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The political economy of in-kind versus cash redistribution in Europe

Michele Gubello[1,2] · **Shane M. Dunne**[3]

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Abstract

Why is the distribution of government spending between cash and in-kind transfers so heterogeneous across European countries? In this paper, we present a theoretical model showing that this difference depends on citizens' trust in their own political institutions. When citizens do not trust their political institutions, they are more likely to believe that those institutions will waste economic resources while providing public services, reducing their quality. As a response, citizens demand more cash transfers at the expense of fewer in-kind transfers to minimise the quantity of low-quality services they receive. The model also shows that: (i) higher expected income increases the support for in-kind transfers and reduces support for cash transfers; (ii) paternalism increases the support for in-kind transfers over cash transfers; (iii) lower levels of civic capital reduce the demand for cash transfer and, under specific conditions, increase the demand for in-kind transfers. We conclude our analysis by testing our model's predictions using cross-sectional data for 20 European countries. Our descriptive analysis shows that institutional trust is associated with a higher probability of supporting public investments in training programmes for the unemployed (in-kind transfers) over unemployment benefits (cash transfers). This relationship is larger in countries with higher-quality public services.

Keywords Institutional trust · In-kind redistribution · Cash redistribution · European welfare states

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✉ Michele Gubello
michele.gubello@esri.ie

[1] Economic and Social Research Institute, Whitaker Square, Sir John Rogerson's Quay, Dublin 2, Ireland

[2] Trinity College Dublin, Dublin, Ireland

[3] Delft University of Technology, Delft, The Netherlands

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1 Introduction

Over the past 150 years, European countries increased their welfare spending from around a tenth to about half of their total GDP (Ortiz-Ospina et al., 2016).[1] Government spending finances various policy areas such as unemployment, housing, pensions, health, and education; these expenditures can take the form of in-kind or cash transfers and aim to protect citizens against life-course risks, reduce economic inequality and alleviate poverty.[2] Although all European countries have faced a common upward trend in welfare spending, the composition of public spending between cash and in-kind transfers varies greatly within Europe. For instance, in 2019, the average ratio between cash and in-kind social expenditure as a percentage of GDP was about 1.7, with countries such as Italy, Portugal, Greece, Switzerland and Poland in the top quartile having a ratio larger than 2. On the other hand, countries in the bottom quartile, such as Denmark, Ireland, UK, Sweden, Norway and Iceland, had a ratio below or around 1.[3]

While the socioeconomic factors affecting the size of welfare states have been extensively studied,[4] the economic literature on the composition of welfare spending between cash and in-kind transfers remains relatively unexplored. The empirical and experimental literature mostly focuses on *paternalism* as one of the main predictors of preferences for in-kind transfers over cash transfers (e.g., Currie & Gahvari, 2008; Cunha, 2014; Liscow & Pershing, 2022). Alternatively, a few empirical and theoretical papers provide different political-economy explanations about preferences for in-kind over cash transfers, such as corruption (Bearse et al., 2000; Hessami & Uebelmesser, 2016), left-wing's willingness to protect citizens against inflation and social stigma (Hessami & Uebelmesser, 2013) and inequality (e.g., Anderberg & Balestrino, 2007, 2011). Yet, little is known about the relationship between institutional trust and preferences for in-kind over cash transfers—or, *vice versa*, cash over in-kind transfers—among European countries.

[1] This positive trend can be generally observed in advanced economies (e.g., Haelg et al. (2022, p. 234, Fig. 1) for OECD countries in the period 1980–2016).

[2] See, for instance, Aaberge et al. (2019), Nygård et al. (2019) and Giangregorio (2024) for recent evidence in Europe.

[3] As it can be observed in Fig. A.1 in the Online Appendix, results are consistent over time. The year 2019 is only indicative and has been chosen because it is the most recent year before the Covid-19 pandemic, which caused drastic changes in cash and in-kind transfer assistance worldwide. For instance, as reported by Gentilini (2022, pp. 2–3), during the Covid-19 pandemic, cash transfers increased by a considerable amount (about 70%), and many benefits in kind were substituted with cash transfers. Furthermore, at the same time, in Europe, trust in political institutions declined with the persistence of the Covid-19 crisis (Eurofound, 2021, 2022). Statistics in Fig. A.1 are the authors' calculations. Data comes from the OECD Social Expenditure Database (SOCX) (Data access: 19/06/2024). Visit the OECD data explorer website to access the data: https://data-explorer.oecd.org/.

[4] For instance, see Alesina and Giuliano (2011) and Mengel and Weidenholzer (2023) for literature reviews.

Institutional trust has received growing attention in the political economy literature over the past decades (e.g., Levi & Stoker, 2000; Mishler & Rose, 2001; OECD, 2013; Algan et al., 2017).[5] A widespread trust in institutions guarantees the proper functioning of the welfare state through an efficient provision of public services and prevailing respect for the law (OECD, 2013); it also promotes more generous welfare spending (e.g., Rothstein et al., 2012; Svallfors, 2013; Camussi et al., 2018; OECD, 2018), legitimates political systems (OECD, 2013) and fosters citizens' perception that institutions can address long-term societal problems such as climate change and AI regulation (OECD, 2024a). Studying the relationship between institutional trust and preferences for in-kind versus cash redistribution can illuminate how citizens respond to perceived untrustworthy political institutions by deciding how these institutions control and redistribute public resources.

In this paper, we build a median voter model in which agents with heterogeneous institutional trust vote on whether to allocate resources to in-kind or cash transfers while facing lifetime income uncertainty.[6] The model shows that individuals with lower trust in political institutions prefer allocating a larger share of public resources to cash rather than in-kind transfers. The reason is that high institutional trust is characterised by a lower expected waste of public resources from the government—due to corruption or inefficient bureaucracy—while providing public services; thus, agents with lower institutional trust demand more cash transfers at the expense of fewer in-kind transfers to minimise the government's waste of public resources. The model also shows that the expected lifetime income is an important factor affecting preferences for in-kind over cash transfers. If the expected income of agents increases, the demand for cash transfers decreases. This result occurs because when agents have high expectations about their future income, their perceived necessity of additional monetary transfer to satisfy their private consumption needs declines. Consequently, agents divert more public resources to in-kind transfers at the expense of fewer cash transfers.

We present two extensions of our benchmark model. First, we introduce paternalism, following the large empirical literature on preferences for in-kind over cash transfers.[7] Consistent with this literature, we show that paternalism increases the support for in-kind transfers and reduces the support for cash transfers. Second, we add dishonest benefit claimants and tax evaders to the benchmark model, and we show that a larger number of dishonest citizens in the economy reduces the demand for cash transfers and can increase the demand for in-kind transfers. We argue that this result occurs because agents might perceive it easier to falsely claim cash transfers

[5] Our definition of institutional trust is similar to the one adopted in other empirical and theoretical research (e.g., Rothstein et al., 2012; Daniele & Geys, 2015; Camussi et al., 2018; Keefer et al., 2022). It relies on the definition by Mishler and Rose (2001) based on citizens' satisfaction with institutional outcomes, as "institutional trust is the expected utility of institutions performing satisfactorily [...]. Trust in institutions is rationally based; it hinges on citizen evaluations of institutional performance. Institutions that perform well generate trust; untrustworthy institutions generate skepticism and distrust" (p. 31).

[6] In the rest of the paper, we will use the terms "institutional (mis)trust", "political (mis)trust" or "(mis) trust in political institutions" interchangeably.

[7] For instance, see Currie and Gahvari (2008) for a theoretical review and Liscow and Pershing (2022) for more recent empirical evidence.

rather than in-kind transfers; thus, voters divert larger resources to in-kind transfers to minimise the negative effect of the misbehaviour of their dishonest fellow citizens. Nevertheless, if shifting resources from cash to in-kind transfers does not compensate for the damages to the welfare state caused by dishonest citizens, agents demand fewer cash and in-kind transfers, thereby reducing their support for the welfare state.

We provide empirical descriptive evidence in support of the predictions of our theoretical model by using individual-level survey data from 20 European countries. In our empirical analysis, we find that institutional trust, paternalistic attitudes, and higher expected levels of dishonesty among fellow citizens positively correlate with stronger support for in-kind transfers—proxied by training and educational programmes for the unemployed—over cash transfers—proxied by unemployment benefits. Precisely, we find that an increase of one SD (standard deviation) in institutional trust is associated with an increase in the probability of supporting in-kind over cash transfers ranging from 1.8 to 2.9%. Moreover, we show that people who expect to face financial difficulties in the following 12 months—namely, our proxy for expected income—are more likely to increase their demand for cash transfers over in-kind transfers. While studying the mechanisms, we observe that the correlation between institutional trust and preferences for educational programmes over unemployment benefits is larger if respondents perceive that the quality of education in their country is higher. This result is consistent with the mechanisms captured by our theoretical model, which shows how low levels of institutional trust are associated with worse perceived institutional performance in the provision of public services. Similarly, we observe that the correlation between institutional trust and preferences for in-kind over cash redistribution is larger for people living in countries with (i) better quality public services and (ii) less corruption. Finally, we observe that the association of institutional trust with preferences for in-kind over cash transfers is stronger in more democratic countries.

The contribution of our paper is two-fold. First, we primarily contribute to the limited political economy literature on the effect of perceived corruption and inefficient governments on preferences for in-kind and cash transfers. Prior research indicates that corrupted and inefficient governments lead to a larger share of welfare spending in in-kind transfers. For instance, using aggregate country-level data, Hessami and Uebelmesser (2016) show that OECD democratic countries with higher levels of corruption invest a higher share of public spending in in-kind transfers. The authors argue that in countries with high corruption, politicians try to "[...] appropriate cash transfers whose receipt is relatively more difficult to monitor and voters try to limit the discretion of politicians" (Hessami & Uebelmesser, 2016, p. 73) by demanding more in-kind transfers. Alternatively, Bearse et al. (2000) build a voting model to explain why poorer countries invest more in in-kind than in cash transfers. Their model shows that poorer countries are less efficient in collecting taxes due to corruption or tax evasion.[8] This waste of resources leads to lower-quality public services,

[8] Bearse et al. (2000) model an inefficient "tax collection technology", which "[...] is intended to capture tax evasion and tax avoidance activities of taxpayers and/or tax collection costs on the part of the government" (p. 466). In the main specification of the model, the waste of public resources is interpreted as corruption because "tax revenue disappears after it has been collected from the household" (Footnote 6, p. 469). However, the authors state that if both government waste and citizens' tax evasion are introduced

and richer people decide to buy the same services with higher quality on the private market. As a consequence, because fewer people use public services, voters demand higher in-kind transfers to further enhance the quality of the—at this stage—less-congested public services as "[...] shifting resources to in-kind transfers deliver a greater '*bang for the buck*' [emphasis added]" (Bearse et al., 2000, p. 467).

Unlike the outcome and mechanisms discussed in Bearse et al. (2000) and Hessami and Uebelmesser (2016), we develop a new political-economy model showing that if voters perceive political institutions as corrupt and untrustworthy, they will demand more cash transfers at the expense of fewer in-kind transfers. The rational motive behind our result is that voters who do not trust their political institutions are more likely to remove public resources from institutional control, as they perceive these resources as inefficiently managed. To this end, voters divert more public resources to cash transfers so that citizens can manage public resources by themselves, as cash transfers directly go into citizens' budget constraints.

In support of our theory, we provide individual-level correlational evidence showing that higher political trust is associated with stronger preferences for in-kind transfers (i.e., educational programmes for the unemployed) and weaker preferences for cash transfers (i.e., unemployment benefits) among European countries. Furthermore, we show that the positive link between institutional trust and stronger preferences for in-kind transfers is larger (i) in countries with higher-quality public services and (ii) for respondents who perceive the state of education in their country to be of higher quality. These results robustly support the outcome and mechanisms described in our theoretical model: people who do not trust institutions are more likely to reduce their support for in-kind transfers if they believe that their institutions would provide low-quality public services.

As a secondary contribution, our paper offers new insights into the relationship between institutional trust and preferences for redistribution. In particular, we explore this relationship by developing an economic model in which the size of the welfare state remains unchanged and voters face economic uncertainty.

Institutional trust is widely recognised as a pivotal driver of support for public interventions (OECD, 2018, p. 288). Empirical evidence shows that jurisdictions with higher levels of institutional trust exhibit larger welfare spending. Citizens who trust political institutions are more likely to expect a more efficient provision of public services and, therefore, support more generous welfare programmes (e.g., Rothstein et al., 2012; Svallfors, 2013; Daniele & Geys, 2015; Camussi et al.,2018). As Camussi et al. (2018) put it simply: "[...] voters are more willing to pay taxes to finance welfare programs if they believe that tax receipts will not be wasted due to an inefficient bureaucracy or to influence peddling" (p. 60). Thus, prior empirical evidence primarily emphasises how low institutional trust undermines the welfare state as it reduces voters' willingness to pay higher taxes to support larger welfare spending.

More recent research, however, shifted the focus to how institutional trust affects preferences for different forms of public investment, rather than the level of taxation and the size of redistribution. For example, Keefer et al. (2022) find that politi-

into the model, the results remain the same (Sect. 4, pp. 476–477). We discuss the introduction of citizens' tax evasion in Sect. 3.7.

cal mistrust influences how governments in Latin America allocate public resources between investments with short-term versus long-term benefits, and between those with certain versus uncertain returns. However, their analysis does not distinguish between cash and in-kind transfers and does not incorporate income uncertainty.[9] Similarly, Gubello (2024) theoretically shows that political mistrust reduces support for implementing a basic income scheme at the expense of already-in-place welfare benefits, although without differentiating between cash and in-kind transfers and abstracting from economic uncertainty. Our paper extends this recent strand of literature by explicitly illuminating how institutional trust influences preferences for in-kind benefits over cash transfers, assuming that taxes remain constant and that agents face uncertainty about their lifetime stream of income.

The remainder of the paper is as follows: Sect. 2 presents some stylised facts showing the relationship between institutional trust and expenditure on cash and in-kind transfers across Europe. Section 3 presents the benchmark model with its extensions. Sections 4 and 5 present descriptive empirical evidence using individual-level survey data across Europe. Section 6 concludes.

2 Stylised facts across Europe

In this section, we provide some stylised facts about the relationship between 'cash versus in-kind' welfare spending composition and institutional trust within Europe.[10] First, we focus on the time trends of institutional trust and the relative composition of cash to in-kind transfers approximately over the last 20 years. As shown in Fig. 1, the relative composition of cash to in-kind transfers is inversely related to institutional trust between 2004 and 2019.[11] As institutional trust steadily increased from 2004 to 2008, the ratio of cash transfers relative to in-kind benefits declined. After the European economy entered a recession period in 2008–2009, institutional trust declined sharply.[12] Meanwhile, governments shifted towards providing relatively more cash

[9] For the purpose of their analysis, Keefer et al. (2022) group cash and in-kind transfers together, as they consider them "a notable case of public spending with immediate and certain benefits" (p. 5). Moreover, although the authors consider the delayed uncertain returns of some social benefits, they do not consider voters' economic uncertainty, which has been shown to predict stronger preferences for policies involving monetary transfers (e.g., Han & Kwon, 2020; Busemeyer & Tober 2023).

[10] Data on institutional trust comes from waves 2–9 of the European Social Survey (data access 19/06/2024). Only countries with information for institutional trust in at least two waves have been selected. See the ESS webpage for further information about this data source: https://www.europeansocialsurvey.org/about-ess. Data for the cash-to-in-kind ratio comes from the OECD Social Expenditure Database (SOCX) (data access: 19/06/2024). Visit the "Social expenditure aggregates" at the OECD Data Explorer website to access the data: https://data-explorer.oecd.org/

[11] Our institutional trust variable is the first principal component of a Principal Component Analysis (PCA) using three questions on trust in political institutions (i.e., individual trust in politicians, parliament, and political parties) from wave 2 to wave 9 of the European Social Survey. We normalise the first principal component in the interval [0, 100], whereby higher values correspond to higher institutional trust. Information about these questions can be found in the Online Appendix F. The time series starts in 2004 because 2004 is the first year available to compute our institutional trust index.

[12] The decline of institutional trust in Europe following the Great Recession is not new to the economic literature (e.g., Algan et al., 2017).

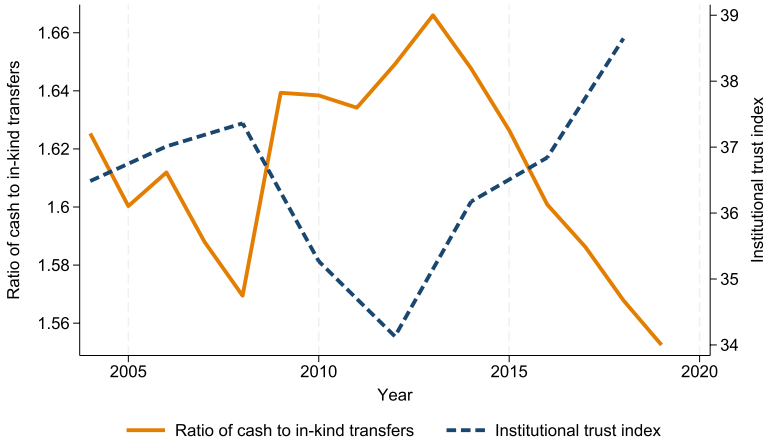


Fig. 1 Trends in institutional trust and the average ratio of cash transfers to in-kind transfers as a percentage of GDP (2004–2019). *Notes* the figure shows the time trend of institutional trust (dashed line) and the ratio of cash to in-kind transfers (continuous line) in the period 2004–2019 among European countries. Data on institutional trust comes from waves 2–9 of the European Social Survey. Data for the cash-to-in-kind ratio comes from the OECD Social Expenditure Database (SOCX). The list of countries is: Austria, Belgium, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom. Results are authors' calculations

transfers than in-kind benefits. As economies recovered during the second half of the 2010s, institutional trust steadily improved in the years after 2014. This recovery correlates with a shift back towards in-kind benefits compared to cash transfers.

In Fig. 2, we show the scatterplot displaying the cross-sectional relationship between institutional trust and the ratio of cash to in-kind in the same period as in Fig. 1. The scatterplot shows a strong negative relationship between the cash-to-in-kind ratio in welfare spending and institutional trust. European countries with low average levels of institutional trust display higher average spending on cash transfers relative to in-kind benefits. In contrast, countries with high levels of trust in institutions, most notably the Scandinavian and Nordic countries, spend more on in-kind benefits relative to cash transfers. Figure 2 represents further descriptive evidence that countries in which citizens have higher average trust in political institutions also invest, on average, more in in-kind welfare spending.

Institutional trust also depends on the aggregate level of corruption in a country, as it is contingent upon the quality of public institutions (e.g., Mishler & Rose, 2001). The negative correlation between perceived corruption and trust in institutions has been largely studied in the empirical literature (e.g., OECD, 2017a), with research also showing a causal effect of corruption in deteriorating citizens' trust in institutions (e.g., Ares & Hernández 2017; Daniele et al., 2023). Figure 3 shows the scatterplots of the ratio of cash to in-kind transfers against four measures of corruption: political corruption index, executive corruption index, public sector corruption

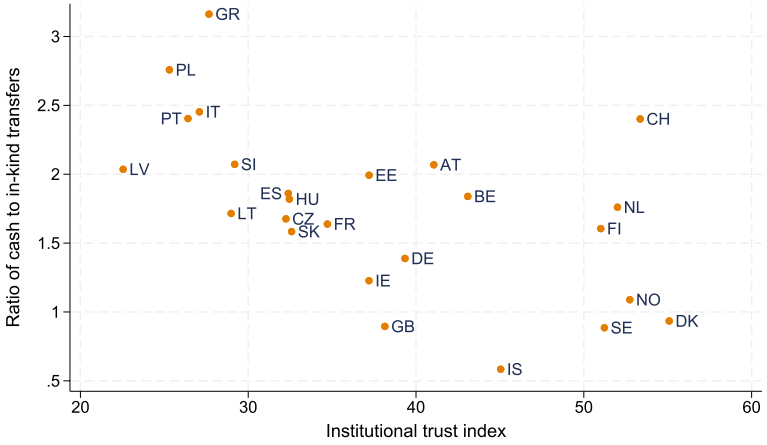


Fig. 2 Scatterplot of average institutional trust on the average ratio between cash and in-kind transfers spending as a percentage of GDP (2004–2019). *Notes* the graph shows the scatterplot of average institutional trust (2004–2019) on the average ratio between cash and in-kind transfers spending as a percentage of GDP. Country names are written as ISO alpha-2 code. Data on institutional trust comes from waves 2–9 of the European Social Survey. Data for the cash-to-in-kind ratio comes from the OECD Social Expenditure Database (SOCX) (2004–2019). Corr: −0.0341, p value < 0.01)

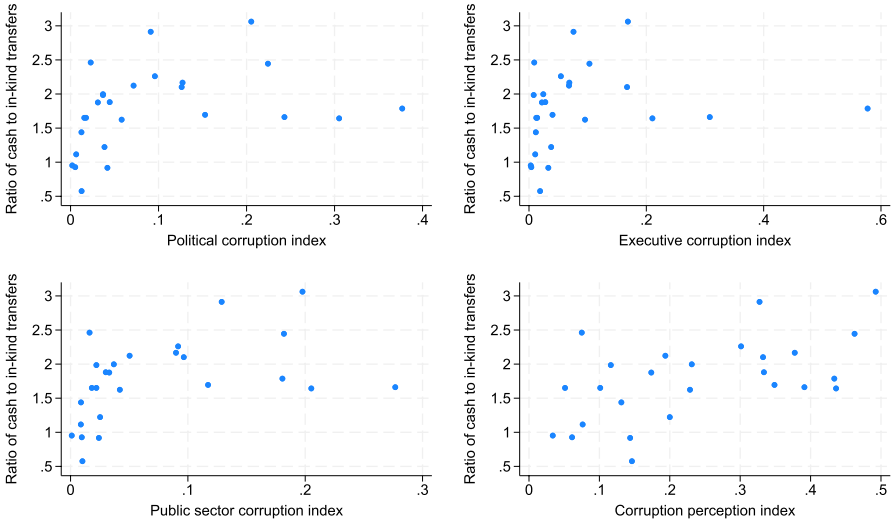


Fig. 3 Scatterplots of political corruption index, executive corruption index, public sector corruption index, and corruption perception index on the average ratio between cash and in-kind transfers spending as a percentage of GDP averaged between 2000–2019. *Notes* the graph shows scatterplots of corruption measures averaged over 2000–2019 on the average ratio between cash and in-kind transfers spending as a percentage of GDP. Data on the political corruption index, executive corruption index, public sector corruption index, and corruption perception index come from the V-Dem Dataset. Data for the perceived corruption index starts in 2012. Data for the cash-to-in-kind ratio comes from the OECD Social Expenditure Database (SOCX) (2000–2019)

index, and corruption perception index.[13] The data is averaged between 2000–2019, including 26 European countries.[14] Although the scatterplots with political, executive, and public sector corruption present non-linear relationships, Fig. 3 shows a positive relationship between the different dimensions of corruption and the cash-to-in-kind ratio in welfare spending.[15] European countries with high levels of corruption show higher average spending on cash transfers relative to in-kind benefits, which aligns with previous empirical evidence showing a strong correlation between high perceived corruption and low trust in institutions.[16] Nonetheless, the relationship between corruption and the ratio of cash to in-kind transfers among OECD-European countries shown in Fig. 3 does not align with the empirical findings of Hessami and Uebelmesser (2016), who find that democratic OECD countries with high levels of corruption spend a higher share of social transfers in in-kind transfers. Moreover, stylised facts in Fig. 3 also depart from the theoretical prediction by Bearse et al. (2000) for which highly corrupted countries tend to invest more in in-kind transfers. Motivated by these differences with the previous empirical and theoretical literature, (i) we present a new theory which can explain our stylised facts in Europe, and (ii) we also provide empirical evidence using individual-level data to shed further light on the relationship between perceived untrustworthy institutions and preferences for in-kind versus cash transfers.

3 The benchmark model

We present a median voter model in which agents vote on allocating public resources between a monetary transfer (or cash transfer) and a public good (or in-kind transfer) while facing uncertainty about their lifetime income. Agents know that they can only

[13] The source is the V-Dem Dataset (Coppedge et al., 2024a) The corruption measures are described in the Online Appendix F.2.1. See also Fig. A.2 in the Online Appendix for the strong negative cross-country correlations between the institutional trust index and the four corruption measures we used.

[14] The list of countries is: Austria, Belgium, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom.

[15] For the linear relationship between cash-to-in-kind ratio and the corruption perception index, we compute the Pearson correlation coefficient (corr: 0.56, p value< 0.01). For the non-linear relationships with political, executive, and public sector corruption, we computed Spearman's rank correlation coefficients, and the exact p values are computed performing Monte Carlo permutations (10,000 permutations). The correlation equals 0.52 for political corruption (p value< 0.01), 0.39 for executive corruption (p value< 0.05) and 0.56 for public sector corruption (p value< 0.01). In calculating these correlations, we standardised all variables (z-score).

[16] Switzerland is known for its high levels of institutional trust (e.g., OECD, 2013, 2024a); however, it also presents a high cash-to-in kind ratio. This is likely due to the Swiss public health system requiring universal mandatory private health insurance. These private investments likely reduce the portion of public (in-kind) transfers in the health system. In fact, despite being one of Europe's top healthcare spenders (Pietro et al., 2015) Switzerland has the lowest public funding relative to total health expenditure (OECD and European Union, 2022). Our data confirms that Switzerland's outlier status is driven by low in-kind transfer levels rather than high cash transfers, having the lowest in-kind transfers-to-GDP ratio but ranking 9th lowest in cash transfers-to-GDP among 25 countries. Moreover, in the Online Appendix (Fig. A.3), we show that the time-trend inverse relationship between institutional trust and the ratio of cash to in-kind transfers over 2004–2019 in Switzerland does not differ from the rest of Europe.

decide the share of public resources to allocate to each public target, while the total taxes in the economy will not change. Additionally, agents are heterogeneous in their institutional trust levels, for which the distribution function and the median value are known; thus, in our model, the median voter corresponds to the agent with the median level of institutional trust in the economy. The model shows that the less the median voter trusts political institutions, the stronger their preferences for cash transfer over in-kind transfer are. The reason is that agents who do not trust their political institutions are more likely to believe that their government will waste economic resources and provide lower-quality public services. As a result, agents shift their preferences toward a monetary transfer, corresponding to an amount of public money not affected by institutional inefficiency as it directly goes into the citizens' budget constraint. In addition, because agents face income uncertainty, our model also shows that higher expected income reduces the support for cash transfers and increases the support for in-kind transfers, as agents perceive a lower necessity of monetary aid to satisfy their private consumption needs and become more favourable to receiving in-kind transfers.

We also link our theory to previous research on paternalism and civic capital in two extensions to the benchmark model. We show that (i) paternalism reduces support for cash transfers and increases support for in-kind transfers; (ii) a larger number of people falsely claiming benefits they are not entitled to and evading taxes reduces support for cash transfers; however, the effect on in-kind transfers is ambiguous. If agents believe that shifting resources from cash to in-kind transfers more than compensates for the damages of tax evasion to the size of the welfare state, then agents increase their demand for in-kind transfers. Otherwise, they demand a general cut in welfare spending.

3.1 The economy

The economy consists of a continuum of agents whose size is normalised to 1. Each agent can have a lifetime stream of income $y > 0$ with a probability $p \in (0, 1)$ and be rich, or a lifetime stream of income $y_0 \in [0, y)$ with probability $1 - p$ and be poor. Rich agents pay a lump-sum tax $t > 0$, such that $y - t > y_0$, to finance a monetary transfer (or cash transfer), $T \geq 0$, and an impure public good (or in-kind transfer), $g \geq 0$, which are consumed only by poor agents. The public good, g, consists of a "bundle of necessities", such as, for instance, food stamps, low-cost housing, educational training or in-kind medical assistance.[17] The economic resources in the form of g can be spent only on targeted goods and services which are considered "meritorious" of financial support from the government (e.g., money in the form of food stamps or educational training). On the contrary, agents can spend the monetary transfer, T, on the bundle of goods and services they prefer. Agents vote on allocating public economic resources between the monetary transfer, T, and the public good, g, while the lump-sum tax, t, remains unchanged. At the time of the vote, agents face uncertainty about their lifetime stream of income and do not know if they will be

[17] We borrow the expression "bundle of necessities" to describe in-kind transfers from Liscow and Pershing (2022, p. 313).

rich or poor over their lives. In other words, we assume that agents face uncertainty about whether they will ever encounter financial problems and require in-kind or cash transfers throughout their life course.[18]

3.2 Government budget constraint

Because only rich agents pay the lump-sum tax, t, the expected government's total tax revenue depends on the mass of rich agents, p, such that the government budget constraint can be written as:

$$g + T = tp \tag{1}$$

The higher is the probability of being a rich agent, the higher is the expected total tax revenue. Moreover, if the government does not finance the public good, g, or the monetary transfer, T, the maximum amount of resources the government can divert into the monetary transfer or public good is tp.

3.3 Agents' preferences

Agents vote on allocating public resources to the monetary transfer, T, and to the public good, g. At the moment of the vote, agents do not know if they will be rich or poor. As a result, agents' preferences are represented by the following indirect expected utility function:

$$\mathbb{E}[V_i] = p \cdot V_i^H + (1-p) \cdot V_i^L, \tag{2}$$

whereby V_i^H is the indirect utility if an agent is rich and V_i^L is the indirect utility if an agent is poor. The expected indirect utility function (2) takes the form:

$$\mathbb{E}[V_i(T,g)] = p \cdot U(y-t) + (1-p) \cdot \left[U\left(y_0 + \frac{T}{1-p} \right) + (1-\lambda_i) \frac{g}{1-p} \right], \tag{3}$$

which is quasilinear in the public good, g, while the private consumption utility, $U : \mathbb{R}_+ \to \mathbb{R}$, is increasing and concave in all its arguments, such that $U'(\cdot) > 0$ and $U''(\cdot) < 0$. Both the monetary transfer, T, and the public good, g, are divided by the mass of poor agents, $1-p$, as agents are interested in the per capita amount of public resources that they would receive if they were poor.[19]

[18] This assumption is consistent, for instance, with the rise of economic instability in European OECD countries (e.g., OECD, 2023).

[19] We assume that only the poor consume the in-kind transfer. This assumption adapts well to households' social benefits such as food stamps, low-cost housing, unemployment training, health vouchers or other conditional social benefits. On the other hand, this might not be the case if we extend our definition of in-kind transfers to any public good a government provides (e.g., public education or health system). In the Online Appendix, we reformulate the problem assuming that (i) in-kind transfers are unconditional so that also the rich receive them (Online Appendix C.2); (ii) both cash and in-kind transfers are unconditional

Each agent has a level of institutional mistrust, λ_i, randomly drawn from a continuous distribution with a cumulative distribution function $F(\lambda_i)$ defined over the support $\Lambda = [0, 1)$. The median institutional mistrust in the economy is $\lambda_m = F^{-1}(0.5)$. Like in Keefer et al. (2022), agents with higher institutional mistrust expect their government to reduce the quality of the public good because of a waste of public resources, $\lambda_i g/(1-p)$, due to expected government inefficiency or corruption.[20] Moreover, following Keefer et al. (2022), institutional mistrust affects only the expected quality of the public good, g, and not the monetary transfer, T; indeed, the amount of public money, T, remains unaffected by the government's inefficiency as it directly goes into the citizens' budget constraint. Instead, the public good can be provided with different degrees of quality, depending on the amount of public resources efficiently allocated to g. As a result, a higher level of institutional mistrust, λ_i, increases the expected waste of public resources, reducing the marginal utility from consuming the public good, g.

The events happen in the following order: first, agents are endowed with an individual level of institutional mistrust, λ_i. Second, agents vote on their preferred allocation of in-kind and cash transfers, (T^*, g^*), given the lump-sum tax, t. Third, a mass of agents, $p \in (0, 1)$, becomes rich, with a lifetime stream of income $y > 0$. Meanwhile, a mass $1-p$ becomes poor with a lifetime stream of income $y_0 \in [0, y)$. Agents know the probability p, but not its realisation; thus, they face uncertainty about their economic status at the time of the vote. Finally, the government distributes welfare benefits to the poor according to the proportions of the election-winning allocation, (T^*, g^*).

3.4 Voting and institutional mistrust

Agents vote and choose their optimal allocation of public resources, (T^*, g^*), by maximising the indirect expected utility function (3).[21] Because the public good can be written as a function of the monetary transfer, T, agents maximise the indirect expected utility function (3) by T only, such that the optimal allocation becomes $(T^*, g(T^*))$. Moreover, by the median voter theorem, as voters are heterogeneous only along the institutional mistrust dimension, and because preferences are single-peaked in the monetary transfer, T, such that $\partial^2 \mathbb{E}[V_i(T)]/\partial^2 T < 0$, the winning allocation of public resources, $(T^*, g(T^*))$, coincides with the preferred allocation of the median voter, $(T_m^*, g(T_m^*))$.[22] As a result, agents solve the following maximisation problem:

so that also the rich consume them (Online Appendix C.3). In both cases, results remain qualitatively the same; however, (ii) does not allow a closed-form solution.

[20] Corruption can be particularly damaging for the provision and quality of public goods such as, for instance, large-scale projects and infrastructures (e.g., Locatelli et al., 2017).

[21] Hence, we assume that (i) agents are honest and do not hide their level of income, and (ii) agents do not adopt any strategic or cooperative behaviour.

[22] See the Appendix B for a proof of single-peaked preferences.

$$\max_{T\in[0,tp]} \quad p\cdot U(y-t)+(1-p)\cdot\left[U\left(y_0+\frac{T}{1-p}\right)+(1-\lambda_m)\,\frac{tp-T}{1-p}\right], \tag{4}$$

which gives the median voter's preferred demand function for the monetary transfer, T, in Eq. (5):

$$T_m^*=\begin{cases}0, & \lambda_m\in[0,\lambda_1)\\ (1-p)\left[\Upsilon\left(1-\lambda_m\right)-y_0\right], & \lambda_m\in[\lambda_1,\lambda_2]\\ tp, & \lambda_m\in(\lambda_2,1),\end{cases} \tag{5}$$

whereby the institutional mistrust thresholds are $\lambda_1=1-U'(y_0)$ and $\lambda_2=1-U'(y_0+tp/(1-p))$. The function $\Upsilon:[\lambda_1,\lambda_2]\to\mathbb{R}_+$ is the inverse function of $U'(\cdot)$, such that $\Upsilon(\cdot)=U'(\cdot)^{-1}$, which is a continuous and differentiable function in its domain and decreasing in all its arguments, such that $\Upsilon'(\cdot)<0$. Moreover, $\Upsilon\left(1-\lambda_m\right)\geq y_0$ holds for any $\lambda_m\in[\lambda_1,\lambda_2]$, with $\Upsilon\left(1-\lambda_m\right)=y_0$ only when $\lambda_m=\lambda_1$.[23]

Because the public good, $g(T)$, is a function of the monetary transfer, T, we derive the median voter's demand for the public good directly from the government budget constraint, $g_m^*=tp-T_m^*$:

$$g_m^*=\begin{cases}tp, & \lambda_m\in[0,\lambda_1)\\ tp-(1-p)\left[\Upsilon\left(1-\lambda_m\right)-y_0\right], & \lambda_m\in[\lambda_1,\lambda_2]\\ 0, & \lambda_m\in(\lambda_2,1)\end{cases} \tag{6}$$

The median voter's demand function for the monetary transfer, T_m^*, in Eq. (5) and the demand function for the public good, g_m^*, in Eq. (6) are both piecewise non-continuously differentiable functions of institutional mistrust, λ_m. Focusing on the demand for the monetary transfer in Eq. (5), if $\lambda_m\in[0,\lambda_1)$, the median voter demands no monetary transfer and allocates all the public resources to the public good, g. If $\lambda_m\in[\lambda_1,\lambda_2]$, an interior solution exists, and the median voter demands a combination of monetary transfer, T, and public good, g. Instead, if $\lambda_m\in(\lambda_2,1)$, the median voter demands a complete replacement of the public good, g, to receive only the monetary transfer, T. On the other hand, the median voter's demand function for the public good, g_m^*, in Eq. (6) is symmetrical to the demand for the monetary transfer in Eq. (5) as agents can only decide to allocate public resources between T or g. This symmetry implies that when $T_m^*=0$, then $g_m^*=tp$. In contrast, when $T_m^*=tp$, then $g_m^*=0$.[24]

In both demand functions, institutional mistrust appears only in the interior solution, namely if $\lambda_m\in[\lambda_1,\lambda_2]$. Taking the derivative of the interior solution with

[23] A detailed solution of the maximisation problem can be found in the Appendix C.

[24] Corner solutions represent extreme theoretical cases given that countries are unlikely to invest only in in-kind or cash transfers. However, while we will theoretically analyse all cases, in the main body of the paper, we will only summarise the main results of the corner solutions. Our full detailed analysis can be found in the Online Appendix.

respect to λ_m for the monetary transfer in Eq. (5), we show that the demand for monetary transfer is increasing in institutional mistrust:

$$\frac{\partial T_m^*}{\partial \lambda_m} = -(1-p)\Upsilon'(1-\lambda_m) > 0 \tag{7}$$

On the contrary, taking the derivative of the interior solution with respect to λ_m for the public good in Eq. (6), we show that the demand for the public good is decreasing in institutional mistrust:

$$\frac{\partial g_m^*}{\partial \lambda_m} = (1-p)\Upsilon'(1-\lambda_m) < 0 \tag{8}$$

Derivatives (7) and (8) show that higher institutional mistrust is associated with larger public spending in cash transfers and lower public spending in in-kind transfers. In fact, people with low trust in political institutions expect their government to waste more public money in providing public goods, thereby lowering their quality. As a consequence, people who do not trust their political institutions shift their preferences toward larger cash monetary transfers at the expense of fewer resources allocated to in-kind transfers. This result occurs because cash transfers directly go into the citizens' budget constraint and are not subject to the government's inefficiencies. In Fig. 4, we plot the median voter's demand for the monetary transfer and the public good as functions of institutional mistrust. We summarise our main findings as follows:

Proposition 1 *People with higher institutional trust demand more in-kind and fewer cash transfers as they expect their government to manage public resources more efficiently.*

3.5 Expected lifetime stream of income

Because agents maximise their expected utility function, $\mathbb{E}[V_i]$, it is also informative to study how a change in the expected lifetime stream of income affects preferences for in-kind and cash transfers. In our model, the effect of a change in agents' expected

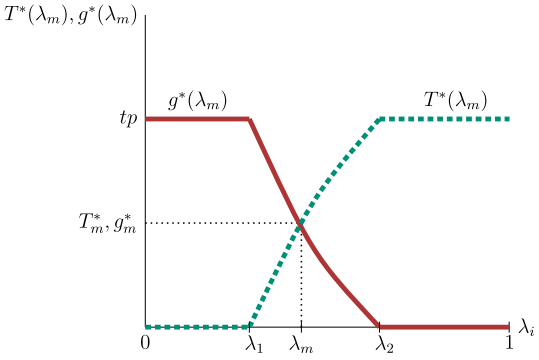


Fig. 4 Median voter's demands for monetary transfer, T, and public good, g, as functions of institutional mistrust, λ_i. *Notes* the graph shows the median voter's demand for monetary transfer (green dashed line) and the median voter's demand for demand public good (red continuous line) as functions of institutional mistrust, λ_i. The value λ_m represents the institutional mistrust level of the median voter who chooses the optimal allocation (T_m^*, g_m^*). The graph shows the special case of an interior solution where $T_m^* = g_m^*$

lifetime stream of income on the optimal allocation $(T_m^*, g(T_m^*))$ can be captured either by a change in the lifetime stream of income of poor agents, y_0, or by a change in the probability of becoming a rich agent, p. Henceforth, we analyse each component separately.

3.5.1 Lifetime stream of income of poor agents, y_0

The lifetime stream of income of a poor agent, y_0, appears in the median voter's demand only if the optimal allocation $(T_m^*, g(T_m^*))$ is an interior solution. Taking the derivative of the demand for monetary transfer, T_m^*, with respect to y_0, we show that an increase in the lifetime stream of income of poor agents decreases the demand for monetary transfer. On the other hand, a higher y_0 increases the demand for the public good:

$$\frac{\partial T_m^*}{\partial y_0} = -1 < 0, \qquad \frac{\partial g_m^*}{\partial y_0} = 1 > 0 \tag{9}$$

Derivatives in Eq. (9) show that the economic conditions of poor agents affect the optimal median voter's allocation of public resources between in-kind and cash transfers. As shown in Fig. C.1 in the Online Appendix, an increase in y_0 shifts both the demand curves toward the right, thereby increasing the optimal allocation of public resources on T_m^* while decreasing the optimal allocation on g_m^*. This outcome occurs because a higher y_0 reduces the necessity of a monetary transfer, T, for private consumption; thus, agents shift their preferences toward the in-kind transfer, g. In other words, when poorer agents become richer, they demand fewer monetary transfers because they can meet a larger portion of private consumption needs, given a larger income, y_0.

Results in Eq. (9) align with some evidence and arguments highlighted in the previous literature: first, in advanced economies, higher income levels are associated with stronger preferences for in-kind transfers than cash transfers (e.g., Han & Kwon, 2020; Liscow & Pershing, 2022; de Bresser et al., 2022). Second, these results reflect a common issue in the 'cash versus in-kind' transfers literature: poorer households often prefer cash transfers because they prioritise spending on certain private goods, such as food or utilities, over other public goods that a government provides, such as accessible education (Currie & Gahvari, 2008). However, as the income of poorer households increases, their preferences gradually shift towards in-kind transfers. In fact, as more of their private needs are met through individual income, poorer households shift their preferences towards other public services. Hence, we summarise our findings as follows:

Proposition 2 *When the lifetime income of the poor increases, the demand for cash transfers decreases and the demand for in-kind transfers increases.*

3.5.2 Probability of being rich, *p*

A second component affecting agents' expected lifetime stream of income is the probability of being rich, p. Considering the interior solution, an increase in p decreases the demand for the monetary transfer while it increases the demand for the public good[25]:

$$\frac{\partial T_m^*}{\partial p} = -\left[\Upsilon\left(1-\lambda_m\right)-y_0\right] < 0, \tag{10}$$

$$\frac{\partial g_m^*}{\partial p} = t + \left[\Upsilon\left(1-\lambda_m\right)-y_0\right] > 0 \tag{11}$$

Derivatives (10) and (11) show that agents prefer to allocate more public resources to the public good, g, at the expense of a lower monetary transfer, T. Indeed, when the probability of being a rich agent, p, increases, agents' expected income increases. Similar to the effect of a larger y_0, if an agent expects to have a higher probability of becoming rich, their expected need for cash transfers from the government decreases; thus, they shift their preferences toward in-kind transfers. This outcome aligns with recent empirical literature in developed countries, which shows that when people experience economic insecurity, they exhibit stronger preferences for cash transfers and weaker preferences for policies providing in-kind services (e.g., Han & Kwon, 2020; Busemeyer & Tober, 2023). In the Online Appendix, we plot this scenario in Fig. C.2. An increase in the probability p shifts both demand curves, such that the demand for g_m^* increases while the demand for T_m^* decreases. As a result, we summarise our findings as follows:

Proposition 3 *A higher probability of being rich increases the demand for in-kind transfers and reduces the demand for cash transfers.*

3.6 Extension: paternalism

Paternalism is considered one of the main determinants for people's stronger preferences for in-kind transfers over cash transfers, to the point that "[...] the empirical work seems to largely accept the paternalism theory and move on to other questions" (Currie & Gahvari, 2008, p. 334). Paternalism consists in the belief that low-income people would benefit more from in-kind transfers as they encompass money to be spent only on a "bundle of necessities" (Liscow & Pershing, 2022, p. 313). This belief relies on the idea that some services and goods are more beneficial to society and, therefore, more worthy of consumption than others. People's perception that

[25] Unlike the lifetime stream of income of poor agents, the probability of becoming a rich agent appears both in the interior and the corner solutions of the optimal demands (5) and (6). Nevertheless, the results of the corner solutions are mechanical. Indeed, because all the resources are diverted only into either cash or in-kind transfers, a higher p increases the resources voters can demand for the preferred public target; therefore, we focus our analysis on the interior solution only. We discuss the results from the corner solution in greater detail in the Online Appendix C.5.

consuming some goods—also referred to as "merit wants" (Musgrave, 1956, p. 341) or "merit goods" (Musgrave & Musgrave, 1989, pp. 55–58)—is more worthy than consuming others has been extensively analysed by Richard Musgrave, who also writes:

> An individual donor may choose to give in kind rather than in cash, because *he or she considers certain uses by the recipient as meritorious* [emphasis added]. Or taxpayers may prefer social programs which provide in-kind aid, such as food stamps or low-cost housing, over cash grants. *Supporters of the program feel that such uses are felt to be meritorious* [emphasis added]. (Musgrave & Musgrave, 1989, p. 57)

Furthermore, as argued by Currie and Gahvari (2008, p. 340), paternalism also relates to the concept of "*specific egalitarianism*", a term coined by Tobin (1970, p. 264) to describe the U.S. citizens' redistributive attitudes in the 1960s. According to Tobin (1970, pp. 263–264), while U.S. citizens tolerate high economic inequality, they also believe "[...] that certain specific scarce commodities should be distributed less unequally than the ability to pay for them". Hence, paternalistic people support the provision of specific goods and services to poorer people; however, they oppose poorer people receiving the "cash equivalent" of these services (Kelman, 1986, p. 59).

Henceforth, we introduce paternalism to the benchmark model. Paternalism takes the form of a weighting parameter, $\eta \in (0,1)$, in the indirect utility of poor agents, V_i^L. The higher η is, the higher is the average level of paternalism in the economy, and the larger is the expected utility weight of consuming the public good, g, compared to private consumption when poor. This assumption captures the societal belief that the poor would be better off consuming targeted goods and services that are valued by society as more "meritorious". Following these assumptions, agents' preferences are represented by the following indirect utility function:

$$\mathbb{E}[V_i(T,g;\eta)] = p \cdot U(y-t) + (1-p) \cdot \left[(1-\eta) \cdot U\left(y_0 + \frac{T}{1-p} \right) + \eta\,(1-\lambda_m)\,\frac{tp-T}{1-p} \right], \quad (12)$$

while the government budget constraint remains the same as in Eq. (1).

A detailed solution to the maximisation of the utility function (12) is shown in the Online Appendix D. The results are straightforward and in line with previous literature. When paternalism is a strong cultural trait in the economy (i.e., a larger η), agents evaluate in-kind transfers as more beneficial to society and, therefore, more acceptable than cash transfers. We summarise this finding as follows:

Proposition 4 *Stronger paternalistic attitudes increase the demand for in-kind transfers and reduce the demand for cash transfers.*

3.7 Extension: benefit morale and civic capital

Another factor affecting citizens' support for the welfare state is referred to as *benefit morale* or *civic capital*.[26] Halla et al. (2010) define benefit morale as "the individual reluctance to exploit the welfare state via benefit fraud" (p. 56). Moreover, Algan et al. (2016) show that when honest citizens believe that their fellow citizens falsely claim social benefits and evade taxes, they reduce their support for welfare programmes. To theoretically capture the concept of benefit morale or civic capital, we assume that a mass of rich individuals, $\mu \in [0, p)$, claim in-kind and cash benefits to which they do not contribute with their taxes and to which they are not entitled.[27] A lower μ implies a smaller mass of dishonest citizens and, thus, a higher average benefit morale or civic capital in the economy. The fraudulent behaviour of the rich increases the expected congestion effect on the government benefits, such that it becomes $1 - p - \mu$, with $p + \mu < 1$; thus, the sum of eligible and illicit benefit recipients does not exceed the total population size.[28]

To simplify our analysis, we assume that the median voter is honest and does not hide their income from tax authorities to falsely claim social benefits. Thus, the average level of dishonesty, μ, affects only the quality of welfare benefits (in-kind or cash) through a larger congestion effect. This simplifying assumption enables us to isolate the impact of welfare damages caused by other citizens' fraudulent behaviours on the voting equilibrium. In other words, we abstract from social norms that may lead the median voter to mimic the behaviour of their dishonest fellow citizens.[29] However, in the Online Appendix, we relax this assumption to account for the fact that people who believe that their fellow citizens engage in dishonest behaviours are more likely to justify or mimic such behaviours (e.g., Frey & Torgler, 2007; Traxler, 2010). A more detailed discussion of this extension is provided in the Online Appendix E.2.

[26] Some authors use the term "benefit morale" (e.g., Heinemann, 2008; Arnold, 2013; Halla & Schneider, 2014); however, the concept has been termed differently in other research. For instance, while referring to not falsely claiming social benefits as "civicness", "civic capital", "civic spirit" or "civic virtue", other authors studied the effect of benefit morale on different outcomes (e.g., Algan & Cahuc, 2009; Ljunge, 2015; Algan et al., 2016). Henceforth, we will also refer to "civic" citizens as "honest" in contrast to "dishonest", or citizens engaging in "fraudulent" or "illicit" behaviours.

[27] The parameter μ represents the 'average' level of dishonesty, capturing the average take-up of social benefits by ineligible citizens. Only rich individuals can falsely claim benefits and evade taxes, as they are the ones expected to pay t without receiving T or g.

[28] We do not include the government's tax audit and sanctions, which economic theory predicts to be the main deterrents to tax evasion (e.g., Allingham & Sandmo, 1972; Yitzhaki, 1974) and to affect people's support for the welfare state (Cerqueti et al., 2019). Government monitoring could be easily captured by a parameter $\alpha \in [0, 1]$, such that the total number of dishonest citizens effectively eluding taxes and falsely claiming social benefits becomes $\mu(1 - \alpha)$. Increasing the intensity of the monitoring activity (i.e. a higher α) would reduce the welfare damages of dishonest citizens and would have the same effect as a decline in μ.

[29] We consider this a realistic assumption, as the estimated size of the shadow economy in developed countries ranges from less than 1% to around 30% of GDP (e.g., Schneider, 2005; OECD, 2017b). For instance, an honest election-winning majority—represented by the median voter because of the median voter theorem—may incorporate the negative effects of average dishonesty in the economy into their political preferences without changing their civic attitudes. This also aligns with Algan et al. (2016)'s modelling and empirical findings.

As a consequence, the maximisation problem becomes:

$$\max_{T\in[0,t(p-\mu)]} \; p\cdot U(y-t)+(1-p)\cdot\left[U\left(y_0+\frac{T}{1-p-\mu}\right)+(1-\lambda_m)\,\frac{t(p-\mu)-T}{1-p-\mu}\right] \quad (13)$$

A detailed solution to the maximisation problem (13) is shown in the Online Appendix E. The two demand functions for the monetary transfer, T_m^*, and the public good, g_m^*, are piecewise, non-continuously differentiable in political mistrust, as in the benchmark model. The median voter's demand for the monetary transfer with civic capital or benefit morale becomes:

$$T_m^*=\begin{cases}0, & \lambda_m\in[0,\lambda_1^\mu)\\ (1-p-\mu)\left[\Upsilon\left(1-\lambda_m\right)-y_0\right], & \lambda_m\in[\lambda_1^\mu,\lambda_2^\mu]\\ t(p-\mu), & \lambda_m\in(\lambda_2^\mu,1),\end{cases} \quad (14)$$

whereas the median voter's demand for the public good becomes:

$$g_m^*=\begin{cases}t(p-\mu), & \lambda_m\in[0,\lambda_1^\mu)\\ t(p-\mu)-(1-p-\mu)\left[\Upsilon\left(1-\lambda_m\right)-y_0\right], & \lambda_m\in[\lambda_1^\mu,\lambda_2^\mu]\\ 0, & \lambda_m\in(\lambda_2^\mu,1)\end{cases} \quad (15)$$

whereby $\lambda_1^\mu=1-U'(y_0)$ and $\lambda_2^\mu=1-U'(y_0+t(p-\mu)/(1-p-\mu))$.

Considering the interior solution and taking the derivatives of the median voter's preferred allocation, $(T_m^*, g(T_m^*))$, with respect to the mass of dishonest citizens, μ, we show that dishonesty unambiguously reduces the demand for the monetary transfer, T_m^*[30]:

$$\frac{\partial T_m^*}{\partial\mu}=y_0-\Upsilon\left(1-\lambda_m\right)<0, \quad (16)$$

On the other hand, an increase in the level of dishonesty has an ambiguous effect on the demand for the public good, g_m^*:

$$\operatorname{sgn}\left[\frac{\partial g_m^*}{\partial\mu}\right]=\operatorname{sgn}\left[-\left(t+\frac{\partial T_m^*}{\partial\mu}\right)\right] \quad (17)$$

The sign of derivative (17) is positive only if the marginal decrease in tax revenue resulting from tax evasion, $-t<0$, does not offset the marginal increase in available public resources resulting from a lower demand for monetary transfers $-\partial T_m^*/\partial\mu>0$. In other words, when the average level of dishonesty increases, agents react by demanding fewer cash transfers. Because agents demand fewer cash

[30] Benefit morale or civic capital, μ, appears in both the interior and the corner solutions of the median voter's demands, T_m^* and g_m^*. The corner solution analysis is simple and mechanical as all the resources are invested in only one public target, and a higher share of dishonest citizens reduces the government's fiscal capacity due to larger tax evasion. We provide a more detailed analysis of the corner solutions in the Online Appendix E.

transfers, they have extra resources to be diverted to in-kind transfers. A plausible explanation for this result is that—similar to the mechanism highlighted by Hessami and Uebelmesser (2016)[31]—people perceive cash transfers as more likely to be dishonestly claimed and obtained than in-kind transfers, as the latter are subjected to stricter rules and more specific needs for their consumption or access; thus, agents try to protect public resources by shifting more resources to in-kind transfers.[32] Nonetheless, if agents believe that shifting resources from cash to in-kind transfer does not compensate the marginal damages to the welfare state stemming from tax evasion, agents will express lower support for the welfare state, such that $\partial T_m^*/\partial \mu < 0$ and $\partial g_m^*/\partial \mu < 0$.

The ambiguity in the sign of derivative (17) stems from the assumption that agents falsely claiming social benefits also evade taxes. As a result, because citizens do not vote on taxes, they can only minimise the damages to the welfare state caused by tax evasion by demanding public spending cuts.[33] Nevertheless, if we assume that dishonest citizens only claim benefits they are not entitled to and do not evade taxes, then agents unambiguously increase their demand for in-kind transfers, as the marginal damage to tax revenue due to tax evasion would be null. Under this assumption, our theoretical results become similar to Hessami and Uebelmesser (2016)'s. More widespread dishonesty across the population unambiguously propels voters to demand a larger share of in-kind transfers, which are more difficult to falsely claim. This result occurs because now 'abusing' social benefits is the only channel through which dishonest citizens can damage the welfare state.[34] We summarise our main findings as follows:

[31] A main difference from Hessami and Uebelmesser (2016) is that, in this extension, taxpayers (and not politicians) are subtracting resources to the welfare state by claiming social benefits to which they are not entitled and by eluding taxation.

[32] This result can also find an explanation in Blackorby and Donaldson (1988) who showed that providing more in-kind transfers can represent a second-best optimum as people will apply only for social benefits that meet their specific needs; instead, cash transfers can facilitate takes-up from non-needy citizens. Thus, the median voter shifts resources towards in-kind transfers to reduce the financial attractiveness of cash transfers for non-needy individuals.

[33] In our model, the government budget constraint is binding, meaning that no government deficit or surplus is generated. As taxes do not change, the public spending cuts would result in a government surplus, as $T + g < tp$. Although we do not model intertemporal choices, this is similar to an increasing demand for austerity. In fact, even if research shows that, in most cases, spending cuts and tax hikes are generally unpopular and politically damaging (e.g., Hübscher et al., 2021; Gabriel et al., 2023; Alesina et al., 2024), some other findings also show that factors such as ideology, targeting of welfare cuts and tax increases (Bansak et al., 2021) and media consumption (Barnes & Hicks, 2018) can determine a positive demand for austerity. Moreover, tax evasion has been used in some countries as a political justification for spending cuts. For instance, according to Stanley (2016), in the UK, "[...] appeals to tax evasion and avoidance have been surprisingly prominent in elite justifications for fiscal consolidation" (p. 402).

[34] In the Online Appendix E.2, we assume that the average dishonesty, μ, also generates some social norm that affects voters' individual probability of evading taxes and dishonestly claiming social benefits if they are rich (e.g., Frey & Torgler, 2007; Traxler, 2010). Under this specification, the change in the demand for cash transfers following an erosion of civic capital becomes ambiguous due to two opposing forces: a larger congestion effect due to illicit recipients of welfare benefits (cash or in-kind) that reduces the demand for cash transfers and a 'utility gain from personal welfare abuse' that increases it. Instead, the change in the demand for in-kind transfers remains ambiguous due to (i) the tax aversion effect—as in Eq. (17)—and (ii) the 'new' ambiguous variation in the demand for cash transfers.

Proposition 5 *Higher dishonesty reduces the demand for cash transfers; instead, the effect on in-kind transfers is ambiguous, as people also expect higher tax evasion in addition to falsely claimed benefits.*

4 Data

To test the predictions of our model, we use individual-level data on preferences for in-kind versus cash transfers and individual trust in political institutions across European countries. While causality cannot be claimed, we provide robust descriptive evidence that institutional trust positively correlates with higher support for more generous in-kind transfers at the expense of tighter cash transfers across 20 European countries. Our empirical analysis also allows us to test other theoretical model predictions about (i) expected income, (ii) paternalism and (iii) civic capital. Moreover, we also conduct a heterogeneity analysis using country-level variables. Henceforth, we briefly describe the data we use for our analysis; a more detailed description can be found in the Online Appendix F.

4.1 Individual-level data

Our data comes from wave 8 of the European Social Survey (ESS 8) (2023) (henceforth, ESS 8). The ESS 8 is a wave of the ESS that includes 23 European countries and covers the period 2016–2017. The ESS 8 encompasses a large set of questions about respondents' welfare attitudes and political trust. In our analysis, we use a subsample of 20 countries for which the ESS 8 provides information about respondents' preferences for in-kind and cash transfers, political trust, NUTS region of residence, socioeconomic characteristics, ideological values, paternalistic attitudes, expectations about fraudulent behaviours from other citizens, and expected personal income changes. The list of countries in our final sample consists of Belgium, Czechia, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Italy, Lithuania, Netherlands, Norway, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland, and the UK.[35]

4.1.1 Preferences for in-kind over cash transfers

Our main dependent variable captures preferences for in-kind transfers over cash transfers, given a fixed budget. Because the ESS 8 does not have a specific question on preferences for in-kind and cash transfers, we use a question on preferences for education and training programmes over unemployment benefits within a fixed budget as a proxy for preferences for in-kind over cash transfers[36]:

[35] Because we focus on Europe and we use information about respondents' NUTS region of residence, we exclude Russia and Israel from our analysis. We also exclude Austria because the control for expected financial difficulties, corresponding to our proxy for a change in the expected income described in the Sect. 4.1.3, is missing for this country.

[36] Although the sample of countries and the econometric specification are different, Gubello (2024) uses the same question in one regression of the channel analysis (Table 2, p. 13) to show that political mis-

> Now imagine there is a fixed amount of money that can be spent on tackling unemployment. Would you be against or in favour of the government spending more on education and training programs for the unemployed at the cost of reducing unemployment benefit?

This survey question is particularly suitable for testing the predictions of our theoretical model as (i) it clearly states that the amount of money is *fixed*, thereby not involving any tax change, and (ii) it compares the allocation of public resources on two distinct public targets representing cash transfers (i.e., unemployment benefits) and in-kind transfers (i.e., education and training programmes for the unemployed). We acknowledge that unemployment benefits and educational training are two specific forms of cash and in-kind transfers. Nevertheless, the literature on preferences for in-kind versus cash transfers often focuses on specific forms of in-kind and cash benefits (e.g., Liscow & Pershing, 2022; de Bresser et al., 2022). Moreover, our question presents two alternatives that can clearly be associated with either cash or in-kind transfers, resulting in a good proxy for preferences for in-kind versus cash redistribution.

The answer to this survey question is a 4-point Likert scale variable, taking values from 1 ("*Strongly against*") to 4 ("*Strongly in favour*"); however, to facilitate the interpretation of the results, we aggregate the answers and create a dummy variable taking value 1 if respondents are in favour or strongly in favour of replacing unemployment benefits with training programmes and 0 otherwise.

4.1.2 Institutional trust index

Individual institutional trust is our main independent variable. In our analysis, we build an institutional trust index using the first component of a principal component analysis (PCA), which includes three questions on political trust: trust in parliament, trust in political parties, and trust in politicians. A detailed description of the three political trust variables used in the PCA can be found in the Online Appendix F.1. The correlation matrix in Table F.1.4 in the Online Appendix shows strong pairwise correlations between the three variables used in the PCA. The first principal component explains 84.83% of the total variance and has an eigenvalue equal to 2.55, with weights evenly assigned to each variable.[37] To facilitate the interpretation of the empirical results, we standardise the index with a mean of 0 and a standard deviation of 1. The higher is the value of the institutional trust index, the higher is the respondent's level of institutional trust.

4.1.3 Expected income, paternalism and civic capital

The theoretical model and its extensions also entail predictions about individual expected income, paternalism and expected dishonest behaviours from fellow citizens (or expected levels of civic capital). To test these predictions, we create three

trust correlates with preferences on allocating public resources between mutually exclusive public targets, while generalised mistrust does not.

[37] We provide detailed results of the PCA in the Online Appendix F.1.2.

proxies: (i) a dummy variable capturing expected financial difficulties as a proxy for expected income. This variable is derived from a question of the ESS 8 asking if respondents believe they do not have enough money to satisfy their household needs in the next 12 months. (ii) A dummy variable capturing paternalistic attitudes derived from a set of questions on how respondents would administer the unemployment benefits for unemployed people under different circumstances. Although the variable cannot generalise respondents' paternalistic attitudes, it precisely captures paternalistic attitudes towards the unemployed, who are the main recipients of the social benefits (in-kind or cash) described in our dependent variable in Sect. 4.1.1. (iii) A dummy variable capturing expected dishonest behaviours from fellow citizens. This variable comes from a question about whether respondents believe other people falsely claim and obtain social benefits and services to which they are not entitled. We provide a full description of these control variables and how we create them in the Online Appendix F.1.

4.1.4 Other individual controls

In our empirical analysis, we also control for a wide set of socioeconomic and ideological individual characteristics. The socioeconomic controls include individual achieved educational levels (i.e., ISCED scale: less than secondary education (ISCED 0–1), lower secondary education (ISCED 2), upper secondary education (ISCED 3), post-secondary non-tertiary education (ISCED 4), and tertiary education (ISCED 5–6)), income deciles, marital status (i.e., legally married, legally separated, widowed, none of these), employment status (i.e., paid work, unemployed, education, disabled, retired, other employment status), age, sex (i.e., a dummy variable taking value 1 if the respondent is a male), type of area in which a respondent resides (i.e., big city, suburbs or outskirts of a big city, town or small city, country village, farm), occupation (using the 1-digit ISCO-08 occupational classification), citizenship (i.e., a dummy variable taking value 1 if the respondent is a citizen). The ideological controls include religiosity, measured on a 0 ("*not religious at all*") to 10 ("*very religious*") scale; left-right political orientation, measured on a 0 ("*left*") to 10 ("*right*") scale; preferences for redistribution, proxied by preferences for government's interventions to reduce inequality and measured on a 1 ("*Disagree strongly*") to 5 ("*Agree strongly*") scale.[38]

4.2 Aggregate-level data

Finally, we introduce several country-level controls in our analysis. From the V-dem dataset (Coppedge et al., 2024a), we use four corruption variables: the political corruption index, the executive corruption index, the public sector corruption index, and the perceived corruption index. From the same dataset, we also build a PCA index for measuring democracy using four democracy indices: the electoral democracy index, liberal democracy index, participatory democracy index, deliberative democracy

[38] Detailed descriptive statistics of all variables can be found in the Online Appendix F.

index, and egalitarian democracy index.[39] Other country-level controls sourced from Coppedge et al. (2024a) are GDP per capita, life expectancy, fertility rate, population, and government effectiveness, which is a measure capturing the general quality of public services in a country. Moreover, we complement these country-level controls with other aggregate controls from different sources: the Gini coefficient as a proxy for country-level income inequality from Solt (2019), unemployment rates from OECD (2024c), total government spending as a percentage of GDP from OECD (2022), percentage of urban population and inflation from World Bank (2022). A full description of these variables can be found in the Online Appendix F.2.

5 Empirical strategy

We test the predictions of our theoretical model using two econometric specifications. Our primary specification is an OLS regression model with region-fixed effects. A region-fixed effects model allows us to consider unobserved, time-invariant regional characteristics which may shape preferences for in-kind versus cash transfers within a country. The second specification is a linear multilevel model, chosen for two main reasons. First, our data can be nested into two levels: individuals (level 1) and countries (level 2). Second, the multilevel model allows us to explore the relationship between country-level factors—such as economic and institutional country-level characteristics—and individual attitudes, even with data from a single wave of the ESS. Hence, we test if institutional trust remains a robust predictor of preferences for in-kind versus cash transfers once aggregate controls are introduced in the model. Additionally, we conduct a heterogeneous analysis across different country-level controls, including aggregate corruption, government effectiveness and democracy.

5.1 Fixed-effects OLS regression

We start our analysis with fixed-effects OLS regression. This represents our favourite specification for testing the theoretical model, as it allows us to account for unobserved time-invariant regional characteristics which might affect preferences for in-kind versus cash transfers within a country. Hence, we estimate the following OLS linear probability model:

$$InkindCash_{i,r} = \beta_1 InstTrust_{i,r} + \boldsymbol{X'}_{i,r}\boldsymbol{\gamma} + \theta_r + \varepsilon_{i,r}, \tag{18}$$

whereby $InkindCash_{i,r}$ is a dummy variable taking value 1 if the respondent *i* in the region *r* prefers training programmes (in-kind transfer) to the unemployment benefit (cash transfer) and 0 otherwise. $InstTrust_{i,r}$ is the standardised individual institutional trust index. $\boldsymbol{X'}_{i,r}$ is a set of control variables, including socioeconomic controls (i.e., education, income, employment status, marital status, age, age squared, a male dummy, residential area, occupation, a citizen dummy), ideology controls (i.e.,

[39] The first principal component explains 88.92% of the total variance. It is also the only component with an eigenvalue above 1 (equal to 4.45). Moreover, weights are equally assigned to each variable.

religiosity, left-right political orientation, preferences for redistribution), expected dishonesty, expected financial problems and paternalist attitudes. θ_r is a region-fixed effect to capture unobserved time-invariant regional characteristics. These characteristics include factors such as local economic development, the efficiency of local institutions, and shared cultural norms, which are stronger at the regional level (e.g., Rodríguez-Pose and Di Cataldo 2015; Algan et al., 2017). Such local factors can vary within a country and affect people's preferences for in-kind versus cash transfers. Standard errors are clustered at the region level.

Table 1 presents the results of the linear probability model (18) and shows the correlation between institutional trust and preferences for training programmes (in-kind transfer) with respect to the unemployment benefit (cash transfer). Columns (1)–(3) estimate the relationship between institutional trust and preferences for in-kind transfers using region-fixed effects and a range of socioeconomic and ideological controls. In Columns (4)–(7), measures of whether respondents expect to face financial difficulties, paternalistic views, and expected dishonesty of other citizens are added to the specification.

In column (1), we control only for institutional trust and region-fixed effects. A one SD increase in institutional trust predicts a 2.9% increase in the probability of prefer-

Table 1 Regression: support for training programmes at the expense of unemployment benefits and institutional trust

Variables	Support for training programmes over unemployment benefits						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Institutional trust	0.029***	0.021***	0.019***	0.018***	0.018***	0.023***	0.020***
	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)	(0.005)	(0.004)
Expected financial problems				−0.038***			−0.034***
				(0.009)			(0.009)
Paternalist					0.120***		0.116***
					(0.009)		(0.009)
Expected dishonesty						0.057***	0.049***
						(0.007)	(0.007)
Region FE	✓	✓	✓	✓	✓	✓	✓
Socioeconomic controls		✓	✓	✓	✓	✓	✓
Ideology controls			✓	✓	✓	✓	✓
Regions	256	256	256	256	256	256	256
Observations	23,098	23,098	23,098	23,098	23,098	23,098	23,098
Adjusted R-squared	0.060	0.071	0.073	0.074	0.085	0.076	0.088

Columns (1)–(7) show preferences for training programmes over unemployment benefits regressed against (1) institutional trust (standardized with mean equal to 0 and SD equal to 1), (2) socioeconomic controls (i.e., education, income, employment status, marital status, age, age squared, a male dummy, residential area, occupation, a citizen dummy), (3) ideology controls (i.e., religiosity, left-right scale political ideology, preferences for redistribution), (4) a dummy variable for expected financial problems, (5) a dummy variable for paternalist respondents, (6) a dummy variable for expected dishonesty of other citizens and (7) all the controls. Region-fixed effects are always included. Standard errors clustered at the regional level in parentheses. ***, **, and * indicate levels of statistical significance at 1, 5, and 10 per cent, respectively

ring in-kind over cash transfers. The estimated coefficient is statistically significant at the 1% level. In Column (2), we add a set of socioeconomic controls, while in Column (3), we introduce ideological controls to the specification. After introducing socioeconomic and ideological controls, the correlation between institutional trust and preferences for in-kind transfers decreases marginally—being 2.1% in Column (2) and 1.9% in Column (3), yet remains statistically significant at 1% level. Results in Columns (1)–(3) provide robust correlational evidence in support of Proposition 1 of our model.

In Column (4), we include a dummy variable to capture if a respondent expects financial problems in the next 12 months. As described in Sect. 4.1.3, this variable represents our proxy for expected income. After controlling for expected income, we see no significant change in the size or statistical significance of the relationship between institutional trust and preferences for in-kind transfers with respect to the model with socioeconomic and ideology controls in Column (3). However, we observe that if an individual expects to experience financial problems, their probability of supporting in-kind benefits over cash transfers decreases by 3.8%. This finding is statistically significant at the 1% level, thereby supporting Proposition 2 and Proposition 3 of our model.

In Column (5), we add a dummy variable that captures individuals expressing paternalistic views. The institutional trust coefficient remains stable and statistically significant at the 1% level. Furthermore, the expression of paternalistic views is associated with a 12% higher probability that an individual supports in-kind programs over cash transfers. This finding aligns with Proposition 4 of our model, which states that stronger paternalistic attitudes increase the demand for in-kind transfers and reduce the demand for cash transfers. Furthermore, the large magnitude of the paternalism coefficient is consistent with economic literature, as argued in Sect. 3.6.

In column (6), we introduce a dummy variable to capture if a respondent expects their fellow citizens to be dishonest. In this case, institutional trust predicts a 2.3% increase in preferences for in-kind transfers, whereas respondents who believe that their fellow citizens act dishonestly exhibit a 5.7% higher probability of supporting in-kind programs over cash transfers. The latter finding is consistent with our theoretical prediction described in Sect. 3.7 for which people shift resources from cash to in-kind transfers to compensate for the damages to the size of the welfare state stemming from the expected misbehaviours of other citizens.

Column (7) is our preferred specification, which estimates the marginal effect of institutional trust on preferences for in-kind over cash transfers, controlling for individuals' expected financial problems, paternalism, expected dishonesty, region-fixed effects, socioeconomic controls, and ideology controls. Institutional trust is statistically significant at the 1% level and is of similar magnitude to the previous specifications, with a one SD increase in institutional trust predicting a 2% increase in the probability of preferring in-kind transfers to cash transfers. The signs of the coefficients for expected financial problems, paternalism, and expected dishonesty are aligned with the theoretical predictions of our model. Furthermore, these estimates are statistically significant at the 1% level. These results provide broad support for our central hypothesis that trust in institutions is a robust predictor of preferences for in-kind over cash transfers.

5.2 Individual-level heterogeneity

We conduct an individual-level heterogeneity analysis to investigate whether the correlation between institutional trust and preferences for in-kind transfers varies across different groups of people and individual characteristics, such as: (i) respondents with expected financial problems, (ii) paternalists, (iii) respondents who expect other people to be dishonest, (iv) income and education and (v) expected quality of education in the country.[40] We present the results for (i)–(iv) in Table G.1.1 of the Online Appendix. We find no evidence of heterogeneous effects in any of the (i)–(iv) specifications. Instead, below, we show and comment on the results for the expected quality of education in the country, which may represent a channel through which institutional trust predicts stronger preferences for educational and training programmes (in-kind transfers) over unemployment benefits (cash transfers).

In the theoretical model, we show that low institutional trust reduces the demand for in-kind transfers because people expect a higher waste of public resources and lower-quality in-kind transfers. To test this plausible channel, we replicate the econometric specification from Table 1 (Column (7)) by interacting institutional trust with a variable that measures individuals' perceived quality of education in their country: "*Please say what you think overall about the state of education in [country] nowadays?*", taking values going from 0 ("*Extremely bad*") to 10 ("*Extremely good*"). While this question focuses specifically on education rather than more generic in-kind transfers, it still serves as a good proxy for the quality of in-kind transfers in our specification. This is because the in-kind transfer mentioned in the dependent variable refers to training and educational programmes.

After introducing the variable capturing respondents' perception about the quality of education, a one SD increase in institutional trust predicts a 1.7% increase in support for in-kind transfers (See Table G.1.2 in the Online Appendix). Instead, Fig. 5 shows the marginal effect of the interaction between institutional trust and perceived educational quality. The results support the mechanisms explained in the theoretical model. Indeed, institutional trust becomes a stronger predictor of preferences for educational programmes over unemployment benefits as the perceived quality of educa-

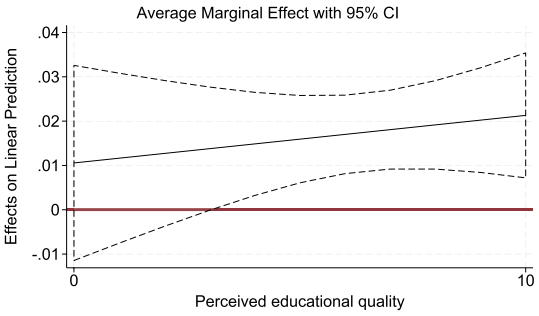


Fig. 5 Heterogeneity: marginal effect of the interaction between institutional trust and perceived quality of education. Notes: the graph shows the marginal effect of the interaction between institutional trust and individual perceived quality of education in the country. The interaction term is added to the econometric specification in Column (7) of Table 1. Confidence intervals are at 95% level

[40] We interact institutional trust with higher educational attainment and respondents' income, as people with stronger feelings of economic insecurity, lower levels of income or education are characterised by lower levels of institutional mistrust (OECD, 2024b, pp. 52–53).

tion increases. However, this relationship is statistically weak at the 5% level for levels of perceived educational quality taking values below 4.

5.3 Multilevel linear model with country-level controls

In our second econometric specification, we introduce country-level controls to account for country-level variables that may influence preferences for in-kind and cash transfers. To this end, we estimate the following multilevel linear model in which individual respondents (level 1) are nested within countries (level 2):

$$InkindCash_{i,j} = \alpha_j + \beta_1 InstTrust_{i,j} + \boldsymbol{X'}_{i,j}\boldsymbol{\gamma} + \boldsymbol{W'}_j\boldsymbol{\vartheta} + \varepsilon_{i,j}, \qquad (19)$$

whereby $InkindCash_{i,j}$ is a dummy variable taking value 1 if the respondent *i* in the country *j* prefers training programmes (in-kind transfer) to the unemployment benefit (cash transfer) and 0 otherwise. α_j is the intercept for country *j*. $InstTrust_{i,j}$ and $\boldsymbol{X'}_{i,j}$ are the standardised individual institutional trust index and the same set of individual controls used in the OLS model with region-fixed effects. $\boldsymbol{W'}_j$ is the set of aggregate country-level controls described in Sect. 4.2. $\varepsilon_{i,j}$ is the error for the individual *i* in country *j*. Standard errors are clustered at the country level.

Table 2 presents the results of the multilevel linear model (19), showing that institutional trust remains a robust predictor of stronger preferences for in-kind transfers (i.e., educational and training programmes) over cash transfers (i.e., unemployment benefits) across all specifications. Columns (1) and (2) include the same set of individual controls used in Columns (1) and (7) of the fixed-effects OLS model in Table 1. The estimates of institutional trust do not substantially differ from those in the OLS specification with region-fixed effects.

Starting from Column (3), we add a set of country-level controls calculated in 2015, the year before ESS 8 was conducted. These controls include a PCA index for democracy, the Gini coefficient for measuring income inequality, unemployment rate, general government spending as a percentage of GDP, urban population, inflation, GDP per capita, life expectancy, fertility rate, population, and government effectiveness. From Columns (4) to (7), we progressively add different measures of corruption: corruption perception index, political corruption index, public sector corruption index, and executive corruption index. Finally, in Column (8), we control for a PCA index of all four corruption indices presented in Columns (4) to (7).[41] None of these corruption indices is statistically significant (at least) at the 5% level, while the size and statistical significance of institutional trust remain consistent across the different econometric specifications. We also control for a set of historical aggregate variables averaged from 1990–2014 in Column (9). Historical country-level economic and institutional performance may influence preferences for in-kind versus cash transfers and individual levels of institutional trust. However, adding these historical controls

[41] The first principal component explains 83.71% of the total variance. It is also the only component with an eigenvalue above 1 (equal to 3.35). Moreover, weights are equally assigned to each variable.

Table 2 Multilevel regression: support for training programmes over unemployment benefits and institutional trust controlling for aggregate variables

Variables	Support for training programmes over unemployment benefits								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Institutional trust	0.032***	0.022***	0.022***	0.022***	0.022***	0.022***	0.022***	0.022***	0.022***
	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Democracy index (2015)			−0.005	−0.005	0.001	−0.002	−0.035	0.002	
			(0.011)	(0.011)	(0.015)	(0.011)	(0.029)	(0.013)	
Corruption perception index (2015)				0.014					
				(0.034)					
Political corruption index (2015)					0.010				
					(0.019)				
Public sector corruption index (2015)						0.036*			
						(0.020)			
Executive corruption index (2015)							−0.033		
							(0.026)		
Corruption PCA index (2015)								0.015	
								(0.021)	
Individual controls		✓	✓	✓	✓	✓	✓	✓	✓
Aggregate controls			✓	✓	✓	✓	✓	✓	
Historic controls									✓
Countries	20	20	20	20	20	20	20	20	20
Observations	23,098	23,098	23,098	23,098	23,098	23,098	23,098	23,098	23,098

Columns (1)–(9) show preferences for training programmes over unemployment benefits regressed against (1) institutional trust (standardized with mean equal to 0 and SD equal to 1), (2) individual controls, (3) aggregate controls, (4) corruption perception index, (5) political corruption index, (6) public sector corruption index, (7) executive corruption index, (8) Corruption PCA index and (9) historical controls. Standard errors clustered at the country level in parentheses. Aggregate controls are standardised with mean equal to 0 and SD equal to 1. ***, **, and * indicate levels of statistical significance at 1, 5, and 10 per cent, respectively

does not affect the estimation of institutional trust, further suggesting that institutional trust is a robust predictor of preferences for in-kind over cash transfers.[42]

5.4 Country-level heterogeneity

We conduct a country-level heterogeneity analysis to investigate if the effect of institutional trust varies by different aggregate variables, such as: (i) the country-level corruption, (ii) government effectiveness, and (iii) the degree of democracy. Interacting these country-level variables with institutional trust allows us to estimate the heterogeneous effect of institutional trust on preferences for in-kind versus cash redistribution across different institutional environments. However, the analysed heterogeneous effects are relatively weak because our sample is limited to European countries with similar economic and institutional characteristics.[43]

5.4.1 Country-level corruption

The negative correlation between institutional trust and a country's level of corruption is a well-established finding in empirical research (e.g., OECD, 2017a; Ares & Hernández, 2017; Daniele et al., 2023). For this reason, we are interested in studying how the correlation between institutional trust and preferences for training programmes over unemployment benefits varies across countries with different levels of corruption. To this end, we interact the individual level of institutional trust with the corruption PCA index, using the specification in Column (8) of Table 2.[44] In Fig. 6, we plot the marginal effect of the interaction between institutional trust and the PCA index for country-level corruption. The correlation between institutional trust and preferences for in-kind transfers declines in countries with higher levels of corruption. This result comes as no surprise, given that it has been shown that corruption deteriorates people's trust in institutions (e.g., Ares & Hernández 2017; Daniele et al., 2023). Nonetheless, the correlation becomes statistically insignificant at the 5% level for high levels of corruption, as the number of respondents living in countries with such high levels of corruption drastically reduces.

[42] All the variables are averaged over the period 1990–2014, with a few exceptions described in parentheses. The set of controls used is: GDP per capita, population, life expectancy, fertility rate, Gini coefficient (Iceland 1992–2014, all other countries 1990–2014), government spending (average for Iceland is from 1998–2014, Finland is averaged from 1990–2014, all other countries 1995–2014), urban population, inflation (Czechia and Lithuania 1992–2014, Estonia 1993–2014). We also averaged all the corruption indices except for the perceived corruption index, which was unavailable before 2012.

[43] In the Online Appendix, we perform the same heterogeneity analysis using a fixed-effects model. We split the sample into countries above and below the median for (i)–(iii). Although statistically significant effects are not observed, the direction of the results aligns with the heterogeneity analysis from the multilevel model. This likely reflects the limited heterogeneity of these aggregate variables in our sample. The plot of the coefficients from the different estimations can be found in Fig. G.2 of the Online Appendix.

[44] We choose Column (8) and the PCA index for aggregate-level corruption because presenting a unique index shortens and simplifies the analysis. However, in the Online Appendix (Fig. G.1), we use all four corruption dimensions (political corruption index, executive corruption index, public sector corruption index and corruption perception index) separately. Results do not change.

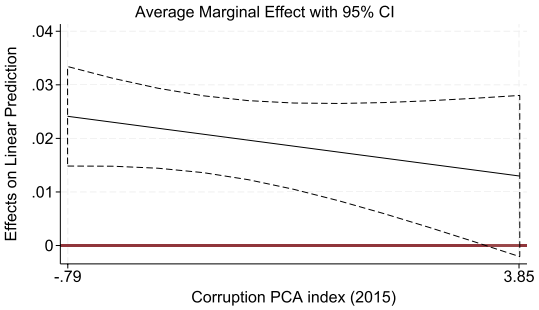


Fig. 6 Heterogeneity: country-level corruption. *Notes* the graph shows the marginal effect of the interaction between institutional trust and a country-level PCA corruption index in 2015. The interaction term is added to the econometric specification in Column (8) of Table 2. PCA corruption index is standardised with mean equal to 0 and SD equal to 1. Confidence intervals are at 95% level

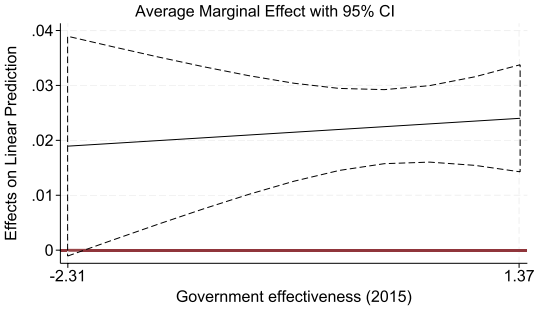


Fig. 7 Heterogeneity: country-level government effectiveness. *Notes* the graph shows the marginal effect of the interaction between institutional trust and a country-level measure of government effectiveness in 2015. The interaction term is added to the econometric specification in Column (8) of Table 2. The government effectiveness is standardised with mean equal to 0 and SD equal to 1. Confidence intervals are at 95% level

5.4.2 Country-level government effectiveness

The main channel through which institutional trust positively correlates with preferences for in-kind versus cash transfers is the perceived level of quality in public services. In Sect. 5.2, we already showed that the perceived quality of public services is a plausible channel through which institutional trust can affect the preferences for in-kind over cash transfers. In Fig. 7, we plot the marginal effect of institutional trust interacting with the 'government effectiveness' variable, which captures the general quality of public services. The correlation between institutional trust and preferences for in-kind transfers over cash transfers is larger in countries with a higher general quality of public services. Nonetheless, this heterogeneous effect is modest and becomes statistically insignificant at the 5% level for extremely low levels of government effectiveness. This last result is likely due to the decline in the number of observations living in countries with extremely low levels of government effectiveness, as the confidence intervals largely increase.

5.4.3 Country-level democracy

We are finally interested in the heterogeneous effect of institutional trust on preferences for in-kind transfers over cash transfers in countries with different degrees of democracy. In previous research, Hessami and Uebelmesser (2016) provide evidence that highly democratic countries drive the positive relationship between the share of in-kind spending and corruption in a sample of OECD countries. Nonetheless, our model and empirical analysis show that institutional trust positively correlates with

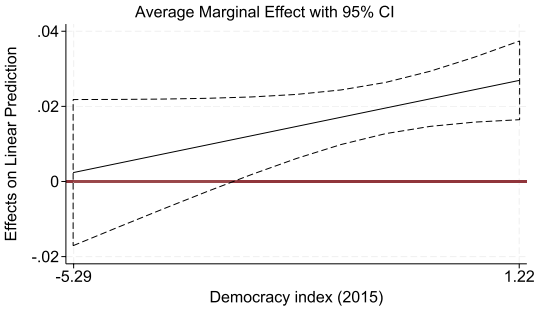


Fig. 8 Heterogeneity: democratic countries. Notes: the graph shows the marginal effect of the interaction between institutional trust and a country-level PCA democracy index in 2015. The interaction term is added to the econometric specification in Column (8) of Table 2. The PCA democracy index is standardised with mean equal to 0 and SD equal to 1. Confidence intervals are at 95% level

preferences for training programmes (in-kind transfers) over unemployment benefits (cash transfers); thus, in Fig. 8, we plot the marginal effect of the interaction between institutional trust and our PCA democracy index. The plot shows two interesting facts: (i) the interaction effect is positive, meaning that institutional trust is a stronger predictor of preferences for in-kind over cash transfers in more democratic countries; (ii) the interaction effect becomes statistically insignificant at the 5% level for values of the democracy index strictly below −3.34, corresponding only to Hungary. Given the strong inverse correlation between institutional trust and corruption,[45] our results appear to be symmetric to what was previously suggested by Hessami and Uebelmesser (2016). In fact, the positive correlation between institutional trust and preferences for in-kind over cash transfers is significantly stronger in more democratic countries.

5.5 Robustness checks

We conduct a number of robustness checks for each of the specifications in Table 1, the results of which are available in the Online Appendix H. First, in Table H.1, we estimate probit models for each of the specifications. Second, in Table H.2, we replace the binary outcome variable with a continuous Likert scale variable collected in ESS 8. Third, in Table H.3, we run ordered probit models for each of the specifications. Next, in Tables H.4–H.6, we replace the independent variable of interest with each of the three institutional trust variables that comprise the principal component of the PCA used in the main results. Finally, in Table H.7, we add additional individual controls including two measures for trust in other national institutions (i.e., policy and legal system), variables capturing people's honesty values (i.e., the importance of following the rules and behave properly) and variables capturing expected misbehaviours from fellow citizens (i.e., the perception that the unemployed do not want to find a job and that people try to take advantage of other people). Our empirical results are highly robust to each of these alternative specifications, with 1% statistical significance retained across the board.

In addition to testing the robustness of our results with different econometric specifications, we also conduct a leave-one-country-out analysis to test if the results are driven by some country-level outlier. As shown in Fig. H.1 in the Online Appendix,

[45] See Sect. 2 for a discussion and empirical evidence about the correlation between institutional trust and corruption.

estimating the econometric model (18) each time by leaving a different country out of the sample does not change the size of estimated coefficients or their statistical significance substantially. Consequently, we can conclude that our analysis is robust to the presence of country-level outliers and results in Table 1 are not driven by a specific country.

6 Discussion and concluding remarks

European countries are characterised by significant differences in their composition of public spending between cash and in-kind transfers. What explains these differences? The economic literature has mainly attributed preferences for in-kind over cash transfers to paternalism (e.g., Currie & Gahvari, 2008; Cunha, 2014; Liscow & Pershing, 2022). Instead, political economy research has also highlighted other factors, such as inequality, corruption, inflation, and social stigma (e.g., Bearse et al., 2000; Anderberg & Balestrino, 2007, 2011; Hessami & Uebelmesser, 2013, 2016). Still, while higher institutional trust is robustly associated with stronger preferences for redistribution (e.g., Rothstein et al., 2012; Svallfors, 2013; Camussi et al., 2018; OECD, 2018), its role in shaping preferences for in-kind versus cash transfers remains largely unexplored.

This paper presents a new political economy model illuminating how trust in political institutions shapes people's preferences for allocating public resources between in-kind and cash transfers. Our model shows that voters' preferences shift from in-kind to cash transfers as their institutional trust declines. Lower institutional trust is associated with a higher expected waste of public resources while providing in-kind transfers due to the government's inefficiency or corruption; thus, agents who mistrust institutions demand more cash transfers at the expense of fewer in-kind transfers to minimise the government's waste of public resources. Indeed, agents prefer to divert public resources into cash transfers because cash transfers directly go into citizens' budget constraints and are not managed by inefficient or corrupted institutions. Moreover, the model also shows that higher expected income increases the support for in-kind transfers and decreases the support for cash transfers, as the necessity of additional monetary transfers to satisfy private consumption needs declines.

We link our theory to previous research on paternalism and civic capital in two extensions of the model. We show that (i) paternalism increases the support for in-kind transfers and reduces the support for cash transfers; (ii) a larger number of citizens in the economy falsely claiming social benefits and evading taxes reduces the demand for cash transfers and increases the demand for in-kind transfers. Indeed, voters divert larger resources to in-kind transfers to limit dishonest citizens from claiming cash transfers to which they are not entitled, as they are perceived as easier to falsely claim than in-kind transfers. Nevertheless, if agents believe that shifting resources from cash to in-kind transfers is not enough to limit the damages of tax evasion, they will reduce their support for redistribution, demanding fewer cash and in-kind transfers.

In the second part of the paper, we provide robust correlational evidence among European countries, using individual data. Our empirical analysis shows that insti-

tutional trust, paternalistic attitudes, and expected dishonest behaviours from fellow citizens are positively correlated with stronger support for in-kind (i.e., training programmes for the unemployed) over cash transfers (i.e., unemployment benefits). Moreover, people expecting long-term financial difficulties are more likely to demand more cash transfers than in-kind transfers. We also find that the effect of institutional trust is larger in less corrupted and more democratic countries and in countries with higher-quality public services; however, these moderating effects are relatively weak due to the lack of country heterogeneity in our sample.

Our paper aims to pave the way for future empirical research on the political-economic factors shaping preferences for in-kind and cash transfers. In this paper, we theoretically formalised how people with low trust in political institutions tend to prefer cash transfers over in-kind transfers due to concerns about their government's inefficiency and corruption. While our empirical evidence supports this theory, it remains descriptive rather than causal. Moreover, although institutional trust reflects agents' expectations of the efficiency or honesty of political institutions in managing public resources, our empirical results do not align with previous empirical and theoretical research on the positive effect of corruption and inefficiency on public spending composition in favour of in-kind transfers (e.g., Bearse et al., 2000; Hessami & Uebelmesser, 2016). Future research should build on our findings by estimating the causal effect of political trust on preferences for in-kind versus cash transfers. Continuing this strand of research will shed light on how institutional trust can shape public spending composition and, ultimately, the efficiency and effectiveness of welfare systems.

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Data availability The replication package can be found at the following OSF link: https://osf.io/6gn2c/.

Declarations

Conflict of interest We declare no conflict of interest.

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