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A stabilization fund can make the Euro area more crisis-proof

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DIW Weekly Report 22+23 2018

AT A GLANCE

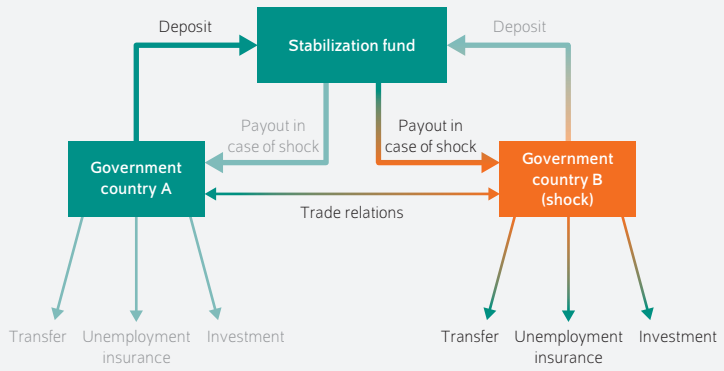
A stabilization fund can make the euro area more crisis-proof

By Marius Clemens and Mathias Klein

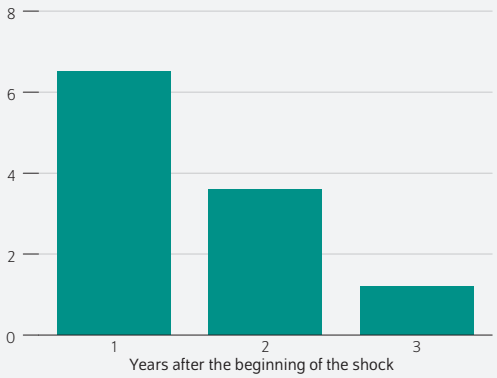
- A common monetary policy is not appropriate for all member states of the euro area in the event of unequal economic fluctuations
- A procyclical fiscal policy makes economic adjustment more difficult
- A stabilization fund can lead to a greater symmetry of business cycles
- Model simulations show the economic gain of such a stabilization mechanism
- When designing a stabilization fund, compliance with established fiscal rules should be effectively enforced

A European stabilization fund can reduce unequal economic fluctuations

Stylized representation of the effectiveness of a European stabilization fund



Economic gain in the euro area due to a stabilization fund
In percent of countries' GDP



Sources: Authors' own depiction; simulation on the basis of a calibrated model featuring two countries unequally affected by an economic shock.

Note on the figure on the right: The economic gain through stabilization is defined for the scenario with a stabilization fund in relation to the status quo without such a compensation mechanism.

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FROM THE AUTHORS

The ECB's ability to execute a monetary policy appropriate for all member states with a uniform interest rate is limited due to asymmetric business cycles in the member states of the euro area. A mechanism for harmonizing business cycles would therefore be urgently needed.

— Marius Clemens —

A stabilization fund can make the euro area more crisis-proof

By Marius Clemens and Mathias Klein

ABSTRACT

Reorganizing European fiscal policy is a main topic in current reform considerations. In particular, the creation of a European stabilization mechanism is being discussed. This study examines the macroeconomic effects of a stabilization fund, the economic consequences of which are analyzed in an equilibrium model. The model shows that a stabilization fund reduces economic fluctuations and is thus a mechanism for making the entire currency area more crisis-proof in the future. However, it should be noted that a stabilization fund may be more politically feasible than shifting responsibility from the national level to to a new European Ministry of Finance. Moreover, moral hazard in regards to the behavior of individual countries must be taken into account when designing the stabilization fund. For example, parallel to the introduction of a European stabilization fund, compliance with fiscal rules should be effectively enforced.

A monetary union with different member states such as the euro area requires a stabilization mechanism to compensate for unequal fluctuations in national economies.[1] The uniform monetary policy of the European Central Bank can only fulfill this role if the individual member states all experience an almost identical business cycle, seeing as the common interest rate cannot react to diverging business cycles. While an increase in the interest rate would be optimal for countries operating close to or above normal capacity utilization in order to prevent the economy from overheating, an expansionary monetary policy would be appropriate for countries operating below their potential.

In the euro area, business cycles in some member states were asymmetrical, particularly in the years following the European sovereign debt crisis (Figure 1). While the German economy recovered from the Great Recession relatively quickly and has been produced with normal capacities and slightly above since 2011, the capacity utilization of other large economies, such as France, Italy, Spain, and the euro area in total, remained below their potential levels.[2]

However, conflicting objectives in a common monetary policy while member states are experiencing asymmetric business cycles does not necessarily pose a problem. However, alternative mechanisms must be brought into play in order to bring about economic adjustment and more symmetrical business cycles. The more limited the options for conventional monetary policy are, the more important this additional adjustment mechanism becomes, for example if the key interest rate can no longer be lowered (zero lower bound). A countercyclical *national fiscal policy* is an instrument that can achieve this necessary adjustment. However, this policy behaved in a procyclical manner, particularly in the countries that were

1 Sebastian Dullien and Ferdinand Fichtner, "Eine gemeinsame Arbeitslosenversicherung für den Euroraum," *DIW Wochenbericht*, no. 44 (2012): 9–15 (in German; available online, accessed June 6, 2018; This applies to all other online sources in this report unless stated otherwise); Agnès Bénassy-Quéré et al., "Reconciling Risk Sharing with Market Discipline: A Constructive Approach to Euro Area Reform," *CEPR Policy Insight* 91 (2018) (available online); IMF, *A Central Fiscal Stabilization Capacity for the Euro Area*, IMF Staff Discussion Note (2018) (available online).

2 A similar picture emerges for the period before the Great Recession, only in reverse: while Germany showed a negative output gap until 2006, these were clearly positive in the other countries, above all Spain.

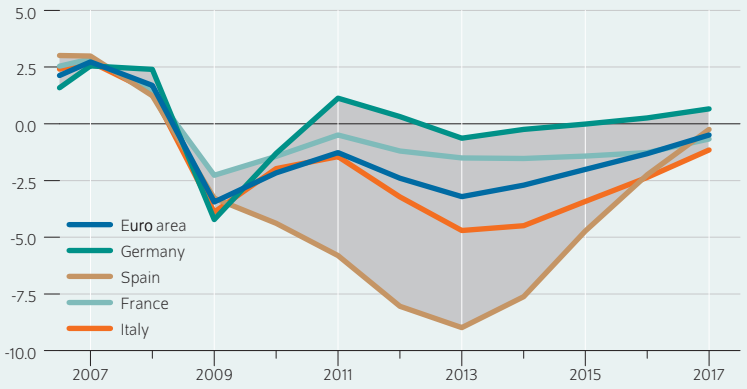
hit hard by the sovereign debt crisis. Most countries in the euro area, for example, have achieved a positive fiscal primary balance in recent years, even though their economies were significantly underutilized (Figure 2).

As a result of falling tax revenues and increasing transfer payments in the years of the crisis, governments were first forced to go further into debt to support the economy. To counteract the increase in public debt beyond the Maastricht criteria, major consolidation efforts were made, especially in the southern European countries. Although this austerity policy lead to a reduction in the fiscal deficit, it further weakened the economy. It thus seems reasonable that governments whose expenditure policy was restricted by the fiscal pact can no longer react optimally countercyclically to economic developments.

However, it is conceivable that a stabilizing mechanism could be introduced at the European level. It has the advantage that country-specific transfer payments can have different national effects. Provided that a European fiscal mechanism thus leads to an alignment of national business cycles, a common monetary policy for the monetary union can once again be optimally designed for all member states.

Figure 1

Output gaps of different countries in the euro area, 2007–2017
Percentage deviation from potential output



Source: AMECO; DIW Economic Outlook Spring 2018.

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Following the European sovereign debt crisis, the economies of euro area member states have diverged: since 2011, the German economy has been showing a nearly closed output gap, whereas other major economies are still operating below their potential.

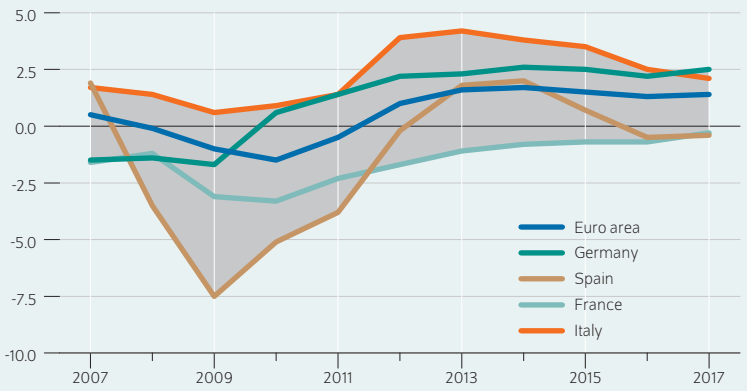
Suggestions for reforming European fiscal policy

In 1977, a commission led by economist Donald MacDougall came to the conclusion that an intensification of European integration should be accompanied by fiscal capacity expansion in the EU.[3] During the course of the sovereign debt crisis, political pressure to pass reforms for a common stabilization mechanism rose. Van Rompuy's 2012 report[4] as well as the Five Presidents' Report from 2015 highlighted the need for national fiscal rules and fiscal solidarity. The proposal focuses on a step-by-step approach to pave the way for a "genuine economic and monetary union." This report also plans for the short-term establishment of a European Fiscal Council to evaluate the application of the stability and growth pact.[5] In the long-term, the aim is to create a stabilization function at a central European level in order to be able to better react to macroeconomic fluctuations that cannot be managed at a national level. However, it is not explained in detail how this mechanism should be designed.

As a result of these developments, the issue of a European fiscal policy is a part of the current political discourse, particularly between France and Germany. Various reforms[6] are under discussion, although they differ only slightly in

Figure 2

Structural primary balance of different countries in the euro area, 2007–2017
Percentage deviation from potential output



Source: AMECO.

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In most countries, fiscal policy has behaved procyclically over the last few years. With the exception of France, all other major economies show a positive fiscal primary balance.

3 Donald MacDougall, *Report of the Study Group on the Role of Public Finance in European Integration*, Volume I: General Report (Brussels: 1977).

4 Herman van Rompuy, *Towards a Genuine Economic and Monetary Union*, Report by the President of the European Council, June 2012.

5 European Fiscal Board, *Annual Report* (2017).

6 Emmanuel Macron, *Initiative for Europe: A Sovereign, United, Democratic Europe*, Speech at the Sorbonne, Paris (2017); Italian Ministry of Finance, *Italian Contribution on Deepening the EMU* (2017), Bara et al., "A Contribution to Work on the Strengthening of the Euro Area," *Trésor-Economics* 190, French Treasury (2017); Bénassy-Quéré, "Reconciling Risk Sharing."; IMF, *A Central Fiscal Stabilization Capacity*.

practical terms, for example in determining explicit thresholds, the transfer rule, the expenditure rule, or financing.

A possible legal framework for a stabilization mechanism would be the establishment of a *uniform fiscal budget* under a common European finance minister. Alternatively, a "rainy day fund" could be used to pay contributions to countries that are currently experiencing an economic downturn.[7] The goal in both cases is to improve risk protection between member states and to develop a fiscal policy that is more countercyclical overall, thereby creating the basis for a better functioning of a common monetary policy. The first proposal, however, involves a much stronger loss of national responsibilities and is likely to be supported, if at all, by only a few member states.

Transfer payouts should be based on cyclical indicators

Theoretically, it makes sense to define member states' output gaps[8] as key business cycle indicators in which cyclical transfer payments are used. However, the output gap is not an observable variable, is susceptible to revision, and sensitive to country-specific changes. Therefore, labor market-specific indicators, such as the employment gap—the difference between the unemployment rate[9] and its long-term trend value—provide a better basis for determining transfer payments. The change in the unemployment rate can also be used as a restrictive condition for transfer payments. Transfers should only be paid out when the employment gap is positive and the unemployment rate is rising by a fixed threshold.

With regard to such a transfer rule, it is important to eliminate permanent transfers in one direction, i.e., the payout should occur once and at a fixed proportion of the production or employment gap or their rates of change. For example, a threshold for the increase in the employment gap of three quarters of a percentage point has been proposed.[10]

The amount of transfer payments by individual countries should be linked to the volatility of the indicator triggering the payments. For example, if a country's unemployment rate varies greatly, the country's contribution should also be higher on average.

Model simulation of a European stabilization mechanism

In the following section, the macroeconomic effects of an asymmetric shock are analyzed in a dynamics stochastic general equilibrium model with two structurally different member states with and without a common stabilization fund (Box 1). Such a model is well suited for this analysis because it reflects the expectations of private households and firms. A stabilization fund and its special structure of transfer and fiscal rules will therefore significantly influence private actors' economic decisions and, consequently, economic business cycle dynamics.

A model framework without a regular economic stabilization mechanism is chosen as a benchmark. The model is calibrated so that the typical business cycles in the core and peripheral countries of the euro area are adequately replicated. In regards to the stabilization mechanism's design, it is assumed that countries currently experiencing an upswing will transfer a share of their national income to the European stabilization fund, around 0.4 percent of their GDP.[11] In contrast, during economic downturns the countries receive additional transfer payments from the stabilization fund. The amount of the transfer payment is based on the strength of the asymmetry and is measured as a share of the difference of both output gaps. When the shock is very unevenly distributed, the transfer payment is higher.

However, not all of the suggestions for practical implementation can be taken into account in the model. For example, the output gap in the model can be perfectly observed by all actors and consequently delivers the best possible information regarding the state of the economy.

In addition, in order to exclude distortionary effects, the transfer payments are financed in the simulation model in a distribution-neutral manner, i.e., all households pay the same amount. Of course, a few modifications are possible. Since households without direct access to the financial market benefit particularly strongly from a stabilization mechanism, a greater burden on households with financial wealth can be considered. Furthermore, the budget provided for fiscal stabilization can be financed in different ways, such as by a surcharge on value-added or income tax or, alternatively, a flat-rate fee.

The model focuses on economic fluctuations only so that permanent transfer payments in one and the same direction are excluded. If the output gaps of both countries are almost identical, there are no transfers and the common monetary policy can have an optimal stabilizing effect on the economy. The proposed model framework can therefore be applied to a situation of asymmetric business cycles in the member states, as was observed in the crisis years (Box 2).

7 The idea of a stabilization fund is not new. As early as the early 1960s, for example, resource-rich states began to protect themselves against fluctuations in government revenues due to raw material prices. Naotaka Sugawara, "From Volatility to Stability in Expenditure: Stabilization Funds in Resource-Rich Countries," IMF Working Papers 14/43 shows that the introduction of such stabilization funds has led to a more stable fiscal policy.

8 The output gap is measured as the difference between actual real GDP and the productive capacity. Productive capacity cannot be observed but can be estimated using economic adjustment and the continuation of supply-side production factors.

9 The international standardized ILO unemployment rate is suitable for use in this case. Unemployment rates collected by the employment offices are based on different national concepts.

10 IMF, *A Central Fiscal Stabilization Capacity*.

11 IMF, *A Central Fiscal Stabilization Capacity*.

Box 1

Model

This study on the effects of a European stabilization fund is based on a two-country model with frictional unemployment.[1] Such a model is therefore suitable for analyzing fundamental interrelationships because it reflects the expectations of private households and firms. If a stabilization fund exists, it will influence the specific structure of transfer and fiscal rules as well as the consumption and savings decisions of private agents. The transfer and fiscal rules are designed in such a way that private households cannot expect permanent transfer payments.

Two different types of private households are taken into consideration: those with and without access to the financial market. Households with access to the financial market can purchase domestic and foreign government bonds. The current debt level of a country influences its respective interest payment.[2]

In both countries, there are additional costs for households looking for a job and for firms looking for qualified employees. Firms do not discriminate between the different household types; therefore, the number of new hires depends on the number of job postings and the number of people in the labor market searching for a new job. The likelihood for a firm to fill a position or a person to get a job increases when the labor market tightness become larger. This is measured in the model using a Beveridge curve, a graphical representation of the relationship between available jobs and those seeking jobs. People seeking jobs can be divided into two subcategories. The short-term unemployed are those looking for jobs who have been unemployed for a maximum of one year. They receive unemployment pay equal to around 70 percent of their former salary.[3] The long-term unemployed are those looking for jobs who were already short-term unemployed for a year and did not manage to find a job in that time period. They receive a wage-independent, fixed amount corresponding to approximately 30 percent of the average wage in the economy.

National fiscal policy pays out wage replacement benefits and further transfers to private households. Furthermore, non-distortionary per capita taxes are set according to a fiscal rule. The fiscal rule stipulates that the government increases the tax rate if the economy is overheating or the structural primary balance has exceeded its target value of 0.5 percentage points of GDP.

The rest of the structure of the model is very similar to the euro area model used by DIW Berlin in its economic forecast.[4] There is a horizontal value-added structure in which self-produced and imported intermediate and end products are produced. The end product is used both for consumption and to build up the capital stock. The central bank sets a uniform interest rate for all member states while the government finances its expenditure by issuing short and long-term government bonds.

The model is first calibrated to reflect the typical economic characteristics (volatility, cyclicality, and persistence) of macroeconomic variables such as GDP, consumption, investment, employment, and wages in the euro area. The model dynamics therefore adequately reflect the course of the European economy. In regards to the structure of the stabilization mechanism, it is assumed that countries currently in an upswing will transfer a share of their national income to a European stabilization fund. During an economic slump, countries receive additional transfer payments from the stabilization fund. The model framework is only concerned with cyclical fluctuations, thus excluding permanent transfer payments in one and the same direction. If the output gap of both countries are almost identical, the mechanism does not make transfers and the common monetary policy can have an optimal stabilizing effect on the economy. The model framework presented can therefore easily be applied to a situation of asymmetric business cycles in the member states, as was observed in the crisis years.

1 Guillaume Claveres and Marius Clemens, "Unemployment Insurance Union." 2017 Meeting Papers, Society for Economic Dynamics (available online). This study is based on Stéphane Moyen and Nikolai Stähler, "Unemployment insurance and the business cycle: Should benefit entitlement duration react to the cycle?" *Macroeconomic Dynamics* 18, no. 3 (2014): 497–525 and Moyen et al., "Optimal Unemployment Insurance and International Risk Sharing."

2 Stephanie Schmidt-Grohe and Martin Uribe, "Closing small open economy models," *Journal of International Economics* vol. 61 (2003): 163–185.

3 OECD, *Benefits and Wages*, 2017.

4 Marius Clemens, Stefan Gebauer, and Malte Rieth, "Early exit from ECB bond purchase program could reduce GDP growth and inflation," *DIW Economic Bulletin*, no. 49 (2017): 533–540 (available online).

The model simulations deliver the following results: the country negatively affected by an asymmetric productivity shock profits from a European stabilization fund. First, real aggregate demand is not reduced to its original extent because the loss of income is partially compensated by additional transfers from the partner country. Second, private households expect a significantly less negative effect on their individual net income in the future and thus are not reducing their consumption as much. Within the country, private households with no access to the financial market that cannot safeguard against unexpected losses of income benefit particularly strongly.

However, in the other country, part of the additional demand resulting from an asymmetric shock is absorbed by the European stabilization fund in the form of higher tax payments. As a result, households can consume less than before. The country's growth is therefore lower than in the case without a common stabilization policy. Overall, the fund reduces the effect of an asymmetric shock in both countries and results in a stabilization gain at the euro area level. The stabilization gain results from an increase in private demand in response to the lower economic risk. If one assumes, as in most studies, that the shocks have the same positive and negative effects in both countries, both countries benefit from

the common stabilization policy.[12] The model-based simulations show that the reduction of the euro area gross domestic product due to the negative shock is less pronounced over several quarters (Figure Box 2). Cumulated the initial decline of the annualized GDP in case of a common stabilization policy is 7 percent lower than in the Status quo. In the subsequent years the stabilization gain decreases continuously. From the perspective of the common monetary union, the stabilization fund presented here is therefore able to cushion future economic downturns and leads to the creation of more synchronized business cycles, thus improving the functioning of a common monetary policy in the euro area.

Conclusion

The simulations confirm the results of other studies[13] and indicate that a European stabilization fund can in principle make a major contribution to completing the euro zone. However, a stabilization mechanism like the one presented here is not suited to eliminate structural imbalances in the countries; there are already various other mechanisms for that purpose (such as European structural funds). Moreover, the mechanism is not suited to reduce systematic uncertainties in regards to the economic and financial development of individual member states. To this end, completing the banking union and adequately regulating financial institutions should be promoted instead.

However, the stabilization fund examined in this report can help prevent future structural imbalances, since countries experiencing an economic boom are reducing part of their overcapacities. Additionally, the mechanism makes it possible to counteract extreme economic slumps like the euro area experienced over the course of the sovereign debt crisis. Such a mechanism, however, harbors a moral hazard in regards to the behavior of individual countries. For example, member states can pay fewer transfers or receive more money than is appropriate by fudging economic statistics. Such misguided incentives can be counteracted, however. This risk can be minimized by the use of a common fiscal council that crosschecks official figures. Another suggestion for minimizing the moral hazard plans for better enforcement of fiscal rules parallel to the introduction of a European stabilization fund.[14]

Box 2

Simulation of a stabilization mechanism

The results of the model simulation are described in the following paragraphs in more detail. In the event of a single asymmetric productivity shock, the production costs rise in the country negatively affected (Figure Box 2).

The higher production costs reduce the economic output, private consumption, and wages overall. At first, the firms affected by the loss of productivity will no longer fill vacancies. Independent of their wage bargaining power, the employers must reduce wage claims. Moreover, compared to the partner country positively affected by the productivity shock, firms are losing their price competitiveness, resulting in domestic and foreign consumers preferring products from the partner country in some cases and more imported than exported goods, resulting in a negative trade balance. The decline in production also leads to increased short-term unemployment, which manifests itself permanently in increased long-term unemployment. As unemployment rises, so does government spending on unemployment benefits, resulting in the government being forced to take on more debt at a given tax rate. However, this is not possible in countries which have reached their debt limit, so that their fiscal policy as a whole has a procyclical effect and exacerbates the economic downturn. In countries where additional new borrowing is possible, the government can raise tax rates in subsequent years so that the debt ratio returns to its long-term equilibrium value.

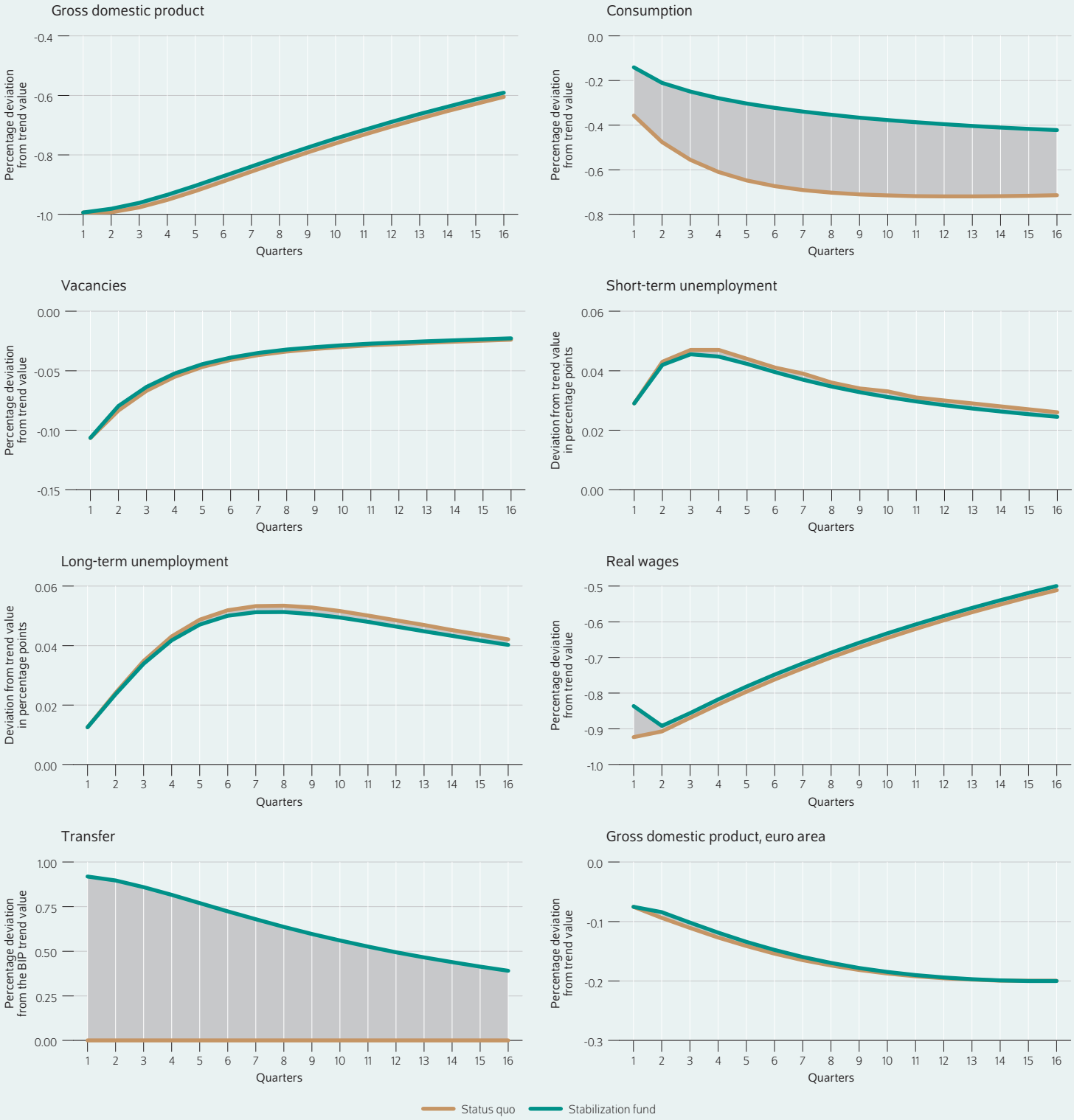
12 This presumption seems all the more plausible when one considers the developments in the pre-war years (negative output gaps in Germany, positive output gaps in the rest of the euro area).

13 Sebastian Dullien, "Eine Arbeitslosenversicherung für die Eurozone," SWP Studie (2008) (in German); Kerstin Bernoth and Philipp Engler, "Transfer Mechanism as a Stabilization Tool in the EMU," *DIW Economic Bulletin*, no. 1 (2013): 3–8 (available online); Philipp Engler and Simon Voigts, "A Transfer Mechanism for a Monetary Union," SFB 649 Discussion Paper (available online); Stéphane Moyen, Nikolai Stähler, and Fabian Winkler, "Optimal Unemployment Insurance and International Risk Sharing," Finance and Economics Discussion Series, 2016-054, US FED.

14 Roel Beetsma and Martin Larch, "Risk reduction and risk sharing in EU fiscal policymaking: The role of better fiscal rules," VOXEU (available online).

Figure

Simulation of the effects of a stabilization fund on Germany and the currency area
Deviations from the long-term trend value for the quarters following an economic shock



Source: Authors' own calculations.

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The stabilization fund better absorbs economic shocks.

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