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FISCAL INTERVENTIONS MITIGATING HIGH ENERGY PRICES AND THEIR IMPACT ON PUBLIC FINANCES IN THE EURO AREA COUNTRIES

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Purpose: The main aim of the article is to analyze and assess the impact of energy measures on the euro area countries' fiscal balances, from the perspective of the Stability and Growth Pact regulations.
Design/methodology/approach: Primarily, the method of study and critical analysis of the literature covering both the theoretical and legal determinants of fiscal policy and energy policy conduct within the euro area was employed. Subsequently, the data analysis method was used to examine the direct impact of the adopted interventions on the member countries' general government budget balance.
Findings: In response to the global energy crisis, the euro area countries undertook coordinated fiscal interventions in the form of energy measures. These measures were mainly reflected in the countries' budget balances, as energy regulations and fees are set at the national level. The largest share of the measures was adopted in 2022-2023, during which time they contributed to higher budget deficits in almost all member states. The states with exceeded the deficit reference values were not in breach of the fiscal rules, for the sudden increase in energy prices was specified as an *exceptional circumstance*. Although the interventions undertaken helped save many countries from significant drops in output, they often involved high budgetary costs and offered no incentive to reduce energy consumption. Most of the support was provided in untargeted form, thus it reached all consumers, regardless of wealth level or energy intensity. To prepare better for future energy price fluctuations, the eurozone countries should establish a monitoring and assessment system enabling implementation of targeted energy measures. Ideally, the system should be based on the principles of the "Green triple-T" criterion, which would enable these countries to recover from energy crises as a greener and more equitable union.
Originality/value: The paper describes the controversies arising from the adoption of energy measures by the eurozone countries, as well as presents recommendations, for the effective implementation of such support when needed.
Keywords: euro area; fiscal supervision; European energy crisis.
Category of the paper: Research paper.

1. Introduction

In the period of 2021-2022, electricity prices soared globally, including in the euro area (EA) member countries. The first record high was reached in the second half of 2021, when the demand for energy increased amid the waning severity of the health crisis sparked by the COVID-19 pandemic. Further tensions on the energy market ensued in early 2022, i.e., with Russia's invasion of Ukraine. The energy crisis intensified thereafter (Statista Research Department, 2024), taking on a global character (International Energy Agency, 2024). Russia made a unilateral decision at the time to cut off gas supplies to several member countries. This caused a sharp increase in the price of the commodity. It also weighed on the cost of electricity, the price of which in these countries is tied to the price of fossil fuels (European Council, Council of the European Union, 2023).

The global energy crisis has affected, albeit to varying degrees, all euro area countries. The sudden surge in energy prices contributed significantly to an increase in the overall inflation rate and an economic growth slowdown within the zone. To mitigate the effects of high energy prices, a rapid and coordinated response, at the supranational level, was imperative in the winter of 2022-2023 (Council Regulation (EU) 2022/1854; OECD, 2023). Accordingly, in 2022, the European Commission proposed a series of steps and measures, which were intended to gradually reduce the European monetary union's dependence on Russian fossil fuels, as well as to aid the union's states and citizens in coping with the rising energy prices. The Commission's proposals included, inter alia, coordinated fiscal emergency interventions (European Commission, 2023a), adopted in the form of energy measures (European Commission, 2022b, p. 51). The coordination of the interventions needed to be carried out with consideration of the member countries' public finance sustainability (Council Regulation (EU) 2022/1854), as these countries are bound by budgetary restrictions in the form of fiscal rules. One of such rules is the budget deficit limit (Rosati, 2017, p. 297). The emergency fiscal interventions were reflected mainly in the budget balances of these countries, as the energy regulations and fees are set at the national level in most of these states (see Sgaravatti et al., 2023b). The interventions were expected to remain in effect for a certain period of time only (European Commission, 2022b, p. 48).

Given the above, the main research hypothesis of the article was formulated as follows: the fiscal interventions undertaken to alleviate high energy prices in the euro area countries led to a breach of the budget deficit ratio rule in these states. The article is structured in five parts, with the first providing an introduction and the fifth presenting the main conclusions. The second part elaborates on the theoretical and legal aspects of fiscal policy and energy policy in the eurozone. This allowed to determine the essence of the energy sector's impact on maintaining fiscal discipline in the countries of the zone. The third part consists of two paragraphs. The first identifies the main causes of the 2021-2022 electricity price surge in the

EA, as well as briefly lays out the rationale behind the coordinated fiscal emergency interventions introduced in the member countries in response to the global energy crisis. The second presents an analysis and assessment of these interventions in the form of energy measures adopted in the EA member states, including the impact thereof on their budget balances, essentially from the perspective of the regulations contained in the Stability and Growth Pact (SGP), which is precisely the main objective of the article. The analysis covers the years 2021-2024, with emphasis on the period of 2022-2023, when the above-mentioned impact was the greatest. European Commission statistics, unless indicated otherwise, were used to compile part three. Part four, in turn, describes the controversies arising from the adoption of energy measures by the euro area countries, as well as presents recommendations for effective implementation of such support measures when needed. The article reflects the legal status as of March 31, 2024.

2. Fiscal discipline vs energy sector security in the euro area

With the creation of the Economic and Monetary Union (EMU), also known as the euro area, budgetary restrictions were imposed on its member countries, in the form of fiscal rules. One of such rules was the budget deficit limit (3% of GDP), i.e. the ban on excessive budget deficits (Giżyński, 2024, pp. 75-76). This rule has been inscribed in the 1992 Maastricht Treaty, otherwise known as the 2007 Treaty of Lisbon, which restated the provisions on the conduct of fiscal policy within the euro area. The Protocol on the Excessive Deficit Procedure included in the Treaty set the above deficit limit (Ferreiro, Serrano, 2021, p. 216). While the deficit rule itself is based on theoretical grounds (see e.g. Giżyński, Wierzba, 2015, pp. 14-15), the reference value of this quantity has been set arbitrarily. This rule was introduced mainly to safeguard the common euro currency against the risk of pursuing overly expansive fiscal policies by the EA countries, under the conditions of fiscal autonomy. The originators of the union were aware that the common currency needs to be supported by tighter fiscal discipline within its member states, if it is to grow strong and credible (Giżyński, 2024, pp. 75-76).

The provisions of the 1997 Stability and Growth Pact are of key significance from the perspective of fiscal discipline within the euro area countries. They include functional elaboration and detailing of the relevant provisions contained in the Treaty of Lisbon (Giżyński, 2013, pp. 63-68). In other words, the Pact comprises a set of fiscal rules, with procedures for the enforcement thereof in member countries. So far, the SGP has been subject to three reforms, introduced in 2005, in 2011 (the *Six-Pack*) and 2013 respectively (the *Two-Pack*). The first of these reforms relaxed the SGP rules and allowed for more flexibility, while the subsequent two tightened the regulations (Owsiak, 2017, p. 87; Giżyński, 2024, pp. 75-76). The Stability and Growth Pact provides, inter alia, for the occurrence of *exceptional*

circumstances. These circumstances are identified as events beyond the control of member governments, resulting in *severe economic downturns* - a typical example of which was the COVID-19 health crisis of 2020-2022 (see e.g. Giżyński, 2024, pp. 67-94). Accordingly, if such circumstances arise, a breach of the budget deficit rule by any euro area country is not to be treated as *excessive*. This provision is intended to safeguard the above countries against sanctions that may be imposed, should their policymakers violate fiscal rules (Ferreiro, Serrano, 2021, p. 216).

One of the factors posing a threat to maintaining fiscal discipline in the eurozone countries could be energy sector turmoil (see Redo et. al., 2022, pp. 20-24; see Tomaszewski, 2018, pp. 139-140). Worth recalling is that this sector is strategically vital to each country, which renders it subject to national regulations primarily. The political and economic aspects (the demand for energy), in turn, led to the inclusion of energy-sector references in two out of the three treaties instituting the European Communities (Barcz et al., 2016, p. 316; see Stachowiak, 2020, p. 69). Nonetheless, the process of developing the European energy policy regulations was characterized by a gradual increase in the political elite's awareness of the Community-wide significance of the energy sector (for more, see Kucharska, 2021, pp. 73-84). Ultimately, the Treaty of Lisbon, constituting the primary legislative act effective as of late 2009, for the first time provided a regulatory framework for energy policy, and laid the legal basis for the formulation thereof at the EMU level. None of the treaties signed prior to that had regulated these issues comprehensively. Among the secondary legislation for the implementation of energy policy, of particular significance are the relevant regulations and directives (see Ruszel, 2015, pp. 346-347; for more, see Ciucci, 2023). The main objectives of the current common energy policy, in turn, have been formulated in the 2015 Energy Union strategy (European Commission, 2015; Ciucci, 2023). The strategy has been based on five closely related and mutually reinforcive dimensions: 1) energy security, solidarity and trust; 2) a fully integrated European energy market; 3) energy efficiency leading to reduced energy demand; 4) decarbonization of the economy; as well as 5) scientific research, innovation and competitiveness (European Commission, 2015, p. 4). The Energy Union has been established to guarantee a secure, sustainable, competitive, as well as affordable energy supply for households and businesses (Ciucci, 2023).

Given the euro area countries' ambitious economic goals, sustainable functioning of the energy sector guarantees these countries development. Of particular significance in this regard is the international context of economic security, defined primarily as undisturbed functioning of national economies. The impact of the energy sector on the sustainability of public finances can, in turn, be conceptualized as the absence of threats from the energy sector, providing a solid foundation for efforts aimed at maintaining fiscal discipline (see Tomaszewski, 2018, pp. 139-140). The sudden increase in energy prices which hit eurozone countries in 2021 is a fitting example of a threat to the fiscal discipline of these countries.

3. Energy crisis vs fiscal interventions in euro area countries

3.1. Contributing causes of the energy crisis

In 2021, a significant increase in electricity prices hit the euro area countries (see figure 1). This was mainly due to the rising global demand for natural gas amid the economic recovery from the COVID-19 pandemic. The rising demand, however, was not accompanied by an increase in the supply of this commodity, the effects of which were evident not only within the euro area, but also in other parts of the world (European Commission, 2021, pp. 1-2). What is more, a reduction in gas supply ensued as a result of the measures taken by *Gazprom*, i.e., Russia's state-owned energy company. The corporation reduced its gas supplies to Europe ahead of the 2021-2022 heating season (Jakóbik, 2023). The lower supplies of the commodity were justified by the need to replenish the country's own stocks. This lower supply of gas, and the consequent sharp increase in its price[1], was rendered directly in the euro-area's 2021 electricity prices (see figure 1). Natural gas was, in fact, one of the EA's main sources of electricity generation[2] at the time (Garside, 2023).

In late February 2022, Russia's military invasion of Ukraine exacerbated the energy price volatility (European Council, Council of the European Union, 2023). The energy crisis intensified thereafter (Statista Research Department, 2024), taking on a global character (International Energy Agency, 2024). In the wake of the war, and Russia's continued and deliberate attempts to leverage energy as a political weapon, natural gas and electricity prices soared to record levels in 2022[3] (see figure 1) (European Commission, 2023a). Russia made a unilateral decision at the time to cut off gas supplies to many member countries, which led to a sharp increase in the price of this commodity, and affected the cost of electricity. This is because the price of this energy is tied there to the price of fossil fuels (European Council, Council of the European Union, 2023). What is more, the invasion raised uncertainties

[1] The difficulties emergent within the euro area natural gas market were reflected, inter alia, in the pan-European price benchmark, i.e., the Dutch TTF Natural Gas Futures (figure 1). The price under this contract represents the price of gas delivery for the following month (Garside, 2023). At the end of December 2021, the Dutch TTF price totaled €87.03 per MWh, while a year earlier it had been as low as €19.13. Over the course of 2021, therefore, a 355% increase in the contract's price ensued. The highest price, i.e., €180.27, in turn, was observed on December 21, when it increased by as much as nearly 23% (Yahoo, 2024).

[2] In 2021, natural gas represented the second largest source of EA's gross electricity production. The share of gas in this production was nearly 22% at that time. In contrast, the largest amount of electricity, i.e., 26.5%, was produced from nuclear heat. Wind energy, in turn, ranked third, with a share of nearly 14% (own calculations based on Eurostat, 2023).

[3] At the end of December 2021, the Dutch TTF price was still under €90 per MWh, only to hit a record high of nearly €340 at the end of August 2022, which translated into a 278% increase (Yahoo, 2024). This had impact on, inter alia, the increase in wholesale electricity prices in the EA countries. In the third quarter of 2022, the European Power Benchmark, reflecting this increase, averaged €339 per MWh, i.e., it was 222% higher than a year earlier (for more, see European Commission, 2023, p. 3). The price of electricity for household consumers, excluding taxes and levies, in the euro area as a whole, in turn, increased from €0.1577 (end of 2021) to €0.2483 per KWh (end of 2022), which was an increase by approximately 57% (Eurostat, 2024a), while for non-household entities it increased from €0.1061 to €0.2037 per KWh at the time, i.e., it was 91.99% higher (Eurostat, 2024b).

regarding the supply of other raw materials, such as coal and oil[4], which were used to produce energy. This caused an additional significant increase and volatility in the price of electricity. Simultaneously, unfavorable weather conditions, such as the heat waves recorded throughout Europe in the summer of 2022, added to the demand for cooling electricity, forcing the production of electrical energy (Council Regulation (EU) 2022/1854; European Council, Council of the European Union, 2023). The above-mentioned weather conditions, but also technical conditions, however, prevented, at the time, the production of electricity with the use of certain technologies, mainly nuclear or hydropower generation. For this reason, the volume of the energy generated by natural gas-fired power plants remained at a constant high level, which subsequently led to a sharp increase in the euro area's electricity prices (see figure 1).

The global energy crisis has affected, albeit to varying degrees, all member countries. The sudden 2021-2022 increase in energy prices contributed significantly to the overall inflation rate in the EA and the slowdown in its economic growth[5] (Council Regulation (EU) 2022/1854). It should be remembered that prices constitute one of the most salient factors capable of triggering crises. They may even, as the above discussion shows, become the direct cause thereof (Piech, 2012, p. 58). The circumstances thus called for a rapid and coordinated response at the supranational level. Such a response was primarily intended to temporarily reduce the risk of even more unsustainable levels of electricity prices and costs for end users in these countries. It was also intended to prevent those countries from adopting uncoordinated measures. There were fears that such measures would jeopardize the security of supply, at the supranational level, and impose additional burdens on both the industry and final energy consumers across the euro area. The eurozone countries had to therefore show unity (solidarity) in undertaking such coordinated measures as, inter alia, the fiscal emergency interventions during the winter season of 2022-2023. The disturbances on the energy market forced them to implement a series of urgent, temporary and exceptional economic measures (Council Regulation (EU) 2022/18 54). Those measures were aimed at mitigating the economic and social effects of the sudden energy price increase in these countries (European Commission, 2023h, p. 11), and were expected to be in effect for a period of time only (European Commission, 2022b, p. 48). The aim was also to preserve the sustainability of their public finances (Council Regulation (EU) 2022/1854).

[4] The surge in natural gas prices increased the demand for alternative fuels, i.e., coal or oil. As a result, prices for these raw materials soared (Council Regulation (EU) 2022/1854). The 2018-2023 evolution of average prices within the EU fossil fuel sector is presented in Table 1.

[5] Between 2022 and 2023, energy commodity prices, particularly natural gas, were expected to contribute significantly to consumer inflation in the euro area. In 2023, they were expected to add about 2.25 pp to the zone's projected inflation rate. Moreover, the rise in energy prices was expected to exert a negative impact on its terms of trade, resulting in a 0.5 pp decline in the 2023 GDP, after an already significant 1 pp decline in 2022 (European Commission, 2022b, p. 58).

3.2. The impact of fiscal interventions on budget balance

In early October 2022, the Council of the European Union adopted a Regulation[6] (Council Regulation (EU) 2022/1854), which enabled the adoption of emergency interventions in the member countries (Agencja Rynku Energii, 2023, pp. 3-7) during the winter season of 2022-2023 (Council Regulation (EU) 2022/1854). The first coordinated actions in the form of intervention mechanisms had, in turn, been introduced back in October 2021, based on a European Commission's Communication (for more, see European Commission, 2021, pp. 7-10; Agencja Rynku Energii, 2023, pp. 3-7). Table 2 summarizes the main categories of the fiscal measures adopted under the above interventions, starting September 2021. The categories listed were implemented at the national level. In most eurozone states, both the energy policy regulations as well as fees are established at this very level (see Sgaravatti et al., 2023b). As already emphasized, the above interventions have been determined as *energy measures*[7]. It should be mentioned that *energy measures* must meet several criteria, i.e., they ought to be: 1) credibly announced and adequately detailed; 2) narrowly and consistently defined; 3) directly linked to the budget, from the general government accounts perspective (European Commission, 2022b, p. 48).

As early as 2021, i.e., at the outset of the energy crisis, eight member countries launched fiscal support in the form of energy measures. The net budgetary cost of the energy measures, for the euro area as a whole, was much smaller, compared to the fiscal years of 2022-2023, and amounted to about 0.1% of GDP. The significant support, relative to GDP, was at the time allocated by Greece, Italy and Malta (see Table 3). The largest fiscal interventions to mitigate the effects of high energy prices, in turn, were undertaken in 2022-2023. The net budgetary cost of energy measures in the euro area as a whole was estimated around 0.9% of GDP in 2023, compared to 1.2% of GDP in 2022 (see Table 3) (European Commission, 2023e; 2023j, p. 18). The lower level of support results from the member states' withdrawal of part of the energy measures in 2023. What is more, owing to the drop in energy prices that year[8] (see figure 1), the need for certain fiscal measures eased (see e.g. Ferdinandusse, Delgado-Téllez, 2024, pp. 70-71). One example are the subsidies for energy suppliers (European Commission, 2023j, p. 18).

Analyzing the impact of energy support measures on individual 2022-2023 fiscal positions of euro area countries, significant differences can be observed in both the amount of this impact as well as the types of the measures applied. Five member countries, namely Belgium, Estonia,

[6] The legislative genesis of the Council Regulation can be found in Article 122 of the Treaty on the Functioning of the European Union (TFEU) (for more, see European Commission, 2023i, p. 1).

[7] For more on definitions (scope) of energy measures, see in European Commission (2022b, p. 51; 2023k, p. 21) and Castle et. al. (2023, pp. 85-87).

[8] The drop in the euro area's energy prices was driven mainly by the decline in wholesale gas prices (see Table 1 and figure 1), which in turn was caused by a variety of factors, such as mild weather conditions or the broad set of measures adopted by the EA countries to combat the energy crisis, including reduced electricity demand (Agencja Rynku Energii, 2023, p. 63).

Ireland, Greece and Finland, recorded a net impact of energy measures on their budget balances of less than 0.5% of GDP in 2023, versus only two countries, Slovakia and Finland, in 2022. Energy support equal to or exceeding 1.5% of GDP, in turn, was provided in 2023 by four EA countries, i.e. Croatia, Malta, Austria and Slovakia, versus six more countries, i.e., Greece, Croatia, Italy, Latvia, Malta and Portugal, a year earlier (see Table 3). Moreover, most of the euro area countries favored fiscal energy support in the form of untargeted measures at the time. This means that the support benefited the majority of households and/or enterprises, regardless of their income situation or the energy intensity of their production (see European Commission, 2023j, p. 18). Targeted measures, by contrast, targeting households and businesses most vulnerable to energy price increases (European Commission, 2022b, p. 51), were nearly three times lower in each of the two years (for more, see e.g. European Commission, 2023k, pp. 17, 55). The main reason for this difference is believed to lie in the EA states' imperative to adopt immediate mitigation measures at the peak of an energy crisis, and untargeted measures were fairly easy to implement. Furthermore, the effects of these measures were perceptible instantly by the beneficiaries thereof (e.g. Sgaravatti et al., 2023a).

It bears noting that the total number of the energy measures adopted in the euro area countries reveals no differentiation among the individual countries within the zone. This is because in smaller countries, such as Luxembourg, Slovenia and Portugal (for more, see e.g. European Commission, 2023k, pp. 17, 55), the support, especially in 2022, was to a greater extent provided in the form of targeted measures. Due to the low magnitude of these measures, however, they did not translate into aggregate data (Ferdinandusse, Delgado-Téllez, 2024, p. 72).

It is worth mentioning that approximately 65% of the measures adopted by the euro area countries in 2022-2023 were price related (European Commission, 2023j, p. 18). Moreover, nearly all euro area countries have adopted at least one price-distorting energy support measure. These mainly include such measures as caps on retail energy prices, lower VAT and other energy taxes, as well as reduced carbon taxes and fees (see Table 2). It needs to be noted that most of the price-distorting measures take an untargeted form (Arregui et al., 2022, p. 13). This indicates, as already emphasized, that most market players can receive energy support, regardless of the income level or specific needs (European Commission, 2022b, p. 51). What is more, many EA countries have adopted measures which are not disruptive to price signals, yet are untargeted. Examples include energy vouchers or bonuses, or lump-sum income tax credits[9]. Regardless of the type of the energy measures announced or adopted by the member countries during the period in question, those measures constituted a high burden on these countries' public budgets at the time.

[9] For more on the types of the energy support measures adopted in individual EA countries, see also the OECD Energy Support Measures Tracker (OECD, 2024) and the Bruegel think tank database (Sgaravatti et al., 2023b).

Based on the data presented in Table 3, it can be concluded that the fiscal interventions aimed at mitigating the effects of high energy prices during the period 2022-2023 did contribute to higher budget deficits in almost all EA countries. Nevertheless, the energy measures adopted by these countries in 2022 led directly to an overshoot of the budget deficit benchmark in two of those countries only, i.e., Belgium and Austria, and widened this overshoot in five other member states - Spain, France, Italy, Latvia and Malta. By contrast, in 2023, as a result of the adopted measures, the deficit ratio peaked above 3% of GDP in Latvia and Slovenia, while Belgium, Spain, France, Italy, Malta and Slovakia, i.e., six euro area countries exceeded this value. Although most member countries adopted no energy measures in amounts contributive to the 2022-2023 fiscal deficit overruns in these countries, the measures - considering the eurozone as a whole - did lead to direct overruns in both years. The deficit ratios for the zone amounted to 3.6% of GDP in 2022 and 3.2% of GDP in 2023, respectively (see Table 3). On the other hand, the eurozone states that exceeded the budget deficit benchmarks, due to the adopted *energy measures*, during the period 2022-2023, did not violate fiscal rules. This is because the sudden increase in energy prices, experienced by the EA countries in 2021-2022, was specified as an *exceptional circumstance*, independent of these countries, with significant impact on the condition of their public finances. Hence, the main research hypothesis has not been confirmed. The exceedance of the deficit reference value in these countries during the period under review was of exceptional nature. Moreover, apart from the energy measures, significant impact on the member states' fiscal balances in 2022 was exerted by the temporary emergency measures associated with the COVID-19 pandemic (European Commission, 2023h, p. 6). Taking the EA as a whole, these measures were estimated at 0.7% of GDP at the time (European Commission, 2023j, p. 16). Between 2020 and 2022, the euro area countries were allowed to undertake a substantial fiscal response to the COVID-19 pandemic, owing to the launch, in March 2020, of the general escape clause (see e.g. Giżyński, 2024, pp. 77-79). Contributive to the higher deficit rates in the EA member states was also the humanitarian assistance provided by these countries to those fleeing Ukraine in the wake of the Russian invasion. In 2022-2023, the volume of this aid, in a euro-area-wide perspective, was estimated at 0.1% of GDP each year (European Commission, 2023h, p. 11; 2023k, p. 56).

While the declining prices of energy supported the cost-cutting of existing energy measures in 2023, some member state authorities introduced new measures or expanded existing ones at that time (European Commission, 2023f, p. 4). In November 2023, the European Commission proposed a partial 12-month extension of the emergency measures (see European Commission, 2023a), reflected in some EA states' projected net budgetary costs. It is expected that in 2024, substantial energy support measures, i.e., exceeding 0.2% of GDP, will be continued in six countries - Germany, France, Croatia, Luxembourg, Malta and Portugal (Table 3) (European Commission, 2023b, p. 14). A neutral (0.0% of GDP) cost of these measures, on the other hand, is expected to ensue in eight EA countries in 2024, namely Belgium, Estonia, Italy, Cyprus, Latvia, the Netherlands, Slovenia and Finland. A noticeable reduction in the deficit caused by

these measures, i.e., 0.1% of GDP, is projected to be achieved by only two EA countries, i.e., Spain and Slovakia (see Table 3). The extent to which the member governments will leverage the drop in energy prices to withdraw the energy measures is what will determine the future course (direction) of their public finances (European Commission, 2023f, p. 10).

4. Controversies and recommendations

Despite the fact that the prompt fiscal interventions to mitigate the sudden rise in energy prices did help prevent significant output declines in many member countries (Castle et al., 2023, p. 10), these interventions, as the above analysis shows, often entailed high budgetary costs. A number of other controversies are also linked to these interventions.

First, they reduce consumers' incentive to save energy, simultaneously increasing energy demand, which may translate into an increase in energy market imbalances laying at the root of the energy crisis in question. Such conclusion is grounded in the fact that the policy of price caps counteracts the wholesale market price pass-through to the retail prices included in utility bills. Thereby, the price consumers pay for energy is not the real price, which becomes reflected in a lack of motivation to reduce energy consumption (Sgaravatti et al., 2023a).

Second, although considered necessary - both socially and politically - at the peak of an energy crisis, they do interfere with energy transformation commitments and the transition to cleaner energy sources, supporting traditional fossil fuels in the process (see International Energy Agency, 2023; Castle et al., 2023, p. 9; Sgaravatti et al., 2023a).

Third, albeit deployable within a very short timeframe, they constitute a heavy fiscal burden to be sustained over time. If the energy market prices turn out to remain at higher levels for a longer period of time, the actual cost of intervention may prove to be much higher than the original projections.

Fourth, they can hardly be considered equitable. When measures aimed at mitigating high energy prices are targeted at all actors, regardless of wealth level, they support consumers, inter alia, at the highest end of the income distribution, who are unlikely to be in need of financial assistance with energy bills. What is more, in some member states, part of the measures mitigating energy price increases may become regressive in nature (for more, see Sgaravatti et al., 2023a).

Fifth, adopted as *untargeted* - price distorting - measures, while they may lower the peak of the inflation rate, in the short term, they nevertheless generate conditions conducive to a prolonged period of elevated inflation, in the longer term. Moreover, a delayed withdrawal of these measures may disrupt the European Central Bank's medium-term objectives, causing the Bank to maintain a restrictive monetary policy for longer than necessary (Sgaravatti et al., 2023a; for more, see ECB, 2022, p. 46) - such a scenario would entail negative consequences

for the public and private sector financing conditions and the overall financial stability within the euro area countries (see European Commission, 2023f, p. 10) - untargeted price measures are therefore not a sustainable solution in curbing the high and volatile energy prices (Castle et al., 2023, p. 8).

Sixth, widespread elaboration and targeting of interventions to those most in need was hampered considerably. Although this resulted from technical determinants, most notably the lack of comprehensive and integrated databases combining income volumes with energy consumption, the energy crisis has shown that even if the authorities in euro area countries do possess the tools to develop and implement targeted measures, they are unlikely to undertake the task, should a very large portion of the population (and businesses) in these countries come under a sudden and severe shock (Castle et al., 2023, p. 8).

Seventh, they are difficult to roll back, from a political perspective. Indeed, the authorities may face strong public resistance as they transition away from these measures. One example are the protests in Italy in late January 2023 (see e.g. Bianchi, 2023), prompted by the decision to end the reduced excise taxes on diesel and gasoline.

Last but not least, they affect the global income distribution. This stems from the fact that the limiting of demand adjustments in countries at the upper end of this distribution prolongs the period of high energy prices on global markets, and in turn disadvantages the economies of poorer countries, which are dependent on energy import (Sgaravatti et al., 2023a).

The controversies arising from the fiscal interventions adopted leads to the conclusion that these interventions were not the first-best response to the energy crisis (Arregui et al., 2022, p. 13). To prepare more adequately for future price fluctuations on energy markets, euro area countries should set clear policy goals, policy levers and targeting methods, with regard to the energy measures. These countries should also establish an appropriate monitoring and evaluation system enabling effective development and implementation of targeted energy measures (Castle et al., 2023, p. 9). In order to reconcile fiscal affordability with the need to adequately protect the most vulnerable populations, and preserve appropriate energy transition incentives, member countries should take special care to ensure the quality of fiscal measures (European Commission, 2023j, p. 18). This can be facilitated through adoption of energy measures based on the so-called *triple-T* criterion.

The *triple-T* criterion states that the energy measures adopted ought to be *temporary*, *tailored* and *targeted*. The *temporariness* of the measures entails the incidentality and prudence thereof, for such measures are intended to prevent aggregate demand from rising too high over the medium term, allowing the inflation rate to remain at a stable level. *Tailored* measures, in turn, are those which are not intended to reduce the incentive to save energy. Lastly, *targeted* measures should act as a shield for those households, which are most vulnerable to a decline in purchasing power. Member countries should therefore prioritize targeted income transfers, as part of their fiscal interventions. After all, such transfers can be tailored to the size of energy consumers' incomes and the level of their exposure to price shocks. The level of this exposure

depends on the number of persons in the household, the type of housing and its location. Ideally, the above measures should be targeted towards citizens who are not covered by functioning social programs, and complementary to those already covered by such programs (Sgaravatti et al., 2023a). The design and implementation of targeted energy measures in member countries can be furthered by digitization of public administration in those countries. The idea is to introduce solutions that will speed up both the processing of payments and the process of identifying those most in need of such support. Improved energy system digitization, e.g., through the use of smart meters, in turn, can increase the incentive to save energy, by communicating up-to-date energy consumption data to consumers (Castle et al., 2023, p. 9).

It should be emphasized strongly, however, that the activities undertaken by the euro area countries need to extend beyond *extraordinary* fiscal measures. This essentially refers to structural changes within economies, to enable a more rapid phaseout of fossil fuels in favor of renewable energy sources (Sgaravatti et al., 2023a). This would, on the one hand, provide the member states with better (and longer-lasting) protection against fuel price volatility (see International Energy Agency, 2023), and improve the trade balance of the entire eurozone, on the other (for more, see Darvas et al., 2023). Moreover, replacement of fossil fuels with affordable, renewable energy sources would facilitate the restoration and maximization of the EA industry's competitiveness; for the industry has suffered significantly as a result of the surge in the energy prices, which has translated into a decline in its competitiveness on the global market (Sgaravatti et al., 2023a). In order to increase this competitiveness in the near term, however, member countries will first and foremost need to: a) reconfigure their industrial processes; b) significantly accelerate and increase the use of renewable energy; c) both improve the efficiency of energy consumption and reduce the demand for energy; as well as d) reskill and upgrade the competencies of those employed in this sector of the economy (European Commission, 2023c, p. 6; 2023d; Kamrat, 2023, p. 11). To boost the effectiveness of these measures, member countries should conduct their policies based on the so-called *Green triple-T* criterion constituting an extension of the *triple-T* criterion. This means that the measures undertaken by these countries should not only be *tailored* and *targeted*, but also *transition-proof*. In other words, they should promote *green* solutions, through a reduction of the economic costs and administrative burden associated with the transition to renewable energy sources, as well as by improving the efficiency of energy use. It is worth noting that in 2022-2023, some of the EA countries were already embarking on measures fitting the *Green triple-T* criterion (see Sgaravatti et al., 2023a). Nevertheless, in the near term, all euro area states should take faster steps to implement their energy transition commitments. If they opt to develop and implement regulations entailing the *Green triple-T* criterion, they will be able to build an opportunity to recover from the energy crisis as a greener and fairer group of countries.

5. Conclusion

The fiscal policies of the eurozone countries, although carried out independently by these countries, are subject to certain fiscal constraints (discipline). These were adopted in the form of fiscal rules, include a budget deficit limit of 3% of GDP, i.e., a ban on creating excessive deficits. In terms of fiscal discipline, the most crucial provisions have been contained in the Stability and Growth Pact. This pact elaborates on and details the relevant provisions of the Lisbon Treaty. In addition to budgetary restrictions, the provisions of the Pact stipulate the occurrence of so-called *exceptional circumstances*. Such circumstances can involve events beyond the control of member state governments. Should such circumstances occur, a violation of the deficit limit is not to be treated as *excessive*. It ought to be borne in mind that sustainance of fiscal discipline in the eurozone countries may be threatened in the event of an energy sector crisis. Since the sector is of strategic importance for each country, it is subject to national regulation primarily. On the other hand, the Lisbon Treaty regulated, for the first time, the common policy objectives, and provided a legal basis for policymaking at the Union level. The current main goals of this policy, in turn, have been contained in the Energy Union strategy. The union was established, inter alia, to guarantee secure and affordable energy supplies to member countries. Absence of threats from the energy sector provides a solid foundation for efforts to maintain fiscal discipline in these countries.

In the second half of 2021, the price of electricity had surged in the euro area member countries. This increase had resulted mainly from the growing global demand for natural gas sparked by the economic recovery from the COVID-19 pandemic. Further tensions followed in early 2022, i.e., with Russia's invasion of Ukraine. The energy crisis intensified at that point, taking on a global character. These disruptions called for the implementation of a series of immediate, temporary, exceptional and coordinated economic measures, including fiscal interventions, in the member countries. They were reflected mainly in the member countries' budget balances, as in most of these countries, energy regulations and fees are established at the national level. First interventions, in the form of energy support measures, were undertaken in 2021. They equaled 0.1% of GDP in the euro area as a whole. The most substantial interventions, in turn, were introduced in 2022-2023, amounting to 1.2% of GDP in 2022 and 0.9% of GDP in 2023, respectively. The lower level of support in 2023 followed from the member countries' withdrawal of part of the support. What is more, owing to the drop in energy prices that year, the demand for some of the energy measures declined in these countries. It should also be noted that significant differences in both the amount and the type of the measures adopted prevailed at the time. The overwhelming majority of euro area countries opted for untargeted energy measures, however. This means that they provided support to most households and/or businesses, regardless of the income situation or the energy intensity of production. Targeted measures, in turn, provided to those most vulnerable to energy price

increases, were adopted at a level nearly three times lower in each of the two years. The main reason for this is believed to lie in the fact that, at the peak of the energy crisis, the member states were forced to adopt immediate mitigation measures. Untargeted measures were, in turn, relatively easy to implement, and the effects could be felt immediately by the beneficiaries. Regardless of which energy measures the member countries adopted in 2022-2023, they did contribute to higher budget deficits in almost all of these countries at the time. Most of them, however, did not intervene heavily enough to cause a direct overshoot of the deficit reference value during the period under study. Such an overshoot did instead ensue at the level of the euro area as a whole. The deficit ratios for the zone amounted to 3.6% of GDP in 2022 and 3.2% of GDP in 2023, respectively. Nevertheless, the fiscal deficit rule remained not violated in all those member countries where the deficit benchmark was exceeded at the time. The sudden 2021-2022 surge in energy prices was in fact specified as an *exceptional circumstance*, independent of the countries in question, with a substantial impact on their public finances. Hence, the main research hypothesis has not been confirmed. As the energy prices in the euro area declined in 2023, a significant number of the member states intended to phase out the remaining energy measures by the end of that year. In 2024, the share of these measures in the budget deficit of the eurozone as a whole is expected to fall to 0.2% of GDP.

Although rapid fiscal interventions to mitigate high energy prices did help save many euro area states from significant output declines, these interventions were nevertheless in many cases controversial. Beside the fact that the energy measures often entailed high budgetary costs, they also provided no incentive to reduce energy consumption. While considered necessary, they did interfere with the energy transition commitments and supported traditional fossil fuels. Moreover, a significant portion of the interventions were adopted as untargeted price distorting measures. Such measures, although capable of lowering the peak of the inflation rate in the short term, create favorable conditions for an extended period of elevated inflation in the longer term. Untargeted price measures are therefore not a sustainable solution in curbing high and volatile energy prices within the euro area. What is more, the support often flowed to all consumers, regardless of their level of wealth. Hence, it could hardly be described as equitable. It can thus be concluded that the fiscal interventions have proven not to be the first-best reaction to the energy disruptions. To better prepare for future price fluctuations on energy markets, member countries should establish a system of monitoring and assessment, enabling preparation and effective implementation of targeted energy support measures. The system could be based on the so-called *triple-T* criterion, which specifies that the measures adopted should be *temporary*, *tailored* and *targeted*. Such measures include targeted income transfers in particular, adjusted to both the levels of energy consumers' incomes and exposure to price shocks. The actions on the part of the euro area countries should nevertheless extend beyond *emergency* fiscal measures. They should address structural changes within economies enabling a more rapid shift away from fossil fuels to renewable energy sources. A shift to renewables would help restore and maximize the competitiveness of the eurozone industry, which has

suffered significantly from the energy crisis. To improve this competitiveness, the euro area countries will need to, inter alia, substantially intensify the use of renewable energy or improve energy consumption efficiency in the near term. In order to increase the effectiveness of these measures, member countries could expand the *triple-T* criterion and pursue their policies based on the so-called *Green triple-T* criterion placing emphasis on supporting solutions of a *green* nature.

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Appendix

Table 1.
2018-2023 average prices in the EU fossil fuel sector

Average price	2018-2021 [1]	2022 [2]	% change[1]	2023[2] [3]	% change[3]
Gas Wholesale (EUR/MWh)	23	123	435	41	78
Gas Retail (EUR/MWh)	69	137	99	116	68
Coal (EUR/ton)	70	283	304	122	74
Oil (EUR/barrel)	54	97	80	77	43

Notes:
[1] Calculated using the formula: ([2]-[1]):[1]*100.
[2] Until 14 November 2023.
[3] Calculated using the formula: ([3]-[1]):[1]*100.

Source: Own preparation based on European Commission (2023i, p. 3).

Table 2.
Types of fiscal measures implemented since September 2021 by euro area countries in response to the energy crisis

Country / Policy	Reduced energy tax / VAT	Retail price regulation	Wholesale price regulation	Financial transfers to vulnerable groups	Mandate to State-owned companies	Windfall profits tax[1]	Business support	Other forms of support
BE	v	v		v		v	v	v
DE	v	v		v		v	v	
EE	v	v		v			v	
IE	v			v		v	v	v
EL	v	v		v	v	v	v	
ES	v	v	v	v		v	v	
FR	v	v	v	v	v	v	v	v
HR	v	v		v			v	
IT	v	v		v		v	v	
CY	v	v		v	v	v	v	
LV	v	v		v			v	
LT	v			v		v	v	v
LU	v	v		v		v	v	
MT		v	v		v		v	v
NL	v	v		v		v	v	
AT	v	v		v		v	v	v
PT	v	v	v	v	v	v	v	
SI	v	v	v	v		v	v	
SK		v		v	v	v	v	
FI	v			v		v	v	v

Notes:
Symbol "v" indicates a fiscal measure implemented, a blank field indicates no measure or not yet implemented measure.
[1] Revenues from new taxes or fees on windfall profits fall into a special category, as they are not support measures, but rather constitute a source of financing. This specific type of revenue is included in the estimate of *energy measures* due to its direct linkage with energy price increases (for more, see European Commission, 2022a, p. 22; 2022b, p. 51).

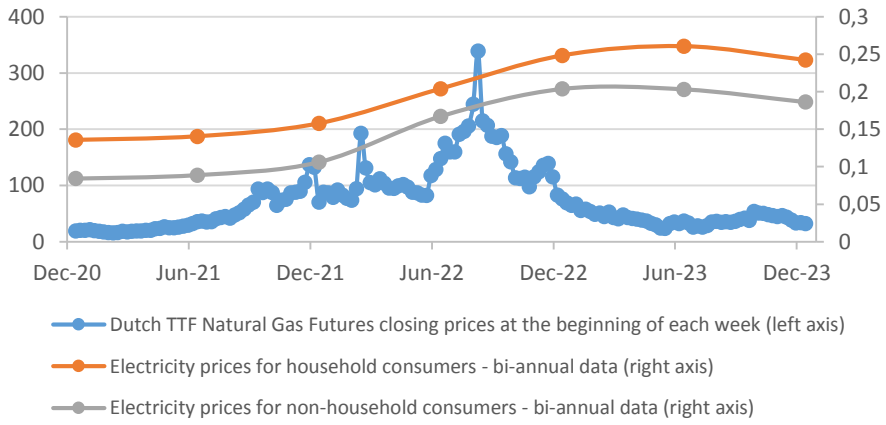
Source: Own preparation based on Sgaravatti et al. (2023b).

Table 3.
2021-2024 net budgetary cost of energy measures vs budget balance in euro area countries, in % of GDP

	Net budgetary cost of energy measures[1]				Budget balance, i.e. deficit (-) or surplus (+)			
State or organization	**2021[2]**	**2022**	**2023[3]**	**2024[3]**	**2021**	**2022**	**2023[3]**	**2024[3]**
BE	0.0	0.8	0.4	0.0	-5.4	-3.5	-4.9	-4.9
DE	0.0	1.2	1.4	0.3	-3.6	-2.5	-2.2	-1.6
EE	0.1	0.8	0.3	0.0	-2.5	-1.0	-2.9	-2.4
IE	0.0	0.5	0.4	0.2	-1.5	1.7	0.9	0.6
EL	0.3	2.6	0.0	0.1	-7.0	-2.4	-2.3	-0.9
ES	0.1	1.5	0.9	-0.1	-6.7	-4.7	-4.1	-3.2
FR	0.1	0.9	0.8	0.3	-6.5	-4.8	-4.8	-4.4
HR	0.0	1.5	1.8	0.5	-2.5	0.1	-0.1	-1.8
IT	0.3	2.4	1.0	0.0	-8.8	-8.0	-5.3	-4.4
CY	0.1	0.6	0.5	0.0	-1.9	2.4	2.3	2.1
LV	0.1	1.5	1.0	0.0	-7.2	-4.6	-3.2	-3.1
LT	0.0	1.3	0.4	0.1	-1.1	-0.7	-1.6	-2.3
LU	0.0	0.6	0.9	0.4	0.6	-0.3	-1.9	-2.1
MT	0.6	2.3	1.6	2.0	-7.5	-5.7	-5.1	-4.6
NL	0.0	0.7	1.0	0.0	-2.2	-0.1	-0.5	-1.8
AT	0.0	1.4	1.6	0.1	-5.8	-3.5	-2.6	-2.4
PT	0.0	1.9	1.3	0.7	-2.9	-0.3	0.8	0.1
SI	0.0	1.0	0.9	0.0	-4.6	-3.0	-3.7	-3.3
SK	0.0	0.2	2.1	-0.1	-5.2	-2.0	-5.7	-6.5
FI	0.0	0.1	0.3	0.0	-2.8	-0.8	-2.4	-3.2
EA	0.1	1.2	0.9	0.2	-5.2	-3.6	-3.2	-2.8

Notes:
[1] Net cost refers to energy support measures minus revenues from new taxes and levies on windfall profits by energy producers.
[2] This column of 2021 presents the change in the budgetary cost of energy measures.
[3] European Economic Forecast, Autumn 2023.

Source: Own preparation based on European Commission (2022c, pp. 3-138; 2022d, p. 7; 2023e, p. 187; 2023g, pp. 4-132).



Notes:
[1] Data on the left axis is in EUR per MWh.
[2] Data on the right axis is in EUR per KWh.

Figure 1. Natural gas and electricity prices in the euro area from end of December 2020 to end of December 2023.

Source: Own preparation based on Eurostat (2024a; 2024b), Yahoo (2024).