine has brought refugees to Poland who appear to be a specific group. They are mainly young women and most have children, many of them under the age of six. The refugees are well educated and highly skilled. Other studies also confirm the high proportion of refugees with tertiary education (Raport Mobilności, 2023). The professions they represent on the Opolskie province's labour market are in short supply, with a particular focus on the medical and health-related professions. Although a large part of the Ukrainian refugees plan to return to Ukraine, they are characterised by a relatively high level of professional activity.

The diverse nature of migrant groups requires different integration measures for them. While the facilitation of residence legalisation matters for pre-war migrants is important, the priority is to keep them in the labour market, which is important if we think about their stay in the region permanently. It is therefore crucial to develop career counselling, mentoring programmes and vocational courses so that immigrants can complete or change their professional qualifications if needed. It is also important to implement a system of support for the development of entrepreneurship among immigrants and to facilitate the recognition of qualifications obtained in Ukraine and the recognition of Ukrainian diplomas. Arrival and stay in the region would also be facilitated by better availability of information on work and residence, e.g. on an internet platform or a guidebook. Entrepreneurs should get involved in the process of integrating migrant workers. Their employment may have a positive impact on the competitive advantage of enterprises – as the diversity of the workforce translates into greater flexibility of the company, a greater number of proposed solutions, and, as a result, greater effectiveness of decision-making processes. However, to achieve this, it is necessary to implement effective diversity management preceded by raising the competence of employees and employers and their knowledge of diversity.

Actions towards refugees, especially in the short term, are slightly different. For refugees from Ukraine, it is crucial to be able to become independent quickly and therefore to be able to rent housing and have it subsidised. This can be difficult due to the low number of vacant flats and their high rental prices. In the refugee group in 2023, housing is still an issue. It is therefore worth considering the indicated possibilities of co-housing or modular settlements while avoiding locating migrants in one building or housing estate. Due to their much weaker knowledge of the Polish language, it is important for refugees to have access to language courses. It would be optimal to have the assistance of a translator when dealing with various matters, especially during medical appointments and when dealing with formal matters. To a much greater extent than for pre-war migrants, support in finding a place in a kindergarten for refugee children is also important. Ultimately, if the process of family reunification develops, the inclusion of migrants' children in the school system and specific measures in this regard (e.g. integration support for Ukrainian children, psychological and pedagogical counselling) will also be important for pre-war migrants.

In the case of both groups of migrants, given their high qualifications, it might be worth considering institutional support to help the careers of highly educated migrants. This is because formal barriers often lead to their knowledge and qualifications not being used and, consequently, to the loss of employees with the qualifications desired in the labour market. Both groups have difficult access to full and reliable institutional information and lacking legal knowledge. Perhaps, therefore, the creation of an integrated information system for immigrants would in part help them to overcome certain institutional barriers.

However, to utilise the knowledge and skills of immigrants, particularly specialists sought after in the Polish labour market, ad hoc measures (e.g. language courses and vocational training) are not sufficient. What is needed is a strategic approach to utilising this potential, implemented both at the national level (e.g. a complete reform of the process of recognising foreign professional qualifications) and at the regional level (e.g. systemic professional activation programmes, an integrated platform linking migrants with job and training offers, a fast-track career path offered by companies, full recognition, monitoring and forecasting of the situation of migrants in the labour market and thus proposing solutions that would benefit foreigners and the region, as well as public information campaigns on the benefits of refugee integration). Through this type of action, the region will become more competitive for migrants who will be more inclined to envisage their futures there.

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Impact of the COVID-19 Pandemic on Different Groups of SMEs in Germany and Their Recovery

Using Germany as an example, this article examines how different groups of small and medium-sized enterprises were impacted by and recovered from the COVID-19 pandemic. The study found that at the onset of the pandemic, turnover losses were experienced not just by enterprises regarded as poor performers, i.e. small businesses or those with low credit ratings, but also, and in particular, by high-performing companies. However, the latter recovered faster from the impact of the pandemic than other businesses. This suggests that this group developed the capacity to successfully respond to changes in the business environment and seize possible opportunities even before the pandemic hit. Such enterprises show themselves to be particularly crisis-proof. Thanks to the wide range of enterprises' adaptation measures and state support measures, the financial capacity of small and medium-sized enterprises in Germany was hardly diminished by the pandemic.

In many countries, the COVID-19 pandemic had a profound impact on people's lives (Brodeur et al., 2021) and the economy (Almeida et al., 2021; Juranek et al., 2021; Palomino et al., 2020; Coad et al., 2022; Bloom et al., 2022). The pandemic influenced businesses deeply in Germany as well. Figure 1 shows that 66% of small and medium-sized enterprises (SMEs) suffered turnover losses, particularly at the beginning of the pandemic. By September 2021 that share dropped to 28%. Enterprises were impacted much less often by other effects of the pandemic or its containment measures, such as worker absences (e.g. due to sickness, having to care for children), supply chain disruptions, business closures or difficulties in implementing hygiene protocols. What almost all consequences had in common was that they occurred frequently at the outset and that the situation eased during its further progression. An opposing trend could be observed only for supply chain disruptions. After improving up until September 2020, supply chain disruptions worsened again until the end of 2021, i.e. the end of the period covered by the study.

Economic crises are often expected to have a "cleansing effect" because less productive businesses close down while highly productive ones are better able to get over such crises (Kozeniauskas et al., 2022). However, with respect to the COVID-19 pandemic, concerns have also been voiced that businesses with high potential and those situated at the upper end of the performance distribution in particular could suffer (Benedetti Fasil et al., 2021; Coad et al., 2022). In the following, we therefore investigate which segments of Germany's SME sector were impacted by turnover losses, how quickly they recovered from the initial shock, how their financial capacity developed up to the end of 2021 and what lessons can be learned in general with regard to the crisis resilience of SMEs.

SMEs and the database for investigating the crisis impact

In this study, the term "SME" follows the definition laid out by the KfW Group. It applies to small and medium-sized enterprises but is expanded moderately upwards in comparison with the EU definition. The definition of SME used here includes commercial enterprises and self-

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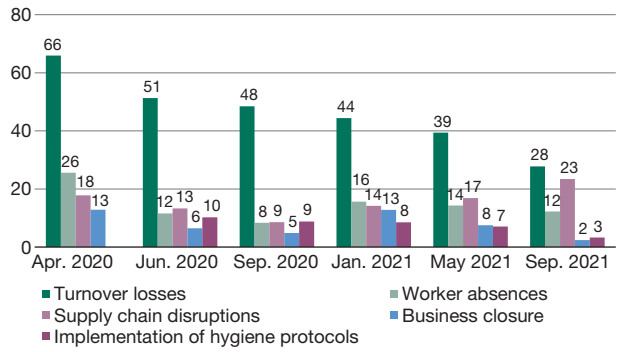
Figure 1
Impact of the COVID-19 pandemic on SMEs in Germany
in % of enterprises



Note: "Implementation of hygiene protocols" not included in April 2020 survey.

Sources: KfW SME Panel, 1st to 6th supplementary coronavirus survey.

employed professionals with an annual turnover of up to €500 million.

The analysis is based on the KfW SME Panel, a representative longitudinal data section for SMEs in Germany in this turnover class. A special feature of the KfW SME Panel is that it also covers businesses with fewer than five employees. The survey omitted agriculture and fishery, the public sector, as well as banks and non-profit organisations. Responses were received from around 10,000 to 12,000 businesses in each survey wave. The survey findings can be extrapolated to the basic population of the SME sector according to headcount, sector (any of six classes),[1] region of company headquarters (eastern or western Germany) and KfW support status (KfW-supported vs. non-KfW-supported) (Schwartz, 2022). The surveyed businesses' credit ratings were also provided thanks to a broad-based partnership with Vereine Creditreform. In order to be able to monitor the consequences of the COVID-19 crisis, another six supplementary online surveys were conducted up to the end of 2021 which were linked to the main survey of 2020 and extrapolated to the basic population of SMEs. Depending on the wave of the survey conducted during the year, between 2,000 and 2,800 responses from businesses were evaluated for the present study.

Turnover losses at the outset of the pandemic

Figure 2 shows different enterprise groups to illustrate how broadly and deeply the turnovers of SMEs were affected by the consequences of the pandemic and the containment measures in April 2020. The impact of turnover losses differs only minimally by enterprise size and the economic sector to which it belongs, with shares of 60% to just under 70%. The construction sector is the only exception, where 50% of companies – a significantly lower share than other enterprises – suffered turnover losses. The magnitude of turnover losses differed mainly by enterprise size. The larger the enterprise, the lower the losses (Schwartz and Gerstenberger, 2020; Brink et al., 2022). With an average downturn in turnover of 27% (in businesses that had turnover losses), large SMEs experienced significantly lower turnover losses than small businesses, where the share averaged 55%. One likely reason is that larger enterprises tend to have more diversified sales markets and internal processes and that the shock caused by the pandemic often did not affect all their parts equally. Averaging 43%, the share of manufacturing firms that suffered turnover losses was also lower than in commerce or the services sector. Asymmetrical impacts by economic sectors and enterprise size classes were already identified in various studies (Juergensen et al., 2020; del Rio-Chanona et al., 2020; Brink et al., 2022). Retail trade and personal services were hit particularly hard by the first lockdown and further pandemic containment measures. The lockdown affected manufacturing, construction, wholesale and business services less directly. In these sectors, the worsening economic prospects, worker absences and other measures adopted to contain the pandemic likely played a more important role. Furthermore, companies engaged in foreign trade were likely affected more often by disruptions to supply chains. The extremely positive business situation in the construction sector was the least impaired by the COVID-19 pandemic.

Enterprises with international turnover were significantly more likely to suffer turnover losses and in a slightly higher order of magnitude than companies doing business in the domestic market alone. This is likely because the international turnovers of SMEs plunged by a particularly steep 10.5% in the year 2020 (Abel-Koch, 2022). Germany's trade in goods dropped most sharply at the onset of the COVID-19 pandemic. Supply chain disruptions also affected internationally active enterprises most often from the moment the pandemic erupted, which was likely due to their broader geographic coverage and higher complexity.

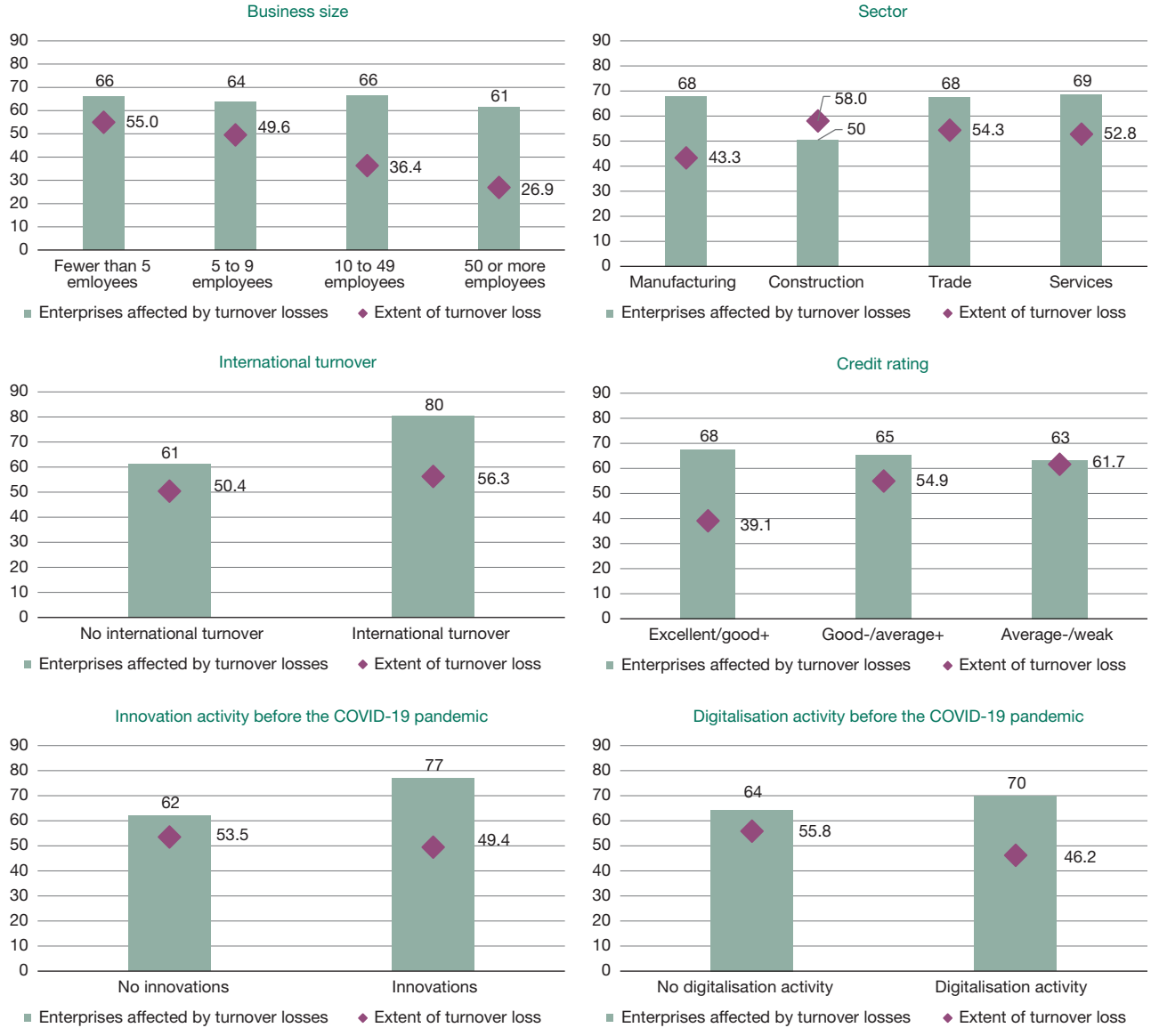
Businesses with a good credit rating were affected by turnover losses at a slightly higher rate (68%) than those with a medium to low credit rating. In return, the extent of their turnover losses averaged 39%, which was significantly lower than among the latter, where losses amounted to just under 62%. This is likely due, among other

1 Manufacturing, construction, wholesale trade, retail trade, services, other.

Figure 2

Impact of turnover losses on SMEs in Germany at the outset of the COVID-19 pandemic

in %



Sources: KfW SME Panel, 1st supplementary coronavirus survey (May 2020), own calculations.

things, to the fact that large enterprises in particular tend to have a good credit rating.

Past studies found that innovators or enterprises with advanced levels of digitalisation have weathered crises more successfully (Dachs et al., 2017; Bertschek et al., 2019, Dachs et al., 2020). In this study, innovation is defined as technical innovation, i.e. product or process innovation in accordance with the definition of OECD and Eurostat (2005). Businesses that innovated before the pandemic also suffered turnover losses more often than non-innovators at the onset of the pandemic. The average decline in turnover among innovators, however, was slightly lower than among non-innovators. The picture around digitalisation activities tells a similar story. Businesses that successfully completed digitalisation projects before the outbreak of the COVID-19 pandemic were impacted by turnover losses at a slightly higher rate but with lower average declines in turnover than businesses without digitalisation projects.

The distinction based on international sales, innovation and digitalisation activity prior to the outbreak of the pandemic and, to a lesser degree, credit ratings thus shows

that turnover losses often affected not just small businesses and those that were already struggling before the crisis (that were typically regarded as most vulnerable), but in particular those that were high performers. This observation is consistent with the findings of Coad et al. (2022), who determined that negative consequences of the pandemic were more likely to affect fast-growing enterprises and those that conducted R&D. With respect to the severity of the impacts, however, a mixed picture emerges. While enterprises that were conducting innovation and digitalisation activities before the outbreak of the pandemic or had a good credit rating experienced lower turnover losses, small and internationally active companies on average suffered higher turnover losses.

Further progression of the pandemic

As the crisis unfolded, the share of companies affected by sales slumps declined overall (Figure 1). This was likely due not just to the relaxation of restrictions but also in part to the government support measures and far-reaching adaptation measures undertaken by small and medium-sized enterprises, which likely had an immediate effect on their sales situation, ability to stay in business and financial scope. A large number of businesses implemented adaptation measures at the onset of the crisis. These involved the products and services offered – internal processes and sales channels, for example (Zimmermann, 2020a). Thus, digitalisation measures such as the expansion of remote working capacities and measures aimed at improving digital communication are also likely to have helped limit employee absences, stay in business and continue interacting better with customers and business partners overall.

Figure 3 shows how the number of companies affected by turnover losses among the groups of SMEs studied here developed over the course of the crisis. The recovery from the turnover slump that happened at the onset of the pandemic occurred almost in synchrony across all enterprise sizes, with progression rates differing only marginally between size classes. The share of enterprises with pandemic-induced turnover losses decreased by around 60% by September 2021. This almost parallel progression seems surprising at first glance, as though companies of different sizes were affected by turnover losses with similar frequency; yet the intensity of the impact was significantly higher in smaller enterprises. The fact that small companies recovered at a similar rate to large SMEs despite this higher degree of affectedness is due to their lower diversification.

Enterprises of different economic sectors, on the other hand, are shown to exhibit significantly greater differences in the speed of recovery. In the construction sector, the recovery began early. Already in mid-2020, the share of enterprises suffering turnover losses in this group fell by 40%. A second stage of recovery began in the spring of 2021. With the share of companies impacted by turnover losses falling by 82% by September 2021, construction firms in particular emerged from the COVID-19 crisis much more quickly than businesses of all the other economic sectors investigated here. This observation is consistent with the fact that the vigorous construction activity in Germany continued throughout the course of the pandemic.

Companies in the trade sector are situated at the opposite end of the distribution. After a swift recovery during the summer of 2020, disruptions to turnover continued into the spring of 2021. This was likely due to the pandemic containment measures imposed in the retail sector during the renewed pandemic waves. Turnover losses continued in the winter of 2020/2021. It was not until the September 2021 survey that trading companies were able to catch up with manufacturers and service providers in terms of reducing the impact of the crisis. Enterprises in the two aforementioned sectors recovered almost in synchrony across the period under review. The measures adopted to overcome the crisis and the overall economic recovery had an effect here, reducing turnover losses. To be sure, pandemic-induced restrictions to business operations were in place for consumption-related services in the winter of 2021 as well. But these did not have a strong enough effect on the overall development in the services industries to become discernible in the aggregate view.

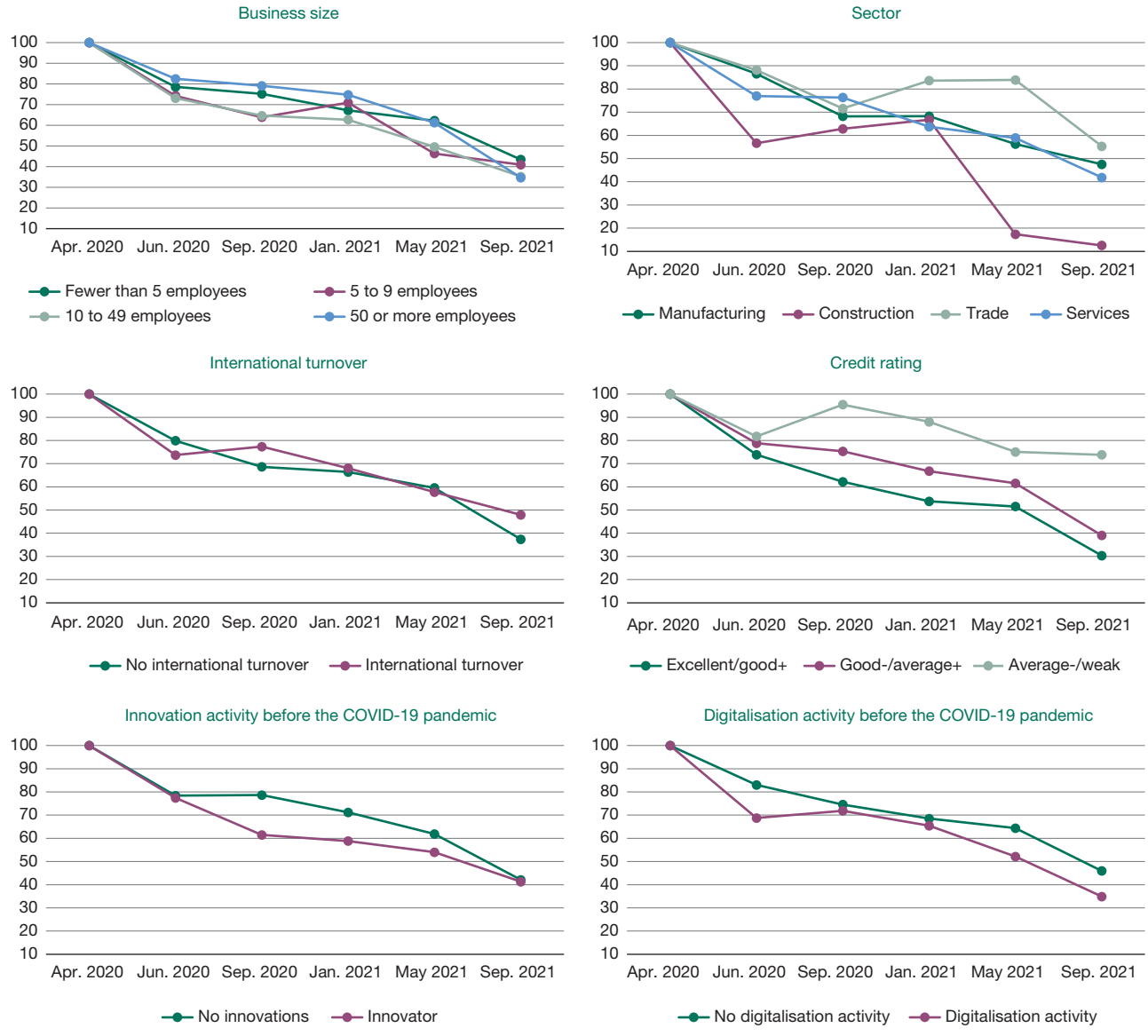
Across vast stretches of the period covered by the study, the recovery of enterprises with international sales also hardly differed from that of businesses without international sales. It is true that enterprises with international operations are typically larger than others, have a higher credit rating and are more likely to innovate and implement digitalisation measures (Zimmermann, 2021a, 2023). These factors would suggest a quicker recovery. However, the previously mentioned slump in global economic output and disruptions to supply chains – which are more often international for these firms – have likely hampered the recovery. At the end of the period covered by the study, enterprises without international sales actually performed somewhat better than internationally active ones, highlighting the important role of supply chain disruptions, which intensified again in the course of 2021 (Abel-Koch, 2022).

With respect to the credit rating, it was found that enterprises with a higher credit rating also recovered more quickly from the consequences of the outbreak of the pandemic in Germany. One likely reason for this is that

Figure 3

Number of SMEs in Germany affected by turnover losses during the COVID-19 pandemic

Relative decline in % compared with May 2020



Sources: KfW SME Panel, 1st to 6th supplementary coronavirus survey, own calculations.

while enterprises with a good credit rating were slightly more often affected by turnover losses in the spring of 2020, a higher credit rating also meant less severe turnover losses. Enterprises with a higher credit rating also likely had broader financial scope for implementing adaptation measures – particularly with regard to external finance. Not least, the fact that the rating score is also an indicator of business management quality (Peters et al., 2017) also likely played a major role. After all, the past and long-term business success of a company – on which a good credit rating is based – would not be achievable without high management quality. This factor in particular may also help make it easier to manage the COVID-19 crisis more successfully than would be possible for enterprises with less developed management skills. Those that had the highest credit rating in particular were the quickest to recover in the period under review. They were closely followed by companies in the group with a medium credit rating. The group of enterprises with a relatively low credit rating exhibited stronger fluctuations in crisis impact over the course of time. A significant weakening in impact did not set in until the

spring of 2021. These enterprises therefore have much greater difficulties overcoming the crisis than those with a higher credit rating.

The impact of innovation activities

From mid-2020, enterprises that already innovated before the outbreak of the COVID-19 pandemic saw their turnover recover up to 17 percentage points faster from the consequences of the pandemic than those that did not innovate before the pandemic (September 2020). This indicates that a company's innovation activity significantly influences the way in which it manages a crisis.

Past studies already found that enterprises that were severely affected by the crisis and those that successfully innovated before the pandemic were more likely to undertake adaptation measures and innovate at the onset of the pandemic than those without innovation (Zimmermann, 2020a, 2020b). The higher frequency of innovation activity at the start of the pandemic by businesses that previously innovated shows that the ability to successfully respond to changes in the market situation is specific to the enterprise and closely linked to successful past innovation activity.

By May 2020, 27% of SMEs had completed innovation projects to manage the crisis (Zimmermann, 2020b). Figure 4 shows how these businesses further evolved. The development of these enterprises is compared with that of non-innovators and with those that innovated both before and at the onset of the crisis. From autumn of 2020, enterprises that innovated at the beginning of the pandemic were much less likely to suffer turnover losses than those that did not innovate. In the surveys of September 2020 and January 2021, the shares of businesses impacted by turnover losses were 13 percentage points and 17 percentage points lower (September 2020) and around 22 percentage points lower (January 2021) among innovators than non-innovators. Innovation thus clearly contributed to faster crisis management.

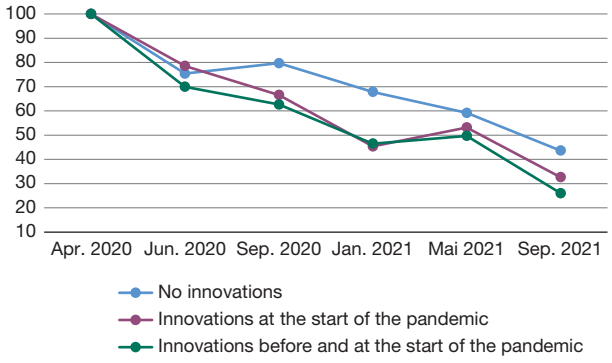
In the further course of the pandemic, the trajectories between innovators and non-innovators converged again slightly but without overlapping. This may be due to the fact that the boost from successful innovation activity is subsiding and some enterprises that innovated at the start did not continue with further innovations. This explanation is consistent with the observation that innovation activity among SMEs decreased as the pandemic progressed (Zimmermann, 2021b).

Enterprises that innovated at the onset of the pandemic and introduced innovations in-house before the pandemic

Figure 4

Impact of turnover losses on SMEs in Germany in the course of the pandemic by innovation activity

Relative variation in %



Sources: KfW SME Panel, 1st to 6th supplementary coronavirus survey, own calculations.

developed slightly more favourably over almost the entire period of the study than those that innovated only at the beginning of the crisis. The difference between the two groups of enterprises widened to 7% by September 2021. This finding can be explained by the fact that enterprises that innovated already before the pandemic were likely to be more experienced in successfully implementing innovation projects than other businesses. They were also likely to be more successful in improving their business situation by introducing innovations even under pandemic conditions (Brink et al., 2022). Another likely contributing factor is that businesses that have permanent processes in place for developing and introducing innovations, in particular, are more likely to continue or even grow such activities – even in a crisis situation – than other enterprises (Zimmermann, 2021b). The more positive development of these enterprises towards the end of the period covered by the study could therefore also be attributable to their continuous innovation activity during the entire pandemic duration.

Digitalisation activities and the pandemic

Digitalisation measures can also be seen as a helpful tool for managing the impact of the COVID-19 pandemic. For example, working from home was developed and expanded within a short period of time in response to the pandemic (Abel-Koch, 2020; Demmelhuber et al., 2020). Online transactions also increased strongly (Federal Statistical Office, 2020). The use of online trade, cashless payment systems, virtual communication forms and e-health services experienced strong growth. It was crucial for businesses to respond flexibly to decreasing demand and supply bottlenecks, to ensure distancing and remain visible for

customers and cooperation partners. Under the pandemic conditions, digitalisation measures in particular were able to make a critical contribution to this development (Köhler-Geib and Zimmermann, 2022; Bertschek, 2020).

Digitalisation activities undertaken at the onset of the COVID-19 pandemic were not explicitly covered in the supplementary surveys of the KfW SME Panel. We therefore examine whether an enterprise completed digitalisation projects before the outbreak of the pandemic, specifically between 2017 and 2019. This information can be used as an approximation for determining that a business under consideration is familiar with the implementation of digitalisation projects. Furthermore, a previous study determined that enterprises that successfully completed digitalisation projects before the outbreak of the pandemic expanded their digitisation activities more frequently than other companies in the first year of the pandemic (Zimmermann, 2021c).

Figure 3 shows that enterprises with digitalisation activities recovered more quickly from the outbreak of the pandemic than those without. In June 2020, a 16 percentage points faster recovery can already be determined. After the gap narrowed in the autumn of 2020 and the winter of 2020/2021, it widened again to 12 percentage points (May 2021) and 11 percentage points (September 2021). In the second pandemic year, enterprises increasingly transitioned from acute crisis management to longer-term efforts and, in part, strategically oriented projects (Zimmermann, 2023). The more positive development of turnover experienced by digitally active enterprises at the end of the period may therefore be an indication that this allowed them to achieve a longer-lasting competitive advantage over those without digitalisation activities.

Financial capacity during the pandemic

To examine how the financial capacity of enterprises developed during the pandemic, we use the credit rating issued by Vereine Creditreform. This credit rating is based on information about financial status and liquidity (information reported in the annual statements), structural risks (sector, size and age of enterprise, productivity) and soft factors (payment history, volume of existing orders, order intake, management quality). Creditworthiness is measured on a scale of 100 to 600 points, with 100 representing the best achievable creditworthiness score, 500 being a massive default in payment and 600 the suspension of payments. For example, a rating index of between 250 and 299 points is defined as a 'medium credit rating' (Vereine Creditreform, n.d.). Credit ratings are updated in half-yearly intervals. Not only can the pandemic be expected to have had a direct impact on the credit ratings as a result of how business evolved and the potential need to use financial reserves to bridge liquidity bottlenecks, but it must be presumed that, especially over the course of the pandemic, the credit rating of enterprises was also influenced by possible borrowing and the use of state support measures provided to secure liquidity.

The average credit rating of enterprises dropped only marginally overall in the course of the pandemic. In January 2022, it was slightly more favourable (268.4) than in mid-2021 (269.9). Compared with the level before the outbreak of the pandemic, the credit rating score in January 2022 was a mere 4.1 points higher. A mild credit rating deterioration was also identified for almost all groups of enterprises examined here (Figure 5). The only exceptions were enterprises in the construction sector, which were only slightly affected by the pandemic, enterprises whose credit rating were relatively low before the pandemic and internationally active enterprises. For most of the groups of enterprises studied here, the changes in credit ratings occurred in a narrow corridor. Larger enterprises saw a moderately steeper decline in credit ratings than small businesses. With the exception of construction, the differences between sectors are negligible. The credit rating of enterprises that are typically counted among the higher performers, such as those with international turnover, innovators or enterprises with digitalisation activities, developed slightly more favourably than among businesses that did not have these activities. The credit ratings of companies that had a relatively low credit rating at the onset of the pandemic in particular deviate from this pattern. As the pandemic progressed, they experienced a noticeable improvement in their credit rating of almost 18 points. The likely reason for this was that the state support measures introduced in Germany for managing the crisis were aimed at preventing liquidity constraints and the departure of businesses from the market (without keeping those in business that were in financial distress already before the pandemic). The pandemic posed the greatest threat to companies whose credit rating was already lower before it broke out, so they likely signed up to corresponding support schemes more often than others.

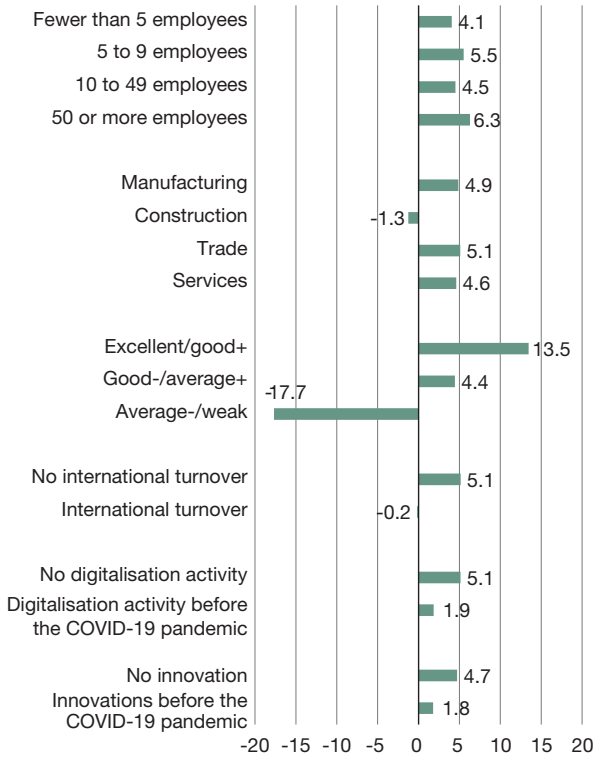
Conclusion

The SME sector broadly suffered from the consequences of the pandemic but the frequency, intensity and recovery varied between SME segments. A notable discovery is that enterprises typically regarded as high performers – such as innovative, digitally or internationally active enterprises or companies with a high credit rating – grappled with turnover losses more often than others at the onset of the pandemic but that their turnover losses were often less severe.

Figure 5

Credit ratings in the course of the COVID-19 pandemic in different groups of SMEs in Germany

Change in credit rating in index points (January 2022 vs. January 2020)



Sources: KfW SME Panel, own calculations.

Those enterprises were also characterised by the fact that, with the exception of internationally active companies, they recovered more quickly from turnover losses than others. This observation fits in with the ideas debated under the catchphrase "opportunity recognition", which refers to the abilities of businesses to identify and capitalise on opportunities that present themselves. This ability is associated with particular personality traits of the entrepreneur but also with existing networks and the knowledge and skills previously acquired as an institution (Ardichvili et al., 2003; Kuckertz et al., 2017; Zouaghi et al., 2018). As this shows, enterprises that innovated and were digitally active before the pandemic and those that had a good credit rating in particular developed and successfully applied such skills in managing the crisis. Developing these skills thus played a crucial role in building the resilience of those enterprises.

The analysis of credit ratings over the course of the pandemic shows that the overall SME sector experienced only a minor credit rating downgrade. Credit ratings also moved in a narrow corridor among the groups of businesses covered by the study. It can therefore be concluded that in terms of financial capacity, SMEs emerged from the pandemic barely any weaker.

In addition to the crisis management measures adopted by enterprises, this is likely also the result of the extensive economic policy support measures that were introduced. In this context, it is remarkable that businesses with a relatively low credit rating in particular emerged stronger from the crisis. The principal aim of economic policymakers in Germany was to prevent liquidity bottlenecks and the closure of businesses that were financially healthy before the pandemic. The findings of the study indicate that the support measures successfully reached the intended target group. The fact that the wave of insolvencies feared by some observers (Gourinchas et al., 2021) did not occur (Federal Statistical Office, 2023) and that there is no sign of an increase in enterprises with critical debt sustainability levels (Schwartz, 2023) suggests that, on the one hand, there is no evidence of a "cleansing effect" from the pandemic in Germany. On the other hand, there is also no evidence that the support measures led to an artificial, support-induced continuation of unviable businesses.

These findings allow multiple lessons to be learned for both crisis stabilisation and structural economic policy measures. Whereas the COVID-19 pandemic illustrated once again that crises often emerge unexpectedly and differ significantly from previous crises in their causes, effects and progression, there are skills and abilities that strengthen the resilience of businesses to crises of all types. Enterprises that innovated or successfully completed digitalisation measures already before COVID-19 were affected slightly more by the pandemic but recovered faster. This indicates that innovation capacity and the application and development of digital technologies are either an expression of abilities that also facilitate the adaptation of the business to a crisis situation or strengthen its actual resilience to the crises. These abilities are inherent in enterprises and can be learned. This underscores the importance of economic policy measures aimed at promoting business innovations not just as structural policy but as stabilisation policy. A relevant starting point here is to strengthen the innovative power of small companies in particular, which often produce innovations without the use of R&D (Zimmermann, 2022). This group of businesses has recently received less innovation support. Based on the findings of this study, this trend needs to be reversed.

As innovative strength as well as the development and application of digital technologies are often hampered by a lack of skilled workers, this is a relevant starting

point for strengthening crisis resilience. Promising approaches include measures aimed at bringing people into the workforce in Germany, for example by removing disincentives to the participation of women or by providing incentives for extending people's working life, targeted labour migration and measures aimed at increasing productivity such as training and continuing education or automation.

Finally, we found that very high-performing enterprises in particular were also heavily affected by the pandemic, leading to a decline in R&D and innovation activity. This is an indication that stabilisation policy must go beyond mitigating shocks for vulnerable groups to ensure that valuable companies can maintain their forward-looking activities. This is particularly the case in idiosyncratic shocks, that may otherwise entail a shift in a location's competitiveness.

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Rainer Maurer

The Divergence of Price Levels in the European Union

Until the global financial crisis of 2007-08, inflation differentials in the euro area could be explained by a general trend towards price level convergence; that is, countries with lower price levels tended to have higher inflation rates than countries with higher price levels. Since then, however, the trend has reversed: price levels in the euro area are now diverging. Time series analyses suggest that this divergence is not temporary but, rather, has been anchored in the time series process of price levels all along. This is true not only for the aggregate of the harmonised index of consumer prices but also for sub-aggregates of tradable goods. A potential explanation for these findings could be attributed to monopolistic price discrimination. Empirical studies have documented the significant role played by price discrimination based on per capita income in international trade. The price levels of the member states of the Economic and Monetary Union indeed display a clear positive correlation with GDP per capita. Furthermore, real GDP per capita between the member states of the monetary union is also diverging and – as to be expected in the case of a positive correlation between real GDP per capita and price levels – the divergence of nominal GDP per capita is larger than the divergence of real GDP per capita. This article describes these empirical findings, outlines possible explanations for them and discusses various options for responsive economic policy action.

In the early days of the Economic and Monetary Union (EMU), there were still significant structural differences between the member states' economies (Issing, 2008). To address this, proponents of the locomotive theory argued that a monetary union could serve as a catalyst for heightened economic integration. By eliminating the risk associated with nominal exchange rates, such a union could foster increased specialisation through trade, while also facilitating the integration of capital markets by promoting fluid capital movements. This, in turn, would increase the degree of economic integration between the member states and thus reduce the stability costs associated with a unified monetary policy imposed by the European Central Bank (ECB). Consequently, according to the locomotive theory, a monetary union could establish the prerequisites for its own survival.

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An alternative perspective known as the coronation theory posited that economic structures must first align before establishing a definitive monetary union (Kenneth, 1999). According to this theory, without such convergence, the occurrence and severity of asymmetrical shocks would exceed the capacity of individual national fiscal policies to absorb them. Consequently, the stability costs associated with a unified monetary policy could rise to unsustainable levels, posing a long-term threat to the unity and coherence of the monetary union.

A crucial indicator of the degree of economic integration among the member states within a monetary union is the prevailing price level in these countries. Following the Balassa-Samuelson theorem, countries with below-average labour productivity should experience comparatively lower price levels for their consumption baskets. This is attributed to the fact that countries with lower labour productivity must compensate for this lack of productivity by issuing lower wages, since the prices for tradable goods are equalised by trade arbitrage. As a result of these lower wages, the prices for non-tradable goods are lower in countries with lower labour productivity such that their average total price levels are also lower. In a regime characterised by unhindered trade and capital mobility,

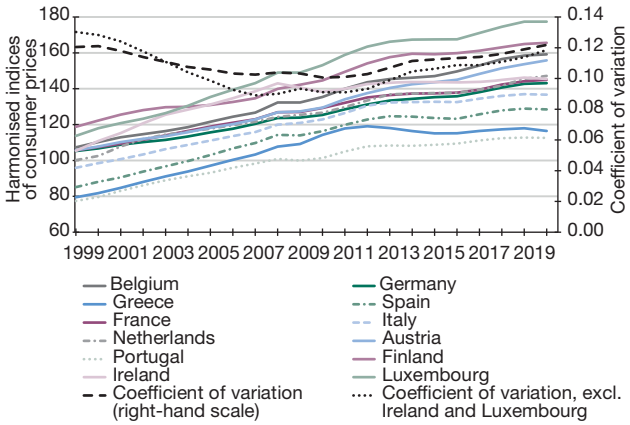
a process of catching up should then ensue, fostering a convergence of labour productivity and, consequently, long-term convergence of price levels. However, in reality, transaction costs hinder a perfect price convergence. In the presence of such costs, prices should converge until they differ by a certain margin, determined by the size of these transaction costs. Consequently, real exchange rates (i.e. the ratio of the price levels of the member states) are expected to oscillate around constants in the long run.

The expectation of such a long-run price convergence is supported in several publications by prominent European institutions. For instance, the European Commission emphasised in its 1990 publication "One Market, One Money" that "without a completely transparent and sure rule of the law of one price for tradable goods and services, which only a single currency can provide, the single market cannot be expected to yield its full benefits – static and dynamic" (European Commission, 1990, 19). When euro banknotes were introduced at the outset of 2002, the ECB highlighted in its Monthly Bulletin that "the introduction of the Euro banknotes and coins further reduces transaction costs and increases price transparency across borders. In turn, this should increase the strength of competition and, over time, reduce price level dispersion in the Euro area" (ECB, 2002, 39).

Empirical findings

Contrary to these theory-based expectations, an empirical examination reveals a significant divergence in the long-term trajectories of the harmonised indices of consumer prices (HICP) since the establishment of the EMU, as depicted in Figure 1. The coefficient of variation, i.e. the ratio of the standard deviation of the time series to their mean, demonstrates that the price levels of the member states had been converging from 1999 until 2007. However, since 2007, this trend has reversed and the price levels are now diverging. This reversal becomes even more pronounced if the outliers, Luxembourg and Ireland, are omitted. The type of convergence measured by the coefficient of variation is also called sigma convergence. It implies that the variance of the price levels of different countries decreases over time. Another type of convergence is called beta convergence. It implies that countries with lower price levels tend to have higher inflation rates than countries with higher price levels. Mathematically speaking, the two convergence concepts are related to each other: sigma convergence implies beta convergence but not vice versa (Maurer, 1995, 3). From this it follows that, over the first decade of the EMU, countries with lower-than-average price levels, such as Portugal, Greece and Spain, experienced higher-than-average inflation rates, while countries with higher price levels, like Austria, Belgium, France, Finland and Germany, experienced lower-than-average inflation rates, as implied by the Balassa-Samuelson theorem. However, the global financial crisis of 2007-08 and the following European debt crisis seem to have brought this process to a halt and caused a reversal.

Figure 1
Price level divergence between EMU founding states



Note: Given that the Eurostat HICP is an index time series in which the base year value is equal to 100%, the graphical analysis requires an adjustment for the purchasing power parities (PPP) deviation in the base year. The HICPs are adjusted using 1999 PPP.

Source: Eurostat (2022a, 2022b).

One explanation for these findings could be that the divergence of the overall HICP price level was primarily driven by the fact that a large proportion of the HICP components are service sector goods and, as such, non-tradables. However, a closer look at the disaggregated components of the HICP shows that this presumption is, on the whole, incorrect.[1] While the coefficient of variation is roughly half as large for the total goods HICP component as it is for the total service HICP component, a similar trend reversal is recognisable for both components. Consequently, the component of the HICP that should mostly include tradable goods is not characterised by a long-term convergence of prices driven by trade arbitrage. Maurer (2022) finds that reducing the aggregation level further to the three-digit level does not necessarily lead to more convergence. For example, three-digit service-sector HICP components such as restaurants and hotels or communication services reveal a similar divergence pattern to three-digit tradable HICP components, such as clothing, non-alcoholic beverages, motor cars or industrial durables.

1 See Figure 2 in Maurer (2022).

Thus, the graphical evidence supports the hypothesis that the great recession and the following European debt crisis might have reverted the tendency of EMU price levels to converge. It is possible, however, that the observable divergence is only temporary and that a relatively weak error correction mechanism still exists in the long-term time series process. It is also possible that there exist "convergence clubs" of structurally similar countries that are not recognisable in the diagrams. Therefore, Maurer (2022) analyses the time series behaviour of real exchange rates (RER) between member states of the EMU by conducting country pairwise tests. It is a common finding that price levels typically follow random walks, i.e. the current price level equals the price level of the previous period plus a current random shock plus, possibly, a constant drift parameter. This random walk time series behaviour has also been confirmed for the HICP (Maurer, 2022). As a consequence, a test for actual price level convergence requires a test for the stationarity of RER. While stationary RER are compatible with temporary deviations but imply long-term convergence towards non-zero constant margins, a contrarian result, RER that follow random walks are necessary and sufficient for the long-term divergence of price levels.

To test the unit root hypothesis against the stationarity hypothesis for the 12 founding member states of the EMU, 66 country pairs of RER are calculated for each of the nine aforementioned HICP indices (all items, total goods, clothing, non-alcoholic beverages, motor cars, industrial durables, total services, restaurants and hotels, communication services) on a monthly basis for the sample period from January 1999 to September 2019. As specified in Maurer (2022), the random walk hypothesis can be rejected only in four out of a total of 594 cases, specifically for the all-items RER of Germany/Belgium and Luxembourg/Italy and the communication services RER of Spain/Germany and Luxembourg/Greece. It is interesting to note that the random walk hypothesis for the RER of tradable goods is not systematically rejected more frequently than for non-tradable services. Moreover, it is not possible to detect any kind of stationarity clusters between structurally similar countries.

These surprising findings prompt the question of whether the calculation of the RER could be imposing overly stringent restrictions. This is because each price level is inherently assigned a rigid coefficient of one. In a world where transaction costs hinder immediate arbitrage activities, such restrictions might prove too strong. A less restrictive test of the hypothesis, that the components of RER are "kept together" in the longer run by arbitrage activities, is the cointegration test. Maurer (2022) uses the Johansen (1995) cointegration test based on the framework of a vector autoregression model to test for cointegrating relationships between the price levels.

The test outcomes suggest that the notion of a self-stabilising relationship between price pairs is more frequently supported compared to the more restrictive unit root tests (Maurer, 2022). Nonetheless, the findings reveal that there is no systematic difference between the behaviour of the HICP components for tradable goods and non-tradable services. Out of the 594 potential cointegration relationships examined, 112 fail to reject the null hypothesis that a cointegration vector exists at the conventional significance level of 5%. However, in a mere 40 cases, the estimated cointegration parameters display the theoretically expected signs. The number of cointegration vectors for "total goods" matches that of "total services" despite involving different pairs of countries. It is not possible to identify specific country clusters where the existence of cointegrating relationships is less frequently rejected than in other cases. Furthermore, there is no discernible clustering around northern or southern European countries.

These empirical findings shed light on the behaviour of price levels in the Eurostat HICP and its subcomponents across the founding member states of the EMU. It is revealed that these price levels, along with the country pairs of the RER, tend to follow random walks rather than remaining stationary around a linear trend. Moreover, the majority of RER components do not exhibit cointegration. Somewhat unexpectedly, the results do not generally indicate a higher occurrence of stationary RERs for tradable goods compared to non-tradable services.

The findings reveal that price behaviour within the EMU, as measured by the HICP, predominantly adheres to individual country-specific patterns. The evidence does not suggest a discernible influence of the ECB's monetary policy on these patterns. Furthermore, there is no indication that efforts to incorporate a common drift parameter, derived from the ECB's inflation target, into the random walk processes of price levels have been successful. Similarly, attempts to introduce suitable stochastic shocks to impact the stochastic process of price levels, with the aim of achieving cointegration across member states, have not yielded the desired outcome.

One should be cautious when interpreting the results because the analysis only focuses on eight out of the 97 subcomponents of the HICP available over the sample period. However, the absence of systematic differences in the results between the all-items HICP, total services (all-items HICP excluding goods), and total goods (all-items HICP excluding services) appears to suggest that the unanalysed subcomponents are unlikely to yield sig-

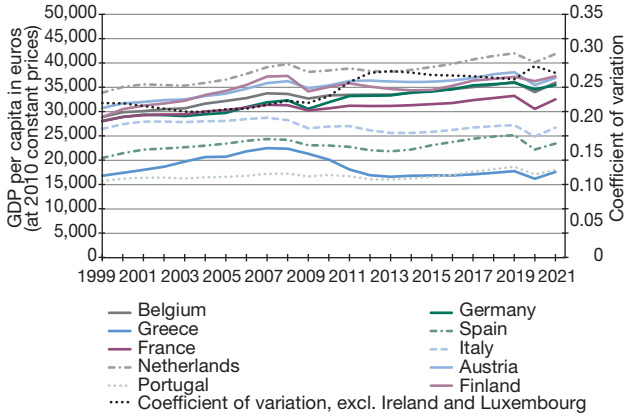
nificantly different outcomes on average. Nevertheless, exploring the time series behaviour of additional HICP subcomponents in future research could potentially offer valuable insights. Another shortcoming of Maurer's (2022) empirical analysis is its limitation to the 11 founding members of the EMU. The reason for this limitation is the minimum length of the sample period needed for a time series analysis, which is not guaranteed for younger member countries. Moreover, it is questionable whether the neglected nine member states, with their shorter EU integration histories, could change the overall picture.

Potential explanations

The findings pertaining to the tradable HICP subcomponents require particular explication, given that the European single market, coupled with the elimination of nominal exchange rate risk, should theoretically provide a solid foundation for risk-free trade arbitrage. Why, though, is this important premise of the Balassa-Samuelson theorem not fulfilled in reality?

A potential explanation for these findings could be attributed to monopolistic price discrimination, particularly the prevalence of intra-industrial trade between the member states of the EMU. The prohibition of nationality-based price discrimination, also known as geo-blocking, was introduced under EU Regulation 302 in 2018. However, it is important to note that even this regulation does not explicitly prevent the selling of goods or services at varying prices to all consumers, irrespective of their nationality, across different countries. Empirical studies have extensively documented the significant role played by price discrimination based on per capita income in international trade. Based on US export data from 1989-2000, Alessandria and Kaboski (2011) show that US exporters sell the same goods at significantly lower prices to low-income countries. This type of price discrimination "is about twice as important as any local non-traded inputs, such as distribution costs, in explaining the differences in tradable prices across countries" (Alessandria and Kaboski (2011, 91). Simonovska (2009) calculates, based on microeconomic data from a Spanish apparel manufacturer, that "doubling a destination's per-capita income results in an 18% increase in the price of identical items sold there" (Simonovska, 2009, 1). The PPP-corrected HICP price levels also display a positive correlation with per capita GDP. Indeed, below-average income countries like Greece, Portugal and Spain display below-average price levels, while above-average income countries like Austria, Belgium, France, Finland and Germany display above-average price levels. The correlation is stronger for the all-items HICP, but is also significant for the all-goods HICP. This indicates that the growing per capita GDP divergence (Figure 2) could be a driver of price divergence.[2]

Figure 2
Real per capita GDP divergence between EMU founding states



Source: Eurostat (2022c).

If countries with larger growth of per capita GDP also experience a larger growth of price levels, their nominal per capita GDP should display an even larger divergence than their real per capita GDP. The coefficient of variation in Figure 3 shows that this is actually the case. The growth of the coefficient of variation of real per capita GDP from a level of 0.22 to a level of 0.27 corresponds to a total increase of 19%, while the growth of the coefficient of variation of nominal per capita GDP from a level of 0.25 to a level of 0.31 corresponds to a total increase of 22%.

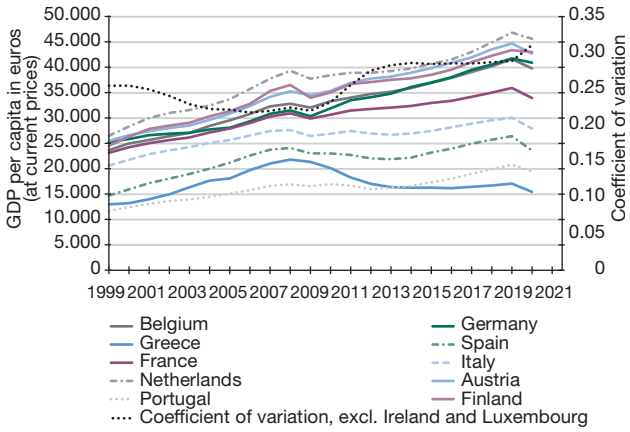
Policy conclusions

The empirical findings presented by Maurer (2022) raise concerns over the extent to which the time series behaviour of the HICP within the EMU is compatible with the ECB's concept of a single monetary policy (Issing, 2001). Despite the relatively low inflation rates of the past, which have resulted in small absolute price discrepancies, the absence of cointegration implies that substantial inflationary shocks could potentially lead to greater divergence in

2 Figures 2 and 3 exclude the data of Luxembourg and Ireland from the calculation of the coefficient of variation. Luxembourg had a per capita GDP of approximately €85,000 in 2021, while Ireland had a per capita GDP of €70,000 in 2021. Ireland experienced a very strong increase of per capita GDP starting in 2014, when the Irish per capita GDP was around €40,000. This strong increase was most likely caused by a relocation of company earnings to Ireland for tax reduction purposes. The very high per capita GDP of Luxembourg is also due to its position as a financial hub. Adding both countries largely inflates the coefficient of variation as well as the tendency of per capita GDP to diverge.

Figure 3

Nominal per capita GDP divergence between EMU founding states



Source: Eurostat (2022c).

price levels in the future. Such a scenario has the potential to undermine the credibility of the ECB's monetary policy, especially in countries experiencing significant deviations from the declared target inflation rate.

In the event that market mechanisms fail to reduce the widening gap in price levels, the implementation of more tailored and country-specific policies may become necessary. One potential approach to address this mounting price divergence is through coordinated country-specific fiscal policies. Alternatively, a more targeted monetary policy could be pursued, such as the establishment of country-specific minimum reserve requirements as proposed by Holz (2007). It is worth noting that Article 19.1 of the ECB Statute grants the European Central Bank full legal authority to determine the minimum reserve rates. Another avenue for the implementation of country-specific monetary policies lies in the adoption of country-specific main refinancing rates. There is already a historical precedent for this approach in the United States' Federal Reserve System, which, between 1914 and 1941, employed district-specific discount rates (Fraser Archive, 1943). On balance, then, while there may be political motivations to uphold the principle of a single monetary policy, it is important to recognise the existence of alternative approaches that warrant consideration.

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The Grandchildren of Keynes

A recurring question over the last few decades, not only in Europe but in much of the developed world, is: Why has economic growth slowed? This recent slowdown seems very different from the explicable and, in many ways, anticipated fall in growth rates following the rapid catch-up growth after World War II. The experience of the 21st century – growth rates of GDP per capita falling to 1% or even to 0% – seems to imply that something has gone wrong within the European economy.

Looking at the situation from afar, I am less certain that this represents some kind of failure of policy or direction. The decline in economic growth rates is consistent across the developed world. The U.S., Canada, South Korea and Japan, among others, have also experienced notable drops in their growth rates in the last two decades. Compared to Europe, some of these – the U.S. and Canada – still have higher growth rates, while others – Japan, in particular – seem to be stuck with the same anemic growth that European policymakers and economists worry about.

One can be tempted to look for global reasons for this, as it affects so many nations with such different economic histories; China's entry to world trade is an obvious point of emphasis here. But I am less certain that Europe and the rest of the developed world are living through some kind of persistent global shock related to innovation or poor policy. Rather, I think what we see in these areas is the consequence of being rich and having already experienced rapid growth in the past. We are the grandchildren that Keynes (1932) speculated over in his essay, living in an economy that can fulfill material needs for nearly everyone, and leaving us open to make choices that may not translate to rapid economic growth.

The standard ways that we examine economic growth are not equipped to deal with that. Textbook models of economic growth (including one that I wrote) presume that the productivity growth driving growth rates in the long run is persistent. Robert Solow took that productivity growth rate as a given, but even when Paul Romer and others developed theories to explain that productivity growth rate, a defining feature of those models was the delivery of a constant growth rate of productivity in the long run. Nearly every paper on economic growth written in the last 40 years is built to deliver a "balanced growth path" that implies that growth rates of the mid- to late 20th century will go on forever. Hence, the recent slowdown in growth appears to be an anomaly.

What would economic growth look like if we no longer presume that growth must be constant? It is useful to take seriously the process of structural change and what it implies about demand for the output of different industries – food, clothing, housing, transportation, health care, etc. – and how that interacts with productivity growth in those industries to determine aggregate economic growth.

The demand for different industries is subject to both income and substitution effects. In Europe's recent economic past, living standards were much lower and the influence of income effects on demand across industries was likely more salient. The most obvious case of this is the transition out of agriculture. Europe (like essentially every other economy) gained productivity in agriculture that lowered the relative price of food but notably shifted workers, capital and spending into non-agricultural industries like manufacturing as people

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demanded appliances, cars and better housing with the money they saved. As manufacturing tended to have rapid productivity growth rates, this accelerated economic growth during the middle of the 20th century.

But there were limits to how much people wanted to spend on manufacturing as well, much like with food, and as productivity growth continued in that industry, it led to increased spending in service industries. Unlike that earlier transition, services did not necessarily have high productivity growth, and hence demand was pushing spending into low growth products. The essential story here, identified by William Baumol in the 1960s, is consistent with his explanation for the "cost disease of services".

I think that developed areas like Europe, the U.S. and Japan must acknowledge that this process need not stabilize around a persistent growth rate of aggregate GDP. As we have become very rich, the power of income effects to drive structural change is likely waning and our economies are governed more by the substitution effects working through our demand for output of different industries.

Notably, data suggest that we treat the output of most industries as complements, and hence are unwilling to adjust our spending in response to relative price changes. This means that our expenditure on industries tends to move the same direction as its relative price, and therefore in the opposite direction to its relative productivity growth. We spend more on industries whose productivity growth is low, and less on industries whose productivity growth is high. This has immediate and direct effects on aggregate economic growth, which – roughly – uses that spending to weight the productivity growth of each industry. It need not be the case that productivity growth within industries is slowing down, but rather that the nature of our demand is now acting against higher growth.

If we view industries as complements, then over time economic growth will continue to drop to match the growth rate of the slowest-growing industries, and they will occupy the majority of our spending. Unlike the presumption of persistent balanced growth, the nature of economic growth in developed economies is likely one of steadily declining growth rates.

Is this a problem? To the extent that certain fiscal policies were designed under the presumption of persistent growth, this creates hard political discussions about the right way to allocate spending and set tax rates. But those are not economic problems per se. It is hard to say our preferences are wrong, despite the effect on economic growth, just as it would be hard to say that our preferences are wrong because we decided to stop eating at a certain restaurant or buy a certain brand of clothes.

Perhaps Keynes would not be that surprised by the situation that his grandchildren find themselves in, and he would not see it as dire. He imagined that the structure of the economy would be quite different once we were rich enough to accommodate almost any material need. This does not imply there are not difficult decisions to make in response, but appreciating that our own wealth has led us into a world of slow growth is necessary to avoid chasing a solution – persistently high growth rates – that is out of reach for Europe and the rest of the developed world.

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