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## ORIGINAL ARTICLE OPEN ACCESS

# On the Design of a European Health Union: Public Preferences, Trust, and Experience With the Covid-19 Crisis

R. Beetsma<sup>1</sup>  | F. Nicoli<sup>2</sup> <sup>1</sup>University of Amsterdam and Copenhagen Business School, Amsterdam, the Netherlands | <sup>2</sup>Politecnico of Turin, Ghent University, University of Amsterdam, Bruegel, Turin, Italy**Correspondence:** R. Beetsma ([r.m.w.j.beetsma@uva.nl](mailto:r.m.w.j.beetsma@uva.nl))**Received:** 2 November 2024 | **Revised:** 13 May 2025 | **Accepted:** 26 May 2025**Funding:** The authors received no specific funding for this work.**Keywords:** (conjoint) experiment | competences | Covid-19 infection | European Health Union | redistribution | risk-sharing | trust in the EU

## ABSTRACT

During and following the Covid-19 pandemic, the European Union (EU) is taking first steps toward a European Health Union (EHU). There is no set definition of what an EHU is, but in this paper, we explore the popular support for different designs of an EHU, including a pillar in which healthcare policy competences are shared between the EU and national governments, a risk-sharing, and a redistributive pillar among countries. The analysis draws on two conjoint experiments in which respondents are presented with policy packages, as well as on a follow-up survey on political attitudes. One of the experiments focuses on a central fiscal capacity that provides financial help to countries hit by adverse shocks, including financing of national healthcare spending, while the second focuses on joint procurement of medical countermeasures. The surveys were fielded in five EU countries at the end of March/beginning of April 2020, in July 2020, and in November 2022. Our findings are the following: there is support for all three pillars of an EHU, which moreover rises with trust in the EU; respondents tend to prefer a health-related fiscal capacity to other forms of EU fiscal capacity; direct experience with serious Covid-19 infection raises both trust in the EU and support for the EU sharing in social policy competences; and more trust has a larger positive effect on support for an EHU for those without serious Covid-19 experience than for those with. These findings suggest that to promote further EU integration, the European Commission may want to develop strategies to bolster trust in the EU.

## 1 | Introduction

The Covid-19 pandemic that shook the world in the years 2020 and 2021 provided an important test of the institutional resilience of the European Union (EU). While initially some governments tried to ban the export of medicinal countermeasures, they later became more collaborative.<sup>1</sup> Some countries teamed up to jointly procure such countermeasures, an initiative that was subsequently taken over by the European Commission for the entire Union (Reinl et al. 2024). Further, after initial haggling countries agreed upon the more than 800 billion euros Next Generation EU (NGEU) recovery plan,<sup>2</sup> of which the most substantial component is the Recovery and Resilience Facility

(RRF). At the same time, the EU is increasingly active expanding institutionalized solidarity, including by taking first steps toward a European Health Union (EHU). In particular, the European Commission (2024a) is “building a strong EHU, in which all EU countries prepare and respond together to health crises, medical supplies are available, affordable and innovative, and countries work together to improve prevention, treatment and aftercare for diseases such as cancer.”<sup>3</sup>

As highlighted by McKee and de Ruijter (2024), in the field of health in the EU, centralization only happens in piecemeal steps of new initiatives with a limited scope. When it comes to realizing a more encompassing EHU that is less fragmented, they

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lay out a two-step process. The first would be to have a clearer shared vision of where the EU can have an added benefit to the Member States acting alone, both in terms of functions and content of policy. Politically, most salient in this respect is the role of the EU in organizing risk sharing and redistribution between Member States in the field of health. The second would be a process for strengthening the involvement of the national health communities, building trust into the system before creating new capabilities. Indeed, from approval to design to operations, trust plays a central role here, as was made clear, for instance, with the introduction of the RRF.<sup>4</sup>

Against this background, the objective of this paper is to investigate what a potentially politically viable (embryonic) EHU might look like, in particular when it comes to the allocation of competences between the national and EU level in the area of healthcare policy, and the design of risk-sharing and redistribution pillars of an EHU. A well-designed EHU will be a vehicle to improve public health in the EU, for example because it allows protecting healthcare provision throughout the EU in the face of a major economic shock, to better handle the cross-border consequences of national responses to pandemics, or to lower the cost of medicine procurement by procuring on a large scale. We aim to explore the popular support for competences attribution as well as for specific designs of the risk-sharing and redistribution pillars of an EHU, because the popular support will determine to a substantial extent what is politically acceptable. Popular support constitutes an input for the political stance of the legislative institutions on the potential transfer of competences to the EU level in this area, as healthcare policy is primarily a national prerogative, and each country's consent would be needed for this purpose.<sup>5</sup> We focus on the aforementioned three pillars, because we would expect these to be part of and have a distinct role within a meaningful EHU. Considering distinct risk-sharing and redistribution pillars also goes to the heart of the discussions on further integration in the EU, in particular when it comes to redistribution, which is politically difficult to sell to traditional net contributors to the EU, such as Germany and the Netherlands, two countries included in our sample. To the best of our knowledge, public views on a comprehensive three-pillar EHU considered here have not been solicited so far. We also aim to delve deeper, by exploring the role of trust in the EU as a driving force behind support for an EHU and its specific designs.<sup>6</sup> In fact, we go even a step beyond that by exploring in this regard the role of individual experience with serious Covid-19 infection, both directly and indirectly through its effect on trust in the EU. The role of serious Covid-19 infection is motivated by the fact that a handling the Covid-19 crisis by the European Commission may have raised the trust among this group in the EU.

To analyze the attitudes of EU citizens toward an EHU and its specific design features, we combine the results of two conjoint experiments held in end of March/beginning of April 2020, as well as follow-up surveys in July 2020 and November 2022, to determine the support for EU policy packages that constitute an EHU with competences, redistributive, and risk-sharing pillars. The former pillar deals with the allocation of competences between the EU and national governments in the area of social policies. The second (redistributive) pillar

is part of a central fiscal capacity that provides financial help to countries hit by an adverse shock. One form of help is central financing of national healthcare; we refer to this pillar of an EHU as the Healthcare Fiscal Capacity (HFC). The third (risk-sharing) pillar is formed by EU joint procurement of medicinal countermeasures (JPMC). For each of the redistributive and risk-sharing pillars, our experimental setup allows us to determine a policy package with optimal dimensional settings. The most supported JPMC package is characterized by a broad scope, allocation of medicines based on need (hence, providing for risk sharing), and JPMC being managed at the EU level. The most supported common HFC package includes budgetary conditions, guidance and supervision by the European Commission, redistribution toward poor countries, financing through progressive taxation, examination, but no fine, in the case of non-compliance, and spending the financial help on healthcare. The support for this package dominates packages based on other types of social policies, such as financing of education or unemployment benefits.

Hence, in addition to asking respondents directly about the general division of the competences in healthcare policies between the EU and national levels, which would likely require a Treaty change, the conjoint experiments elicit preferences on the specific governance of the redistributive and risk-sharing pillars of an EHU during a crisis. The reality—as described in the next section—is that the role of the EU in the health domain is expanding at a slow pace without considering in detail what the governance model preferred by the general public is. Our analysis aims at reducing this knowledge gap.

It is important to emphasize that we intend to measure the innate preferences of respondents. Specifically, we aim at measuring preferences outside any political context, that is before the political discourse about the Covid-19 pandemic and the resulting policy responses has taken place, as the political discourse or cleavages could have “polluted” the responses. We can do this because the experiment takes place end of March/beginning of April 2020, at which time Covid-19 denial and politicization of anti-Covid policies were still limited.

The next section reviews the relevant literature and formulates explicit hypotheses on the support for an EHU and its different pillars. Section 3 lays out the experiments, while Section 4 turns to the results from the experiments. We find that, first, respondents tend to support each of the three pillars of an EHU. This support moreover rises with trust in the EU, although an increase in trust does not produce a stronger increase in support for the redistributive pillar than for the other pillars, as one might a priori expect. Second, respondents tend to prefer a health-related fiscal capacity to other forms of EU fiscal capacity. Third, direct experience with Covid-19 infection raises both trust in the EU and support for the EU sharing in social policy competences. Finally, we find that more trust has a larger positive effect on support for an EHU for those without direct Covid-19 than for those with, as the latter group starts from a higher level of trust in the EU. Section 5 concludes the main text. It suggests that the European Commission may want to develop strategies to bolster trust in the EU as a factor driving support for further integration of the EU, such as in the health domain.

## 2 | EHU, Solidarity, Trust, and Public Support

This article develops at the intersection of different strands of literature, specifically on EHU, solidarity, trust, and public support.

### 2.1 | European Health Union

The primary responsibility for providing health services and medical care lies with the EU Member States, with EU health policy complementing the national policies. However, under Articles 168 (protection of public health), 114 (single market), and 153 (social policy) of the Treaty on the Functioning of the European Union, the EU can adopt legislation in the area of health. Also, Article 168 allows the Council of the EU, on a Commission proposal, to adopt recommendations for the purposes laid out in the article. A proper EHU will only gradually materialize—see McKee and de Ruijter (2024). However, the Covid-19 pandemic has speeded up EU initiatives. The EU undertook a number of specific initiatives, such as the EU Digital COVID Certificate,<sup>7</sup> the EU Vaccines Strategy ensuring equal access to vaccines, and the joint procurement of vaccines against the pandemic.<sup>8</sup> In a Communication, the European Commission (2020) proposed the first building blocks for an EHU. Since then, a number of initiatives have been taken (see European Commission 2024b; see also Gallina 2023, for recent and future developments). For example, an EU4 Health program was set up, which provides financial support in the area of health, such as tackling cross-border health threats.<sup>9</sup> In 2021, the Commission created the Health Emergency Preparedness and Response Authority (HERA), a new Directorate-General, tasked with promoting the development, manufacturing, procurement, and even distribution of medical supplies in response to a public health emergency. Wouters et al. (2023) describe HERA's roles and how it can become as effective as possible. A Union Civil Protection Mechanism is in place when a health emergency goes beyond a country's response capacity. The European Health Data Space adopted in 2024 will allow patients to have easy access to their data and enable the exchange of this data in a common European format. Also, the remit of the European Medicines Agency and the European Centre for Disease Prevention and Control have been expanded.

Overall, the progress toward a fully fledged EHU has only been piecemeal and mostly focused on outbreak preparedness and response (Kickbusch and de Ruijter 2021), while a comprehensive vision of the allocation of health policy functions between the EU and the national level is still lacking. This would be a first step to be followed by a policy process to enhance the participation of the national health communities (McKee and de Ruijter 2024). Andriukaitis and Cerniauskas (2023) lay out a vision for how they view an EHU. At a general level, provisions for an EHU would need to be incorporated into the Treaty on European Union, providing the EU with some shared competences in health policy in specific areas while respecting the subsidiarity principle. The EHU would go further than EU level health-related regulations and their central execution. It would also encompass, for example, pan-European networking among private and public actors in this area, coordination in developing therapies and diagnostics, production and provision of

medicines and medical supplies, as well as guaranteed access to high-quality and affordable healthcare to all EU citizens.

This paper explores the support of the eventual stakeholders, that is, the populations, for different specific designs of an EHU. We assess separately different components of an EHU that supplement national healthcare systems at times of distress. We visualize support for an EHU as driven by preferences vis-à-vis three key components: (1) *competences*, that is, the extent to which there is a degree of sharing of social and health competences between member states and the EU, even in “normal” times, (2) *crisis risk-sharing*, that is, the development of tools to deal with health emergencies, in particular in the form of joint procurement, responding to a logic of technocratic solidarity (Reinl et al. 2024); (3) *crisis healthcare-oriented redistribution*, that is, the development of EU-level fiscal tools to support national healthcare systems in moments of distress, a form of traditional (redistributive) solidarity.

### 2.2 | Solidarity in Healthcare and Other Social Policies

We begin by exploring a broad literature on solidarity in the area of healthcare and (European) social policy. Solidarity in healthcare is addressed in, for example, Prainsack and Buyx (2015). Sangiovanni and Viehoff (2023) offer general reflections on the concepts of solidarity, while Sangiovanni (2013) discusses the principles of social solidarity between states and citizens in an emerging European polity. Solidarity in Europe is further explored in, for example, Genschel and Hemerijck (2018). De Burca (2005) reflects on (i) the impact of EU law on national law and policy in the realm of social welfare and (ii) the gradual emergence of rudiments of an explicit EU welfare dimension. Vandembroucke (2017a) discusses the concept of a European Social Union with risk-sharing solidarity among member states as collective entities, while Vandembroucke (2017b) explores the idea of unemployment insurance at the level of the EMU.

A rich experimental and observational literature has emerged exploring the determinants of both international and supranational solidarity at times of crises, even though only a few papers have explicitly focused on health-related welfare arrangements. For instance, Baute et al. (2018); Baute, Abts, and Meuleman (2019); Baute, Meuleman, and Abts (2019), Gerhards et al. (2019), Nicoli et al. (2020) and Katsanidou et al. (2021) all focus on various solidarity-oriented policies at the European level. While the majority of work prior to the Covid-19 pandemic does not differentiate between types of policy and tends to disregard healthcare to focus instead on fiscal and unemployment-oriented EU-wide policy tools, the pandemic spurred a large number of papers investigating, specifically, health solidarity, both in isolation and in comparison with other social policies; among these are Beetsma et al. (2021, 2022) and Bremer et al. (2023), all of whom compare health-related solidarity policies (in various forms) with broader economic support policies. While this literature broadly agrees with the idea that the Covid-19 crisis spurred public support for EU-level health solidarity, the results are somewhat mixed when it comes to whether EU-wide health solidarity is more or less supported than other

forms of fiscal solidarity among EU countries. For instance, Beetsma et al. (2021, 2022) and Genschel et al. (2021: 17–18) find a clear preference for solidarity in health relative to other areas of solidarity, while Bremer et al. (2023) find that an EU fiscal capacity supporting both economic recovery and health has a stronger public appeal than fiscal solidarity focused on health only.

On these grounds, we raise our first two hypotheses. First, in accordance with most literature, we expect survey respondents to hold on average favorable views on all three pillars of our EHU (Hypothesis 1). Second, and relatedly, we hypothesize that respondents will express higher levels of support for solidarity packages focused on health than on other types of solidarity (Hypothesis 2).

**Hypothesis 1.** *(Descriptive support for EHU): Respondents will on average support each of the three components of an EHU.*

**Hypothesis 2.** *(Relative EHU support): When confronted with alternative ways of providing EU-level fiscal solidarity, respondents will on average prefer a health-related fiscal capacity to a fiscal capacity targeting other types of social policy.*

For both hypotheses, we are guided by the literature, which generally sees solidarity as high and increasing during the pandemic, and the timing of our data collection (March 2020, July 2020, November 2022) which covers the Covid-19 pandemic, where health issues likely overshadowed other issues. That said, solidarity spillovers could also be at play. For instance, Genschel et al. (2021) argue that the high support for pandemic solidarity may be capitalized on to further spur solidarity in the EU, a finding that resonates with Beetsma et al. (2022) and Bremer et al. (2023), both of which use conjoint experiments to determine preferences for alternative versions of NGEU funds, as well as Nicoli et al. (2024), who find evidence that the consistent EU response to the pandemic increased European citizens' identification with the EU.

### 2.3 | Trust and Solidarity

Beyond exploring how solidarity is differentiated between types of policies, a number of contributions have explored the role played by trust. Aksoy et al. (2020), Genschel et al. (2021) and Zaki et al. (2022), as well as other recent studies (e.g., Melli et al. 2025), have identified a link between solidarity attitudes, preferences for public spending, and healthcare capacity during Covid-19, building on a pre-pandemic literature linking trust, regulation, and spending (Charron et al. 2019). Hence, we build on a rich literature exploring the nexus between trust and policy-making during crises, such as pandemics, focusing in this paper on the interaction between trust and supranational provision of healthcare in determining the support for an EHU.

Trust is a complex phenomenon. Verhoest et al. (2024) conduct an extensive literature review of the role of trust in determining public support. Ex post, one approach to public trust is to consider it as the outcome of an evaluative process of an institution's performance (Norris 1999; Dalton 2004 among others); in this

context, *trust-as-evaluation* is often used when looking at the EU (Butorac 2025) to assess how policy outcomes affect public trust. However, similar to Verhoest et al. (2024), our departing point is the ex ante understanding of *trust-as-permission*: trust can be seen as *the willingness to accept public policy on the grounds of* “positive expectations on the intentions or behaviour of another” (in this case, the public authorities).<sup>10</sup> Verhoest et al. (2024) observe that the “optimal” level of trust in a political system is not necessarily the highest possible, since a certain amount of distrust can force public authorities to act more responsibly, knowing that citizens maintain a healthy level suspicion vis-à-vis those in power. This resonates with some findings from the literature exploring trust during pandemics; for instance, combining Eurobarometer data with infection data and stringency data, Zaki et al. (2022) find that the effectiveness of stringency policies was lower in societies with either very low or very high trust than in countries with moderate degrees of trust, even though Bargain and Aminjonov (2020) find that on average in regions where trust in policymakers was higher, compliance with containment measures was higher. We build on these contributions to advance Hypothesis 3:

**Hypothesis 3.** *(General effect of trust): The higher the respondent's trust in the EU, the higher is support for each of the three EHU pillars.*

**Hypothesis 4.** *(Trust and redistribution): Trust in the EU has a stronger positive impact on support for the redistributive pillar of the EHU than on support for the risk-sharing and competences pillars.*

**Hypothesis 5a.** *(Output trust): Respondents with direct experience of serious Covid-19 infection are more likely to trust the EU and to support shared social policy competences with the EU than those who do not have direct experience with serious Covid-19 infection.*

**Hypothesis 5b.** *(Trust substitutes): The effect of trust in determining support for EU level competences will be smaller among those with direct experience of serious Covid-19 infection than among those without.*

Furthermore, the recent literature on trust often differentiates the concept of trust both on the trustor's attitude toward the trustee (for instance, good-faith trust or watchful trust, as suggested by Verhoest et al. 2024), as well as on the characteristics of the trustee (the public authorities), such as their benevolence, ability and integrity (see Verhoest et al. 2024, for a review of these dimensions). We argue that since trust may also concern a policy rather than an individual (and, therefore, the capacity of a policy to deliver the expected results), the fundamental dimensionality to take into account when assessing trust in policy pertains to the different possible settings of the policy dimensions, which may be receive different support from the public. In fact, recent work by Maman et al. (2024) even calls for crossing the multi-dimensionality of trust with the multi-dimensionality of governance, developing measures of trust that are specific for different types of governing bodies, even if this would imply that trust loses its comparability as a unifying concept. However, in practice, most of the empirical research—and especially longitudinal

surveys able to track trust developments through time—do not reach this level of detail, de facto unifying the concept of public trust under a single survey question, eventually differentiating it along the institutions or agents of interest (the different trustees) rather than across the multiple dimensions of trust. While we acknowledge that this is an oversimplification of the concept, such simplifications still carry some analytical weight: for instance, making use of large-scale online surveys in nine EU countries, Aksoy et al. (2020) explore the effect of the Covid-19 pandemic on social and institutional trust, reciprocity and solidarity. Similarly, Genschel et al. (2021) show how trust and solidarity in the EU evolve over the course of the Covid-19 pandemic, finding that, while trust is generally low and declining, support for solidarity in the face of exogenous adverse events continues to uphold, and that there is a strong preference for solidarity taking place through EU instruments. This said, even if we treat trust as a simplified *uni*-dimensional concept, we can still assess the differential impact of trust across different components of the EHU, as suggested by Charron et al. (2019), Reinl et al. (2023), and Maman et al. (2024). Charron et al. (2019) find that, while many public policies have both regulatory and redistributive components, both of which embed solidarity elements (see also Reinl et al. 2023, who distinguish between traditional and technocratic solidarity), public trust can be an important determinant of both, since “distrustful individuals demand more government regulation but less government redistribution” (Charron et al. 2019). Given that an EHU is inherently multidimensional with both technocratic and redistributive components, we therefore need to include the differentiated role played by trust across the different components of the EHU. Accordingly, and building on Charron et al. (2019) and Reinl et al. (2023), we propose Hypothesis 4:

Finally, trust is often built through personal experiences, and it is fundamentally a psychological stance, as suggested by Rousseau (1998). We therefore consider that directly experiencing the full impact of a crisis—and, as in the case of the successful Covid-19 policies, the solidarity that comes with it—may lead to increases in trust toward the institutions responsible for the response to the crisis. This is not a mere “rallying around the flag” effect, but rather a consideration that stems from Sangiovanni’s (2013) understanding of the relationship between public action and solidarity. He argues that solidaristic attitudes toward the community stem from successful public action rather than being a mere prerequisite for said action to happen. While much of modern political philosophy had argued that solidarity is a prerequisite for redistributive public action (which embodies into policies such group solidarity), Sangiovanni (2024) suggests instead that public action contributes to solidarity and therefore elicits a reciprocal response among citizens. Nicoli et al. (2024) explore whether a similar effect existed during the Covid-19 crisis. They show that direct experience with Covid-19 infections (of oneself or close family members) impacted respondents’ affective identification with the EU. Hence, we hypothesize that those individuals with serious direct experience with Covid-19 will be relatively more in favor of EU competences (even if they do not trust the EU) and are also relatively more likely to trust the EU than their peers without direct experience of Covid-19 infection. This brings us to Hypothesis 5a. In addition, we hypothesize that, if serious direct experience with Covid-19

increases individuals’ trust in the EU *and* makes them more supportive of EU competences in social policy, this implies that trust in the EU becomes *relatively less important* in determining whether or not individuals support EU competences, because those with serious direct experience with Covid-19 already start from a higher degree of support for an EHU. This leads us to Hypothesis 5b. Formally stated, the hypotheses are:

### 3 | The Design of an EHU Across Experiments

We explore first the support for different design elements of an EHU featuring a competences pillar, a redistributive solidarity pillar, and a risk-sharing pillar. Assessing preferences over the competences pillar takes the form of determining whether respondents support the sharing of social policy responsibility between national and European authorities. The redistributive solidarity pillar takes the form of central funding for the HFC. Finally, the risk-sharing pillar takes the form of JPMC. JPMC is a form of technocratic solidarity (Reinl et al. 2023), because (i) redistribution is not its primary goal, but it avoids international competition in the procurement of scarce medical countermeasures by collectively bargaining with pharmaceutical companies, thus using public money efficiently, and it provides collective risk-sharing by allocating medicines efficiently during urgencies (De Ruijter 2019), and (ii) it largely fails to meet the three criteria of politicization, as it is not a priori an object of contestation, mobilization, or polarization (Rauh 2018), although in some countries joint procurement of Covid-19 vaccines was highly politicized through the “unpolitics” applied by populist governments (Deters 2024).

#### 3.1 | Research Design and Data

We deploy three waves of public opinion datasets. The first wave, collected at a relatively early stage of Covid-19, end of March/beginning of April 2020, contains two conjoint experiments, one on an EU HFC aimed at helping countries hit by adverse temporary or permanent shocks and one on JPMC in the EU. The experiments feature a quota-based representative sample of 2000 respondents each from France, Germany, Italy, the Netherlands, and Spain.<sup>11</sup> While respondents were asked about hypothetical policy packages, it is important to notice that joint procurement does actually take place on a regular basis in the EU: in 2014, a Joint Procurement Agreement (JPA) was signed by all EU countries, the other countries in the European Economic Area (EEA) and some European countries outside the EEA.<sup>12</sup> We make use of the combination of these two experiments to understand the optimal design of an EHU having a fiscal *and* a procurement pillar, and we make use of a question on whether the EU should have competences in social policy as a proxy for an EHU competences pillar.

The second and third waves, from July 2020 and November 2022, collect additional observational data on respondents. About 60% of the respondents in the first wave participated in the second wave, and 30% of the respondents in the first wave also participated in the third wave; these individuals can therefore be treated as a panel. A total of 3285 respondents participated in all three waves. We will use *support for EU-level social*

*policy* (which captures our competences pillar) as a dependent variable coming from the three waves.

### 3.2 | Dependent Variables

In both conjoint experiments, respondents are confronted with three pairs of randomly generated policy packages, and have to indicate, for each pair, which of the two packages they prefer (information we do not use) and how much they like or dislike each of the packages, independently of each other (information that we do use). The unit of observation is therefore a respondent-package *combination*, where the package is a set of randomly drawn policy treatments along a number of dimensions. Hence, each data row corresponds to a different package seen by a respondent and is characterized by package-specific treatments (the experimental variables), individual-specific characteristics (control variables) and the level of support for the package.<sup>13</sup> Each individual will therefore see six different packages (two per pair). Hence, we cluster standard errors at the individual level.

The main dependent variable is “package support,” where each package is rated independently from the other packages. Specifically, the dependent variable is a binary variable assessing whether a package is supported, that is, rated “strongly in favor” or “somewhat in favor,” or not, that is, rated “neutral,” “somewhat against” or “strongly against.” Using the constructed binary variable, it is easy to interpret our results in terms of the likelihood to support a package. These package evaluations pertain to both the risk-sharing and the redistributive pillar of the EHU.

To measure support for the competences pillar of the EHU, we use instead a survey item assessing preferences for multilevel social policy. The question asks “regarding social policy, should decisions be made primarily by your national government, by the European Union, or should they be shared between these institutions?” Respondents can indicate a preference for the EU, national, or shared social policy. To capture the preference for an EU involvement in social policy, we construct a binary version of this response that takes the value of 0 if a respondent prefers exclusively national social policy, and 1 if otherwise. Furthermore, the competences question allows us to explore how support for EU-level social policy has changed over time, since we ask the same question in the same countries in each of our three data waves. On the subset of the respondents who participated in all three waves, this question allows us to also exploit the panel nature of the data, given that the conjoint experiments themselves were not replicated beyond the first wave.

### 3.3 | Independent Variables and Controls

We deploy a variety of explanatory variables. First, a number of randomized experimental treatments are administered throughout the two experiments. These are described in Appendix 1. For example, a policy package for the risk-sharing (JPMC) pillar is the combination of common stockpiling, national decision-making, and broad scope for the common purchases. The setting for scope is randomly drawn from two potential settings, similarly for allocation and governance. Likewise, respondents are confronted with randomly drawn packages in the area of the redistributive

pillar. An example of such a package is the combination of no budgetary conditions, national monitoring, redistribution from rich to poor countries, financing through progressive taxation, and in case of non-compliance, only examination of the source but no termination of the program. In addition, the package contains a social policy area on which the financial help through the fiscal capacity is spent. The algorithm provides the respondents with randomly generated packages for the risk-sharing and redistributive pillars. This allows us to identify the most preferred design of an EHU across the JPMC and HFC pillars.

Second, we consider the degree of trust in the EU (henceforth: “trust”). For this we use the following survey question:

Please tell us how much you personally trust or distrust ... The European Union (answers on 5-point Likert scale)

Third, we make use of information on serious direct experience with Covid-19 through own infection or of a close family member. Nicoli et al. (2024) show that such experience impacts EU-level attitudes. Since respondents were asked in all waves whether they themselves personally or a close family member suffered from a serious Covid-19 infection, we can use this information to run a panel estimation for trust and EU-level competences.

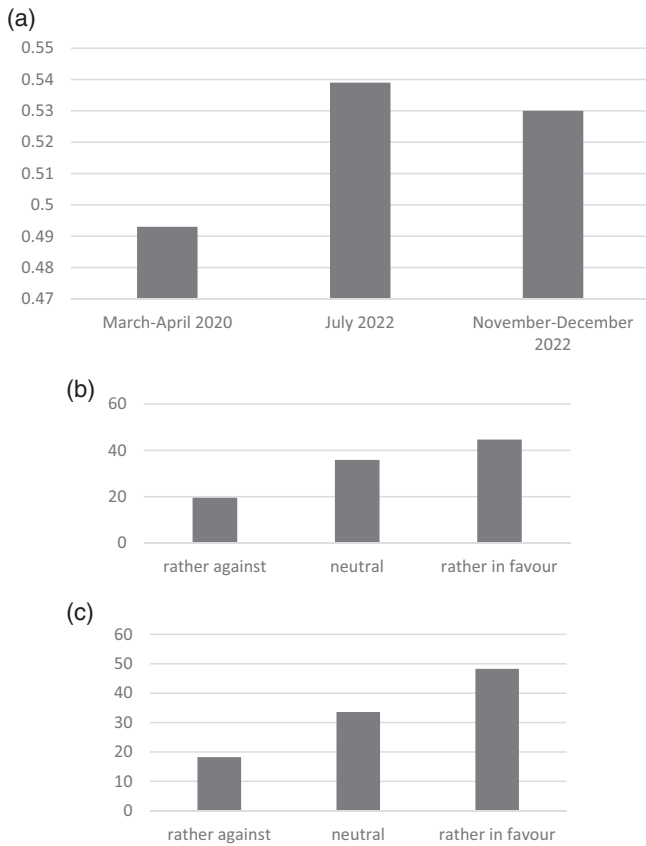
Finally, in all models, we use a number of individual-level characteristics of our respondents as controls. These include age (three classes), education level (eight classes), income (three classes) and gender (three classes).

## 4 | Results

In discussing our results, we proceed as follows. First, we assess the general levels of support for the three pillars of an EHU, regardless of the specific policy designs. This allows us to test Hypothesis 1. Next, we identify the optimal design (from a public support perspective) of an EHU across conjoint experiments, testing Hypothesis 2 along the way. Third, we assess the role played by trust in the EU as a determinant of support for the different components of the EHU, thereby testing Hypotheses 3 and 4. Finally, we exploit the panel dimension of our dataset to assess Hypothesis 5a on how serious direct experience with Covid-19 affects trust in the EU and the willingness to share social policy competences with the EU, and to assess Hypothesis 5b on the effect of trust on support for EU competences conditional on serious experience with Covid-19.

### 4.1 | General Level of Support for EHU, by Component

We begin by exploring the level of support for different pillars of the EHU (Figure 1a–c). For the competences pillar (1a), we look at the share of respondents that is in favor of some competence for the EU in the field of social policy across the three waves of the survey (wave 1: March–April 2020, wave 2: June–July 2020, wave 3: November–December 2022). March–April 2020 is the only period where the average level of support was (slightly) below 50%. Already by June–July 2020 the level of support for shared competences had increased by 4 percentage points, and it



**FIGURE 1** | General support for an EHU, by pillar. (a) Support for competences pillar (EU competences in social policy)—fraction of respondents in favor, across waves. (b) Support for risk-sharing pillar (joint procurement)—% of evaluated packages, March–April 2020. (c) Support for redistributive pillar (health fiscal capacity during crises)—% of evaluated packages, March–April 2020.

has remained roughly stable until around end 2022. In Figure 1b, we look instead at the share of respondents who assess the risk-sharing (JPMC) pillar negatively, neutrally, or positively. About 45% of packages are evaluated “strongly in favor” or “in favor” (hence, supported), about 20% are evaluated “strongly against” or “against,” and about 35% are evaluated neutrally, indicating that, overall, respondents hold relatively positive views of the risk-sharing pillar of the EHU. Finally, Figure 1c turns to the assessment of the redistributive (HFC) pillar. Here, about 48% of the packages are evaluated “strongly in favor” or “in favor” (hence, supported), about 18% are evaluated “strongly against” or “against,” and about 33% are evaluated neutrally.

All in all, in both experiments, the share of positive evaluations of packages is more than double the share of negative evaluations and ever since March/April 2020, the level of support for EU-level competences in social policies remains above 50%. Hence, our data find qualified support for Hypothesis 1.

#### 4.2 | Levels of Support by Dimension

To test Hypothesis 2 we need to move beyond a descriptive set-up and look into the dimensional settings for each of the two conjoint experiments. To do so, we first discuss “optimal” EHU designs. By

**TABLE 1** | Optimal features of an EHU.

Redistributive pillar	Risk-sharing pillar
– Budgetary conditions on participating countries	– Broad scope: all medicines for which joint procurement makes financial sense are jointly procured
– Commission monitoring and recommending actions	– Allocation of medicines distribution based on need
– Redistribution from rich to poor countries	– EU-level governance rather than national governance
– Financing through progressive taxation	
– In case of non-compliance, only examination of source	

Note: See Appendix 3.1 for regression results.

optimal design we mean designs that maximize support from the respondents. We determine this through experimental regression (Appendix 3.1), which estimates how the different policy dimension settings causally drive the support for the two pillars of our EHU, thereby providing leads for where the political room for an EHU can be found. Table 1 reports the optimal dimensional settings of the two pillars based on the conjoint experiments, demonstrating that respondents prefer highly Europeanized policy packages.<sup>14</sup> Regarding the redistributive pillar, respondents prefer budgetary conditions, monitoring and recommending actions by the Commission, redistribution from rich to poor countries, financing through progressive taxation and, in case of non-compliance, only examination of the source but no termination of the program. On the risk-sharing side, there is a preference for a broad scope, allocation based on need and EU-level governance.

Once determined what is the support-maximizing setup for the redistributive pillar of an EHU, we can hold the options under each dimension constant and compare how such health-oriented fiscal capacity compares with a fiscal capacity oriented on other social spending, hence testing Hypothesis 2.

These comparisons are reported in Figure 2. In Figure 2, we use a conservative estimate of support for a fiscal capacity, coding neutral evaluations of policy packages as if they were negative. A package with assistance spent on national health-care receives around 57% of support. This is considerably and significantly more than with spending on unemployment benefits or education, keeping all other dimensional settings the same. These results amount to a validation of Hypothesis 2, indicating that all else equal, respondents in March–April 2020 were (unsurprisingly, perhaps) more supportive of health-oriented social spending at the EU level than unemployment- or education-oriented spending at the EU level; the support for the HFC is comparable with that of the optimal risk-sharing pillar (the right-end column of Figure 2), which receives approximately 56% of support.

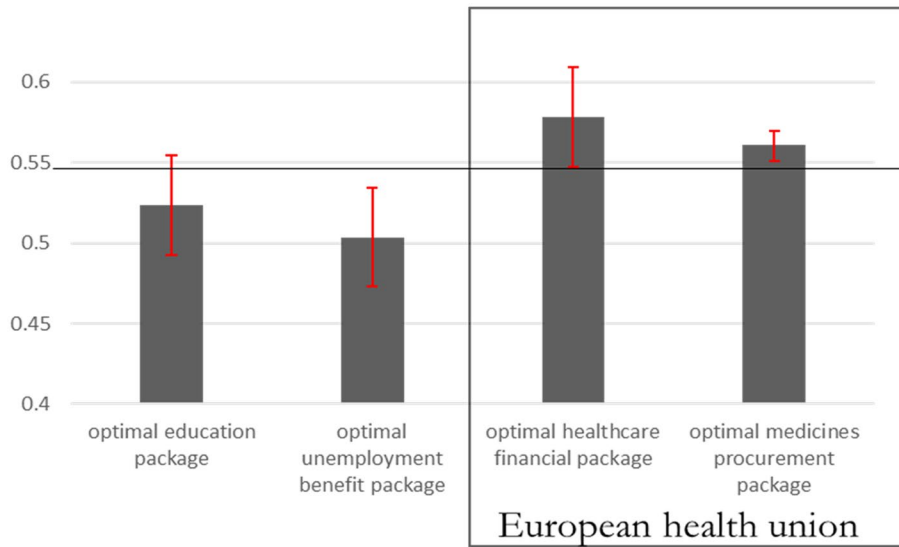
#### 4.3 | Effect of Trust on EHU Support

Next, we proceed in testing the impact of trust on each of the three pillars of the EHU (wave 1, March–April 2020). In

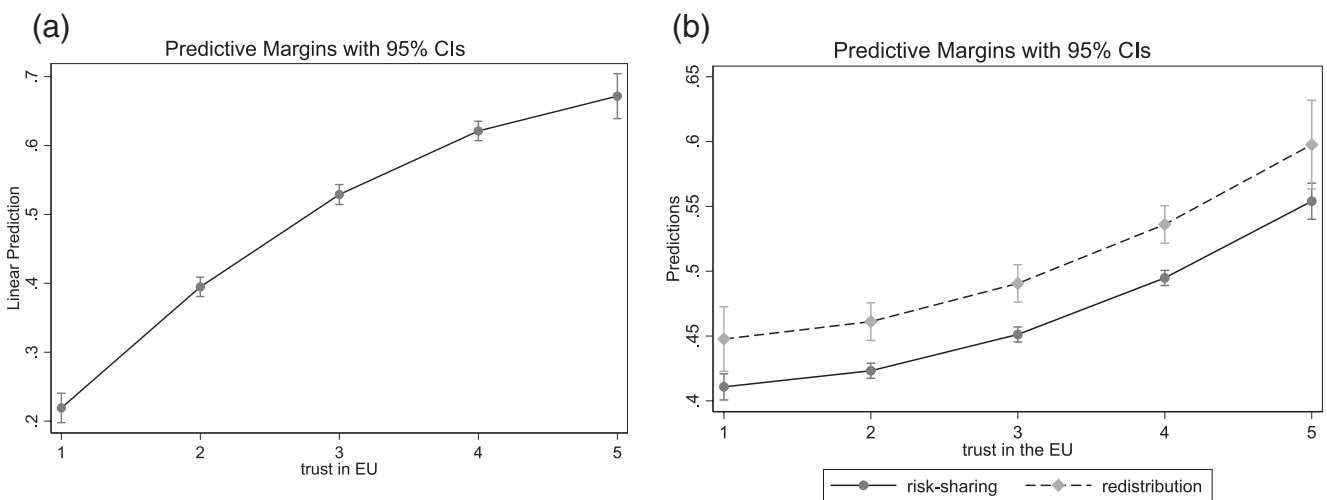
Hypothesis 3, we postulated that on average, higher trust in the EU positively affects support for each of the pillars of the EHU. To test this, we look at the direct effect of trust in the EU on each of the pillars of the EHU (Figure 3a–c), using both the conservative and binary transformations of the support variables.<sup>15</sup> To allow for a degree of decline at high levels of trust, as suggested by Zaki et al. (2022) and Verhoest et al. (2024), we include a quadratic term for trust.

In Figure 3a, we show the direct effect of trust on the level of support for the competences pillar, holding constant the experimental variables, hence confining ourselves to the first wave of data end of March/beginning of April 2020. In Figure 3b, we assess the direct effect of trust on the conservative measure

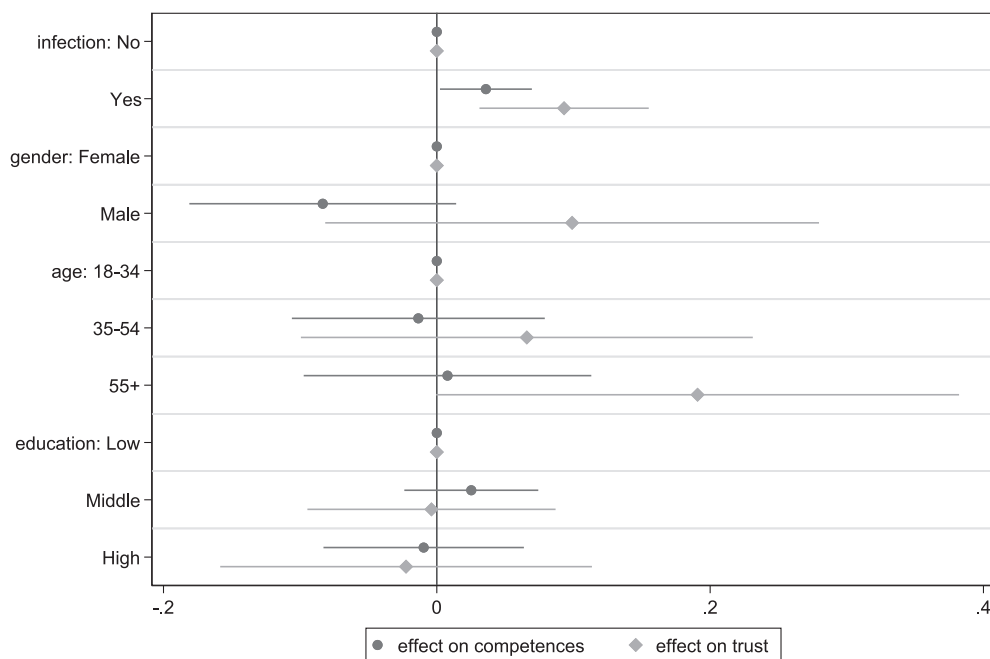
of support for both the redistributive and risk-sharing pillars of the EHU. Finally, in Figure 3c (in Appendix 3.2), we do the same using instead the binary support measure that drops neutrals. The regression estimates underlying Figure 3, which show the direct effects of trust, are reported in Appendix 3.2. The regressions control for the respondent's country, as well as age, gender, and education level, factors that potentially affect both trust and have a direct effect on support for the different pillars.<sup>16</sup> From Figure 3a,b, it is clear that our data find initial support for Hypothesis 3; that is, on average, the higher the level of trust, the more likely it is that a package is positively evaluated, regardless of whether we consider competences, redistribution, or risk-sharing, and regardless of whether we adopt a conservative (Figure 3b) or binary measure of the dependent variable.



**FIGURE 2** | Support for (optimal) packages, risk-sharing, and redistributive pillar. The vertical axis indicates the fraction of respondents in support, when respondents who hold neutral views are considered as if they are against. By “optimal education package” we refer to the setting where all spending from the fiscal capacity is on education and the other dimensional settings are optimal (i.e., conform the left column of Table 1). Analogously, for the other packages. The EHU is indicated by the box combining the optimal fiscal capacity and medicines procurement packages. The vertical bars indicate the 95% confidence intervals. Country-specific results are replicated in Figure A3.



**FIGURE 3** | Effect of trust in EU on support for three different pillars of EHU. (a) Competences pillar. (b) Redistributive and risk-sharing pillars, conservative measure of support (neutrals coded as against). In all models, trust is entered as a quadratic term. Vertical axes measure predicted fraction of respondents in support. Bars around the point estimates indicate the 95% confidence interval.



**FIGURE 4** | Panel estimates on the effect of serious Covid-19 contraction on EU trust and on support for EU level competences. These are fixed-effect panel estimates in a balanced panel composed of 3285 individuals who responded to all three waves. The reference categories are those for which the effects are reported to be zero. Bars around the point estimates indicate the 95% confidence interval.

Next, we assess whether trust in the EU has a stronger effect on support for the redistributive pillar than for the other pillars as postulated in Hypothesis 4. To do so, we compare the direct effect of trust on all three pillars of the EHU (Appendix 3.2). As shown in Figure 3 above, changes in trust are associated with stronger changes in support for the competences pillar than for the other pillars of the EHU.<sup>17</sup> The impact of trust on the redistributive and risk-sharing pillars, moreover, is nearly identical. Hence, we reject Hypothesis 4.

We can further explore the *mediating* effect of trust on support for the different settings of the policy dimensions (Appendix 3.3). In the case of the redistributive pillar, trust has a significant interaction with all experimental dimensions. Higher trust in the EU is significantly associated with stronger support for including budgetary conditions, a monitoring role for the Commission, redistribution from rich to poor countries, progressive taxation as a means of financing, and less support for termination and a fine in case of non-compliance in a member state. In the case of the risk-sharing pillar, while trust does not significantly impact the scope of the program (respondents prefer broader purchasing programs regardless of whether they do or do not trust the EU), it does significantly increase support for packages including common stockpiles and EU-level governance.

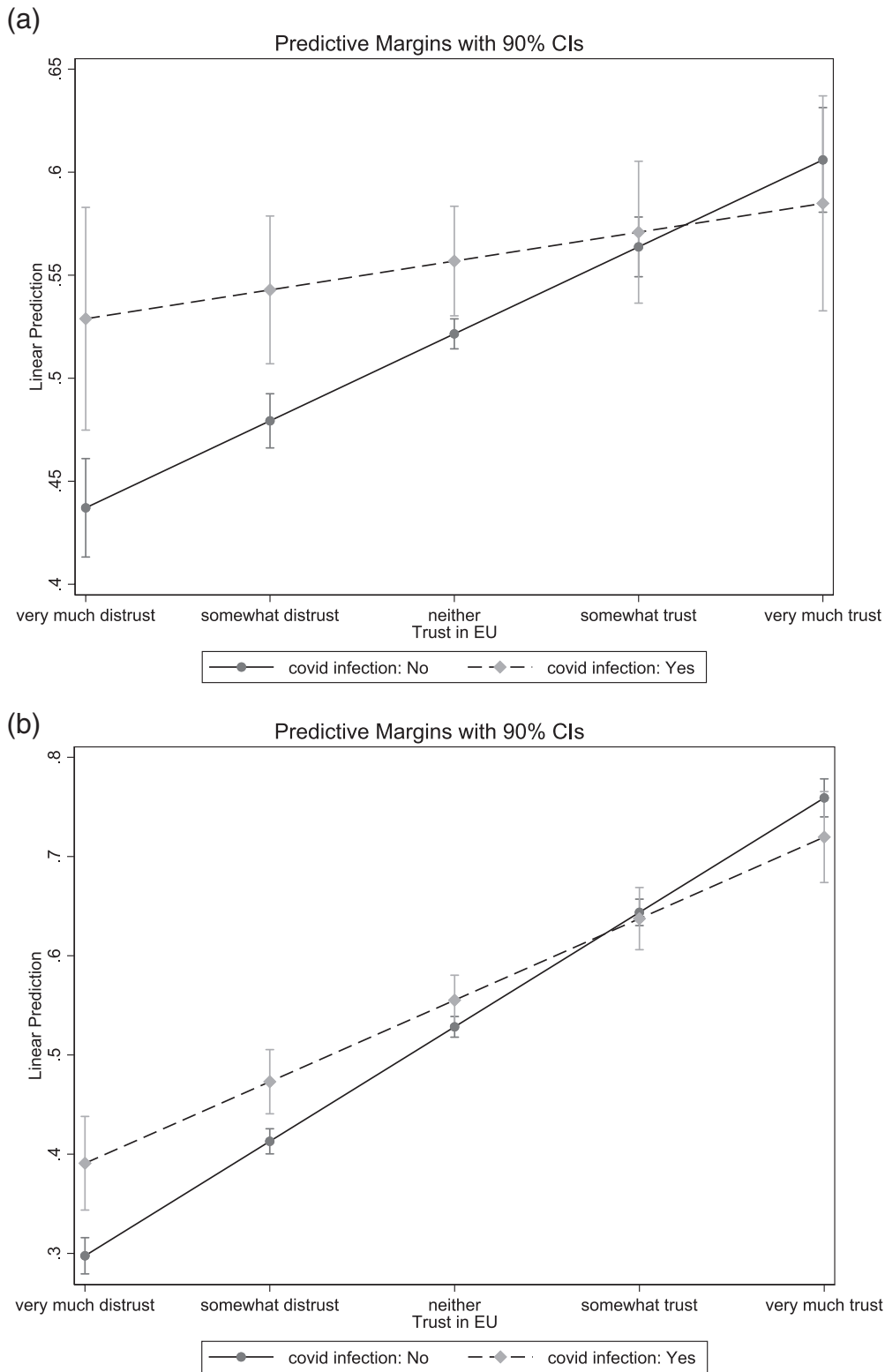
#### 4.4 | Panel Estimates

We now exploit the panel nature of our data to explore whether personal exposure to the worst effects of the Covid-19 crisis, that is, whether the respondent or a close family member contracted a serious Covid-19 infection, has impacted support for EU-level competences, trust in the EU, and the impact of such trust on

support for EU-level competences. All panel estimates are reported in Appendix 3.4.

Figure 4 displays the coefficients of two balanced, individual-level fixed-effect models where we look at the impact of direct experience with a serious Covid-19 infection on support for EU competences and on trust in the EU. Again, we control for the respondent's country, age, gender and education level, all factors that potentially have both a direct effect on trust and support, as well as on the respondent's propensity to contract Covid-19. All else equal, individuals with serious direct Covid-19 experience are both significantly more likely to trust the EU and significantly more likely to support EU-level competences than those without such experience. This supports our Hypothesis 5a, consistent with Nicoli et al. (2024) who find that directly experiencing a collective crisis makes individuals more prone to see favorably those institutions which contributed to solving the crisis.

Serious Covid-19 contraction could, however, also act as a moderator of the effect of trust, as postulated in Hypothesis 5b. In particular, those with experience of a serious Covid-19 infection already start from a higher degree of support for an EHU and, hence, the effect of an increase in their trust in the EU may have a smaller effect on support for an EHU. We explore these compositional effects in Figure 5. On the vertical axis, we find the level of support for EU level competences in social policy. The dashed line is the effect of trust on support for EU-level competences among respondents with direct experience of serious Covid-19 infection, while the solid line captures the effect of trust among respondents without such experience. As hypothesized, individuals who do not trust the EU but have serious direct experience with Covid-19 are more supportive of EU-level competences than those without such experience. Furthermore, the slope of the estimated regression line is steeper for the latter



**FIGURE 5** | Panel estimates on the effect of trust on support for EU level competences, conditional on Covid-19 infection. (a) Fixed effects. (b) Random effects. Vertical axes measure predicted fraction of respondents in support. Bars around the point estimates indicate the 95% confidence interval.

group: respondents with no experience of contagion require more trust than the other group to reach the same level of support. This finding remains unchanged regardless of whether we use a conservative fixed-effects estimate (Figure 5a) or a less conservative random-effects estimate (Figure 5b). In both cases, our data support Hypothesis 5b.

## 5 | Conclusions

In this paper we have explored the preferences for the design of an (embryonic) EHU with shared EU and national health competences, and redistributive and risk-sharing solidarity pillars, and how these preferences are associated with trust in the EU and

serious direct Covid-19 experience. To this end we used data on conjoint experiments on a HFC and JPMC, as well as data from survey questions, generated in March/April 2020, July 2020, and November 2022. Our results suggest that with proper design there is substantial support for an EHU comprising the three aforementioned pillars, in particular including a pillar with centrally financed national healthcare spending and a JPMC pillar. Specifically, our main findings are in addition that respondents tend to prefer a health-related fiscal capacity to other forms of EU fiscal capacity, that more trust in the EU raises support for each of the three EHU pillars, that more trust in the EU does not lead to a larger increase in support for the redistributive than the other pillars, that direct experience with serious Covid-19 infection raises both trust in the EU and support for the EU sharing in social policy competences, and, finally, that more trust has a larger positive effect on support for an EHU for those without direct Covid-19 experience than for those with, because those with such experience start from a higher level of trust in the EU.

Our analysis provides leads for the design of an EHU that would enjoy broad support from EU citizens. Whether, and at what speed, an EHU with broad support will materialize may depend less on the preferences elicited here than on the positions of national politicians, in parliament and government and in the EU Council formed by representatives of the national governments, as national politicians may be reluctant to relegate competences to the EU level, especially when these comprise redistributive powers.

This study is subject to some limitations. First, we only cover five Western European countries, which were identified prior to the beginning of the pandemic. It is possible that respondents in, for example, Central and Eastern Europe might have had substantively different opinions. Second, only about 30% of respondents participated in all three surveys, probably as a result of the 2.5 years in between the first and the third waves. We cannot exclude that respondents did not drop out of the panel randomly, driven by some underlying factor that is not fully captured in this study. Hence, the results obtained with our panel regressions should be interpreted with care. Second, as often happens with experiments, the scope for testing the external validity of the results is limited. However, the high quality of the sample, the alignment of the results with the standing literature, and the similarity of the results between panel participants and single wave participants (shown in Appendix 3.5) suggest that external validity concerns are limited, even though they cannot be fully eliminated without full replication in a different sample.

These limitations notwithstanding, our findings may provide useful leads for the design of an EHU, comprising a partial shift of healthcare competences to the EU level, a redistributive pillar, and a risk-sharing pillar aimed at limiting negative cross-border spill-overs of contagious diseases in member states. On a more general level, our findings provide some perspective on the role of trust in the EU for the political feasibility of further EU integration through the development of risk-sharing and redistributive solidarity mechanisms. It is interesting to observe that trust in the EU increased after the outbreak of Covid-19 and stayed at a higher level than before the pandemic in spite of the emergence of a group of Covid-deniers and skeptics about the need for vaccination. Nevertheless, the importance of trust in the EU for the support of these solidarity mechanisms emphasizes the need

for strategies to bolster this trust—in particular, there is a role for the European Commission to explain for a broad audience the importance of developing these mechanisms. Of course, as our analysis has demonstrated, while important, trust is not the only determinant of support for (a specific design of) an EHU. Direct experience with a health crisis is another determinant, as are the basic personal preferences toward the EU. Further investigation of the role of the latter in future research will be essential.

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### Conflicts of Interest

The authors declare no conflicts of interest.

### Data Availability Statement

The data that support the findings of this study are available from co-owners of the data. Restrictions apply to the availability of these data, which were used under license for this study. Data are available from the author(s) with the permission of co-owners of the data.

### Endnotes

- <sup>1</sup> See European Commission (2020) for a discussion of medical equipment export bans and ban prohibitions.
- <sup>2</sup> For example, see [https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility\\_en](https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility_en).
- <sup>3</sup> See [https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/promoting-our-european-way-life/european-health-union\\_en](https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/promoting-our-european-way-life/european-health-union_en).
- <sup>4</sup> Here, trust would usually be understood as referring to perceived reliability of the EU in its policies. The concept of trust is discussed in more detail in Section 2.3.
- <sup>5</sup> Note that our findings generally hold for the individual countries. Even in the most conservative estimates, only one country fails to reach absolute majority levels of support (see Appendix 3.5).
- <sup>6</sup> The literature has found relatively consistent and strong effects of trust in the EU. See, especially, Van der Meer and Hakhverdian (2017), Hartevelde et al. (2013) and Persson et al. (2019). See also Butorac (2025) for a comprehensive review.
- <sup>7</sup> See [https://commission.europa.eu/strategy-and-policy/coronavirus-response/safe-covid-19-vaccines-europeans/eu-digital-covid-certificate\\_en](https://commission.europa.eu/strategy-and-policy/coronavirus-response/safe-covid-19-vaccines-europeans/eu-digital-covid-certificate_en).
- <sup>8</sup> See [https://commission.europa.eu/strategy-and-policy/coronavirus-response/public-health/eu-vaccines-strategy\\_en](https://commission.europa.eu/strategy-and-policy/coronavirus-response/public-health/eu-vaccines-strategy_en) and [https://commission.europa.eu/news/european-health-union-four-years-acting-together-peoples-health-2024-05-22\\_en](https://commission.europa.eu/news/european-health-union-four-years-acting-together-peoples-health-2024-05-22_en).
- <sup>9</sup> See [https://health.ec.europa.eu/eu-health-policy/overview\\_en](https://health.ec.europa.eu/eu-health-policy/overview_en).
- <sup>10</sup> We adapt this definition to public policy, starting from the broader psychological definition provided by Rousseau (1998).
- <sup>11</sup> Ex ante, our sample is representative of the population. Our data provider—IPSOS—works with online quota sampling. We include quota for regional distribution, gender, education, age, soft quota for 10 professional categories and 3 income categories. This quota

system ensures that we match the population distribution as much as possible, with discrepancies generally well below 2% of the target quota.

- <sup>12</sup> As the European Commission (2021) states: “The Joint Procurement Agreement for medical countermeasures provides for a voluntary mechanism enabling participating countries and EU institutions to jointly purchase medical countermeasures for different categories of cross-border health threat, including vaccines, antivirals and other therapeutics. It aims to improve preparedness to mitigate serious cross-border threats to health and secure more equitable access to specific medical countermeasures, greater security of supply and more balanced prices for the participating countries.”
- <sup>13</sup> The formal regression framework for the JPMC is reported in Appendix 2. The regression framework for the conjoint on the HFC is analogous.
- <sup>14</sup> Appendix 3.6 reports the results of ordinal logit regressions instead of the regressions here with a dichotomized dependent variable, which are more easily interpretable. However, the results remain qualitatively the same.
- <sup>15</sup> In the conservative transformation we code packages evaluated neutrally as if they are evaluated negatively; so the variable is coded 0 if a package is negatively or neutrally assessed, and 1 if it is positively assessed. Conversely, in the binary transformation of the dependent variable we just pitch positively assessed packages against negatively assessed packages, dropping those packages which received a neutral score.
- <sup>16</sup> Controlling for these factors we show the direct effect of trust—see Westreich and Greenland (2013).
- <sup>17</sup> Even though the difference in scale is too large to be ignored, some considerations pertaining measurement and survey instruments are necessary here. As displayed in Figure 3b, moving from the lowest to the highest value on the trust scale is associated with a change of 10 percentage points in support for the risk-sharing and the redistributive pillars (which, as explained in text, already account for very detailed and generally very supported design features). Conversely, when looking at the much “rougher” measure of support for some EU competences on welfare, a non-experimental question that does not allow for much policy precision, moving from the lowest to the highest trust is associated with a whopping 50 percentage points increment in the levels of support. These findings lend credibility to the intuition that conjoint experiments, allowing much more flexibility in policy design, have the power to accommodate a variety of views and attitudes, while simple questions remain much more sensitive to fundamental attitudes toward European integration. Simply put, our findings suggest that instrumental complexity provides respondents with more “policy degrees of freedom,” allowing even skeptical citizens to express which policy variations they would be fine with, while typical “yes-no” survey questions hide policy complexity and therefore force citizens to answer not on the grounds of their actual preferences, but of their fundamental attitudes/priors.

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### Supporting Information

Additional supporting information can be found online in the Supporting Information section.