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## Does globalization suppress social trust?☆

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## ABSTRACT

Globalization has been on the increase during the past 50 years, and there are now signs of a backlash. Part of the reason may be the widely held belief that globalization is harmful, not least for the cultural fabric. Is that the case? We investigate whether globalization has suppressed *social trust*, arguably one of the most beneficial characteristics of people in a society. By using a sample of first- and second-generation immigrants in 33 primarily European countries, we apply the epidemiological method to rule out reverse causality; and by using the KOF Index of Globalization, we study effects of economic, social and political globalization separately. We find that especially social globalization, and to some extent economic globalization, are positively related to social trust, with a small effect size, while political globalization is largely unrelated to it. Overall, this indicates that globalization does not pose a danger for social trust – at least not for people with a migration background. If anything, people seem to become slightly *more* trusting with more globalization.

## 1. Introduction

Much has been said and written about globalization in recent decades, both by its proponents and by its detractors. Most research and discussions have focused on the economic consequences of openness between countries, but there is a small, emerging literature studying cultural consequences. We add to it by providing an empirical investigation of whether globalization has suppressed social trust.

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As globalization has increased during the past decades (Gygli et al., 2019; ETH Zürich, 2021), there are clear indications of a backlash since the mid-1990s – more so in terms of political behavior than attitudes towards aspects of globalization *per se*.<sup>1</sup> As Colantone et al. (2022) point out in their survey of the research literature, both economic and cultural factors play important roles in explaining the political discontent. For example, some people experience an increase in social and economic cleavages due to economic and financial openness, resulting in a loss of income and status.<sup>2</sup> This factor is stressed by Rodrik (2018, 2021) as key in explaining support for left-wing populism, and a reason for this, which is in line with Stiglitz (2012), is that globalization constrains present governments in pursuing policies that can, in principle, counter an increase in inequality. Certain groups also feel that their national culture, with the comfort and safety it confers, is threatened by cosmopolitan attitudes, immigration, international corporations etc., which is a leading cause of right-wing populism.<sup>3</sup> If many people experience the effects of globalization in this way, it is arguably under political threat ahead.

If enough people experience globalization in this negative way, there is a risk that it creates tensions in society. Those who feel mistreated or under cultural threat may resent more successful and cosmopolitan people, who in turn may regard those embracing populism as politically dangerous. All of this could foster polarization and – which is our focus here – a drop in social trust. This would be a severe cost of globalization, since social trust has been shown to be related to many features of what is arguably a good society.<sup>4</sup>

Whether or not globalization in fact does affect aspects of culture, such as social trust, and if such effects are positive or negative, constitutes an ongoing research program with several open questions. While a tradition going back to the German sociologist Ferdinand Tönnies (1887) claims that increased reliance on markets has detrimental effects on the social fabric (Hirschman, 1982; Rodrik, 1997), others see an increase in actual and potential interpersonal contacts and transactions as a reason to expect people to be more open to and accepting of others, and thereby more trusting and tolerant (Berggren and Jordahl, 2006; Berggren and Nilsson, 2013, 2014; Storr and Choi, 2019; Baldassarri, 2020; Teague et al., 2020; Callais et al., 2022).

When it comes to globalization more specifically, the available empirical evidence with respect to social trust is small and decidedly mixed. On the one hand, Polillo (2012) finds a negative relationship between trade competition and social trust in the countries most exposed to competition. He also documents a negative relationship between income inequality and social trust. On the other hand, Chan (2007) finds a positive association between past trade-policy openness and social trust, but it is weakened and turns negative when income inequality is high, which in itself is negatively related to social trust. Coyne and Williamson (2012) examine how openness to trade and capital relates to a composite cultural measure that includes trust. In most specifications, the sign of the point estimates is positive, although the findings are not robust to including year effects. Lastly, Bjørnskov (2007) does not find any statistically significant relationship between trade openness and social trust in a broad examination of determinants of trust.<sup>5</sup>

Causality nevertheless remains a major problem, as other studies find evidence that social trust may also affect countries' exposure to globalization. Spilker et al. (2012) for example find that social trust has a strong, positive impact on public opinion on economic globalization in both Switzerland and the United States. Van Hoorn (2017) finds that industries in countries with higher levels of social trust tend to have comparative advantages in certain types of high-valued added production that depend on workplace autonomy, suggesting a better ability to take advantage of openness. Indeed, Potrafke (2015: 510), in his survey of research about the consequences of globalization, remarks that there is “one main shortcoming of empirical studies using the KOF indices [of globalization]: endogeneity problems when reverse causality is present.”

In this study, we deal with these problems by exploring how social trust is affected by globalization. We make use of the KOF Index of Globalization (Gygli et al., 2019), which provides scores of political, economic and social globalization for over 200 countries over time. One contribution to the literature is that we thereby pay careful attention to which aspects of globalization that drive the results, in a more comprehensive way than previous studies, which have primarily focused on trade openness. We also separate *de jure* and *de facto* globalization to find out whether it is the rules in place that matter or the actual activities taking place under those rules. And, importantly, in order to obtain more causally credible estimates, we go beyond existing studies by applying an epidemiological

<sup>1</sup> Walter (2021, 434) writes: “[T]he globalization backlash manifests itself in electoral successes of globalization-skeptic parties; in a more negative tone in partisan discourse about globalization; and in an increase in policies designed to stop or curtail economic, political, and/or socio-cultural globalization. However, contrary to the popular narrative, the globalization backlash is not driven by a large swing in public opinion against globalization. Rather, existing antiglobalization attitudes have been politicized and become more politically consequential.”

<sup>2</sup> Cf. Egger and Fischer (2020). Yet, the evidence for the aggregate economic benefits of globalization is strong (Dreher, 2006; Bhagwati, 2007; Wacziarg and Horn Welch, 2008; Potrafke, 2015).

<sup>3</sup> Cf. Swank and Betz (2003). However, Bergh and Kärnä (2021) find no cross-country association between globalization and support for populism in Europe when looking at a longer time period (1980–2017).

<sup>4</sup> For example, social trust is associated with higher economic growth (Zak and Knack, 2001; Berggren et al., 2008; Algan and Cahuc, 2010; Bjørnskov, 2012; Forte et al., 2015), better health (Ljunge, 2014a), more education (Bjørnskov, 2009; Papagapitos and Riley, 2009), better governance (Bjørnskov, 2010), higher participation in the stock market and peer-platform markets (Guiso et al., 2008; van der Cruisenet al., 2019), independent central banks (Berggren et al., 2014, 2016), more liberalizing reforms (Heinemann and Tanz, 2008; Leibrecht and Pitlik, 2015; Berggren and Bjørnskov, 2017), moderate policy positions (Pitlik and Rode, 2021) and higher subjective well-being (Helliwell et al., 2018).

<sup>5</sup> There are some further studies relating globalization to related cultural and social concepts. For example, Berggren and Nilsson (2015) provide a study indicating that economic and social globalization makes people more willing to teach children tolerance. Yet, Kaya and Karakoc (2012) report that citizens of countries with high levels of trade openness have more prejudice towards immigrants. De Soysa and Vadlamannati (2011) and Dreher et al. (2012) generally identify a positive relationship with indicators of human rights, while Cho (2013) and Potrafke and Ursprung (2012) do the same regarding gender equality. Tsai (2007) finds that globalization as a rule is associated with the human development index in a positive way.

approach in which we focus on first- and second-generation immigrants to Europe (Fernández, 2011).<sup>6</sup> Doing so allows us to estimate the effects on individual social trust of growing up, or having parents who grew up, in countries with varying degrees of exposure to globalization without any endogeneity bias coming from effects of trust affecting globalization in the new country of residence.

Turning to our results, the alarmists who portray globalization as a big threat to social cohesion seem quite mistaken. To the contrary, indicators of both economic and social globalization stand in a *positive* relationship to social trust, while we do not find robust results for political globalization. The most robust influence comes from *de jure* social globalization and its component *de jure* cultural globalization. We suspect that this positive effect arises because this particular aspect of globalization reflects institutions that allow and facilitate contacts and connections between people in different countries. If people have an open attitude to others and enjoy taking part in and spreading social and cultural experiences across borders, this kind of globalization can result in experiences (personal or ideational) that enable discovery and reinforcement of a belief that people in general tend to behave well towards you and want to engage in fruitful exchange, even if backgrounds are different. While this can generate more social trust, the point estimates are nevertheless small throughout, and statistical significance for most globalization variables is somewhat shaky. This makes us conclude that the most plausible interpretation of our findings is close to a demonstrated null result: individual social trust is not affected very much by globalization. One reason could be that social trust is a stable cultural trait not easily affected by current policies or events; another that there are countervailing forces of globalization, where negative ones almost outbalance the positive ones. In any case, there is no reason, according to our results, to regard globalization, on net, as a destroyer of social trust.<sup>7</sup> Furthermore, we find that neither ethnic heterogeneity nor income inequality undermines social trust, unlike most previous studies.

The rest of the paper proceeds as follows. In Section 2, we provide theoretical considerations. Section 3 presents our empirical strategy and the data, which we employ in Sections 4–6. Section 7 concludes and discusses the implications of our findings.

## 2. Theoretical considerations

Why should globalization affect the culture of a society, and in particular the degree to which people think that people in general can be trusted? In trying to answer this question, we discuss economic, social and political globalization separately, recognizing that globalization is a multifaceted phenomenon. In all cases, there is a basic theoretical ambiguity regarding whether a negative or positive effect of globalization dominates.

*Economic globalization* has two dimensions: low barriers for trade of goods and services and financial openness. There are direct economic consequences of this kind of openness – many people benefit materially (not least middle- and high-income earners with highly qualified jobs and international ties), while some lose out (e.g., those working in industries subjected to intense competition from fast-growing countries in Asia, such as China and India). This can breed discontent and social tensions in a society, leading to reduced trust in others. Such effects can be reinforced if the economic consequences lead to political polarization, not least if populist politicians enter the stage and sow discord between “elites” and “the people”.

To this can be added that economic globalization is grounded in a “culture of competition”, where people try to better their situation, often by outcompeting others. This ambition to progress materially could lead to distrust – to people suspecting that others are opportunistic and treat you as a means to satisfying their own ends.

In contrast, there is a longstanding literature from Montesquieu onwards seeing market interaction as grounds for developing sympathy for others and for treating others well.<sup>8</sup> This view understands economic openness not as an opportunity to exploit people but as a basis for engaging in mutually beneficial exchange. This is especially true if a fair and effective legal system is in place, which provides rules within which such transactions can occur and where cheating behavior is punished (Rothstein, 2000). People can learn to trust specific individuals in the market economy, due to mechanisms such as reputation, and in the course of life internalize a more general trusting outlook. A secondary positive effect can arise from the material benefits that tend to follow from greater reliance on markets – if the economy is not a zero-sum but a plus-sum game, the risk for conflict and actual conflict is reduced considerably (Friedman, 2005). There are thus arguments for both negative and positive effects of economic globalization on social trust, and the empirical analysis must demonstrate which is stronger.

*Social globalization* can be seen as consisting of three parts: interpersonal, informational and cultural globalization. It basically has to do with “non-material” contacts and connections between people in different countries, and institutions, such as press freedom and other civil liberties, that guarantee such openness. What speaks in favor of a negative effect on social trust? We propose, following Berggren and Nilsson (2015), that there are two main mechanisms: cultural exclusivism and fear. On both counts, globalization is seen as a threat. If there are strong sentiments that a country’s traditional culture is highly valuable and worth protecting against foreign influences, e.g., differing values being promoted personally by people perceived as different or in films, literature, social media, newspapers, magazines, etc., and if social globalization opens “the flood gates” for such influences, people may react with distrust in

<sup>6</sup> We study both categories of immigrants, since first-generation immigrants are more directly influenced by characteristics of the country of origin, making the link more obvious and without need to posit vertical transmission in the family, and since second-generation immigrants, on the other hand, are more removed from the country of origin, which makes it more plausible that their cultural characteristics do not affect policies or institutions in the other country.

<sup>7</sup> We are not hereby claiming that it is an *a priori* truth that social trust cannot be influenced by contemporary factors, such as globalization. This is rather one of several theoretical options. Nevertheless, the empirical findings suggest that the impact of globalization is small, lending some support to the notion that social trust is a relatively stable trait.

<sup>8</sup> For recent causal evidence along these lines, see Agneman and Chevrot-Bianco (2022), Dufwenberg et al. (2022) and Enke (2022).

their fellow men, seen as undermining the cultural foundations of society.<sup>9</sup>

When it comes to fear, it is activated by the uncertainty that globalization entails. Openness to the ideas and values of people from all kinds of backgrounds implies a largely uncontrollable flow of cultural impulses, the consequences of which are largely unknown. In a closed society, it is easier to know people and to assess what their intentions are. In a setting where the whole world is in effect becoming part of the cultural landscape, it is much harder to know what people's intentions are, and to hold them accountable if dire outcomes ensue. This can breed distrust. On the other hand, social globalization also enables people with an open, and perhaps a cosmopolitan, mindset to take part of the cultural treasures of other countries, and to spread their own cultures in return. Experiencing rewarding personal and ideational contact – discovering or being reinforced in believing that people behave well towards you even if they or their ideas in certain respects are different – can lead to more trusting attitudes. Again, we cannot say, on the basis of theory, whether social globalization raises or lowers social trust.

*Political globalization*, lastly, entails foreign political and civil-society presence in the home country, one's own participation in international cooperative ventures, including membership in organizations, and being party to treaties. The link to social trust is not expected to be strong, since political decisions are relatively far removed from the everyday lives of people, but one could perhaps imagine a negative effect if one sees foreign presence or participation as a threat to the self-determination of the home country, with resulting feelings of distrust based on non-desired foreign involvement.

Conversely, if one is more oriented towards cooperation with other countries, this kind of foreign involvement is welcomed, and it may reinforce feelings of trust. There is, not least, a certain symbolism in engaging with other countries, displaying trust between countries from leaders, which might “rub off” on the citizenry. As before, there is no clear theoretical prediction of the sign of the relationship.

Thus far, we have presented arguments for positive and negative effects of globalization on social trust. However, there is also a case for a null effect, which fundamentally rests on the observation that social trust is remarkably stable and resilient and seemingly to a large extent determined by factors far back in history. For example, Bjørnskov (2007, 17) conducts a broad analysis and writes that “the findings unambiguously lead to the conclusion that generalized trust is a fairly stable cultural feature of society. Simple fixed effects estimation suggests that trust levels have been stable for the two decades for which we have cross-country data and most of the determinants of trust are difficult to affect, even in the very long run.” Among the factors that do matter he, e.g., identifies monarchy. Uslaner (2008, 739) studies how trust is inherited across generations and finds a strong element of transmission on ethnic grounds: “Generalized trust is rather stable over time because it has deep social roots and does not shift with each new experience”, a result supported by Ljunge (2014b). Nunn and Wantchekon (2011) show that current differences in trust levels in Africa can be traced back to the slave trade. Individuals with ancestors hit hard by enslavement are less trusting than others, indicating a historical determinant of social trust transmitted through generations. Berggren and Bjørnskov (2011) find that a deep-seated cultural trait, religiosity, is negatively related to social trust, at least where religious diversity (also often historically determined) is high. Lastly, Buggle and Durante (2021) document that European regions with higher pre-industrial climatic variability are more trusting in modern times, the explanation being that trust was formed by experiences of cooperation to handle climatic risk.<sup>10</sup> These “stability findings” do not exclude that social trust is somewhat malleable (see, e.g., Nannestad et al., 2014, Helliwell et al., 2016, Bergh and Öhrvall, 2018 and Martinangeli et al., 2023), and they do not include globalization in their studies, so it is largely an empirical question whether a relationship exists between our main variables of interest.

Since the empirical part of this study uses samples of first- and second-generation immigrants, one may ask if there are theoretical reasons to expect the effect of globalization to differ between this category of people compared to natives in a country. We think there could be differences in effects, but if so, more likely between first-generation immigrants and natives, since second-generation immigrants were born in and reside in the same countries as natives. One aspect of potential relevance is that immigrants may be less strongly attached to a specific culture and therefore less concerned about detrimental, and less enthused by positive, effects of globalization. They are therefore less affected in their trust level, which suggests a weaker relationship between globalization and social trust. Another aspect is that immigrants may be more open to people of different backgrounds – they may have developed stronger international ties and thus be reinforced in trusting others by globalization. This conversely suggests a stronger connection between globalization and trust for immigrants. These aspects are important to bear in mind when considering the degree to which our results pertaining to immigrants may generalize to natives (but note that we undertake a robustness analysis below for natives, comparing the strength of the relationship to that of immigrants).

Lastly, and before delving into the empirical analysis, we use *de facto* and *de jure* measures of globalization. The former are meant to capture actual practices (e.g., the extent of actual trade), while the latter focus on the institutional and policy frameworks (e.g., the degree to which trade is free) – basically whether globalization of a certain kind is allowed and protected once pursued. If certain mechanisms described above are more important, e.g., actual market interaction, one would expect the *de facto* measures to turn out statistically significant, but if the rules in place influence people more – e.g., through strong symbolic effects and a high credibility of the globalized orientation – then *de jure* measures will turn out to matter. From a theoretical point of view, both are certainly possible.

<sup>9</sup> Studies show that the status of women, divorce rates and fertility can be affected by foreign television (see, e.g., La Ferrara et al., 2012). Likewise, xenophobic violence in eastern Germany is lower in parts that could see West-German television (Endrich, 2020).

<sup>10</sup> In line with social trust being resilient, research suggests that the Covid pandemic and the associated lockdowns have not affected social trust very much, unlike more volatile trust measures, such as trust in government, which has decreased substantially in several countries (Bor et al., 2021).

### 3. Empirical strategy and data

#### 3.1. Empirical strategy

We apply the epidemiological method (Fernández, 2011) in order to rule out reverse causality. By looking at a sample of first- and second-generation immigrants, we can relate globalization levels *in their countries of origin* to their individual social-trust levels without worrying about social trust causing globalization. The method is illustrated in Fig. 1, where blue refers to first-generation immigrants and red to second-generation immigrants.

At the top we have (some aspect of) globalization in the country of origin, from where the first-generation immigrants migrated and from where the parents of the second-generation immigrants migrated. During their time in the country of origin, growing up and (in most cases) staying until adulthood, they were influenced by the forces of globalization, which possibly affected their level of social trust. They then bring that with them to the new country of residence.<sup>11</sup> The trust levels are influenced by individual characteristics as well, and by features of the country of residence, such as its culture and institutions (which are controlled for through fixed effects). In the case of second-generation immigrants, the channel partly goes through the parents – there is vertical transmission of values and attitudes in the family. On the theory of vertical transmission of values and attitudes in the family, see Bisin and Verdier (2001, 2011). Such transmission has been documented for social trust by Ljunge (2014b), and it has also been shown to hold for other phenomena, such as female labor force participation (Fernández et al., 2004), a work ethic (ter Bogt et al., 2005), religion (Bradshaw and Ellison, 2008), cognitive and non-cognitive skills (Coneus et al., 2012) and risk attitudes (Dohmen et al., 2012). Vertical transmission is indicated by the red dashed lines. They are dashed because we do not explicitly test this channel in the empirical analysis, for two reasons: There are no data on the social trust of the parents of second-generation immigrants, and even if there were, relating it to the social trust of the children introduces endogeneity into the regressions – the trust levels of children can arguably influence the trust levels of parents – which we want to avoid. Therefore, we directly link globalization in the country from which their parents migrated, which is hypothesized to have contributed to shaping the social trust of their parents, to their social-trust levels.

In line with Fig. 1, we estimate Eq. (1) using OLS:

$$\text{Socialtrust}_{ica} = \beta_0 + \beta_1 G_a + \beta_2 Q_a + \beta_3 Z_{ica} + \gamma_c + \varepsilon_{ica}, \quad (1)$$

where  $\text{Social trust}_{ica}$  is the level of social trust of first- or second-generation immigrant  $i$  and where, in the case of first-generation immigrants,  $c$  is the country of residence and  $a$  the country of birth and where, in the case of second-generation immigrants,  $c$  is the country of birth and residence and  $a$  is the country of birth of the parents;  $a \neq c$ . The variable  $G_a$  is the KOF Index value of globalization in country  $a$ .  $Q_a$  is a vector of control variables for country  $a$ ,  $Z_{ica}$  is a vector of individual controls,  $\gamma_c$  is immigrant  $i$ 's country-of-residence fixed effects (which control for culture, institutions and other stable, unobserved characteristics of country  $c$ ) and  $\varepsilon_{ica}$  is the error term. Standard errors are clustered at the country level  $a$  to allow for arbitrary correlations of the error terms among immigrants from that country.

Note that this specification in effect means that we are comparing how, say, an immigrant originating in Italy living in France compares in social trust to an immigrant originating in Turkey living in France, with differing degrees of globalization in those countries of origin.

#### 3.2. Data

This study encompasses up to 26,670 first-generation immigrants residing in 33 primarily European countries (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and the United Kingdom), stemming from about 200 countries of origin, and up to 10,520 s-generation immigrants born and residing in the same European countries, the parents of whom stem from about 200 countries of origin.

Our dependent variable is the *social trust* of the first- or second-generation immigrant.<sup>12</sup> It is their reply to the question “generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people? Please tell me on a score of 0 to 10, where 0 means you can’t be too careful and 10 means that most people can be trusted” in the [European Social Survey \(2020\)](#), with merged data from waves 1–8 for first-generation immigrants (2002–2016) and waves 2–9 for second-generation immigrants (2004–2018).<sup>13</sup>

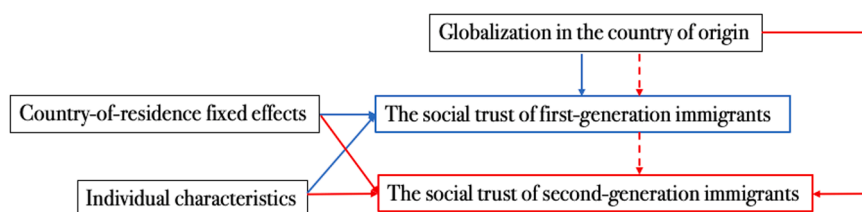
Our main explanatory variable is the KOF Globalization Index and its various parts, which are specified in Table A1 in the Appendix and which range from a minimum of 0 to a maximum of 100. The data come from [Gygli et al. \(2019\)](#) and ETH Zürich (2021). The higher the value, the more globalized a country is. The Index is, first of all, available in two versions: a *de facto* and a *de jure* version.

<sup>11</sup> Bergh and Öhrvall (2018) find that after the age of 30, high trust is a sticky personality trait for emigrants from Sweden.

<sup>12</sup> Björnskov (2021) shows that social trust is strongly correlated with results in dropped-wallet experiments and that it thus captures a real-world preparedness to be honest and treat others as one would like to be treated.

<sup>13</sup> An alternative would have been to use the World Values Survey, which nevertheless only contains information on countries of origin in its latest wave. The World Values Survey also only features a dichotomous trust variable, which makes us prefer the European Social Survey, as it includes the country-background question in all waves and has a continuous trust variable.





**Fig. 1.** The epidemiological method. Blue arrows and boxes refer to first-generation immigrants and red arrows and boxes to second-generation immigrants. The dashed red arrows illustrate the supposed vertical transmission of social trust from parents to children, but only the fully drawn arrows correspond to the empirical analysis. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

The former captures the degree to which actual practices of “an international kind” occur; the latter encapsulates the rules or institutions that prohibit or allow, hinder or facilitate, international activities. We use both of these versions throughout the empirical analysis. Second, the Index consists of four levels: globalization is the top level, under which comes three subcomponents with equal weights: economic, social and political globalization. Economic and social globalization then consist of further subcomponents: trade globalization and financial globalization in the former case, and interpersonal, informational and cultural globalization in the latter case. The fourth level, which we do not use in the regressions, are even more detailed components. Each component has a weight, and when aggregating up one level, these are applied to the variable values.<sup>14</sup>

As for timing, our ambition is to try to connect globalization at a time when individuals are still developing their values and attitudes to the trust levels revealed in their replies to the trust question in the European Social Survey (ESS).<sup>15</sup> Therefore, for first-generation immigrants, we use the globalization values from the year of migration; and for second-generation immigrants, we use the globalization values from the year of birth.<sup>16</sup> The idea behind the former is that until the time of migration, the globalization of the country of origin exerts an influence; and the idea behind the latter is that the parents were probably around 25 at the time of birth of the respondent, and it is reasonable that they migrated some years before that, suggesting that they were influenced by the globalization of the country of origin around that time (then passing on the “effect” to their offspring as they grow up).<sup>17</sup>

We use both individual-level control variables and control variables for the countries of origin to try to make sure that the findings for globalization do not arise due to omitted variable bias. The individual-level control variables, all of them included in the form of merged data from the ESS, are the following. We include the age and gender of the respondent, which are the only truly exogenous variables among the individual-level controls. The other ones are: marriage status; completed education level – whether one has completed International Standard Classification of Education (ISCED) levels 2 (lower secondary), 3 (upper secondary), 4 (post-secondary non-tertiary), 5–6 (short-cycle tertiary or bachelor or equivalent) or another education level (with 0–1, early childhood education and primary education, being the reference category); how religious the respondent is (on a scale from 0 to 10); and where on the left-right scale (from 0 to 10) people place themselves. The data are based on interviews conducted in the period 2002–2018. The reason for including them is that they have been proposed to matter for social trust in previous work.

The country-level control variables pertain to the countries of origin and are from the same year as the globalization variables. We first include the average temperature of the coldest month from Weatherbase (2022). The idea derives from Bjørnskov (2012), who notes that survival through winters in cold climates historically depended on help from strangers, such that modern culture reflects historical weather (see also Buggle and Durante, 2021). We also include a dummy for Nordic countries that are known to have much higher trust levels than the rest of the world, as well as very cold winters, and a dummy for monarchies (from Bjørnskov and Rode, 2020). Both types of societies tend to have substantially higher trust levels (cf. Bjørnskov, 2007). The specification also includes dummies for communist and post-communist societies (from Bjørnskov and Rode, 2020), as communism is known to destroy trust (cf. Bjørnskov, 2007; Nikolova et al., 2022)

We further add a number of factors that are sometimes associated with both social trust and globalization, although in various ways. We add a dichotomous indicator of democracy from Bjørnskov and Rode’s (2020) regime database, log of GDP per capita (from Feenstra et al., 2015, and Maddison Project Database, 2020), ethnic heterogeneity, defined as one minus the Herfindahl-Hirschman

<sup>14</sup> Regarding the weights, Gygli et al. (2019, 553) write: “The ... KOF Globalization Index includes time-varying weighting of the individual variables in the aggregation process. ... [W]e use principal component analysis to determine the weights of the individual variables for the lowest aggregation level of the index. ... [W]e ... apply principal component analysis on rolling windows of 10 years to calculate time-varying weights. This procedure has the advantage of letting the weights adjust over the years to account for changes in the role of individual variables in serving as proxies for globalization.”

<sup>15</sup> Our idea is that an influence on trust of globalization primarily occurs during the formative, or impressionable, years (Bergh and Öhrvall, 2018), which could be the entire period from when someone is only a few years old until they are 30 years old. In the robustness-test section below, we report findings from a new test taking this age to be 20.

<sup>16</sup> Sometimes, the year of migration is not given in the European Social Survey, but only a time span, in which case the years are picked according to the following schedule: If migration took place within last year → use year of interview; if 1–5 years ago → use year of interview –3; if 6–10 years ago → use year of interview –8; if 11–20 years ago → use year of interview –15; if more than 20 years ago → use year of interview –25.

<sup>17</sup> Globalization data are only available from 1970, and data from that year are used as an approximation for years further back in time.

**Table 1**  
Regression results for globalization and social trust, first-generation immigrants.

Main explanatory variable:	<i>De facto</i> globalization			<i>De jure</i> globalization		
	(1)	(2)	(3)	(4)	(5)	(6)
Globalization	0.012*** (0.001)	0.010*** (0.002)	0.006*** (0.001)	0.009*** (0.001)	0.007*** (0.002)	0.004*** (0.001)
<i>Individual-level controls</i>						
Age	0.004*** (0.001)	0.003** (0.001)	0.003** (0.001)	0.004*** (0.001)	0.003** (0.001)	0.003** (0.001)
Female	−0.082* (0.045)	−0.076* (0.043)	−0.109** (0.044)	−0.081* (0.044)	−0.075* (0.043)	−0.109** (0.044)
Married			0.067** (0.027)			0.065** (0.027)
Lower secondary school completed			0.048 (0.082)			0.048 (0.082)
Upper secondary school completed			0.236** (0.089)			0.237** (0.089)
Post-secondary non-tertiary school completed			0.451*** (0.101)			0.454*** (0.102)
Short-cycle tertiary school completed or bachelor or equiv.			0.853*** (0.086)			0.857*** (0.088)
Other education level			0.138 (0.320)			0.140 (0.322)
How religious are you			0.023*** (0.008)			0.023*** (0.008)
<i>Country-of-origin controls</i>						
Average temp. coldest month		−0.014*** (0.004)	−0.013*** (0.004)		−0.012*** (0.004)	−0.012*** (0.004)
Monarchy		0.159* (0.083)	0.196*** (0.069)		0.206** (0.091)	0.222*** (0.069)
Democracy		0.076 (0.063)	0.116** (0.052)		0.047 (0.068)	0.098* (0.054)
Communist		−0.001 (0.060)	−0.013 (0.062)		0.042 (0.059)	0.012 (0.062)
Post-communist		−0.149** (0.061)	−0.139* (0.072)		−0.116* (0.065)	−0.119 (0.072)
Log GDP per capita		−0.051 (0.046)	−0.045 (0.034)		−0.024 (0.043)	−0.030 (0.033)
R <sup>2</sup> within	0.005	0.008	0.029	0.005	0.007	0.029
Residence-country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
N	26,770	26,344	25,399	26,762	26,344	25,399

Notes. Standard errors in parentheses. \*  $p < 0.10$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

index of ethnic origins in the population (from Alesina et al., 2003), and lastly income inequality, defined as the Gini coefficient of disposable income (from Solt, 2020).

Tables A2a,b and A3a,b in the Appendix present descriptive statistics for the first- and second-generation samples. We now proceed to present our main results.

#### 4. Main results

We begin with our main results for first-generation immigrants (Table 1) and second-generation immigrants (Table 2). The tables contain results for aggregate globalization, *de facto* and *de jure*, in three model specifications each – the first containing only exogenous individual-level controls, the second, adding a set of country-of-origin controls and the third adding additional individual-level controls.

As can be seen, all point estimates for globalization, both of the *de facto* and the *de jure* kind, are positive and statistically significant at the 1% level, indicating that openness to other countries does not undermine social trust, but that it rather strengthens it. However, the size effects are small: for example, if one takes the liberty of assuming causal estimates and goes from the lowest *de jure* globalization score, that of Puerto Rico at 30.2, to the highest one, that of Sweden at 92.8, our point estimates in columns (4)–(6) imply an

**Table 2**  
Regression results for globalization and social trust, second-generation immigrants.

Main explanatory variable:	<i>De facto</i> globalization			<i>De jure</i> globalization		
	(1)	(2)	(3)	(4)	(5)	(6)
Globalization	0.010** (0.004)	0.013*** (0.005)	0.015*** (0.005)	0.007** (0.003)	0.016*** (0.004)	0.015*** (0.004)
<i>Individual-level controls</i>						
Age	0.006** (0.002)	0.005* (0.003)	0.003 (0.002)	0.007*** (0.002)	0.006** (0.003)	0.004** (0.002)
Female	−0.162*** (0.056)	−0.159** (0.058)	−0.173*** (0.051)	−0.159*** (0.056)	−0.157** (0.059)	−0.170*** (0.052)
Married			0.178*** (0.050)			0.179*** (0.051)
Lower secondary school completed			0.094 (0.140)			0.096 (0.141)
Upper secondary school completed			0.313** (0.116)			0.312** (0.114)
Post-secondary non-tertiary school completed			0.409* (0.208)			0.409* (0.205)
Short-cycle tertiary school completed or bachelor or equiv.			1.030*** (0.106)			1.023*** (0.104)
Other education level			−0.081 (0.584)			−0.053 (0.616)
How religious are you			−0.010 (0.012)			−0.010 (0.012)
<i>Country-of-origin controls</i>						
Average temp. coldest month		−0.009 (0.007)	−0.005 (0.006)		−0.005 (0.008)	−0.001 (0.007)
Monarchy (one parent)		0.168 (0.135)	0.144 (0.118)		0.138 (0.123)	0.129 (0.105)
Monarchy (both parents)		−0.175** (0.084)	−0.213*** (0.072)		−0.249*** (0.069)	−0.262*** (0.075)
Democracy (one parent)		−0.049 (0.091)	−0.100 (0.075)		−0.120 (0.095)	−0.164** (0.077)
Democracy (both parents)		0.186* (0.093)	0.180** (0.078)		0.040 (0.108)	0.048 (0.101)
Communist (one parent)		0.518*** (0.152)	0.437*** (0.097)		0.533*** (0.142)	0.457*** (0.092)
Communist (both parents)		0.202** (0.088)	0.088 (0.073)		0.311*** (0.074)	0.198** (0.075)
Post-communist (one parent=)		−0.122 (0.404)	0.128 (0.397)		−0.091 (0.414)	0.160 (0.410)
Post-communist (both parents)		−0.044 (0.179)	0.127 (0.138)		−0.009 (0.205)	0.172 (0.157)
Log GDP per capita		−0.139** (0.068)	−0.161** (0.067)		−0.172*** (0.055)	−0.162*** (0.050)
R <sup>2</sup> within	0.005	0.009	0.037	0.005	0.010	0.037
Residence-country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
N	7334	7147	6955	7335	7147	6955

Notes. Standard errors in parentheses. \*  $p < 0.10$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

increase in individual social trust of 0.3–0.6 on the 11-point scale. Of course, real-world reforms would entail a substantially smaller change in globalization than that. Looking at the individual-level control variables, we find indications that higher age, being male, being married, being quite highly educated and higher religiosity are related to more social trust. Among the country-of-origin controls, two variables are statistically significant in all included specifications: a warm climate, with a negative sign, and monarchy, with a positive sign. There are weak indications that democracy might be good for trust (cf. Ljunge, 2014c) and that coming from a post-communist country suppresses it. Notably, GDP per capita in the background country is never statistically significant.<sup>18</sup>

When moving to the second-generation immigrants, the globalization estimates are similar, only slightly larger for *de jure* globalization. The individual-level results are also similar, except for religiosity, which is not related to social trust in this sample. The country-of-origin variables that matter are, however, quite different. For second-generation immigrants, having two parents from a

<sup>18</sup> While the R<sup>2</sup>-within numbers are fairly low, most studies of determinants of individual-level social trust seem to report low R<sup>2</sup> numbers. In our case, it bears noting that the reported R<sup>2</sup> numbers refer to “R<sup>2</sup> within”, which means the variation explained within each country of residence, and thereby not variation explained by the country fixed effects. Much of the variation in social trust is arguably explained by time-invariant factors captured by these fixed effects (as, e.g., indicated by the R<sup>2</sup> between for column (6) of Table 1 being close to 0.30).



monarchy is negatively related to social trust. Having one parent from a democracy is negatively related to social trust (in one specification where *de jure* globalization is included), while having two parents from a democracy is positive for trust (when *de facto* globalization is included). Having parents from a communist country seems overall good for trust, while GDP per capita rather stands in a negative relation to it.

We next present condensed results for the remaining subcategories of globalization, in Tables 3 for first-generation immigrants and in Table 4 for second-generation immigrants. We just report the point estimates for the globalization variables, which are derived from the exact same models as in Tables 1 and 2, where each of them has been included separately. The full tables are available on request.

These disaggregated results clarify which particular elements of globalization that drive the (small but positive) relationship between globalization and social trust. For first-generation immigrants, it is economic and social globalization (both *de jure* and *de facto*). Within the realm of economic globalization, trade globalization primarily matters in the *de facto* case, while financial globalization matters in both cases. The result for social globalization is driven by both informational and cultural globalization, in both the *de facto* and the *de jure* case. For second-generation immigrants, the results are similar: *de jure* economic, and *de facto* and *de jure* social, globalization underlie the positive relationship with social trust, with *de jure* financial globalization driving the economic results and with informational and cultural globalization (both *de jure* and *de facto*) driving the social results. Political globalization does not seem robustly related to social trust, but in the cases where it is statistically significant, the sign is always positive.

Thus, our baseline analysis reveals that fears of globalization undermining one of the most important determinants of a cooperative, growing and socially cohesive society, i.e., social trust, are unfounded. If anything, financial, informational and cultural globalization enhance the trust people have for others, albeit minimally. Admittedly, this result first and foremost holds for our samples of immigrants, although in a robustness test we find that it appears to generalize to natives as well. We now turn to that and other robustness tests.<sup>19</sup>

## 5. Robustness analysis

Our robustness analysis first focuses on the risk for omitted-variable bias and consists of adding additional country-of-origin control variables and an individual-level one, where the latter is interacted with globalization. It continues with an outlier analysis and a correction for potential multiple-test bias.

In our first exercise, we add Nordic heritage, ethnic heterogeneity and the Gini coefficient pertaining to disposable income – one at a time – to the full model, i.e., columns (3) and (6) in Tables 1–4. The point estimates of all globalization variables and the added controls are reported in Tables A4 and A5 in the Appendix. The general pattern for the globalization variables is reaffirmed: economic and social globalization stands in a positive relationship to social trust, with, especially, financial, informational and cultural globalization driving it. The main difference to the baseline results is that in the case of second-generation immigrants, it is the *de jure* globalization that matters and never *de facto*. In other words, it is the institutional framework that provides a basis for trusting attitudes, more than actually practiced globalization. However, as before, point estimates are small. Interestingly, the findings for two of the added control variables speak against previous results in the literature: Neither ethnic heterogeneity nor income inequality is related to social trust in a statistically significant way. In contrast, and in line with previous studies, being of Nordic origin is strongly related to social trust (in the case of first-generation immigrants), while having two parents of Nordic origin matters as well for second-generation immigrants (with statistical significance in 11 out of 18 regressions).

Thus far we have not included the average level of social trust itself in the country of origin. One concern might be that the country-of-origin variables we have included do not fully capture social trust and that, if social trust in the country of origin affects the degree of globalization, we might get biased estimates for globalization. We have therefore included the average level of social trust in the countries of origin, in two model specifications: (1) simply adding it to the baseline country-of-origin variables and (2) due to the risk of overcontrolling: removing all other country-of-origin variables supposed to influence trust (average temperature, monarchy, democracy, communist, post-communist) and adding country-of-origin social trust, along with GDP per capita. The results show that the average level of social trust in the country of origin is always positive and significant at the 1% level, which indicates that individual social trust in our two immigrant samples is clearly influenced by the social trust of their and their parents' background culture (in line with Ljunge, 2014b). When it comes to the point estimates for our various globalization measures, the results are presented in Table A6 for the first-generation immigrants and in Table A7 for the second-generation immigrants. The general pattern is that whenever a globalization measure obtains a statistically significant result at the 10% level or lower, it is always positive, as before, but the point estimates are generally a bit smaller than in the baseline models of Tables 1–4. In a few cases, when adding country-of-origin social trust, the estimates are no longer significant, especially not when estimating the *de facto* measures for second-generation immigrants. This may be interpreted as *de facto* globalization reflecting trusting attitudes. Still, globalization retains its positive relationship to individual social trust in most cases also when adding country-of-origin social trust, indicating that globalization has an effect of its own. Moreover, the relationship is positive throughout (albeit small).

In our third exercise, we include individual political self-placement in the regressions and interact it with the globalization

<sup>19</sup> With our data, it is difficult to carry out heterogeneity analysis, e.g., discerning whether people with a higher education are affected differently in how trusting they are by globalization than others. Such a test implicitly assumes that the structure of comparative advantage is similar for all countries of residence, such that the economic advantage to a certain education level is approximately the same across countries. We consider that it is highly unlikely that such an assumption is valid. Nevertheless, when interacting tertiary education with globalization, we find that the interaction terms are always statistically insignificant (results available on request).

**Table 3**

Regression results from separate regressions for subcategories of globalization and social trust, first-generation immigrants.

Main explanatory variable:	<i>De facto</i> globalization			<i>De jure</i> globalization		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Subcategories of globalization</i>						
Economic globalization	0.006*** (0.001)	0.004** (0.002)	0.003** (0.001)	0.007*** (0.001)	0.003** (0.001)	0.002** (0.001)
Social globalization	0.008*** (0.001)	0.004** (0.002)	0.003** (0.001)	0.009*** (0.001)	0.010*** (0.002)	0.007*** (0.001)
Political globalization	0.006*** (0.001)	0.003** (0.001)	0.001 (0.001)	0.006*** (0.001)	0.002** (0.001)	0.001 (0.001)
<i>Subcategories of economic globalization</i>						
Trade globalization	0.003* (0.001)	0.003** (0.001)	0.003** (0.001)	0.006*** (0.001)	−0.001 (0.001)	0.000 (0.001)
Financial globalization	0.006*** (0.001)	0.004*** (0.001)	0.002** (0.001)	0.007*** (0.001)	0.004*** (0.001)	0.002*** (0.001)
<i>Subcategories of social globalization</i>						
Interpersonal globalization	0.005*** (0.001)	−0.003* (0.001)	−0.002 (0.001)	0.007*** (0.001)	−0.000 (0.002)	0.001 (0.002)
Informational globalization	0.008*** (0.001)	0.005*** (0.001)	0.005*** (0.001)	0.009*** (0.001)	0.008*** (0.001)	0.006*** (0.001)
Cultural globalization	0.008*** (0.001)	0.006*** (0.001)	0.004*** (0.001)	0.008*** (0.001)	0.009*** (0.001)	0.006*** (0.001)

Notes. Standard errors in parentheses. \*  $p < 0.10$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . The reported point estimates are from separate regressions with the models of Table 1.

**Table 4**

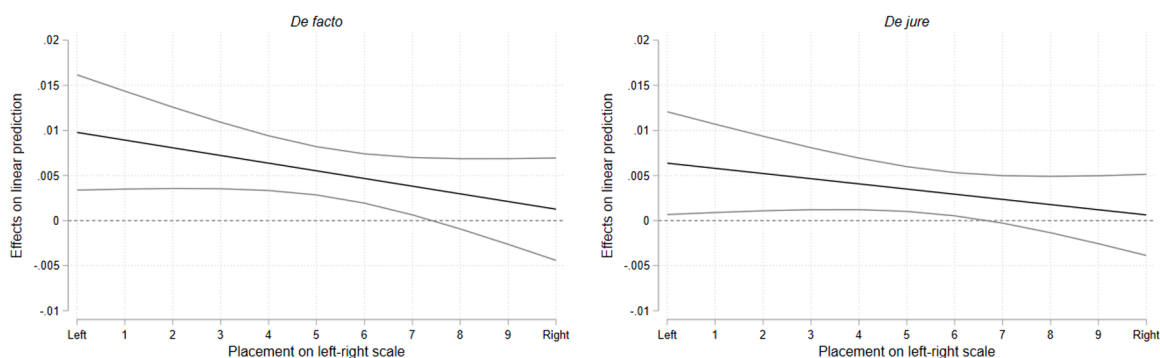
Regression results from separate regressions for subcategories of globalization and social trust, second-generation immigrants.

Main explanatory variable:	<i>De facto</i> globalization			<i>De jure</i> globalization		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Subcategories of globalization</i>						
Economic globalization	0.001 (0.002)	0.002 (0.002)	0.005* (0.003)	0.006** (0.002)	0.010*** (0.003)	0.011*** (0.003)
Social globalization	0.006* (0.003)	0.008** (0.003)	0.009** (0.003)	0.010*** (0.003)	0.017*** (0.004)	0.017*** (0.004)
Political globalization	0.005** (0.002)	0.004** (0.002)	0.002 (0.002)	0.003 (0.002)	0.003 (0.002)	0.002 (0.002)
<i>Subcategories of economic globalization</i>						
Trade globalization	0.001 (0.002)	0.002 (0.002)	0.004 (0.002)	0.005* (0.002)	0.004* (0.003)	0.004 (0.003)
Financial globalization	0.001 (0.001)	0.001 (0.001)	0.004* (0.002)	0.006** (0.002)	0.009*** (0.003)	0.010*** (0.002)
<i>Subcategories of social globalization</i>						
Interpersonal globalization	0.003 (0.002)	0.003 (0.003)	0.004 (0.003)	0.004 (0.003)	0.006 (0.004)	0.006* (0.003)
Informational globalization	0.007** (0.003)	0.009*** (0.003)	0.006** (0.003)	0.009** (0.004)	0.013*** (0.005)	0.013*** (0.004)
Cultural globalization	0.005** (0.002)	0.006* (0.003)	0.010*** (0.003)	0.008*** (0.002)	0.015*** (0.003)	0.013*** (0.003)

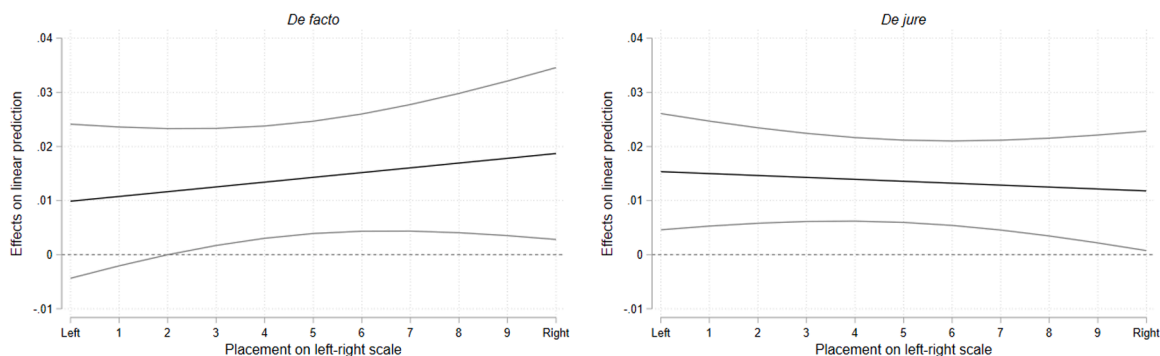
Notes. Standard errors in parentheses. \*  $p < 0.10$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ . The reported point estimates are from separate regressions with the models of Table 2.

variables to see if the effect differs between people on the left and people on the right. In lieu of regression tables (which are available on request), we present marginal plots, which are more illustrative as they cover the whole continuum of political self-placement. Fig. 2 illustrates how the point estimates of *de facto* globalization (to the left) and *de jure* globalization (to the right) vary with the respondents' placement on the left-right scale, and Fig. 3 displays the same things for second-generation immigrants. Each build on the full regressions (columns (3) and (6) of Tables 1 and 2), with individual self-placement on the left-right scale and its interaction with the relevant globalization measure added.

Fig. 2 shows that for first-generation immigrants, there is a significant interaction effect for *de facto* (*de jure*) globalization up until 7.2 (6.6) on the scale, below which the positive point estimate of globalization decreases as the political conviction becomes more



**Fig. 2.** Marginal plots showing how the point estimate of globalization varies with political self-placement, first-generation immigrants. gray lines show 95% confidence intervals.



**Fig. 3.** Marginal plots showing how the point estimate of globalization varies with political self-placement, second-generation immigrants. gray lines show 95% confidence intervals.

oriented to the right. Hence, it seems as if left-wing respondents are more prone to be influenced by globalization in a trusting direction than people on the right in this sample.

In contrast, as shown in Fig. 3, we find no clear patterns for second-generation immigrants. Although there seems to be a weakly increasing effect of *de jure* globalization as respondents become more right-wing, the differences are very far from significance and one can in principle fit a line with the opposite inclination within the confidence interval. For *de facto* globalization, the confidence interval is even wider, indicating that responses are not heterogeneous in ideological self-placement.

We show marginal plots for economic and social globalization in Figs. A1–A4 in the Appendix. For first-generation immigrants, they reveal that the pattern of left-placed persons being more susceptible to being influenced by globalization is primarily driven by social globalization, for which the differences are clearly significant. For second-generation immigrants, the plots suggest, in contrast, that economic globalization shapes the pattern with right-wing people being somewhat more influenced by *de facto* economic globalization.

Our next robustness check is a jackknife analysis to see whether outliers drive the results. The test consists of removing the countries of residence one at a time in order to see whether the point estimate changes noticeably or not, and it has been undertaken for the aggregate globalization index. We produce Fig. 4 to show the results – for first-generation immigrants to the left and for second-generation immigrants to the right, with estimates for *de facto* and *de jure* globalization in each panel.

As can be seen, the point estimates are remarkably stable. The only possible outlier effect is due to Great Britain in the case of *de facto* globalization for second-generation immigrants, but it does not change any qualitative conclusion of our empirical analysis.

A further robustness check consists of correcting for possible multiple-test bias. When considering, as we do, a set of statistical inferences simultaneously, we run the risk of making erroneous inferences: the more hypotheses that are tested, the higher the probability of false positives. To account for this, we have applied the Holm-Bonferroni correction (following Newson, 2019), with a stricter significance threshold for individual comparisons (in our case, a family-wise error rate of 10% or lower). The results indicate that some of our previous findings lose in statistical significance, which in turn implies that the baseline estimates to some extent suffer from multiple-test bias. As can be seen in Table A8 in the Appendix, when applying the correction to the globalization indicators that themselves do not consist of other ones in our dataset – i.e., to trade, financial, interpersonal, informational, cultural and political globalization – we find relatively high robustness for financial, cultural and informational globalization. The detailed test results are available on request.

A limitation of the epidemiological method is its use of immigrant samples. While there are clear benefits associated with this

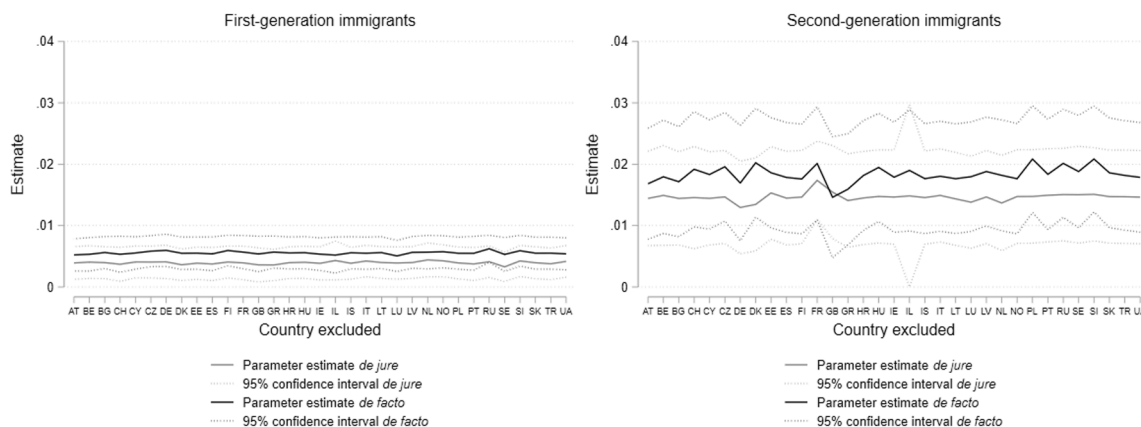


Fig. 4. How the point estimate of globalization varies with the removal of one country of residence at a time. gray lines show 95% confidence intervals. The model is that of column (3) of Table 1 for *de facto* globalization and that of column (6) of Table 1 for *de jure* globalization. The two-digit ISO codes on the X axis represents the excluded countries (removed one at a time).

choice, the question is if results using data for these samples apply to the wider population of non-immigrants, which we refer to as natives. To investigate that, we have run the baseline regressions for natives as well, relating globalization values from when the respondents were 20 years old to their trust levels, as reported in the European Social Survey. We have had to adjust the model slightly, by removing stable country-level control variables that are captured by the fixed effects. As can be seen in Tables A9 and A10 in the Appendix, the qualitative picture is identical: the point estimates overall continue to be positive and statistically significant, clearly larger than for first-generation immigrants and in most cases in the same size range as the ones for second-generation immigrants. This suggests that the estimates for the immigrant samples *could* be seen as applicable for the non-immigrants throughout Europe – for them, too, globalization stands in a positive relationship to individual-level social trust, although the effect sizes are modest.<sup>20</sup>

The baseline analysis links country-of-origin globalization data to individual-level trust data with a lag. The timing for first-generation immigrants uses the globalization values from their year of migration. The timing for second-generation immigrants uses the globalization values from their year of birth. The idea is to make use of the formative or impressionable period during which values and attitudes tend to be formed (Bergh and Öhrvall, 2018). As an alternative way of timing, we have carried out the regressions of Tables 1 and 3 where the globalization values are from the year the first-generation migrant was 20 years old (contingent upon having migrated at this age and excluding those who were born before 1950, since the globalization data are not available before 1970). The findings are in Tables A11 and A12 in the Appendix and generally show a weakening of statistical significance, except for *de jure* social globalization (a result driven by its two subcategories *de jure* informational globalization and *de jure* cultural globalization), *de facto* informational globalization and *de facto* cultural globalization. These remain robust to this change of timing.

A further concern might be that our results are biased by a kind of selection effect, if the migrants who left already had higher social trust (for other reasons than globalization). First is that those that are willing to move to a completely different country might already have noticeably higher levels of trust to begin with. It seems plausible that uprooting one’s life to a new environment could require one to have a particularly high level of trust in people (somewhat similar to the argument that immigrants are more likely to become entrepreneurs than natives). This bias may arguably become larger as one moves from a low-trust environment (where globalization on average is lower) to many high trust countries that are examined in the survey (European countries with fairly high levels of globalization). For example, if someone is moving to Germany, one reason could be exactly because they have high levels of trust. We investigate this, somewhat imperfectly, in two steps. We begin by plotting the average social trust of first-generation immigrants and the average social trust of the natives of their countries of origin for each European country in our sample. The results can be seen in Fig. A6 in the Appendix. The pattern shows that natives have higher social trust, on average, than the people who migrated from the same country in seven countries and that migrants have higher trust than natives who stayed in the countries of origin in the other 26 countries. In most cases, the differences are quite small, but 14 countries have a difference larger than 0.5 and four countries have a difference larger than 1 (Poland, Latvia, Bulgaria and Turkey). In the next step, we remove the countries with a larger difference in average trust than 0.5 and 1, respectively; results can be found in Tables A13 and A14 in the Appendix, to be compared to Table 1. The regression results imply that statistical significance is weakened when these countries are removed. In both tables, significance cannot be established for *de facto* globalization when the controls are added (column (3)), and the same thing goes for *de jure* globalization (columns (5) and (6)). This suggests that it is possible that some of the baseline results stem from first-generation immigrants having had greater social trust than their natives to begin with. However, a word of caution is in order about making this interpretation. The trust values for the first-generation immigrants and the natives are compared *after* the former migrated – at the time of the European Social Survey interviews. This means that we do not know what their trust levels were *at the time of migration*. It is imaginable that they

<sup>20</sup> Moreover, if one looks at the histograms for social trust for first-generation immigrants, second-generation immigrants, and natives, as in Fig. A5 in the Appendix, the distributions look really similar, hopefully alleviating concerns that our particular immigrant samples are very particular.

have changed after migration, in which case the conclusion about a previously existing trust difference partly driving the results may not be warranted.<sup>21</sup>

So far, we use the continuous trust scale as the dependent variable, going from 0 to 10. However, while this has advantages, by allowing a large sample, by avoiding arbitrary cut-offs and by making use of as much information about the trust distribution as possible, it can also, as a complement, be instructive to compare low- and high-trusters. To that end, we define high-truster by a dummy variable taking the value 1 for the replies 7–10 and 0 for the replies 0–3. We then run the baseline regressions, akin to Table 1 in the manuscript, using LPM, with results shown in Tables A15 and A16 in the Appendix. With this exercise, statistical significance is retained throughout, and the sign of the estimates is positive. Still, effect sizes remain small. An increase in globalization boosts the probability of being a high-truster, but not by very much – e.g., a rise in the KOF index of 10 units on the 100-unit scale indicates a 3 percentage-point increase in the probability of being a high-truster.

## 6. Summary of results

In Fig. 5, we provide a summary of the results we consider relatively robust. These variables have turned out to be statistically significant at the 10% level or lower in all of the baseline models (Tables 1–4), in all of the models with additional country-of-origin controls (Tables A4–A7) and in virtually all of these when using the Holm-Bonferroni correction.

All the point estimates are positive, but as is clear from the box with the point-estimate ranges for the variables that are robust for both samples, the size effects are very small throughout (but slightly larger for second-generation immigrants). More areas of globalization are robust for first- than for second-generation immigrants – this is especially noteworthy for the *de facto* measures, which only matter for the former sample. In the rightmost box of Fig. 5, we show the areas of globalization that are robust for both samples, which can be considered especially robust. They are *de jure* social globalization and its component *de jure* cultural globalization. As clarified in Table A1, the cultural measure encompasses gender parity, human capital and civil liberties.<sup>22</sup> People who stem from countries characterized by these features of globalization have tended, as indicated by our robust findings, to become slightly more trusting as a result. When taking all further robustness tests into account, and thereby interpreting our estimates very conservatively, the findings in the right-most box stand: *de jure* social and *de jure* cultural globalization are always positively related to social trust in a statistically significant way; and there are never statistically significant negative point estimates for any of the variables in the figure.

## 7. Discussion and conclusion

Globalization has been debated intensely for decades, and the debate is still ongoing. The critical camp has strong proponents, e.g., in the form of notable economists like Dani Rodrik and Joseph Stiglitz, and they and others have contributed to a political backlash in recent years. One reason is economic discontent, especially in areas where foreign competition has undermined traditional industries; but a key feature of anti-globalization sentiments is the worry in many quarters that globalization undermines valuable cultural characteristics. To investigate whether there is a factual basis for such worries, we have undertaken an empirical analysis of how globalization, in its various economic, social and political forms, influences individual social trust.

We have done so with a methodological approach that is novel in this field of study, applying the epidemiological method (Fernández, 2011). Its great advantage compared to methods used in most previous studies is that it enables us to rule out reverse causality. This is a serious concern, since one can easily imagine social trust influencing globalization – people's attitudes towards others can reflect itself both in practical action across borders and in the political implementation of policies and institutions that affirm openness towards other countries (cf. Uslaner, 2002). The reason we can rule this out in our case is that we relate the social trust of individual first- and second-generation immigrants residing in over 30 European countries to the globalization levels of their countries of origin several decades before. Through this geographical and temporal separation, we can be quite sure that if there is a relationship, it goes from globalization to social trust.

We clearly find that the concerns many have about the socially destructive influence of globalization are unfounded with respect to social trust, at least for our immigrant samples (although a robustness test indicates generalizability to natives as well). All statistically significant results indicate that the relationship is *positive*, and we get no negative estimates at all. The areas of globalization that withstand varying the sample, varying the model specification and applying a Holm-Bonferroni correction to account for multiple-test bias, and which we therefore consider relatively robust, vary a bit between first- and second-generation immigrants. For the former sample, several *de facto* indicators of globalization are relatively robust: globalization overall as well as economic, informational and cultural globalization, along with three *de jure* indicators: social, informational and cultural globalization. For the second-generation sample, only these *de jure* measures are relatively robust: globalization overall as well as economic, financial, social and cultural

<sup>21</sup> Indeed, Nannestad et al. (2014) and Helliwell et al. (2016) show that immigrants' degree of trust gradually converges towards the trust levels of their new countries (even though they retain at least a core of the trust from their home countries). Cf. Bergh and Öhrvall (2018), who find a tendency of this kind for younger Swedish migrants.

<sup>22</sup> Gygli et al. (2019, 557) motivate these elements in the following way: "The sub-index *de jure* cultural globalization refers to openness towards and the ability to understand and adopt foreign cultural influences. It is inspired by the GlobalIndex ... The authors justify their choice of variables by highlighting their key role in quantifying the spread of common values of rationalism and hence cultural assimilation across the world."

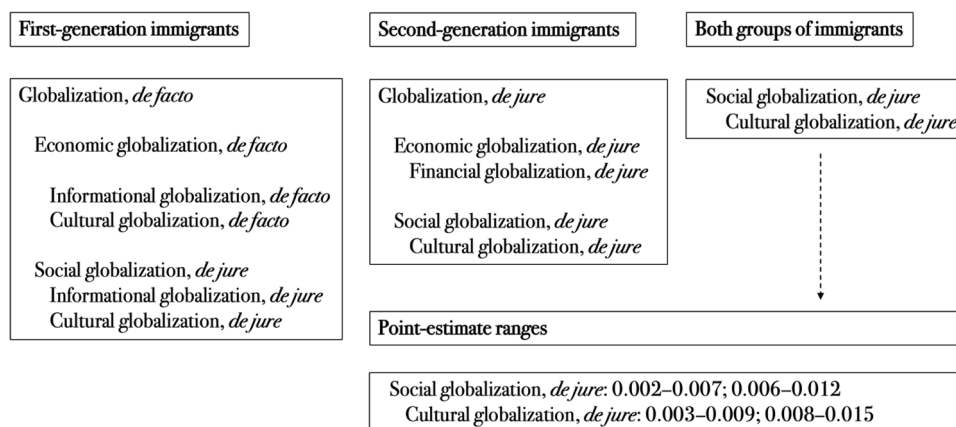


Fig. 5. Relatively robust findings for globalization.

globalization. In other words, people who stem from countries where policies, institutions and infrastructure allow for openness in these areas tend to have become more trusting as a result.<sup>23</sup> That being said, the size of the point estimates is very small. A possible interpretation is therefore that what we in effect have found is statistically significant null results – but these still indicate that the “doomsayers” who have believed that globalization suppresses social trust have been shown to be wrong (at least for people in Europe with an immigrant background). As suggested by Caplan and Cowen (2004), there is a tendency for people to underestimate the benefits of cultural competition, and if these benefits in fact manifest themselves in people’s lives, this can entail greater trust in others, even those one does not know or know much about. Contact with others, even in far-away lands, through media, financial dealings and personal interaction, can thus perhaps be seen as giving some vindication to a form of Montesquieu’s *doux commerce* thesis, albeit weakly so.

We close by noting that social trust has been shown to be quite stable over time in most countries, except for those that have experienced severe shocks (such as oppressive communism; see, e.g., Lichter et al., 2021). This study can be seen as another indication that “normal” variations in policies, institutions and the way people interact with others from other countries do not seem to affect social trust very much. Comforting, perhaps, for countries with high trust, but somewhat less joyous news for those that are looking for ways to generate more social trust among its citizens.

### Declaration of Competing Interest

There are no relevant financial or non-financial competing interests.

### Data availability

Data will be made available on request.

### Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.jebo.2023.08.018](https://doi.org/10.1016/j.jebo.2023.08.018).

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<sup>23</sup> Notably, two variables that have previously been shown to matter for social trust – ethnic heterogeneity and income inequality – are not related to social trust according to our analysis.



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