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Abstract

The COVID-19 pandemic had disastrous effects on health and economic activity worldwide, including in the Euro Area. The application of mandatory lockdowns contributed to a sharp fall in production and a rise in unemployment, inducing an expansionary fiscal and monetary response. Using a uniquely large macro database, this paper examines the effects of the pandemic and the ensuing economic policies on public support for the common currency, the euro, as measured by the Eurobarometer survey. It finds that public support for the euro reached historically high levels in a majority of the 19 Euro Area member states in the midst of the pandemic. This finding suggests that the expansionary fiscal policies initiated at the EU level significantly contributed to this outcome, while the monetary measures taken by the European Central Bank did not have a similar effect.

COVID-19 and Public Support for the Euro

1.   Introduction

The coronavirus pandemic that erupted in early 2020 triggered an unprecedented health crisis across the globe, including within the member countries of the Euro Area (EA). In response to the pandemic and in the hope of arresting its spread, governments introduced far-reaching lockdowns in many countries. These policy measures had a strong negative effect on growth, employment and trade,[1] inducing some observers to talk about the "Great Lockdown Recession".[2] The lockdowns had a particularly negative impact on specific sectors of the economy, such as hospitality (Gursoy and Chi, 2020). Many industries reacted to the pandemic by implementing short-term work schemes and laying off employees. In sum, the lockdown policies led to a rise in unemployment, a sharp drop in economic activity and a rapid rise in public debt (for an extended analysis of these phenomena, see, for example, Bauer and Weber, 2021; Baek et al., 2021; IMF, 2020b; Ping Ang and Dong, 2022).

COVID-19 became an urgent policy challenge for the EA member states. They were pressed to dampen the spread of the pandemic as well as to reduce the economic damage created by lockdowns. In response to the downturn in economic activity, loss of income in many households and rising unemployment, national and EU policymakers turned to large-scale fiscal and monetary policy initiatives.

How did these economic policy measures influence public support for the euro? This question is a pertinent one to ask, as broad public support for the euro is crucial for the long-term sustainability of the common currency. As long as it prevails, it acts as a shield against attempts to dismantle the euro and grants political legitimacy to the European Central Bank (ECB) "to do whatever it takes" to preserve the EA in times of crisis (Roth and Jonung, 2020a).

In addition, given that the economic and unemployment crisis in the EA following the financial and sovereign debt crisis from 2008 to 2013 had a strong

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[1] A rise in unemployment, business closures, income losses, disruptions in trade and the travel industry are among the pandemic consequences; see for example Barua (2021).

[2] See IMF (2020a) where the COVID-19 recession is compared to the Great Depression of the 1930s.

negative impact on public support for the euro (Roth et al., 2016, 2019; Roth and Jonung, 2020a,b; Roth, 2022), we are interested to find out if the rise in unemployment during the COVID-19 pandemic had a similarly negative effect on public support for the euro.

This paper analyses the evolution and determinants of public support for the euro at the macro-level, using a database running from 3-4/1999 (EB51) to 6-7/2022 (EB97), thus covering the acute phase of the COVID-19 pandemic in 2020-2021 as well. During the pandemic, we observe a striking feature: public support for the euro increased, especially during the winter of 2020-2021, reaching a historical peak at that time despite an increase in unemployment at the same time.

The aim of this paper is two-fold: first to analyze how public support for the euro evolved during the COVID-19 pandemic, and second to investigate the extent to which the fiscal and expansionary monetary responses were driving factors in the increase in public support for the euro.

The article is structured in the following manner. The next section elaborates on the various policy initiatives adopted across the EU in response to the COVID-19 pandemic. The third section summarizes previous studies on public support for the euro. The fourth section reviews the fiscal and monetary responses by national and EU policymakers during the pandemic. The fifth section presents the model specification used by the authors. The sixth section offers econometric results. The seventh section discusses the fiscal and monetary policy interventions during the COVID-19 crisis and their effects on public support for the euro. The last section offers conclusions.

2.   The COVID-19 pandemic

In response to the pandemic, EA19 member countries introduced compulsory restrictions on the mobility of the public, commonly referred to as lockdowns.[3] These measures included non-pharmaceutical interventions such as school closures, workplace closures and stay-at-home requirements. The commonly stated goal of these mandatory measures was to flattening the epidemiological curve (Baldwin and Wyplosz, 2022), thereby reducing the spread of the pandemic and holding down the

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[3] The World Health Organization declared COVID-19 to be a pandemic on 11 March 2020 (World Health Organization, 2020).

rise in mortality rates. These measures were the primary tools, as vaccines only reached a minority of EA19 member countries in 2020 and 2021 (Moore et al., 2021; Burki, 2021). The actual effect of the lockdowns on mortality is a subject of debate. Some argue that lockdowns, that is, increased stringency, decreased the growth of COVID-19 cases and mortality rates (Hale et al., 2020; Violato et al., 2021). Others hold a more skeptical view, such as Herby et al. (2022), concluding that lockdowns had a negligible effect on mortality.[4]

Figure 1 displays the 14-day moving average of the stringency index, the common measure of the extent of lockdowns and the mortality rate per million people in the EA19 next to the mean unemployment rate matched according to the respective bi-annual standard Eurobarometer (EBs 92-97) fieldwork periods considered in the analysis. During the first two waves of the COVID-19 pandemic,[5] from March until May 2020 and again from September 2020 until the end of February 2021, the lockdown measures remained at a high level, mostly above 70. Only during the summer of 2020 and after the second wave, at the end of March 2021, was partial control achieved, with a decline in the stringency measures in response to the decreasing infections and death rates. Overall, in 2020 and 2021, the stringency index remained at a high level, mostly above 50. Then in early 2022, the stringency index started to decline and almost reached pre-crisis levels in June 2022. The reason for this decline was the continuous increase in COVID-19 vaccinations in many member countries. The rising frequency of vaccinations, however, led to a decreasing hospitalization rate despite a strong increase in confirmed cases due to the spread or emergence of the Omicron variant[6] (Ritchie et al., 2020; Ulloa et al., 2021).

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[4] Herby et al. (2022), based on a meta-analysis of the effects of lockdowns on mortality, offer the most comprehensive review of the evidence on lockdowns. They argue that the costs of lockdowns to society far outweigh any benefits. See Table 18 in Herby et al (2022).

[5] There is no scientifically agreed definition of a "wave" or a "driving force" is (Cacciapaglia et al., 2021). We derive the first two waves based on the daily confirmed cases, as seen in Figure A1 in the Appendix.

[6] The Omicron variant caused a massive increase in the number of confirmed cases since late 2021, as seen in Figure A1 (arrow) in the supplementary material in the Appendix, although it was not associated with higher mortality, as shown in Figure 1.

Figure 1

14-day Moving Average Stringency Index, Mortality Rate per Million People and Mean Unemployment Rate, EA19, 2020-2022
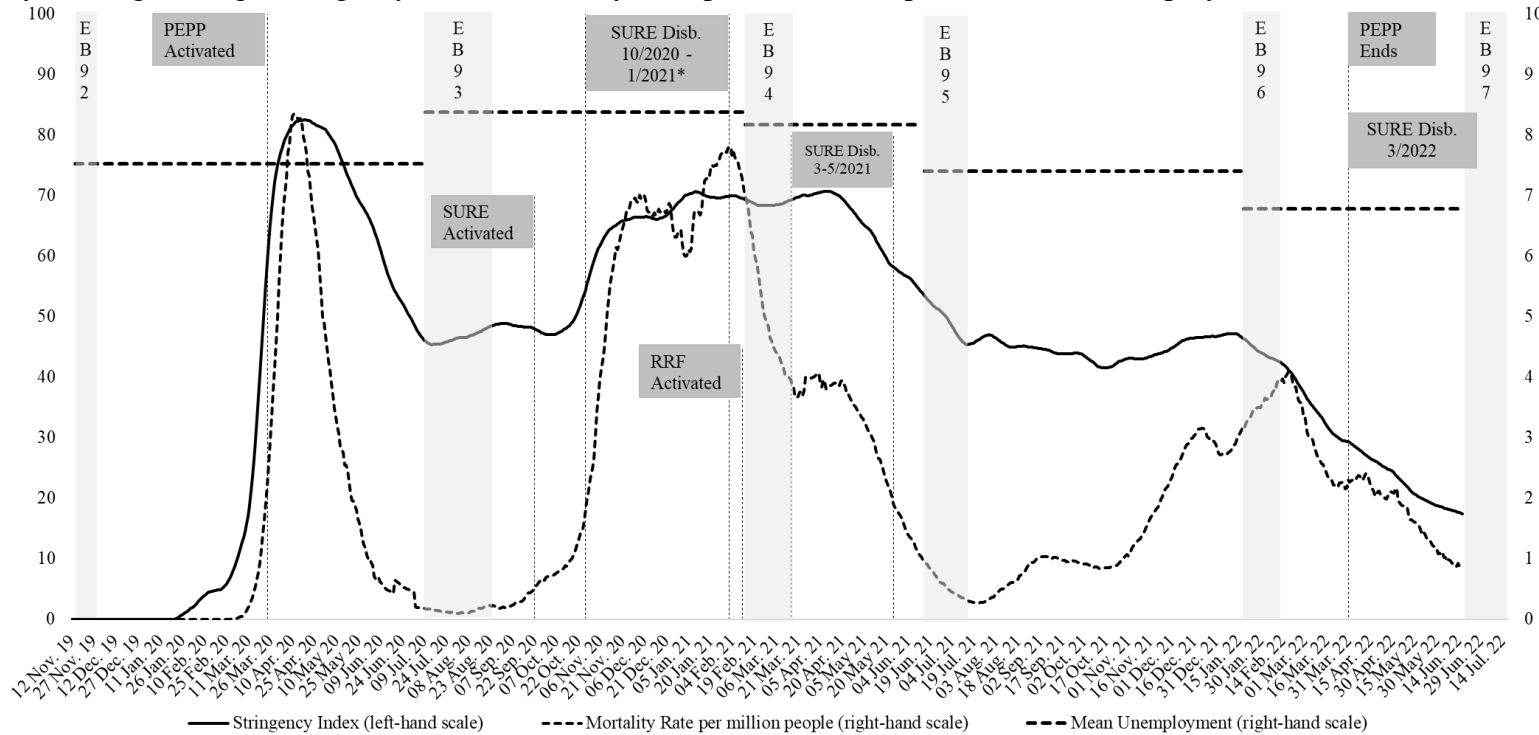
Notes: The stringency index is aggregated from 0 to 100 (100=strictest) and is calculated based on nine response indicators (school closures, workplace closures, cancellations of public events, limits on size of gatherings, public transport closures, stay-at-home requirements, restrictions on internal movement, travel bans, and record presence of public information campaigns). PEPP = Pandemic Emergency Purchase Programme, SURE = Support to mitigate Unemployment Risks in an Emergency, RRF = Recovery and Resilience Facility (RRF), EB = EuroBarometer, Disb. = Disbursement. Values of the left-hand y-scale stringency index are in percent. Values on the right-hand y-scale (showing mean unemployment rates) are in percent. Values on the right-hand y-scale (showing mortality rates) are displayed per million people. X-scale displays 14-day moving averages.

*This includes the SURE disbursements on 2 February 2021.

Source: Data for the stringency index and confirmed deaths are taken from the Oxford COVID-19 Response Tracker (Hale et al., 2021; Oxford COVID-19 Government Response Tracker, 2020), and data for the unemployment rate and population are from Eurostat.

The high stringency measures taken in the spring of 2020 and in the winter 2020-2021 led to a significant decline in economic activity, strongly reflected in the increase in the mean unemployment rate, as shown in Figure 1 in the winter of 2020-2021 before the standard EB94 fieldwork (2-3/2021). Several studies show that a high stringency index significantly increased the unemployment rate (Bauer and Weber, 2020; Baek et al., 2021; Ping Ang and Dong, 2022). In parallel with the decreasing stringency index from April 2021 onwards, the mean unemployment rate also fell below the pre-pandemic levels in the summer of 2022.

EU policymakers addressed the economic downturn and the rise in unemployment via rapid large-scale fiscal policy and monetary initiatives. As seen from Figure 1, the temporary Support to mitigate Unemployment Risks in an Emergency (SURE) was activated by the European Commission (EC) on 22 September 2020. The centerpiece Recovery and Resilience Facility (RRF) of the European recovery plan, NextGenerationEU (NGEU), was approved on 10-12 February 2021 by the European Parliament and the Council of EU. The ECB activated the Pandemic Emergency Purchase Programme (PEPP) on 24 March 2020. With the decision of the Governing Council, PEPP net purchases were discontinued at the end of March 2022. These three initiatives are described in more detail in section 4.

To sum up: we identify the start of the COVID-19 crisis with a rapid increase in the stringency index in end of February 2020 and its end with the convergence towards pre-crisis levels in June 2022.

3.   Determinants of Public Support for the Euro

Research on public support for the euro and EMU neatly follows a timeline. It encompasses studies of public support in the years *before* the introduction of the common currency (Gärtner, 1997; Kaltenthaler and Anderson, 2001; Banducci et al., 2003), during the *pre-crisis* period from 1999 to 2008 (Banducci et al., 2009; Deroose et al., 2007), during the *crisis* from 2008 to 2013 (Hobolt and Leblond, 2014; Hobolt and Wratil, 2015; Roth et al., 2016) and during the *economic recovery* from 2013 onwards (Roth et al., 2019).

A main finding of these studies is that, with a few exceptions, the euro has enjoyed strong support in all EA19 countries since its introduction, including during

the crisis from 2008 to 2013 (Roth et al., 2016, 2019). The research on the macroeconomic determinants of public support for the euro is not conclusive. While Hobolt and Leblond (2014) find no significant relationship between unemployment and net support for the euro, Roth et al. (2016, 2019) and Roth and Jonung (2020a) establish a highly significant and negative relationship during the economic crisis and recovery period from 2008 to 2018.

A similarly controversial conclusion applies to the impact of inflation. Banducci et al. (2009) and Hobolt and Leblond (2014) conclude that there is no significant relationship between inflation and public support for the euro, while Roth et al. (2016, 2019) and Roth and Jonung (2020a) find a strong negative coefficient in the pre-crisis period and during the crisis period from 1999 to 2013. These previous studies form the background for our present study, which deals with the impact on the support for the euro of the economic downturn and of the fiscal and monetary measures taken during the COVID-19 pandemic starting in early 2020 to 2022.

Let us start by examining the evolution of net public support for the euro and the rate of unemployment in the EA and its 19 individual member countries since the introduction of the euro in 3-4/1999 (EB51) until 6-7/2022 (EB97). A striking feature in Figure 2a is the increase in public support for the euro of 6.7 percentage points from before the pandemic in 11/2019 (EB92) compared to 2-3/2021 (EB94) survey dates (from 57.9 percent of net support in 11/2019 (EB92) to 64.6 percent of net support in 2-3/2021 (EB94) (see Table A1a in the Appendix). However, whereas the increase from 11/2019 (EB92) to 7-8/2020 (EB93) was only 1 percentage point, the increase from 7-8/2020 (EB93) to 2-3/2021 (EB94) was 5.7 percentage points (see Table A1b in the Appendix). This pronounced increase in the winter 2020/2021 in 2-3/2021 (EB94) established the highest level of support at that time, although unemployment had risen in the meantime.

As the pandemic progressed, net support dropped after 2-3/2021 (EB94) but remained higher than before the pandemic. The unemployment rate follows the same pattern as net support, peaking in 2-3/2021 (EB94). With the start of the war in Ukraine we see a "rally-around-the flag" effect with a renewed increase in public support to 64.7 percent in 6-7/2022 (EB97), which represents a new historical high level of support for the euro.

Figure 2a

Unemployment and Net Public Support for the Euro in the EA19 Countries,

1999-2022

Notes: As the figure depicts net support, all values above 0 indicate that a majority of the respondents support the euro. Net support measures are constructed as the number of 'For' responses minus 'Against' responses, according to the equation: Net support = (For – Against)/(For + Against + Don't know). The vertical (dashed) lines represent four milestones in the history of the single currency: the physical introduction of the euro in January 2002, the start of the global financial crisis in September 2008, the start of the recovery at the end of 2013, the start of the COVID-19 crisis at the beginning of 2020 and its end in June 2022.
Source: Standard Eurobarometer data 51-97.

Figure 2b

Unemployment and Net Public Support for the Euro in the EA19 Countries, 1999-2022
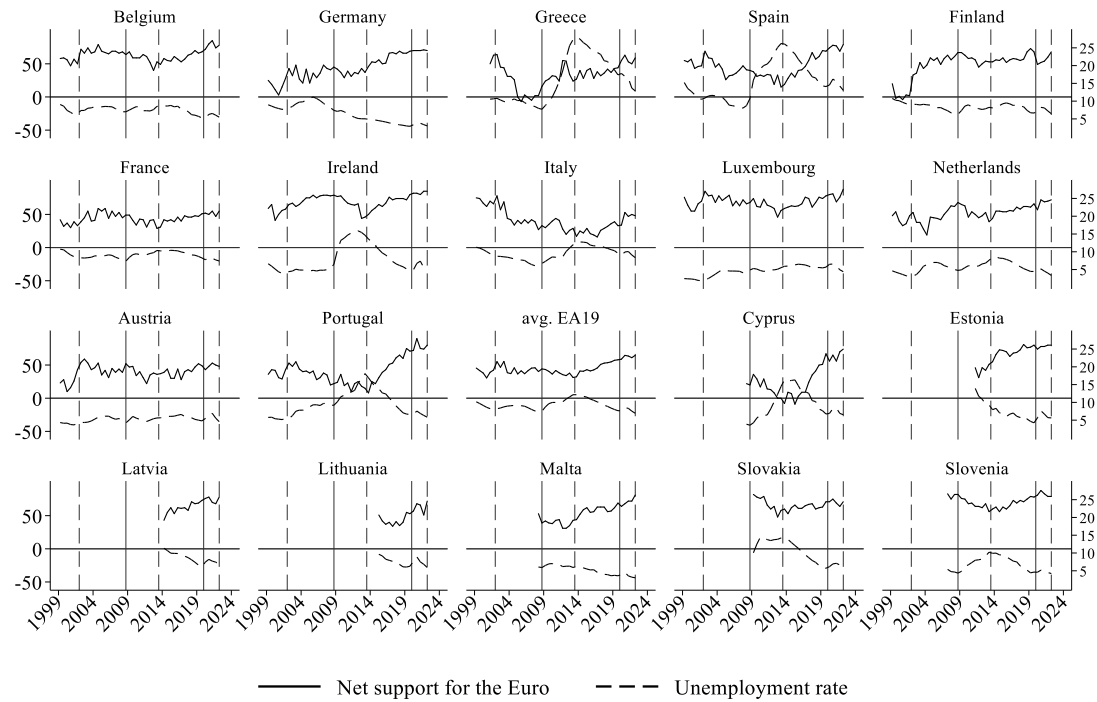
Net support for the Euro — — — Unemployment rate

Notes: As the figure depicts net support, all values above 0 indicate that a majority of the respondents support the euro. Net support measures are constructed as the number of 'For' responses minus 'Against' responses, according to the equation: Net support = (For – Against)/(For + Against + Don't know). The vertical (dashed) lines represent four milestones in the history of the single currency: the physical introduction of the euro in January 2002, the start of the global financial crisis in September 2008, the start of the recovery at the end of 2013, and the start of the COVID-19 pandemic at the beginning of 2020 and its end in June 2022. The scale of left-hand y-axis depicts net public support for the euro in percent. The scale of the right-hand y-axis depicts the unemployment rate in percent.
Source: Standard Eurobarometer data 51-97.

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This positive correlation during 2020/2021 between support and unemployment runs counter to the negative correlation during the financial and economic crisis of 2008-2013 (Roth et al., 2016, 2019; Roth and Jonung, 2020a). The sharp increase in the unemployment rate at the beginning of the pandemic did not lead to a decline in public support for the euro, as occurred during the period 2008-2013.

Figure 2b, looking at the time series patterns for the 19 individual EA economies, reveals an increase in net public support for the euro in 13 out of the 19 EA countries in 2-3/2021 (EB94), compared to the period before the pandemic in 11/2019 (EB92) (see Table A1a in the Appendix). Italy, Greece and Portugal have seen the largest increase by 20 and 19 percentage points, respectively, followed by Lithuania and Belgium by 15 percentage points and 12 percentage points. In Slovenia and Spain, net support for the euro increased by 10 and 9 percentage points, respectively, whereas in five countries[7] a small decline is registered, except in Finland, which experienced a more pronounced decline of 16 percentage points. By looking at the latest data in 6-7/2022 (EB97), we see an increase in all EA19[8] member countries, with the exception of Austria compared to 11/2019 (EB92).

Overall, we conclude that in the midst of the COVID-19 pandemic, public support remained at very high levels and even increased twice to a new all-time high level in 2-3/2021 (EB94) and again in 6-7/2022 (EB97). The question that arises from this pattern is: to what extent did the EU fiscal policy and monetary measures launched in response to the pandemic account for the sharp increase of public support for the euro. Before we answer this question, the next section describes the fiscal and monetary measures taken at the EU level.

4. Fiscal and Monetary Policy Initiatives

The pandemic released an unprecedented fiscal and monetary response from the EU and the ECB. In effect, it transformed the whole approach applied to the framing of

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[7] By -2 percentage points in Estonia and Cyprus and by -1 percentage point in Austria, France, and Malta.

[8] For Finland, Estonia, and Slovakia net support for the euro in 6-7/2022 (EB97) remained at the same level as before the pandemic in 11/2019 (EB92).

stabilization policies in the EU, moving the EU closer towards becoming a fiscal union. We first consider fiscal policy measures and then deal with the response by the ECB.

Fiscal Policy Measures by the EU

Short-term measures: SURE is an initiative of the EC to counteract the increase in unemployment and loss of income due to the impact of the pandemic and of lockdowns by providing loans with an overall volume of 100 billion euro to EU member countries for financing national short-time work schemes. In particular, the initiative is intended to cover those costs directly incurred by the introduction or extension of short-time working schemes, as well as similar support for self-employed workers (European Commission, 2022a).

Figure 3 shows the three individual disbursement rates — I. 10/2020-1/2021, II. 3-5/2021 and III. 3/2022 — which serve as the base for the dummy construction as utilized within our econometric analysis. it also displays the average disbursed SURE loans of EA19 countries from IV. 10/2020 to 3/2022 in billion euro and measured as a percent of 2020 GDP. After the initiative was activated on 22 September 2020, the Commission disbursed the first financial support of SURE on 27 October 2020 (see Figure 1). By the end of March 2022, the EC had issued about three quarters of the overall volume, amounting to loans totaling 74.9 billion euro, to most of the 19 member countries.[9]

All member states that have applied for SURE funding have received part of or the entire requested amount. Italy and Spain figure among the member states that received the largest total sums of 27.4 billion and 21.3 billion euro, respectively. Looking more closely to the distribution of SURE per GDP in the EA19, Figure 3, lower right part (IV), reveals that Malta received the largest share of 4 percent. Other periphery members of the EA, such as Greece and Portugal, received more than 3 percent of their GDP, while Italy and Spain received around 2 percent of GDP. The core countries Germany and France did not apply for SURE funding. Overall, each of the EA19 country that applied for SURE funding received a distribution per GDP above the EA19 average of 0.7 percent, as seen in the lower right (IV) quadrant of Figure 3.

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[9] With the latest disbursement provided under SURE on 29 March 2022, the total volume for the loans amounts to 91.8 billion EUR.

Figure 3

SURE Loan Disbursements, EA19, in Billion Euro and Measured as a Ratio of 2020/2021 GDP, 10/2020 – 3/2022
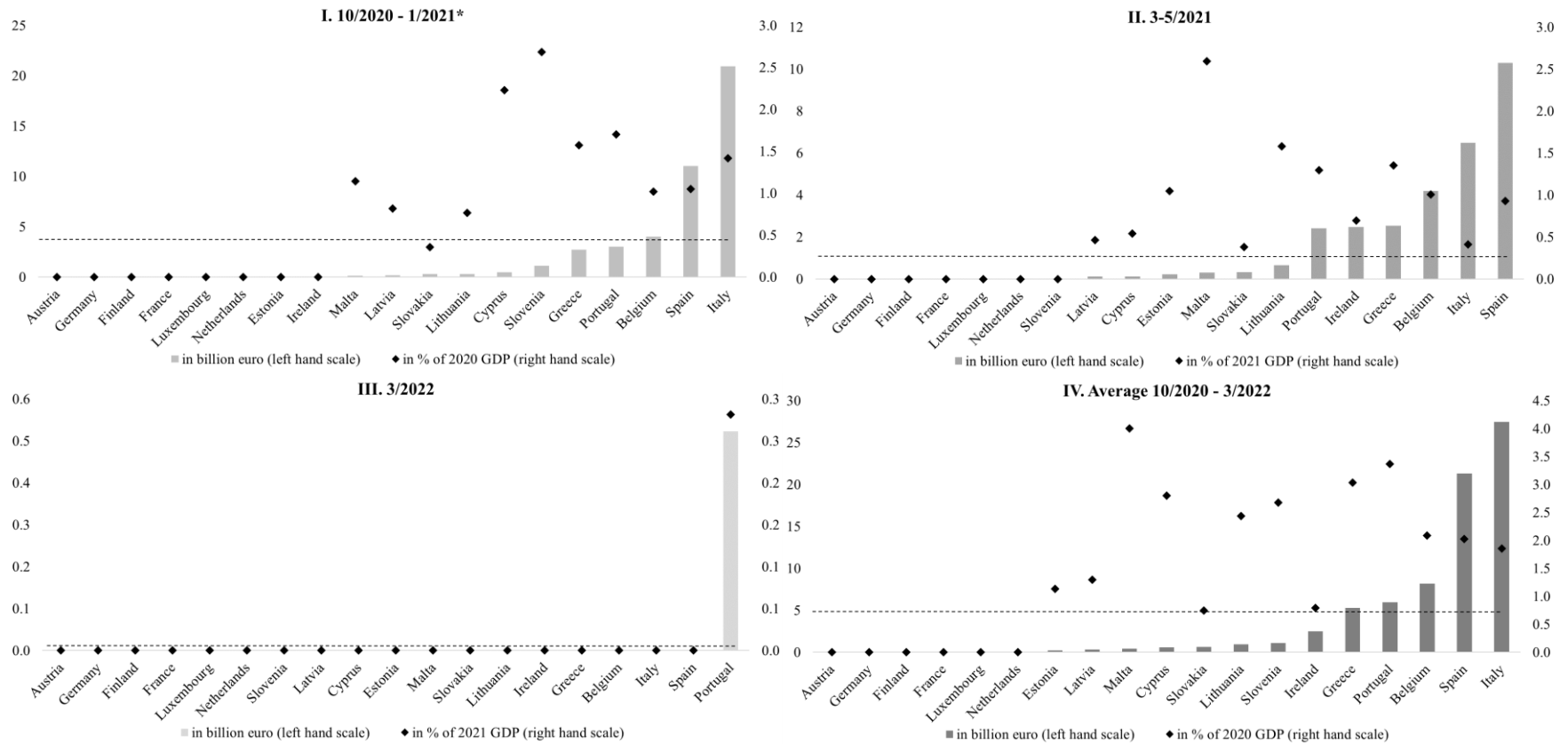
Notes: The dashed line represents the EA19 average in percent of 2020/2021 GDP. The left-hand side of the y-axis shows values measured in billion euro. The right-hand side of the y-axis shows values measured in percent of GDP. *This includes the SURE disbursements on 2 February 2021.

Sources: Data extracted from SURE timeline of European Commission (2022a) and 2020 GDP data taken from Eurostat.

Medium to long-term measures: The European recovery plan, also called Next Generation EU (NGEU), is the largest stimulus initiative launched by the EU to date. The core of NGEU is the Recovery and Resilience Facility (RRF). The use of the economic stimulus fund is spread over almost seven years until 31 December 2026. With a budget of 723.8 billion euro (338 billion euro in grants), RRF is intended to support the economic recovery to build a "greener, more digital and more resilient Europe" (European Commission, 2020). Member states can receive funding up to a pre-allocated amount of grants and loans.

Figure 4

RRF Grants Pre-Allocation, EA19, in Billion Euro and Measured as a Ratio of 2020 GDP
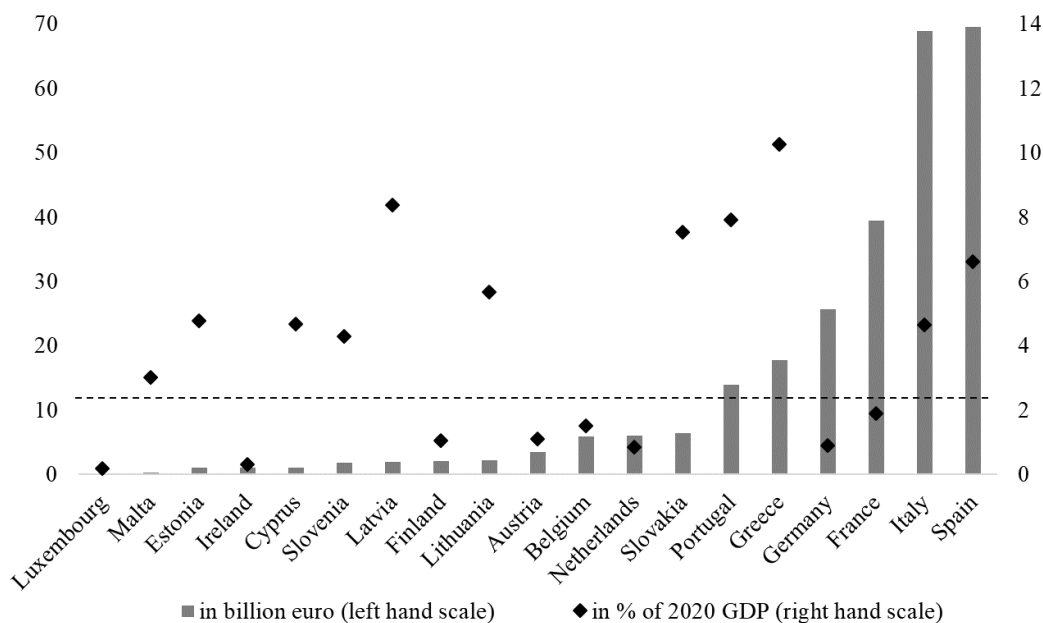
Notes: The dashed line represents the EA19 average in percent of 2020 GDP. The left-hand side of the y-axis shows values measured in billion euro. Right-hand side of y-axis shows values measured in percent of GDP.
Source: Data extracted from Grants Pre-Allocation of European Union (2021), with 2020 GDP data extracted from Eurostat.

Figure 4 displays the maximum grants pre-allocation of the RRF in billion euro and as a percent of 2020 GDP.[10] Italy and Spain are each eligible to receive almost 70 billion

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[10] As the first disbursement started as late as 3 August 2021, and thus falls within the fieldwork period as late as EB96 (1-2/2022), and as the fund is spread over the period ending 2026, we take the pre-allocated grant amounts of the RRF for our analysis.

euro in grants from the RRF initiative, while the other countries, including the core countries France and Germany, are eligible to receive only 39 billion and 26 billion euro, respectively. Looking more closely to the distribution of grants per GDP, Figure 4 shows that the grants per GDP has been distributed unequally over the 19 member states of the EA. The countries that are eligible to receive the largest grants are those in the periphery of the EA. Greece can receive as much as 10 percent of GDP. Slovakia, Portugal, and Latvia can receive around 8 percent, Spain and Lithuania around 6 percent and Slovenia, Italy, Estonia, Cyprus and Malta all can receive more than 3 percent. On the other hand, the core economies, including Germany and France, all receive less than 2 percent, which is below the EA19 average of almost 3 percent. Overall, this pattern suggests a transfer of resources from the core to the periphery economies of the EA (for a detailed discussion, see Dorn and Fuest (2021)). Figure 4 is the base for the construction of our dummy variables as utilized within our econometric analysis (see here also Table A7 in the Appendix).

Monetary Policy Measures by the ECB

The ECB's Pandemic Emergency Purchase Programme (PEPP), an extension of the Asset Purchase Programme (APP), foresees asset purchases in the secondary government bond market with a total volume of 1,850 billion euro. As of the end of March 2022, the ECB had purchased a total of 1,520 billion euro[11] in assets through the program, an impressive number in a historical context.[12] The ECB's total assets – including those of the national central banks – have increased by over 3,895 billion euro from 4,671 billion in 2019 to 8,566 billion in 2021, (see Figure A2 in the Appendix). This growth is primarily driven by the securities purchased under PEPP and APP. A comparison of the total assets of the ECB during the pandemic 2020/2021 and during the economic crisis in 2008/2009 shows that the ECB acted much more

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[11] Cumulative net purchases as at end of September 2022 reached a total of 1,713 billion euro.

[12] The temporary initiative PEPP is intended to continue to provide favorable financing conditions for companies and households. With PEPP, EA19 member countries were able to carry out expansionary fiscal policies at the national and European levels (Schnabel (2020)). With the Governing Council's decision of 16 December 2021, net purchases were discontinued at the end of March 2022. Reinvestment of the redemption amounts under PEPP is to take place at least until the end of 2024 (European Central Bank, 2022a).

quickly and comprehensively during the pandemic than during the economic crisis twelve years earlier.[13]

The ECB started asset purchases on 26 March 2020 immediately after its activation on 24 March 2020. Figure 5 shows the aggregated PEPP total net purchases (VI) and the five individual purchase intervals (I-V) from 3/2020 to 3/2022 in billion euro and measured as a ratio of 2020/2021 GDP. The five individual purchase intervals I. 3-6/2020, II. 7/2020–1/2021, III. 2-5/2021, IV. 6-12/2021, and V. 1-3/2022 serve as the basis for the dummy construction as utilized within our econometric analysis. Figure 5, lower right part (VI), shows that total cumulated net purchases in Greece and Portugal approached 22.2 percent and 19.7 percent respectively, in Spain and Italy, more than 18 percent of GDP and in Slovenia, the PEPP to GDP ratio is 15.7 percent. The net purchases for these five countries are above the EA19 average of 15.1 percent. In Germany and France net purchases were 14.2 percent and 14.6 percent, respectively.

In short, the fiscal and monetary policy responses to the pandemic were swift, large, and expansionary. They have sparked a lively debate about the future of the fiscal rules guiding the EC.[14] Compared to the economic crisis in 2008/2009, European institutions have not reacted as swiftly or as comprehensively. Critically, the process of early crisis management has been characterized as a rather intergovernmental response.[15] Moreover, the EC has been described as "not very visible in early crisis management" (Puetter, 2012, p. 172). Although the ECB has been described as a "shrewd actor" (Menz and Smith, 2013, p. 203), its reaction during the economic crisis was extremely cautious, actually lowering total liabilities from 2008 to 2010 from 2,075 billion euro in 2008 to 2,002 billion euro in 2010, as seen in the total assets shown in Figure A2. In contrast, the ECB reacted promptly to the COVID-19 crisis with PEPP.[16]

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[13] However, it needs to be remarked that it implemented Outright Monetary Transactions (OMT) in 2012 in order to stabilize the Italian government bond market (European Central Bank, 2012).

[14] For a survey of the debate, see for example Andersson and Jonung (2022).

[15] Examples of the national fiscal stimulus introduced in late 2008 are the German Pact for Employment and Stability with a total volume of 82 billion euro and the 26 billion euro stimulus plan in France.

[16] Early accounts argue that the change in reaction stems from the learning process about the implications of the increasing financial fragmentation of the EA on monetary policy transmission (Morelli and Seghezza, 2021).

Figure 5

Pandemic Emergency Purchase Program (PEPP) Net Purchases, EA19, in Billion Euro and Measured as a Ratio of 2020/2021 GDP,

3/2020 – 3/2022
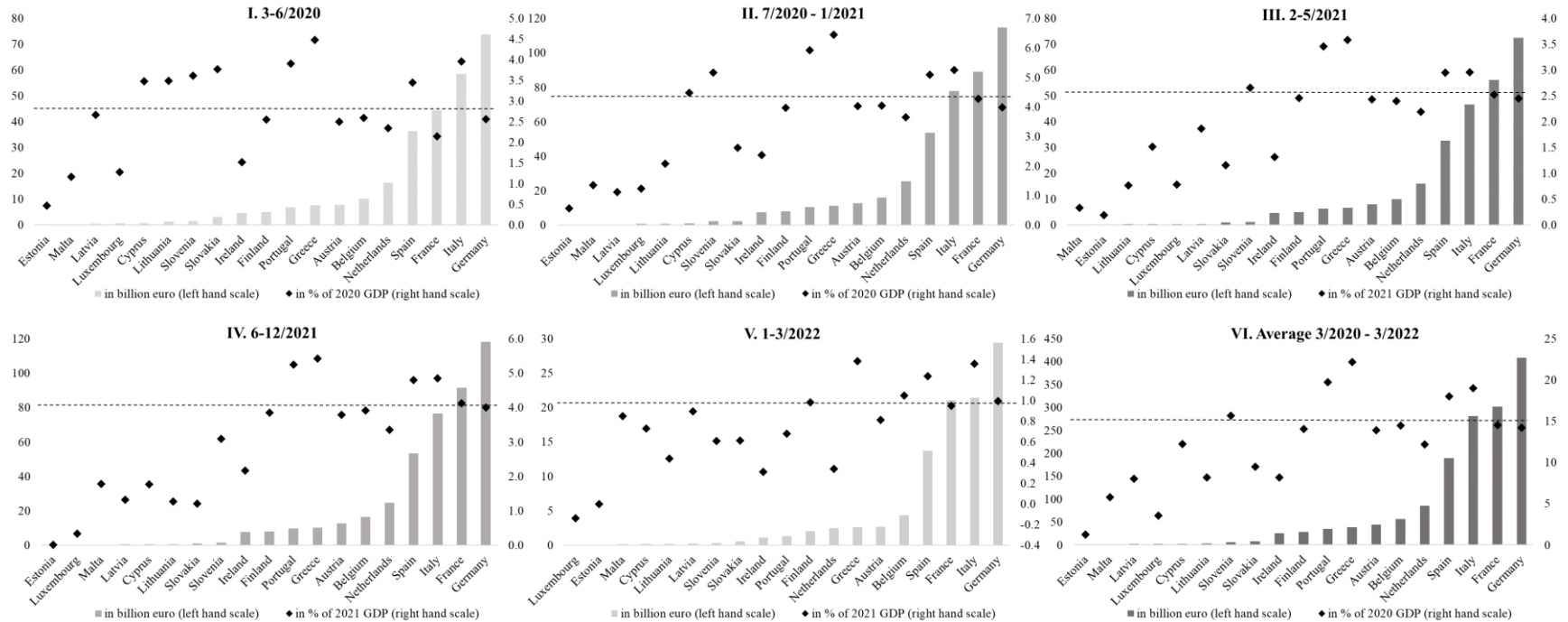
Notes: The dashed line displays the EA19 average in percent of 2020/2021 GDP. The left-hand side of the y-axis shows values measured in billion euro. The right-hand side of the y-axis shows values measured in percent of GDP.
Source: Total assets data extracted from the annual consolidated balance sheet of the European Central Bank (2022b), and PEPP net purchases are taken from the ECB website (European Central Bank, 2022a). GDP data extracted from 2020 data from Eurostat.

5.   Empirical Approach

Model Specification

To investigate empirically the extent to which public support for the euro has been influenced by the fiscal and monetary responses taken during the COVID-19 pandemic from 2020 onwards, we adopt a model specification used by Roth et al. (2016, 2019). Public support for the euro is estimated as a function of unemployment, inflation, growth in real GDP per capita and fiscal and monetary dummies with the addition of COVID-19 control dummies. The baseline model 1 reads:

$$Support_{it} = \alpha_i + \beta_1 Unemployment_{it} + \chi_1 Inflation_{it} + \delta_1 Growth_{it} + \varphi_1 Z_{it} + \theta FM_{it} + \gamma Cov19_{it} + w_{it}, \tag{1}$$

where $Support_{it}$ is the net support for the euro for country i during period t. $Unemployment_{it}$, $Inflation_{it}$, $Growth_{it}$, and Z_{it} are unemployment, inflation, growth of GDP per capita and potential macroeconomic control variables deemed to be of potential importance. FM_{it} include fiscal and monetary initiative dummies. $Cov19_{it}$ are pandemic-related dummies, including the stringency index – a measure of the degree of lockdowns–, the mortality rate, and confirmed cases per population. The country-specific constant term and the error term are represented by α_i and w_{it}.

Data Used

Data for public support for the euro are drawn from the bi-annual Standard Eurobarometer (EB) surveys (European Commission, 2022b) from 3-4/1999 (EB51) until 6-7/2022 (EB97). The participants were asked: '*What is your opinion on each of the following statements? Please tell me for each statement, whether you are for it or against it. A European economic and monetary union with one single currency, the euro*'. The response options were '*For*', '*Against*' or '*Don't Know*'. Net support measures are constructed as described in the notes to Figures 2a and 2b. The other data are from the following sources:

- Monthly data on inflation (the change in the harmonized index of consumer prices), unemployment rates, GDP per capita and population are taken from Eurostat. Unemployment rates were seasonally adjusted. Data on GDP are based on chain-linked volumes.

- Fiscal and monetary initiatives data are taken from the SURE loan disbursement, RRF grants pre-allocation and PEPP net purchases, as described in section 4.

- COVID-19-related data are taken from the Oxford COVID-19 Government Response Tracker (Hale et al., 2021; Oxford COVID-19 Government Response Tracker, 2020). These include confirmed COVID-19 cases per population, confirmed COVID-19 deaths per population and the stringency index, representing the degree of lockdowns, in the EA19 member countries from the start of the pandemic in February 2020 until the beginning of June 2022.

Research Design

Support for the euro is studied from a macro perspective with a focus on feedback effects between support for the euro and the economic situation during the full sample period from 1999 to 2022. Eq. (1) is estimated with an EA12[17] and EA19[18] country sample for 1999-2022, with a total number of 549 and 720 observations, respectively.

With $t = 46$ and $n = 12$ ($n = 19$) and thus with a ratio of $t/n = 3.8$ ($t/n = 2.4$), Eq. 1 is estimated via a panel time-series estimation. The analysis focuses on the period from 1999 to 2022. We apply a matching procedure between macroeconomic variables, fiscal and monetary initiatives, COVID-19 related variables and standard Eurobarometer (EB) survey data.

For the macroeconomic variables and our monetary initiative (PEPP) dummy, a monthly approach was used. Following the previous literature (Roth et al. 2016, 2019), we assume that citizens consider macroeconomic developments and the net purchases under PEPP between two EB surveys. This means that the citizens, in responding to the EB94 (2-3/2021) survey, considered macroeconomic developments

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[17] EA12 includes Austria, Belgium, Finland, France, Germany, Italy, Luxembourg, Netherlands, Greece, Ireland, Portugal and Spain.

[18] EA19 is composed of the EA12 member states plus seven new members: Cyprus, Estonia, Latvia, Lithuania, Malta, Slovakia, and Slovenia.

and net purchases under PEPP between July 2020 (first month of previous EB93 (7-8/2020) survey) up to January 2021 (month before the standard EB94 (2-3/2021) survey).

For the fiscal initiative dummies (SURE and RRF pre-allocated grants) and COVID-19 related variables, we used a daily approach for the matching procedure.[19,20] In examining the pre-allocated RRF grants, we equalize the pre-allocated grants for the bi-annual EB periods from the RRF activation from 10-12 February 2021 onwards.[21] This matching procedure is applied to all bi-annual EB fieldwork through to the latest 6-7/2022 (EB97) survey.[22] An overview of the matching strategy can be found in Figure A3 in the Appendix.

Figures 3-5 illustrate the base for the construction of our dummy variables. Countries that have received SURE loan disbursements, RRF pre-allocated grants and PEPP net purchases per GDP that are above the EA19 average have been marked with 1 (for an overview, see Tables A6-A8 in the supplementary material of the Appendix). COVID-19 control dummies are similarly calculated, with the values for the mean confirmed cases per million people, mean deaths per million people and mean stringency index that lie above the EA19 average indicated by a 1.[23]

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[19] The EB surveys were conducted during the following periods: 9 July-26 August 2020 (EB93), 12 February-18 March 2021 (EB94), 14 June-15 July 2021 (EB95), 18 January-14 February 2022 (EB96) and 17 June-17 July 2022 (EB97).

[20] Thus, the SURE loan disbursement on 2 February 2021 would have been reflected in the previous EB94 (2-3/21) survey data, since the EB94 fieldwork started on 12 February 2021.

[21] This means that the pre-allocated RRF grants have been considered by citizens when answering EB surveys, starting from 2-3/2021 (EB94).

[22] The latest EB97 (6-7/22) survey was conducted between 17 June and 17 July 2022. Thus, the fiscal initiatives dummy and COVID-19 control variables include the data up to 16 June 2022, one day before the EB97 survey started.

[23] The underlying figures and tables on the dummy construction are available from the authors upon request.

Macro Analysis

We utilize a Fixed Effect Dynamic Feasible General Least Squares (FE-DFGLS)[24] approach, which is represented by Eq. (2):[25]

$$Support_{it}^* = \alpha_i + \beta_1 Unemployment_{it}^* + \chi_1 Inflation_{it}^* + \delta_1 Growth_{it}^* + \varphi_1 Z_{it}^* +$$

$$+ \sum_{P=-1}^{p=+1} \beta_{2p} \Delta Unemployment_{it-p}^* + \sum_{P=-1}^{p=+1} \chi_{2p} \Delta Inflation_{it-p}^* + \sum_{P=-1}^{p=+1} \delta_{2p} \Delta Growth_{it-p}^* +$$

$$\sum_{P=-1}^{p=+1} \varphi_{2p} \Delta Z_{it-p}^* + \theta FM_{it} + \gamma Cov19_{it} + u_{it}, \tag{2}$$

with α_i being the country fixed effect and Δ indicating that the variables are in first differences. By applying DFGLS, unemployment, inflation and growth become exogenous and the coefficients β_1, χ_1, δ_1 and φ_1 follow a t-distribution. This property permits us to derive statistical inferences on the causal impact of the unemployment, inflation and growth variables. The asterisk (*) indicates that the variables have been transformed and that the error term u_{it} fulfils the requirements of the classical linear regression (i.e. no autocorrelation).

6. Econometric Results

Table 1 shows our econometric results within our EA12 and EA19 country samples. Utilizing an FE-DFGLS estimation approach for the EA12 and EA19 over the 23-year period 3-4/1999 to 6-7/2022 with 549 and 720 observations and including the introduced fiscal and monetary stimulus dummies yields the following results.

We start our discussion by presenting the results for our macro-economic variables. Looking at the EA12 and EA19, our long-term variables unemployment and growth of GDP per capita have the usual signs. Whereas an increase in the unemployment rate is associated with a significant decline in net public support for the euro (ranging from -1.0 to -1.6), no significant relationship between GDP per capita growth and public support for the euro could be detected. Overall, these results support

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[24] All series are integrated of order 1, i.e. they are I(1) (non-stationary); non-stationary of the variables inflation and GDP per capita growth is due to non-stationarity (non-constancy) of the variance of these series, and they are cointegrated. The Pesaran's CADF panel unit root tests and Kao's residual cointegration test are displayed in Tables A4-A5.

[25] The detailed steps from Eq. (1) to equation (2) are explained in the literature (see here e.g. Roth et al. 2016, 2019).

previous empirical evidence in Roth et al. (2016, 2019) and Roth and Jonung (2020a). Contrary to these results, inflation has become insignificant. This is due to the inflation dynamic in the Euro Area starting in the winter of 2021/2022 (from EB96 onwards), which has not led to a significant decline, but an actual increase in public support for the euro – a "rally-round-the-flag" effect – in 6-7/2022 (EB97).[26]

More importantly for this paper, we detect that the dummies for the SURE and RRF pre-allocated grants in the EA12 (Regressions 1 and 3) and the EA19 (Regressions 2 and 4) display highly significant and positive coefficients. The coefficient can be interpreted as follows: Member states of the EA12 that benefited from the SURE program[27] during the COVID-19 pandemic showed a 7.8 percentage point increase in net euro support (Regression 1). This effect is highly significant. In addition, EA12 member states that were net beneficiaries of the RRF grants pre-allocation[28] experienced an increase in net public support for the euro by 16.3 percentage points (Regression 3). This effect is also highly significant.

With a coefficient of 5.2 for SURE (Regression 2) and a coefficient of 11 for RRF pre-allocated grants (Regression 4), these values are nevertheless lower when looking at the complete set of EA19 economies. Our PEPP coefficients in Regressions 5 and 6 are neither significant for the EA12 nor for EA19 when analyzing the full net purchases under PEPP within the time period between March 2020 and March 2022.[29]

Regressions 7-12 show our results when focusing on the peak of the COVID-19 crisis in the winter of 2020/2021, particularly in 2-3/2021 (EB94). Regressions 7 and 8 show that the coefficients for SURE increase to 9.5 for EA12 and 6.7 for EA19 member countries when solely analyzing the SURE loan disbursements in 2-3/2021 (EB94) during our full sample period 3-4/1999 to 6-7/2022. These two effects are highly significant. These results therefore indicate that our results for SURE for the overall period are driven by the peak of the COVID-19 crisis in 2-3/2021 (EB94).

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[26] See here Table A2 in the Appendix, which shows that the negative coefficient for inflation loses significance from 1-2/2022 (EB96) onwards for the first time in the history of the euro.

[27] As can inferred from Figure 3 and Table A6 in the Appendix, those countries are Belgium, Greece, Ireland, Italy, Portugal, and Spain.

[28] As can be inferred from Figure 4 and Table A7 in the Appendix, those countries are Greece, Portugal, Italy, and Spain.

[29] Our results are robust if we exclude the COVID-19 pandemic-related dummies (stringency index, cases, and mortality) in our analysis.

Table 1
Unemployment, Inflation, GDP per Capita Growth, Fiscal and Monetary Dummies and Support:
FE-DFGLS Estimations, EA12 and EA19, 1999-2022

Regression	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Dependent Variable	Euro	Euro	Euro	Euro	Euro	Euro	Euro	Euro	Euro	Euro	Euro	Euro
Country sample	EA12	EA19	EA12	EA19	EA12	EA19	EA12	EA19	EA12	EA19	EA12	EA19
Period	FS	FS	FS	FS	FS	FS	FS[a]	FS[a]	FS[a]	FS[a]	FS[a]	FS[a]
Unemployment	**-1.0****	**-1.5*****	**-1.0****	**-1.5*****	**-1.1****	**-1.5*****	**-1.1****	**-1.5*****	**-1.1****	**-1.5*****	**-1.1****	**-1.6*****
	(0.48)	(0.42)	(0.47)	(0.41)	(0.49)	(0.42)	(0.49)	(0.42)	(0.49)	(0.42)	(0.49)	(0.42)
Inflation	1.1	1.0	0.4	0.4	0.9	0.8	1.2	0.9	1.1	0.8	1.1	0.9
	(1.18)	(0.79)	(1.19)	(0.79)	(1.20)	(0.79)	(1.19)	(0.78)	(1.19)	(0.78)	(1.19)	(0.78)
GDP per capita growth	-0.1	-0.1	-0.5	-0.4	-0.4	-0.3	-0.2	-0.2	-0.2	-0.3	-0.2	-0.2
	(0.68)	(0.56)	(0.68)	(0.55)	(0.68)	(0.56)	(0.68)	(0.56)	(0.68)	(0.55)	(0.68)	(0.56)
SURE Dummy	**7.8*****	**5.2****					**9.5*****	**6.7*****				
	(2.87)	(2.04)					(3.55)	(2.49)				
RRF Pre-Allocated Grants Dummy			**16.3*****	**11.0*****					**10.2*****	**6.6*****		
			(4.56)	(2.97)					(3.78)	(2.34)		
PEPP Dummy					1.7	2.0					**10.2*****	**7.9****
					(2.88)	(2.17)					(3.78)	(3.08)
COVID control dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Durbin-Watson statistic	2.33	2.29	2.32	2.26	2.33	2.29	2.33	2.29	2.32	2.29	2.32	2.28
Adjusted R-Squared	0.81	0.83	0.82	0.83	0.81	0.83	0.81	0.83	0.81	0.83	0.81	0.83
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control for endogeneity	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
El. of first-order autocorr.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	549	720	549	720	549	720	549	720	549	720	549	720
Number of countries	12	19	12	19	12	19	12	19	12	19	12	19

Notes: FS = full sample. Standard errors are in parentheses. ** $P < 0.05$, *** $P < 0.01$. El.=Elimination. [a] Only includes fiscal and monetary stimulus dummies in EB94 (2-3/2021) dataset. El.=Elimination.

We find contrasting results for the RRF pre-allocated grants in Regressions 9 and 10 where coefficients are lower (10.2 for EA12 and 6.6 for EA19) when considering only pre-allocated grants in winter of 2020/2021 (EB94), compared to our sample of pre-allocated grants for the whole COVID-19 period. More interestingly, the PEPP coefficients are highly significant when solely analyzing the net purchases under PEPP in 2-3/2021 (EB94) within our full sample period in Regressions 11 and 12. Those EA12 and EA19 member countries that benefited from the net purchases under PEPP during the winter of 2020/2021 saw an increase of 10.2 and 7.9 percentage points respectively in net public support for the euro.[30]

In summary, we detect a significant positive influence of the fiscal initiatives on public support for the euro throughout the whole COVID-19 period until 6-7/2022 (EB97), while an overall significantly positive influence of monetary initiatives could be found when solely analyzing net purchases under PEPP in the period 2-3/2021 (EB94). In the case of SURE, the positive impact of the fiscal initiatives is driven by its strong positive impact in the winter 2020/2021 and in 2-3/2021 (EB94) period.

Given this evidence, our findings suggest that the increase during the COVID-19 pandemic of net public support for the euro, despite the simultaneous rise in unemployment, can be significantly connected to the immediate responses of SURE and RRF pre-allocated grants, as well as the immediate reaction of PEPP in the winter 2020/2021.

7.   Discussion

Our results allow us to draw several conclusions about how public support for the euro was affected by the fiscal and monetary initiatives introduced at the beginning of the COVID-19 pandemic.

First, public support for the euro increased amidst a rise in unemployment during the COVID-19 pandemic. This runs counter to previous empirical findings of the negative relationship between unemployment and public support for the euro during the economic crisis recovery period from 2008 to 2018 (Roth et al., 2016, 2018; Roth

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[30] These results remain robust if we exclude the COVID-19 pandemic dummies (stringency index, cases and mortality) in our analysis.

and Jonung, 2020a). This raises the question: Why has public support for the euro increased even though unemployment has also risen?

We suggest that the fiscal policy initiatives taken by EU policy makers led to the significant and immediate increase in public support for the euro during the COVID-19 pandemic in the EA19, although unemployment rose at the same time. This might be related, amongst other factors, to the fact that the fiscal policy measures SURE and NGEU, with its centerpiece RRF, were communicated clearly by EU authorities to the public.[31] For the monetary initiative, PEPP, we could only find a limited significant positive influence (in the winter of 2020/2021) on public support for the euro. Most likely, the public did not notice in the media the expansionary monetary measures taken by the authorities as much as the expansionary fiscal measures taken.

The magnitude of these measures is unprecedented in the history of the EA. In the aftermath of the financial crisis in 2008/2009, economic stimuli have mostly taken the form of intergovernmental initiatives. Additionally, the early crisis management of the EU has been described as slow and indecisive, and thus hardly visible (Begg, 2012; Puetter, 2012; Menz and Smith, 2013). In contrast, the fiscal policies SURE and RRF mark an important step towards common fiscal integration. Moreover, the SURE initiative introduced a step towards a new EU risk-sharing model (Andersson and Jonung, 2022). Overall, the early pandemic management of the EU can be described as swift, comprehensive, and decisive.

Much suggests that without these fast and decisive fiscal initiatives, the economic consequences of the increased unemployment associated with the lockdowns would have become even more pronounced. The increased political legitimacy bestowed on the EU institutions during the pandemic can be attributed to the new policy initiatives SURE and RRF, which have laid the foundation for a new stabilization framework at the supranational level. This assertion implies an unmistakable move towards fiscal federalism but one that is not universally supported by all of the member states.[32]

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[31] The effectiveness of NGEU is even queried from EB94 (2-3/2021) onwards. As shown in Table A9 in the Appendix, a majority of all EA19 countries, with the exceptions being Finland and Latvia, is of the opinion that the NGEU has been effective from 2-3/2021 (EB94) to 6-7/2022 (EB97).
[32] For a detailed review, see Andersson and Jonung (2022).

8. Conclusions

Our analysis arrives at four major conclusions.

First, during the COVID-19 pandemic, net public support for the euro amongst a majority of the 19 EA economies increased and reached new historically high levels at the peak of the COVID-19 crisis in the winter of 2020/2021.

Second, taking panel data and using a FE-DFGLS estimation for an EA12 and EA19 country sample over the period 1999 to 2022, we find a significant positive relationship between the highly expansionary fiscal initiatives taken by the European Commission and the rise in support for the euro in the EA19.

Third, the expansionary monetary measures by the European Central Bank are only marginally associated with a positive effect on public support for the euro. We speculate that this modest effect is attributable to the fact that the public was more informed about the expansionary fiscal measures than about the monetary policy of the ECB.

Fourth, the increase in unemployment and the downturn in economic activity triggered by the COVID-19 pandemic and the subsequent lockdowns did not negatively affect public support for the euro. This finding contrasts with the pattern observed in the aftermath of the financial and sovereign debt crisis in 2008/2009, when the rise in unemployment was associated with a significant fall in public support for the euro. In sum, the prompt roll-out of fiscal initiatives, such as SURE and RRF, was crucial for garnering public support for the euro during the pandemic. The pandemic also proved to be catalyst in accelerating deeper fiscal policy integration in the euro area.

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Appendix

Table A1a. Public Support for the Euro, EA19, Levels and Changes to before COVID-19 Pandemic, EB92 (11/2019) - EB97 (6-7/2022)

ID	Country	11/2019 EB92	7-8/2020 EB93	2-3/2021 EB94	6-7/2021 EB95	1-2/2022 EB96	6-7/2022 EB97	Change EB92/93	Change EB92/94	Change EB92/95	Change EB92/96	Change EB92/97
EA-19		57.9	58.9	64.6	63.6	61.1	64.7	1.0	6.7	5.7	3.2	6.8
FI	Finland	68	49	52	54	60	68	-19	-16	-14	-8	0
EE	Estonia	80	74	78	78	80	80	-6	-2	-2	0	0
CY	Cyprus	67	56	65	56	70	74	-11	-2	-11	3	7
AT	Austria	49	43	48	53	50	48	-6	-1	4	1	-1
FR	France	51	52	50	55	47	55	1	-1	4	-4	4
MT	Malta	69	64	68	72	72	81	-5	-1	3	3	12
DE	Germany	69	70	70	70	71	70	1	1	1	2	1
IE	Ireland	80	82	82	80	85	85	2	2	0	5	5
LU	Luxembourg	78	80	81	69	76	88	2	3	-9	-2	10
SK	Slovakia	71	71	75	69	64	71	0	4	-2	-7	0
LV	Latvia	73	76	78	70	68	78	3	5	-3	-5	5
NL	Netherlands	66	57	72	69	70	72	-9	6	3	4	6
ES	Spain	69	74	78	77	69	79	5	9	8	0	10
SI	Slovenia	78	81	88	83	79	79	3	10	5	1	1
BE	Belgium	68	72	80	85	74	78	4	12	17	6	10
LT	Lithuania	53	57	68	66	51	72	4	15	13	-2	19
PT	Portugal	71	72	90	75	74	80	1	19	4	3	9
EL	Greece	44	55	63	53	50	59	11	19	9	6	15
IT	Italy	33	34	53	47	50	48	1	20	14	17	15

Notes: EA12 countries are placed against a light grey background.
Source: Standard EuroBarometer (EB) data 92-97. Country order was established with respect to changes in EB92/94.

Table A1b. Public Support for the Euro, EA19, Levels and Changes, EB92 (11/2019) - EB97 (6-7/2022)

ID	Country	11/2019 EB92	7-8/2020 EB93	2-3/2021 EB94	6-7/2021 EB95	1-2/2022 EB96	6-7/2022 EB97	Change EB92/93	Change EB93/94	Change EB94/95	Change EB95/96	Change EB96/97
EA-19		57.9	58.9	64.6	63.6	61.1	64.7	1.0	5.7	-1.0	-2.5	3.5
FR	France	51	52	50	55	47	55	1	-2	5	-8	8
DE	Germany	69	70	70	70	71	70	1	0	0	1	-1
IE	Ireland	80	82	82	80	85	85	2	0	-2	5	0
LU	Luxembourg	78	80	81	69	76	88	2	1	-12	7	12
LV	Latvia	73	76	78	70	68	78	3	2	-8	-2	10
FI	Finland	68	49	52	54	60	68	-19	3	2	6	8
EE	Estonia	80	74	78	78	80	80	-6	4	0	2	0
MT	Malta	69	64	68	72	72	81	-5	4	4	0	9
SK	Slovakia	71	71	75	69	64	71	0	4	-6	-5	7
ES	Spain	69	74	78	77	69	79	5	4	-1	-8	10
AT	Austria	49	43	48	53	50	48	-6	5	5	-3	-2
SI	Slovenia	78	81	88	83	79	79	3	7	-5	-4	0
BE	Belgium	68	72	80	85	74	78	4	8	5	-11	4
EL	Greece	44	55	63	53	50	59	11	8	-10	-3	9
CY	Cyprus	67	56	65	56	70	74	-11	9	-9	14	4
LT	Lithuania	53	57	68	66	51	72	4	11	-2	-15	21
NL	Netherlands	66	57	72	69	70	72	-9	15	-3	1	2
PT	Portugal	71	72	90	75	74	80	1	18	-15	-1	6
IT	Italy	33	34	53	47	50	48	1	19	-6	3	-2

Notes: EA12 countries are placed against a light grey background.
Source: Standard EuroBarometer (EB) data 92-97. Country order was established with respect to changes in EB93/94.

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Table A2 Unemployment, Inflation, GDP per Capita Growth and Support: FE-DFGLS Estimations, EA12 and EA19, 1999-2022

Regression	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Dependent Variable	Euro	Euro	Euro	Euro	Euro	Euro	Euro	Euro	Euro	Euro	Euro	Euro
Country sample	EA12	EA19	EA12	EA19	EA12	EA19	EA12	EA19	EA12	EA19	EA12	EA19
Period	11/ 2019	11/ 2019	7-8/ 2020	7-8/ 2020	2-3/ 2021	2-3/ 2021	6-7/ 2021	6-7/ 2021	1-2/ 2022	1-2/ 2022	6-7/ 2022	6-7/ 2022
Unemployment	-1.4***	-1.7***	-1.4***	-1.7***	-1.5***	-1.8***	-1.5***	-1.8***	-1.3***	-1.7***	-1.2**	-1.7***
	(0.48)	(0.41)	(0.47)	(0.40)	(0.48)	(0.41)	(0.50)	(0.42)	(0.50)	(0.43)	(0.51)	(0.44)
Inflation	-5.6***	-5.0***	-5.9***	-4.8***	-5.9***	-4.6***	-3.8**	-3.3**	-1.5	-1.9*	0.8	0.8
	(2.02)	(1.56)	(1.90)	(1.46)	(1.91)	(1.47)	(1.82)	(1.39)	(1.53)	(1.10)	(1.21)	(0.79)
GDP per capita growth	-0.6	-0.7	-0.7	-0.7	-0.9	-0.9	-0.7	-0.8	-0.3	-0.3	-0.4	-0.4
	(0.78)	(0.68)	(0.75)	(0.65)	(0.74)	(0.64)	(0.74)	(0.63)	(0.69)	(0.57)	(0.68)	(0.56)
Durbin-Watson statistic	2.35	2.27	2.32	2.25	2.32	2.27	2.32	2.28	2.34	2.28	2.34	2.30
Adjusted R-Squared	0.80	0.82	0.80	0.82	0.80	0.82	0.80	0.83	0.81	0.83	0.81	0.83
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control for endogeneity	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
El. of first-order autocorr.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	489	625	501	644	513	663	525	682	537	701	549	720
Number of countries	12	19	12	19	12	19	12	19	12	19	12	19

Notes: FS = full sample. Standard errors are in parentheses. * P < 0.1, ** P < 0.05, *** P < 0.01.

Figure A1. Daily Confirmed Cases per million people, EA19, 14-day average, 2020-2022
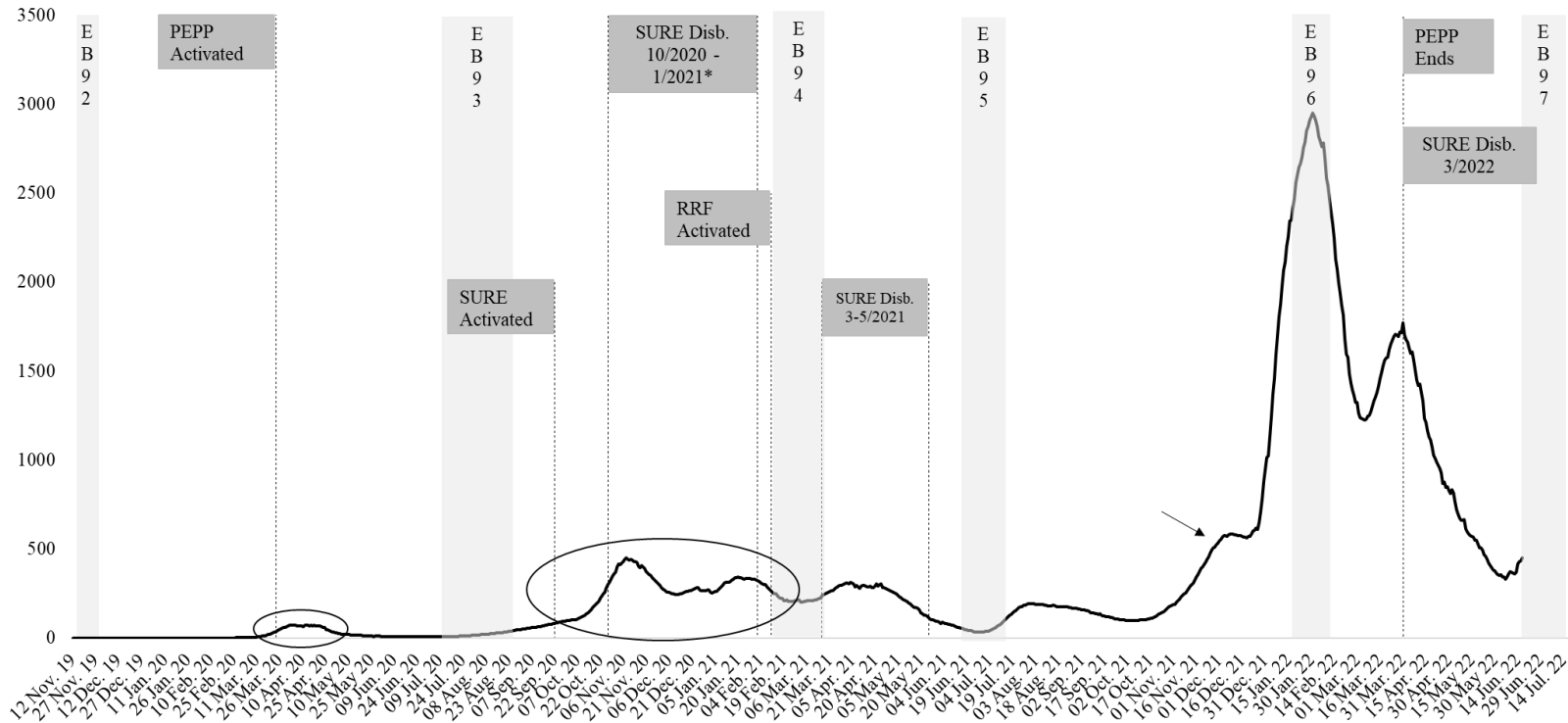
Notes: PEPP = Pandemic Emergency Purchase Programme, SURE = Support to mitigate Unemployment Risks in an Emergency, RRF = Recovery and Resilience Facility (RRF), EB = EuroBarometer. The circles illustrate the first and second wave of the COVID-19 pandemic from March until May 2020 and from September 2020 through end of February 2021. The arrow shows the breakout of the Omicron variant.
Source: Data are taken from the Oxford COVID-19 Response Tracker (Hale et al., 2021; Oxford COVID-19 Government Response Tracker, 2020).

Figure A2. Total Assets of the ECB's Balance Sheet, 1999-2021, billions of euros
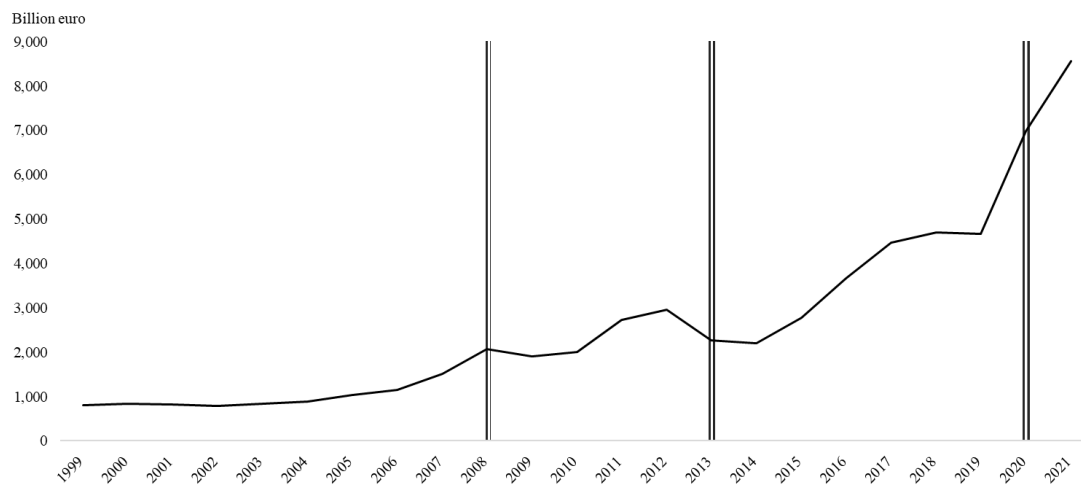
Notes: The total assets of the Eurosystem comprise the assets and liabilities of the national central banks (NCBs) operating within the Eurosystem and the ECB held at year-end vis-á-vis third parties. The vertical lines represent three milestones in the history of the single currency: the start of the global financial crisis in September 2008, the start of the recovery at the end of 2013, and the start of the COVID-19 pandemic in the beginning of 2020.
Source: Balance Sheet data taken from European Central Bank.

Table A3a. Summary Statistics for the Macro Analysis, EA19, 1999-2022

Variable	N	Mean	Std. dev.	Min.	Max.
Net support for the euro	731	51.2	19.2	-9.0	90.0
Unemployment rate	731	8.5	4.3	1.9	28.0
Inflation	731	1.0	1.4	-3.7	11.8
GDP per capita growth	731	0.7	2.2	-12.9	14.8
SURE Dummy	731	0.0	0.2	0	1
SURE Dummy (solely 2-3/2021 (EB94))	731	0.0	0.1	0	1
RRF Pre-Allocated Grants Dummy	731	0.1	0.2	0	1
RRF Pre-Allocated Grants Dummy (solely 2-3/2021 (EB94))	731	0.0	0.1	0	1
PEPP Dummy	731	0.0	0.2	0	1
PEPP Dummy (solely 2-3/2021 (EB94))	731	0.0	0.1	0	1
Stringency Index Dummy	731	0.1	0.3	0	1
Mortality Dummy	731	0.1	0.2	0	1
Cases Dummy	731	0.1	0.2	0	1

Notes: N = number of observations; Std. dev. = standard deviation; Min. = minimum; Max. = maximum.
Sources: Standard Eurobarometer data 51-97, Eurostat, European Commission (2022a), European Union (2021), European Central Bank (2022b), Oxford COVID-19 Government Response Tracker, 2020.

Table A4. Pesaran's CADF Panel Unit Root Tests, EA-19 Countries

Variable	Observations	CADF-Zt-bar	Probability
Net support for the euro	731	-0.60	0.28
Unemployment rate	731	1.03	0.85
Inflation	731	-0.43	0.33
GDP per capita growth	731	1.81	0.97

Notes: H_0: series has a unit root (individual unit root process); H_1: at least one panel is stationary. Table A4 shows that all series have a unit root. A time trend and two lagged differences were utilized. Three lagged differences were utilized for Inflation and four lagged differences for GDP per capita growth.

Table A5. Kao's Residual Cointegration Test, EA-19 Countries

Cointegration between the following set of variables	Number of included observations	ADF-t-statistic	Probability
Net support for the euro, unemployment, inflation, GDP per capita growth	731	1.78	0.04

Notes: H_0: no cointegration. Table A5 shows that the series are cointegrated and thus stand in a long-run relationship.

Table A6. Overview of SURE Dummies

EA	Country	7-8/2020 EB93	2-3/2021 EB94	6-7/2021 EB95	1-2/2022 EB96	6-7/2022 EB97
EA12	Austria	-	-	-	-	-
	Belgium	-	X	X	-	-
	Finland	-	-	-	-	-
	France	-	-	-	-	-
	Germany	-	-	-	-	-
	Ireland	-	-	X	-	-
	Luxembourg	-	-	-	-	-
	Netherlands	-	-	-	-	-
	Greece	-	X	X	-	-
	Italy	-	X	X	-	-
	Portugal	-	X	X	-	X
	Spain	-	X	X	-	-
EA19	Cyprus	-	X	X	-	-
	Estonia	-	-	X	-	-
	Latvia	-	X	X	-	-
	Lithuania	-	X	X	-	-
	Malta	-	X	X	-	-
	Slovakia	-	-	X	-	-
	Slovenia	-	X	-	-	-

Notes: X = Dummy is set to 1 (means net beneficiary).

Table A7. Overview of RRF Pre-Allocated Grants Dummies

EA	Country	7-8/2020 EB93	2-3/2021 EB94	6-7/2021 EB95	1-2/2022 EB96	6-7/2022 EB97
EA12	Austria	-	-	-	-	-
	Belgium	-	-	-	-	-
	Finland	-	-	-	-	-
	France	-	-	-	-	-
	Germany	-	-	-	-	-
	Ireland	-	-	-	-	-
	Luxembourg	-	-	-	-	-
	Netherlands	-	-	-	-	-
	Greece	X	X	X	X	X
	Italy	X	X	X	X	X
	Portugal	X	X	X	X	X
	Spain	X	X	X	X	X
EA19	Cyprus	X	X	X	X	X
	Estonia	X	X	X	X	X
	Latvia	X	X	X	X	X
	Lithuania	X	X	X	X	X
	Malta	X	X	X	X	X
	Slovakia	X	X	X	X	X
	Slovenia	X	X	X	X	X

Notes: X = Dummy is set to 1 (means net beneficiary).

Table A8. Overview of PEPP Dummies

EA	Country	7-8/2020 EB93	2-3/2021 EB94	6-7/2021 EB95	1-2/2022 EB96	6-7/2022 EB97
EA12	Austria	-	-	-	-	-
	Belgium	-	-	-	-	X
	Finland	-	-	-	-	X
	France	-	-	-	X	-
	Germany	-	-	-	-	X
	Ireland	-	-	-	-	-
	Luxembourg	-	-	-	-	-
	Netherlands	-	-	-	-	-
	Greece	X	X	X	X	X
	Italy	X	X	X	X	X
	Portugal	X	X	X	X	-
	Spain	X	X	X	X	X
EA19	Cyprus	X	X	-	-	-
	Estonia	-	-	-	-	-
	Latvia	-	-	-	-	-
	Lithuania	X	-	-	-	-
	Malta	-	-	-	-	-
	Slovakia	X	-	-	-	-
	Slovenia	X	X	X	-	-

Notes: X = Dummy is set to 1 (means net beneficiary).

Table A9. Net Effectiveness of the EU Fiscal Recovery Plan (NGEU) as Perceived by the Public in the Euro Area, 2021-2022

ID	Country	2-3/2021 EB94	6-7/2021 EB95	1-2/2022 EB96	6-7/2022 EB97
EA-19		14	19	18	16
FR	France	6	13	5	6
DE	Germany	6	10	10	26
IE	Ireland	54	50	73	66
LU	Luxembourg	13	26	30	38
LV	Latvia	-5	-8	-14	0
FI	Finland	-15	-16	-1	0
EE	Estonia	22	22	23	15
MT	Malta	72	76	64	75
SK	Slovakia	20	12	6	11
ES	Spain	11	20	19	23
AT	Austria	19	29	21	24
SI	Slovenia	17	12	8	11
BE	Belgium	19	23	20	32
EL	Greece	8	8	7	9
CY	Cyprus	29	33	39	22
LT	Lithuania	6	12	2	32
NL	Netherlands	34	19	21	15
PT	Portugal	0	17	17	29
IT	Italy	37	39	39	37

Notes: As the table depicts net effectiveness, all values above 0 indicate that a majority of the respondents believes that the EU's recovery plan (NGEU) is effective. Net effectiveness measures are constructed as the number of Total "Effective" responses minus Total "Not effective" responses, according to the equation: [Total "Effective" ("Very effective" + "Fairly Effective")] – [Total "Not effective" ("Not very effective" + "Not at all effective")]/["Very effective" + "Fairly Effective" + "Not very effective" + "Not at all effective]. The underlying survey question within the Standard Eurobarometer is: "The European Union has designed a recovery plan of 750 billion euros, NextGenerationEU, to support the economy through grants and loans. How effective or not do you think that this measure is to respond to the economic effects of the coronavirus pandemic?".
Source: Standard EBs 94-97.

Figure A3. Overview of the Matching Procedure
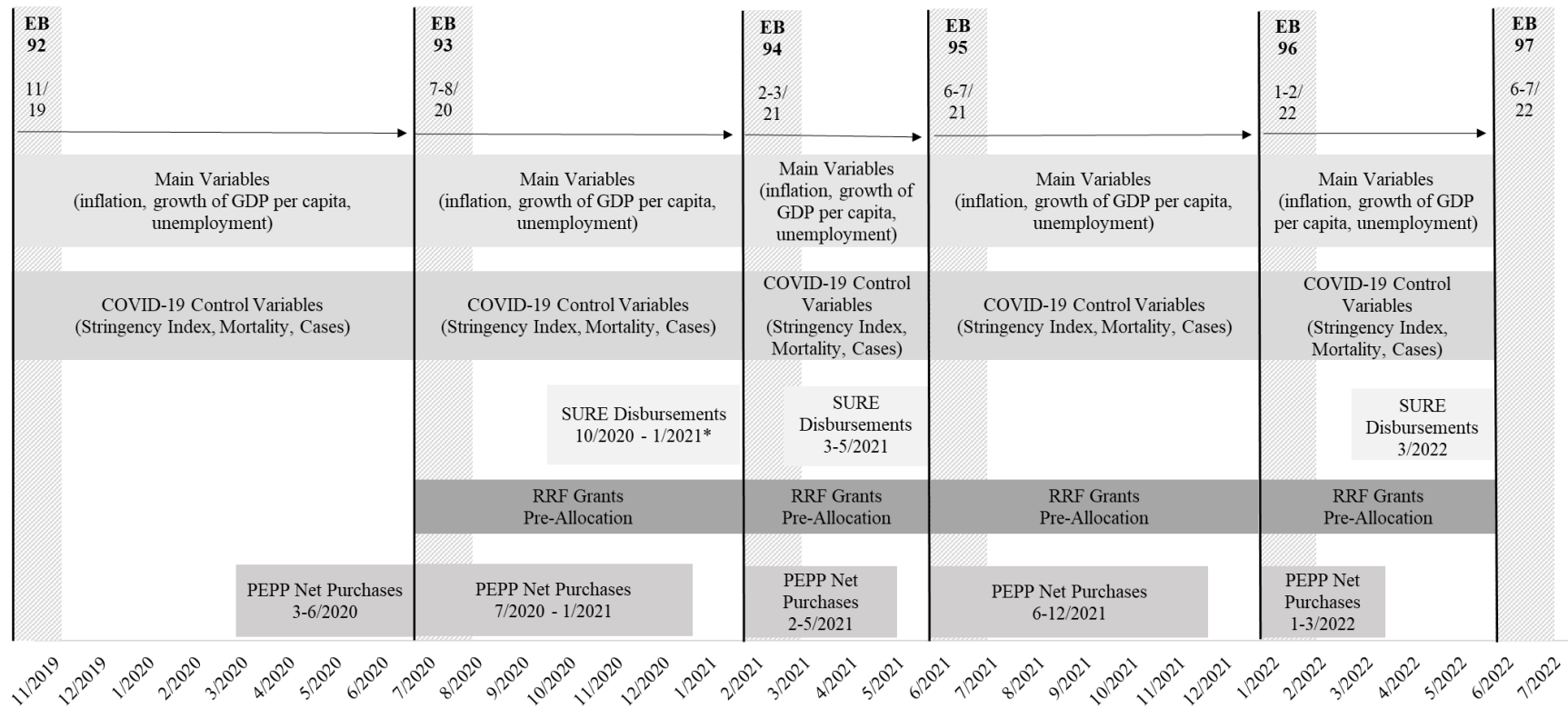
Notes: PEPP = Pandemic Emergency Purchase Programme, SURE = Support to mitigate Unemployment Risks in an Emergency, RRF = Recovery and Resilience Facility (RRF), EB = EuroBarometer.

*Includes the SURE loan disbursement on 2 February 2021