Does economic freedom foster tolerance?

Niclas Berggren · Therese Nilsson

Abstract   Tolerance has the potential to affect both economic growth and wellbeing. It is therefore important to discern its determinants. We add to the literature by investigating whether the degree to which economic institutions and policies are market-oriented is related to different measures of tolerance. Regression analysis of up to 65 countries reveals that economic freedom is positively related to tolerance towards homosexuals, especially in the longer run, while tolerance towards people of a different race and a willingness to teach kids tolerance are not strongly affected by how free markets are. Stable monetary policy and outcomes is the area of economic freedom most consistently associated with greater tolerance, but the quality of the legal system seems to matter as well. We furthermore find indications of a causal relationship and of social trust playing a role as a mechanism in the relationship between economic freedom and tolerance and as an important catalyst: the more trust in society, the more positive the effect of economic freedom on tolerance.

N. Berggren (✉)

The Research Institute of Industrial Economics (IFN), P.O. Box 55665, SE–102 15 Stockholm, Sweden; and Department of Institutional Economics, Faculty of Economics, University of Economics in Prague. Phone: +46-8-6654520. Fax: +46-8-6654599.

e-mail: niclas.berggren@ifn.se

T. Nilsson

Department of Economics, Lund University, P.O. Box 7082, SE–220 07 Lund, Sweden; and The Research Institute of Industrial Economics (IFN).

e-mail: therese.nilsson@nek.lu.se

1 Introduction

Attitudes in a society towards fellow human beings who are different have potentially important consequences. For example, Mokyr (1990: 12) claims, in his historical study of technological progress, that "innovation requires diversity and tolerance". In the same vein, Florida (2003: 11) writes:

> Places that are open and possess *low entry barriers* for people gain creativity advantage from their ability to attract people from a wide range of backgrounds. All else equal, more open and diverse places are likely to attract greater numbers of talented and creative people – the sort of people who power innovation and growth.

Several studies also find empirical support for a link between tolerance and economic dynamism, income and growth.[1] In addition to various economic consequences, people in tolerant societies seem more happy (Inglehart et al., 2008); and as pointed out by Corneo and Jeanne (2009), it is only in tolerant societies minorities enjoy protection and full political rights. Hence, as many care about these outcomes, we consider it important to study the determinants of tolerance. We do so by investigating, for the first time, whether certain economic policies and institutions, most of which are quite malleable and subject to reform, can affect tolerance. One interesting aspect of our study is that it looks at two forms of freedom – economic and social – and how they relate.[2] While it may seem natural to presume that the two go together, to our

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[1] See, e.g., Florida (2002), Ottaviani and Peri (2006), Boschma and Fritsch (2007), McGranahan and Wojan (2007), Das et al. (2008) and Florida et al. (2008). In contrast, Glaeser (2005) and Marlet and van Woerkens (2007) do not find support for tolerance being economically important. According to Berggren and Elinder (2012), the only study using survey-based measures of tolerance and a cross-country design, tolerance towards people of another race is positively, and tolerance towards homosexuals negatively, related to growth.

[2] By "economic freedom" we mean, following Gwartney et al. (2011), a characterization of economic institutions, policies and outcomes to the effect that there is great scope for free markets to operate under legal rules that are predictable and equal for all. This implies that a free economy can be said to be characterized by a small government, the rule of law, private property rights, monetary stability, free trade, free capital flows and a low degree of regulation. By "social freedom" we mean a situation where social impediments to the realization of one's preferences, in the form of norms and attitudes, are minimal.

knowledge it has not been investigated before whether countries that are economically free tend to be socially free as well.[3]

Corneo and Jeanne (2009: 691) define tolerance as "respect for diversity" and Florida (2003: 10) defines it as "openness, inclusiveness, and diversity to all ethnicities, races, and walks of life". We follow these broad definitions, which differ from a more narrow one that restricts tolerance to cases where someone has an attitude of respect, openness and inclusiveness while really disliking (certain characteristics of) those to whom this attitude is extended. The narrow view implies that people with an attitude of respect, openness and inclusiveness based on genuine approval do not count as tolerant. We include this group as well in our wider definition, as we are primarily interested in the scope of respect, openness and inclusiveness irrespective of whether those who hold these attitudes really like or dislike (certain characteristics of) the people towards which they extend respect, openness and inclusiveness.[4]

Recent research findings suggest that it is important to look at different types of tolerance (see Berggren and Elinder 2012). From the general and broad definition, we therefore make our interpretation of tolerance more concrete and precise by using three questions from the World Values Survey (2012) to construct four measures. The first two measures are based on replies to a question in which respondents in different countries are asked if they would like to have homosexuals and people of a different race as neighbors.[5] The shares of people who do not give a negative reply constitute two of our tolerance measures. The next one is based on replies to a question of whether it is important to teach kids tolerance, and the fraction that answers in the affirmative is our third tolerance measure. Regarding our fourth measure, we follow Das et al. (2008) and construct a "global tolerance index", which is the average of the three other measures.

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[3] Relating different kinds of freedom to each other is not a new thing: Milton Friedman and F. A. Hayek both suggested that economic freedom is a precondition for political freedom. See Lawson and Clark (2010).

[4] The concept of tolerance can be related to that of generality or non-discrimination, as advocated by Buchanan and Tullock (1962) and Buchanan and Congleton (1998) in the realm of formal institutions. Tolerance implies *social attitudes* to the effect that people should be treated equally and can hence primarily be seen as a feature of informal institutions.

[5] Inglehart and Abramson (1999) argue that inclusiveness toward homosexuals is a useful indicator of tolerant attitudes overall.

What have earlier and somewhat related studies had to say about the determinants of tolerance?[6] Corneo and Jeanne (2009) find a positive relation between tolerance towards homosexuals and two policy-related factors: GDP per capita and becoming a new EU member state, which entailed prohibition of discrimination based on sexual orientation. Andersen and Fetner (2008) investigate what impact income inequality has on attitudes towards homosexuality, and their findings suggest a negative relationship but also that the better off become more tolerant with higher incomes. Hence, both income and income inequality seem relevant when studying the formation of tolerance. Somewhat loosely, Spitz (2004) argues that the free-trade agreement NAFTA, and the economic contacts and exchange that it gives rise to, will entail social integration between the United States and Canada, such that the former country will be more inclined to adopt same-sex marriage.

As in the present study, Berggren and Jordahl (2006) make use of the economic freedom index and its five areas, and they do it to investigate the determinants of social trust. The results indicate a positive effect of legal structure and security of property rights, hence demonstrating that economic institutions are able to influence social variables. Rode (2011) similarly relates the degree of market orientation of economic institutions to a social outcome variable, viz., happiness. In particular, access to sound money, free trade and freedom from regulation seem positively related to subjective well-being. Consequently economic freedom appears to have explanatory potential when it comes to social factors like trust and happiness.

Lastly, a few studies look at attitudes toward aspects of economic freedom and how they relate to tolerance and some other social values. Weiss (2003) finds that anti-capitalist sentiments are strongly correlated with nationalism and ethnic intolerance in a group of formerly communist countries. Clearly, anti-capitalist sentiments are not the same as anti-capitalist policies, but the results do point at a possible relation between economic freedom and intolerance, if there is a connection between popular sentiments and policy. Granzin et al. (1997) and Mayda and Rodrik (2005) report similar results: that people's preferences with regard to freer trade are negatively related to values

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[6] Note that we focus on societal- rather than individual-level determinants of tolerance in this study. For a defense of this focus, based on an understanding of tolerance as a social phenomenon, see Moreno-Riaño (2003).

concerning neighborhood attachment, nationalism, ethnocentrism and prejudice, while positively related to education.

Taken together, these earlier studies suggest that societal-level factors, such as policies, institutions and socioeconomic outcomes, as well as sentiments towards such factors, exert an influence on people's ways of thinking and feeling about others.[7] It therefore seems straightforward to extend the analysis to relate economic freedom to tolerance.

Why expect such a relation? For reasons developed further in the next section, the basic idea is that economic freedom entails both *market institutions* of a certain kind – in particular an equal and predictable legal system that, among other things, *de facto* protects private property – and *market processes* that affect the way people think and feel about others. Market institutions offer a framework under which it becomes less risky with good faith in unknown members of various groups different from one's own. Market processes imply interaction and exchange with people different from oneself, which, under equal and predictable institutions, can lead to a realization that differences need not pose a threat and to increased understanding; they also make intolerance come at a cost, in that rejection of groups of people for other reasons than low productivity lowers profits for firms and the well-being of consumers. These are, we propose, the main mechanisms that speak in favor of a positive relationship. However, there is also the possibility of a negative relationship, if markets bring about greed and a perception that certain groups benefit in an unfair way from market exchange (see Hirschman 1982). The empirical analysis must be brought in to shed light on the direction of a relationship.

Hence, we carry out a cross-country regression analysis encompassing up to 65 countries. The results indicate that economic freedom improves tolerance. In particular, the Economic Freedom Index correlates positively with tolerance towards homosexuals, with our measure on the importance to teach kids tolerance and with the global tolerance index. These associations are in turn driven by two of the five areas of the Index: legal structure and security of property rights, on the one hand, and access to sound money, on the other. Consequently, in what we see as the long-run equilibrium, better and more secure market institutions appear to foster tolerance. In trying to better understand these findings, we take a special look at the role of social trust and can

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[7] For a survey on how markets affect culture, including individual preferences, see Bowles (1998).

report that the higher the trust levels, the larger the effect of economic freedom on tolerance. Trust hence seems to affect how people react to economic freedom, when it comes to how they regard others. Results from first difference regressions confirm baseline findings that economic freedom makes people more open-minded to people that in some sense are different from themselves. In particular, we again find that economic freedom fosters tolerance towards homosexuals. We speculate that if homosexuals are seen as part of one's own group, already integrated into families and workplaces, or if they are not really noticed at all, then economic freedom more easily extends into open and generous attitudes to them, compared to people of another race, who are more easily noticed, perceived as outsiders and less integrated into social life and the labor market.

The structure of the paper is as follows. After some theoretical considerations, section three describes the data. The following section presents the empirical results, both in a cross-sectional and in a first-difference analysis, with some tests of causality and robustness. Lastly, some concluding remarks are given.

2 Theoretical considerations

What reason is there to expect a relationship between economic freedom and tolerance? We try to answer this question by first considering economic freedom overall and then by considering the five areas of the Economic Freedom Index separately.

2.1 Economic freedom and tolerance

Our main hypothesis is that there is a positive effect of economic freedom on tolerance, and it builds on two central features of markets – market institutions and the market process – which we argue can entail mechanisms for tolerance to emerge.

Let us begin with the role of *market institutions*. They are really legal institutions that undergird the economy and that are central for how it functions.[8] As Greif (2005: 730) puts it:

> The extent of the market – the degree of voluntary exchange – is determined by its supporting contract-enforcement institutions.[9]

According to Hayek (1960: 154 ff, 207 ff), the rule of law is a necessary component of economic freedom, and it applies when legal institutions that are general, public, stable and announced beforehand are established and enforced. Such rules could stimulate tolerance both directly and indirectly. The direct effect is about creating assurance so that economic actors can act with less fear in their dealings with people, especially with those they know little or nothing about. Such assurance can come about in two ways. First, the generality aspect makes sure that the legal rules apply in the same manner to everyone, including government representatives, which ascertains that it does not matter with whom in particular you are interacting.[10] Second, the rule of law ensures that violators will be punished, which will tend to deter violations of rules prohibiting cheating etc. (see Rothstein 2000: 491–492). This will in turn make people less distrustful of others and more tolerant, as they have less to fear from openness and diversity. The indirect effect arises because market institutions enable the market process, to which we now turn.

The market process has the potential to stimulate tolerance in at least three ways: through internalization, through a conscious desire to advance one's well-being and through affecting group pressure.[11] Internalization is a process of developing a way of

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[8] However, Rypczynski (1996) and Greif (2005) point out that institutions are rarely imposed (especially not in their entirety) before markets begin to operate; rather, there is an ongoing development, where institutions influence markets and markets influence institutions, not least through the political process.

[9] On how institutions relate to economic growth, see, e.g., Rodrik et al. (2004), Acemoglu et al. (2005), Beck and Laeven (2006), Doucouliagos and Ulubasoglu (2006) and Asoni (2008).

[10] Generality also precludes preferential treatment, such as typically the case in the presence of rent seeking the existence of which could sow seeds of discontent from those not being privileged – see Buchanan and Congleton (1998).

[11] The market process can be defined as the dynamic, interpersonal, voluntary and competitive exchange activities carried out by economic agents under the rule of law.

reacting and thinking that produces a spontaneous and unreflected tendency to assess, in our case, people that are different in a certain way. One possible outcome of such a process is tolerance. It can arise early in life through parental upbringing and schooling –and in a market-oriented society, children may very well be brought up and taught so as to be fit for participation in this kind of society (Bowles 1998: 100 ff; Corneo and Jeanne 2009). It can also appear as people continually enter into dealings with others and begin to trust them, in spite of their being different. The practice of commercial interaction and trade induces people to understand others and to realize that they do not pose a threat. If a society that relies heavily on markets offers this kind of experience, tolerance could very well result.[12]

The second tolerance-inducing effect of the market process is a preference to improve one's well-being, which can be seen as a self-interested reason for extending tolerance. What matters for our argument is that people, in striving for a better situation, realize that it may be obtained in interaction and exchange with numerous others – and often better obtained in that fashion than in solitude or when restricting oneself to interaction and exchange with small groups of people.[13] By being intolerant, by not being open to and not letting in people that are different from oneself into one's life or into the wider society, one foregoes a chance for enrichment. Intolerance comes at a cost, which will tend to discourage it. This relates to the theory of discrimination introduced by Becker (1971), who points at a mechanism in markets for reducing the exclusion from the economy of people on other bases than low productivity. For example, firms who do not hire people of a certain race, even though they are more productive, are at a disadvantage in the process of competition and experience lower profits than they

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[12] It may be that what Adam Smith (1759) calls "sympathy" and "fellow-feeling" exists in humans for "biological" reasons, but the idea here is that such sentiments can be strengthened by certain cultural experiences and practices, such as those offered by markets. Lending some support for this idea, Macy and Skvoretz (1998) show how cooperation can emerge between strangers locally and spread through "weak ties" to outsiders. Similarly, Henrich et al. (2001) find experimentally that market integration explains a substantial proportion of the behavioral variation across societies. The idea is that the more people engage in market transactions, the more they will experience abstract sharing principles concerning behaviors toward strangers.

[13] Buchanan (1993) explores the trade-off between participation in the market nexus, which entails dependence on others but also a higher expected material living standard, and autonomy. On the value of (participation in) extensive markets, based on increasing returns, see Buchanan and Yoon (1994).

otherwise would have.[14] This will tend to discourage discrimination. This does not mean that no one will be intolerant or discriminatory: indeed, a preference for intolerance or discrimination may be strong enough to outweigh the benefits foregone from openness. But *ceteris paribus*, the cost of exclusion will make exclusion less prevalent. Hence, in free market economy, with competing, profit-seeking firms and people set on maximizing their well-being, economic actors will have an incentive to be tolerant.[15]

A third effect of the market process relevant for tolerance concerns, we suggest, group pressure. In a setting with no or weak market institutions, where the market process has not developed very much, the group depends on its own production capacity to obtain the goods and services its members need and desire. In such a closed, autarkic setting, there is a strong tendency to meddle and to control people's lives: what they do concerns everybody. Those who are different may be disliked and stigmatized and not at all tolerated. As the market process develops, the group can direct its attention outward and flourish without relying on its group members to the same degree. This also reduces incentives for social pressure to conform to majority norms. Perhaps this is especially true for attitudes towards homosexuals, who on average have fewer children, which might be an important group concern in a closed society.[16]

We posit that these positive effects are reinforced by of social trust. First, Berggren and Jordahl (2006) found that economic freedom stimulates trust (represented by arrow 1 in Fig. 1). Then, in a setting where people tend to trust others, whom they do not know, tolerance can be expected to be nearer at hand than in a setting where distrust is widespread. If one trusts people in general, one can also be expected to be open and generous in one's attitudes to those that are different from oneself, as one does not feel threatened by them and as one therefore give people the benefit of the doubt (arrow 2 in Fig. 1). Moreover, we suggest that social trust affects the size of the effect of economic freedom on tolerance, in addition to affecting tolerance directly (arrow 3 in

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[14] This need not only be because of lower employee quality but also because of consumer reactions and boycotts, if discriminatory company policies get publicity – see Friedman (1999).

[15] This is akin to the so-called *doux commerce* thesis advanced by Montesquieu and others, to the effect that market participation tends to make people gentle, honest and peaceful. For illustrative historical quotes, see Hirschman (1982: 1464–1466); for a modern argument along such lines, see McCloskey (2006).

[16] For a related argument, see Hayek's (1976: chs. 10, 11) discussion of how the closed group society differed from and develped into the "open" or "great" market-based society.

Fig. 1). Relating to market institutions, the rule of law brings about more tolerance if there is trust, because this reinforces the expectation that the legal system will treat people equally, fairly and in accordance with the rule of law. Relating to the market process, the tendency for tolerance to be internalized can be expected to be reinforced by trust, since it makes people less suspicious of others and more relaxed in their attitudes. Furthermore, a free economy is characterized by dynamism and development – and therefore by uncertainty. If there is trust, people are less prone to fear that they will lose out and that others, for whom they have no sympathy, benefit. Lastly, there is of course the direct effect of economic freedom on tolerance, as described previously in this section (arrow 4 in Fig. 1).

[Fig. 1 about here]

To summarize, according to the arguments proffered here, market institutions tend to lead to tolerance by creating assurance that interacting with strangers is not very risky in the presence of the rule of law and by enabling the market process; and the market process tends to lead to tolerance by helping to internalize a sympathy for others and by creating incentives for openness to others when trying try improve one's well-being. Social trust strengthens the relationship between economic freedom and tolerance.

This positive take on the relationship between economic freedom and tolerance can be contrasted with more skeptical perspectives on the ability of markets to produce valuable social attitudes, values and behavior. Hirschman (1982) and Bowles (1998) present such perspectives, albeit not directly applied to tolerance. Let us mention a few of the (partly related) arguments. (a) Many market transactions are anonymous and ephemeral in character, which may facilitate deceptive and opportunistic behavior, especially in the presence of asymmetric information. (b) The moral values that markets rest on were established in a pre-market era and are undermined by the large scale, anonymity, impersonality, shortsightedness and selfishness of the modern market process, not least its globalized form (see, e.g., Bauman 1998 and Bowles and Gintis 1998). (c) If markets result in high inequality, as suggested by Bergh and Nilsson (2010), this may very well cause people to distrust others (see, e.g., Fisher and Torgler 2006 and Jordahl 2009). (d) Markets tend to rely on material motivation, which may crowd out

intrinsic motivation and altruism (see, e.g., Ariely et al. 2009). While material motivation itself can stimulate interaction with others, to the extent that this is seen as generating material benefits, people's genuinely prosocial preferences may at the same time be thwarted or compromised, such that true understanding and sympathy with those who are different becomes less prevalent.

Whether positive or negative effects dominate can only be determined through empirical analysis, for which we will make use of the Economic Freedom Index and its five areas.

2.2 The five areas of the Economic Freedom Index and tolerance

It is important to study the five areas of economic freedom separately, since economic freedom is a multifaceted concept. Hence, certain elements of it may stand in a different relation to tolerance than others. The five areas of the Economic Freedom Index are: Size of government (EFI_1), Legal structure and security of property rights (EFI_2), Access to sound money (EFI_3), Freedom to trade internationally (EFI_4) and Regulation of credit, labor and business (EFI_5).[17] With the general line of reasoning of the preceding section in mind, what is to be expected of their respective relation to tolerance?

Size of government indicates the extent to which countries rely on the voluntary actions of economic actors rather than on government involvement in the economy. It measures how large government consumption, transfers, subsidies, ownership, investment and taxes are: the larger these values are, the lower is EFI_1. The effect on tolerance depends on what government uses its resources for. Therefore, the sign could be either positive or negative. If, for example, government spends a lot on education, this could provide both teaching input and socialization such that tolerance increases. Governments using subsidies and transfers favoring particular interest groups at the expense of others may, however, breed mistrust and intolerance between people. *Legal structure and security of property rights* is a measure of the quality of the legal system, in terms of judicial independence, impartial courts, military interference and integrity, and of the extent to which economic actors perceive the legal system to protect their property and contracts. We expect the effect to be positive, for reasons outlined in the preceding section with regard to market institutions. *Access to sound money* captures the

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[17] For details of the index, see Table A1 in the Appendix.

stability of the monetary regime and the inflation rate. It can be argued that the effect on tolerance is positive, since high and variable inflation tends to redistribute wealth in a manner which may be perceived as unfair and which may therefore cause tension in society. As people attempt to mitigate the uncertainty of future price levels, this can also lead to the absorption of considerable resources in information gathering (Fisher and Modigliani 1978). The negative welfare effects that follow may be a breeding ground for intolerance. Furthermore, in cases of hyperinflation, social unrest and tensions can be forthcoming, not least as political leaders in such situations may look for scapegoats, e.g., minorities. *Freedom to trade internationally* measures things like taxes on international trade, regulatory trade barriers and international capital market controls (the higher they are, the lower EFI_4). On the one hand, this variable connects most closely to th*e doux-commerce* thesis, which has been formulated most often with regard to trade (and its bringing about gentleness, understanding and peace). This implies a positive effect on tolerance. On the other hand, others have pointed out the disruptive effects of globalization and hard competitive pressure from abroad (Bauman 1998), which can make people feel threatened and less inclined to embrace differences. The net effect is thus unclear. Lastly, *Regulation of credit, labor, and business* reflects the degree to which credit markets, labor markets and the business sector are regulated: the less they are so, the higher EFI_5. Regulation could increase tolerance if it restricts opportunistic and exploitative behavior; but by restricting certain types of voluntary, cooperative ventures and by stimulating and responding to rent seeking, the effect could be the reverse. The net effect cannot be determined theoretically.

Table 1 shows the predicted effects for the five elements of economic freedom on tolerance. Several of the possible links between economic freedom and tolerance are theoretically unambiguous, a situation that calls for empirical examination.

[Table 1 about here]

3   The data

Our main variables of interest are four measures of tolerance based on replies to three questions in the World Values Survey and European Values Study. They are: *Tolerance*

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homosexuals, *Tolerance race*, *Importance of teaching kids tolerance* and *Global tolerance (GT) index*. The first dependent variable refers to the share of the population in each country and time period respectively that does *not* pick "homosexuals" in answer to the question "On this list of various groups of people. Could you please mention any that you would not like to have as neighbors?". The second dependent variable refers to the share of the population that does *not* pick "people of a different race" in answer to the very same question. The third dependent variable is calculated using the share of the population answering "Important" to the quality "Tolerance" when being asked the question: "Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important?". The final dependent variable corresponds to the GT index suggested by Das et al. (2008) and is constructed calculating the average of the other three dependent variables.[18] We use information on tolerance from the last non-missing value in the two latest versions of the World Values Survey and European Values Study, i.e., in 2005 or 2000.

Our main explanatory variables are six measures of the degree to which an economy is free from government involvement: the Economic Freedom Index (EFI) and its five constituent areas: Size of government (EFI_1), Legal structure and security of property rights (EFI_2), Access to sound money (EFI_3), Freedom to trade internationally (EFI_4) and Regulation of credit, labor and business (EFI_5). These are described briefly in the preceding section and in detail in Table A1 in the Appendix.

In addition, we make use of a number of control variables that we consider potentially relevant: Real GDP per capita, Education, Young population share, Urban population share, Family values, Religious fractionalization, Ethnic fractionalization, Religion Catholic, Religion Muslim, Civil liberties, Political rights, Net income Gini and a set of geographical dummies. We later add Social trust (as motivated in section 2) and Central-bank independence as an instrumental variable. The variable on social trust comes from the World Values Survey (2012) and the European Values Study (2012) and corresponds to the share of the population in each country who answer that "most people can be trusted" to the question "In general, do you think most people can be

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[18] Here, we only calculate the GT index for countries having information on all of the three variables. In the sensitivity analysis, we see how the results are affect by calculating it for countries having information on two or three of the variables.

trusted or can't you be too careful?".[19] The measure of central-bank independence comes from Polillo and Guillén (2005) and corresponds to the index defined by Cukierman et al. (1992) that directly captures the extent to which the central bank is independent from the political power in a country. The index reflects four aspects: procedures concerning the governor of the central bank; the relationship between the government and the bank, and the location of authority over monetary policies; the objectives of the central bank; and the relationship between the government and the bank in terms of borrowing. The index is continuous (it ranges from zero to one) and increases with more independence.

Let us briefly motivate our inclusion of the control variables. Material well-being can influence tolerance – in a situation of affluence, when competition over scare resources is less acute, more tolerance can be expected (cf. Friedman 2005; Andersen and Fettner 2008). Education can be expected to increase tolerance in two ways: through socialization (having students from different backgrounds get to know each other) and through teaching (widening children's horizons). The share of young people is included since it is perceivable that that age category is less rigid and more open to new experiences, hence more tolerant. In a similar vein, the share of people living in urban areas can be expected to be positively related to tolerance, since diversity generally is greater in such areas than in less dynamic rural settings. Family values is a survey-based measure of how close family ties are on average (we use the measure developed by Alesina and Giuliano 2010, averaging three variables: parents' duties and responsibilities, how much children should respect the elderly and how important family is in life). If one is strongly oriented towards one's close ones, one may be loss open to diversity in the larger world (cf. Ermish and Gambetta 2010). The two fractionalization measures are indicators of how heterogeneous a country is. The predicted net effect on tolerance is unclear: while they may bring about an increase due to a greater probability of people meeting and getting to know others who are different, they may also bring about a decrease in tolerance, to the extent that differing groups tend to come into conflict with each other. The two religion variables capture shares of people who belong to a hierarchical religion, and it could be that identification with such a religion tends to decrease tolerance of those who do not follow the dictates of the

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[19] Although this measure has been criticized for its vagueness, a number of studies show that respondents perceive this question as a measure of trust in people in general (Bjørnskov 2007, 2010; Newton 2007).

prelates (cf. Klosko 2000 and Bjørnskov 2007). The two measures of political and civil rights control for other aspects of a broad concept of freedom than judicial and economic ones. The ability to participate freely in open debates and in how one's country is governed reasonably increases tolerance, but in some cases, one could envisage a negative effect, if increased political and civil freedom exposes inter-group conflicts. We include a measure of income inequality (cf. Andersen and Fettner 2008), which we expect to have a negative impact on tolerance, due to increased discontent from those who feel disfavored in society and due to a larger social distance between different groups of people. Lastly, the geographical dummies serve to control for effects that may be typical of certain regions without being captured by the other control variables.

Our main explanatory variables and the control variables predate the tolerance measures and are collected in 1995. We think a lagged specification is reasonable since it reduces the risk that economic freedom and control variables influence tolerance and since the potential freedom effect plausibly works with a delay. Descriptive statistics, definitions and sources of the variables are given in Table A2; correlation matrices are presented in Table A3; and values for EFI and our GT index are listed in Table A4, all of them in the Appendix.

4   Empirical results

We begin our presentation of our results by showing simple scatter plots of the relations between our tolerance and economic-freedom measures. We proceed by presenting regression results (both of the cross-sectional and of the first-difference kind), including attempts to clarify the role of social trust and to establish causality through the use of instrumental variables. We finish the section by carrying out certain robustness checks and by offering a discussion of the results.

4.1   Plots

To get a first indication of whether economic freedom foster tolerance this section presents nine scatter plots. Fig. 2 plots the Economic Freedom Index against our four

tolerance measures. From this exercise three things become evident. First, the bivariate correlation is weaker between economic freedom and tolerance for people of a different race than between economic freedom and tolerance toward homosexuals and our measure on the importance to teach kids tolerance. Second, the sign of the correlations are positive throughout. Third, the scatter plots indicate a couple of possible outlier observations, i.e., countries with very low and high values of tolerance respectively, which calls for careful outlier testing.

[Fig. 2 about here]

Fig. 3 plots the five areas of economic freedom against the GT index. Clearly, the relationship varies depending on what area of economic freedom that is considered. While the correlation is strongly positive between EFI_2, EFI_4, EFI_5 and tolerance, respectively, the bivariate association is negative between EFI_1 and tolerance. A similar pattern applies when looking at the three separate tolerance measures.

[Fig. 3 about here]

Several caveats apply when interpreting these correlations, one being that they do not take into account income levels and other potentially important tolerance determinants. Moreover, there is the issue of potential reverse causality, with tolerance affecting economic freedom rather than vice versa. To learn more about the validity and character of the different relationships, we move on to regression analysis.

4.2   Cross-sectional results

We continue by carrying out a cross-sectional analysis with added control variables, as described in section 2. The regressions we run are of this form:

$$Tolerance_i = \alpha + \beta(EFI_i) + \gamma(X_i) + \varepsilon_i \qquad (1)$$

EFI_i denotes the Economic Freedom Index (or its five areas) for country i, while X_i is a vector of control variables for country i. Table 2 contains the results for the overall EFI and our four measures of tolerance.

[Table 2 about here]

As can be seen, EFI is positively related, in a statistically significant way, to three of the four tolerance measures when controlling for other possible determinants of tolerance. The effect is strongest, both in size and statistical significance, for tolerance towards homosexuals. A one-unit increase in economic freedom is associated with the share of people being more tolerant towards homosexuals being about 9 percentage points higher. As for the control variables, they are mostly not statistically significant. The most notable exceptions are negative relationships between the share of Muslims and political rights, respectively, and tolerance towards homosexuals, as well as a positive and a negative relationship between being located in Latin America and South Asia, respectively, and tolerance towards people of a different race.

In order to make more precise what elements of economic freedom that drive these results, we use the same model to estimate the relationship between the five areas of the EFI and the four tolerance measures. Table 3 presents the estimated coefficients of the five areas of the EFI without reporting, for reasons of space, the findings for the control variables.

[Table 3 about here]

The results suggest that two areas are of particular importance for the economic freedom-tolerance relationship: EFI_2, legal structure and security of property rights, and EFI_3, access to sound money. For example, an increase of EFI_2 by one unit is associated with an increase in global tolerance of about five percentage points. On the other hand, EFI_1, size of government, and EFI_4, freedom to trade internationally, seem unrelated to tolerance.[20] The fifth area, EFI_5, regulation of credit, labor and business, shows a

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[20] In the present study, we look at the character of institutions: in the case of EFI_4 at how open the set of rules regulating trade etc. is. Evidently, this is not the same thing as measuring actual trade flows, for

relationship to the importance of teaching kids tolerance but not to any of the other tolerance measures. The effects are positive throughout.

4.3 First-difference regression results

We also study the development of economic freedom and tolerance by considering changes over a longer time period, running the following type of regression:

$$\Delta Tolerance_i = \alpha + \beta(\Delta EFI_i) + \gamma(X_i) + \varepsilon_i \qquad (2)$$

In equation (1), $\Delta Tolerance_i$ refers to the difference in tolerance in country *i* over a certain time period. This specification maximizes the possibility of capturing mechanisms that increases tolerance in the long run. Following Bergh and Nilsson (2011), we maximize the length of this time period for each country, and the dependent variable might consequently correspond to changes in tolerance over different periods for different countries. ΔEFI_i refers to the change in economic freedom in country *i* and corresponds to the same number of years as the country-specific tolerance spell. For example, in our sample there is information on tolerance outcomes in Sweden from 1990 to 2005. We therefore calculate the change in tolerance by taking the tolerance level in 2005 minus the tolerance level in 1990. Likewise, we calculate the Swedish change in economic freedom using a 15-year time spell. To reduce the risk of reverse causality, we lag the change in economic freedom by one time period. In the Swedish example, this variable is thus derived by using data on economic freedom for 2000 and 1985.

A first-difference analysis bundles all time-invariant country characteristics into an error component and estimates the relationship between economic freedom and various measures of tolerance robustly to latent heterogeneity due to time-invariant effects. Consequently this analysis also takes account of potential problems related to endogeneity. In our specifications, we include information on the initial level of tolerance, referring to the tolerance level in the earliest year in each country's tolerance spell, and the initial level of the control variables included in the above cross-country

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which openness is a necessary but not sufficient condition. As we wish to retain an institutional focus, looking at the relationship between trade as such and tolerance is left for future work.

specifications. The reason for including the initial tolerance level is that the initial level can be related to the size of the subsequent change.

Table 4 presents baseline results from long-run relationship estimations. In general, the first-difference analysis confirms the previous results. Once again findings suggest that economic freedom fosters tolerance towards homosexuals.

[Table 4 about here]

When looking at the five areas of the EFI, in Table 5, we see a long-run positive effect of the change in the stability of monetary policy and outcomes on the change in tolerance towards homosexuals, but also a positive effect of smaller government. Smaller government also seems to reduce people's willingness to teach children tolerance.

[Table 5 about here]

Aside from being a first, rudimentary causality test, the first-difference results largely corroborate the cross-sectional findings, especially with regard to tolerance towards homosexuals being a function of economic freedom. We thus continue our analysis in section 4 by delving deeper into and by extending the cross-sectional findings.

4.4   Exploring the role of social trust

As developed in section 2, we expect the relationship between economic freedom and tolerance to be influenced by social trust.[21] Not least, we think that the higher the degree of social trust, the larger the effect of EFI on tolerance. In order to get a better grasp of the mechanism through which economic freedom influences tolerance, we therefore investigate the role of trust in three ways: by including it as a control variable; by interacting EFI and trust; and by calculating the continuous relationship between the

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[21] As Table A3 shows, correlation coefficients between social trust and our four tolerance measures are rather low, ranging from .16 to .38, which indicates that our trust and tolerance measures capture conceptually distinct things.

EFI coefficient and trust levels. Results from the two first tests are found in Table 6. The upper two rows in each section of the table shows the estimated coefficients of the EFI area of interest and of Trust for each type of tolerance measure (when no interaction is included). The third row in each section of the table shows the estimated interaction coefficient for these two variables. Here, we do not report the estimated coefficients of the EFI areas and Trust from these regressions for reasons of space; in any case, these only indicate the size of the effect of EFI (Trust) when Trust (EFI) equals zero. Note that the same control variables as in Tables 2 and 3 have been used throughout.

[Table 6 about here]

Our results suggest that social trust is a mediator in the relationship between economic freedom and tolerance. As can be seen, economic freedom retains its statistical significance compared to the regressions without Trust (presented in Tables 2 and 3), although the magnitude of the estimated EFI coefficients decreases in all cases. Still, the size of these point estimates implies that economic freedom as such is an important factor behind tolerance. Social trust is in general positive and significant. Furthermore, the generally positive signs of the interaction effects suggest that the two variables jointly affect tolerance. These findings seem to confirm the reasoning in Fig. 1, which among other things illustrates that economic freedom partly stimulates tolerance through the building of trust and that trust is conducive to tolerance.

In order to see how the estimated EFI coefficients vary with Trust, we present Fig. 4, which displays the EFI estimates on the Y axis and the Trust levels on the X axis, with the hyphenated lines displaying a 95% confidence interval for the economic freedom–tolerance relationship conditional on the value of Trust.

[Fig. 4 about here]

The graphs in Fig. 4 all present the relationship of interest when using global tolerance as our dependent variable, and indeed suggest that trust is a central mechanism through which economic freedom affects tolerance. The point estimate of EFI is positive and increasing across Trust levels and is only insignificant at very low values of Trust (the threshold equals 10 which is about the level of Trust in Brazil in

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1995) at the 5 percent level. In our sample only nine countries have a Trust level lower than 10, suggesting that the relationship is general. Similarity, the tolerance effects of EFI_2, EFI_3 and EFI_4 are positive and increasing with people trusting each other. On the other hand, in line with the results in Table 6, the relationship of interest is not robust when focusing on the effects of EFI_1 or EFI_5 on tolerance.

We do not show corresponding tables when tolerance towards homosexuals is the dependent variable for reasons of space, but here as well, it is rewarding to explore this kind of heterogeneity. The effect of EFI on tolerance towards homosexuals increases with Trust. When Trust levels exceed 15 the relationship is statistically significant (which covers 75 percent of the countries in our sample), confirming an important role for trust.

4.5   Testing for causality through instrumental variables

While the preceding results indicate some areas in which economic freedom is related to some types of tolerance, it is nevertheless uncertain if the effect is causal. As a first test to try to establish whether it is, we make use of central-bank independence (CBI), as measured by the index in Polillo and Guillén (2005), as an instrumental variable. It is most naturally related to the area of economic freedom which most consistently is related to tolerance in baseline regressions, viz., EFI_3 (access to sound money), in particular inflation rates (see, e.g., Acemoglu et al. 2008, Crowe and Meade 2008 and Cukierman 2008). We suggest, however, that it is also a relevant instrument for economic freedom more generally: liberalized economic regimes tend to go together with independent central banks. Furthermore, we are not aware of any empirical results showing a relationship between tolerance and central-bank independence, nor do we see any theoretical basis for expecting such a relationship to exist. We therefore expect this instrument to be valid and uncorrelated with the error term.

First-stage regression results (presented in Table A5 in the Appendix) suggest that central-bank independence associates positively with EFI and EFI_3.[22] Moreover Anderson's canonical correlation LR test is rejected, indicating that the excluded instrument is relevant.

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[22] We use information on central-bank independence in 1990 to instrument for economic freedom in 1995.

[Table 7 about here]

The results from the second-stage regression indicate that EFI_3 indeed does stand in a causal relationship to tolerance towards homosexuals – both EFI and EFI_3 retain statistical significance under instrumentation.

Lastly, we would like to mention that we have investigated other potential instruments, based on a study of the relationship between economic freedom and prosperity, Faria and Montesinos (2009). They suggest four instruments to uncover the exogenous component of EFI using IV methods: latitude, legal origin, ethnolinguistic fractionalization and settler mortality. We have tried to instrument economic freedom using latitude and legal origin, but according to first-stage regression results and related tests, none of these instruments are valid.[23] Based on the results using central-bank independence, however, we cautiously proceed on the assumption that economic freedom causes tolerance.[24]

4.6   Robustness analysis

In order to see whether the results are sensitive to various changes in the way we conduct our empirical analysis, we carry out a number of robustness checks, relating to pandel-data analysis, outliers and model specification.

First, we conduct a fixed-effect panel-data analysis, with two or three observations for each country, primarily to further examine whether claims of causality seem reasonable. Again, we find that economic freedom relates positively to tolerance towards homosexuals, whilst unrelated to the other forms of tolerance (see Table A7 in the Appendix). When looking at the five areas of the EFI, the picture becomes less clear (see Table A8 in the Appendix). The driving force between the positive relationship of tolerance towards homosexuals and economic freedom is again stable monetary policy

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[23] We have not used ethnolinguistic fractionalization as an instrument since this factor likely correlates with tolerance. Also, the use of settler mortality as an instrument has recently been questioned – see Albouy (2012).

[24] The sample in our 2SLS estimation is reduced compared to that used in our baseline estimations due to a lack of data on central-bank independence. Running baseline regressions using the limited sample does not change our conclusions from section 4.2.

and outcome, but we also see a negative influence from freedom to trade internationally. We also detect effects on tolerance towards people of a different race: a positive one from absence of regulation and a negative one from legal structure and security of property rights. We interpret the few divergent results, as compared to those established through cross-sectional and first-difference analysis, as reflecting different time dimensions. While the other two forms of analysis can be seen as "equilibrium" and long-term results, these results are more readily interpreted as transitory effects. It may take time for an effect of economic freedom on tolerance to manifest itself – cultural values and social attitudes are often rather stable in the short run. As a robustness test, we have run the set of panel-regressions using non-lagged values of economic freedom. In contrast to our baseline findings, these estimations do not indicate any general association between economic freedom and our tolerance measures. These results even more support the view that the positive tolerance impact from economic freedom is not instantaneous, but requires some time of exposure.[25]

Second, we use least trimmed squares (LTS) to carry out a test of outliers, i.e., observations that deviate from the linear pattern followed by the majority of the data.[26] In line with Rousseeuw and Leroy (1987), we proceed as follows. A regression line is calculated by using the 75% of the observations that minimize the sum of the squared residuals. The remaining 25% of the observations are then added, and residuals for all observations are computed. We regard countries with a standardized residual above 2.5 as outliers. After that, reweighted least squares is used for inference: outliers are given the weight zero and the rest the weight one. The main advantage of LTS is that it can handle cases with several jointly influential outliers. In our case, the method can handle cases where up to one fourth of the observations are jointly influential.

Point estimates for tolerance towards homosexuals when outliers are removed (presented in Table A6 in the Appendix) suggest that our baseline results are not sensitive to outliers. Removing outliers increase the size of the estimate and statistical significance is retained for the EFI variable throughout. Performing similar exercises for the three other dependent variables also suggest that outliers are not a problem.

Third, we change the model specification by excluding two variables, one at a time, and by adding one. We think of real GDP per capita and income inequality as potential

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[25] All these results are available upon request.

[26] For arguments in favor of using LTS, see Temple (1999) and Sturm and de Haan (2005).

mediators in the relationship between economic freedom and tolerance (based on, e.g., Berggren 1999, Berggren et al. 2008 and Bergh and Nilsson 2010), while all other controls are seen as confounders. In our terminology, a confounder is an exogenous factor that affects tolerance, but is not itself influenced by economic freedom. A mediator is a factor that is influenced by economic freedom and in turn affects tolerance. It is not evident that a mediator should be included as a regressor as that will reduce the estimated effect of economic freedom on tolerance, which is why we investigate what happens to the estimated EFI coefficients when the GDP and inequality measures are excluded. We find that all the estimated coefficients of economic freedom increases in magnitude by excluding GDP per capita. In most cases the significance of the estimated economic freedom coefficient also increases. In line with the finding that income inequality is not significant in baseline regressions, the estimated EFI coefficients generally remain of the same magnitude when excluding the net income Gini coefficient, suggesting that inequality is not a mediating factor in the relationship between economic freedom and tolerance. Lastly, we try adding the stock of migrants in a country (measured as the share of the population) as a control variable, but we find that it never attains statistical significance or affects the estimates of economic freedom. This variable specifically does not stand in a significant relationship to tolerance towards people of a different race, which one might have expected.

Fourth, following the recent critique of the frequently used measures of democracy, such as the Freedom House indices (see, e.g., Cheibub et al. 2010), we replace our data on civil and political rights by the democracy-dictatorship index. The variable comes from Cheibub et al. (2010) and distinguishes between regimes in which executive and legislative offices are allocated in contested elections and those regimes in which this is not the case. The variable takes the value one for democracies and zero for autocracies. Reassuringly, this robustness test does not change baseline findings. The democracy-dictatorship only turns out significant in one specification, and the results only change by turning EFI_4 and EFI_5 statistically significant (and positive) in relation to global tolerance and to the importance of teaching kids tolerance.

Fifth, we investigate whether the relationship between EFI and tolerance differs depending on development level by interacting the EFI variables with GDP per capita. We find that the interaction term for EFI and EFI_3 is never statistically significant, which suggests that the results between these EFI variables and tolerance are valid

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irrespective of the level of GDP per capita. However, for EFI_2 we find a significant effect for the interaction term, implying a stronger relationship in richer countries.

4.7   Discussion

What can we say about how economic freedom and tolerance relate to each other on the basis of our empirical analysis? We consider it clear that there are statistically significant relationships between the two, with and without control variables; that the size of the effects are relatively large and important; that the relationships are generally positive when they are statistically significant (with the primary exception of EFI_1); that social trust serves as a mechanism through which the effect arises; that the relationship seems causal; that it is important to look at different types of tolerance, as effects differ, with tolerance towards homosexuals being most clearly affected; that especially EFI_3 (access to sound money) but also EFI_2 (legal structure and security of property rights) matter most consistently; and that effects of economic freedom on tolerance take time to become manifest.

We do not consider it strange that tolerance towards homosexuals is most strongly related to economic freedom, due to the different character of being a homosexual and a person of a different race.[27] For example, homosexuals are to a large extent present in families and in the workplace. This may very well suggest to people that homosexuals are well integrated and not a threat under a liberalized economic regime. People of another race, on the other hand, may to a larger degree be perceived as being different, less integrated and possibly a social and economic burden to society, with less tolerance emerging as a result. A further possible reason for different results for these two tolerance categories is that the race issue was more pertinent some decades ago, whereas the issue of sexual orientation is of more current concern, at least in many Western countries. Hence, tolerance on the basis of race may already have been established in many places and may, as such, be insensitive to economic freedom.

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[27] Admittedly, there is a difference between the two measures in that the former may entail responses *from homosexuals*, who can be presumed to be tolerant towards homosexual neighbors by virtue of their being homosexuals themselves, whereas the latter (by its construction) is such that it only entails responses with regard to those who are different from the respondents. We do not consider this to be a problem: first, because the share of homosexuals in the population is low, and second, because, if anything, this leads us to *underestimate* the effect of economic freedom on tolerance towards homosexuals.

5   Concluding remarks

Since tolerance is associated with many desired outcomes, it becomes important to try to pinpoint what tolerance stems from. We propose to look, for the first time, at the role of the character of economic institutions and policies. Since there have been many heated debates about the merits or demerits of markets when it comes to establishing good values in society, and since most of these seem to be theoretical in character, our contribution is to look at this issue empirically.

We make use of the Economic Freedom Index and its five areas to measure the degree to which institutions and policies are market-oriented. These measures are then related to four tolerance measures: tolerance toward homosexuals, tolerance towards people of a different race, people's opinion that it is important to teach kids tolerance and a global tolerance index (the average of the three other ones).

Speaking on a general level, there are theoretical reasons to expect a positive effect of economic freedom on tolerance, and they have to do with market institutions and the market process. The former refer to the rule of law, including property rights and contract law, which creates assurance that makes people not fear interaction with others. The market process is in turn enabled by the rule of law and makes possible this interaction between people, which can bring about tolerance, through internalization of an attitude of openness and generosity, through a conscious desire to advance one's well-being or through reduced group pressure. That being said, there are also arguments for a negative effect of economic freedom on tolerance, e.g., by stimulating selfishness, by relying on anonymous transactions under asymmetric information, by increasing inequality and by crowding out intrinsic motivation and prosocial preferences. In the end, it is an empirical matter what sign the relationship has.

We try to find out by carrying out cross-sectional and first-difference regression analyses. Our results suggest that economic freedom is positively related, especially in the longer run, to tolerance towards homosexuals. However, there seems to be no statistically significant general effect on the other tolerance measures. When looking at the five areas of economic freedom, the cross-sectional results indicate that the quality of the legal system and the protection of property rights, as well as the stability of monetary policy and outcomes, play a positive role for tolerance towards homosexuals, while the other areas are not particularly important. We interpret these findings such

that stability, safety and an expectation of fairness (in the legal and monetary systems) are conducive to not regarding others as threatening. Moreover, we find that social trust plays an important role, as a mechanism through which economic freedom builds tolerance. It seems that people who trust others they do not know are also tolerant – and that a given level of economic freedom brings about more tolerance the higher the share of people with social trust.

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Figures and tables

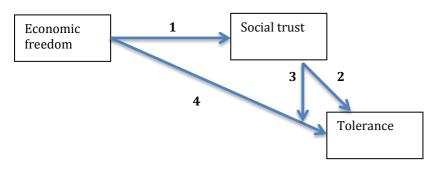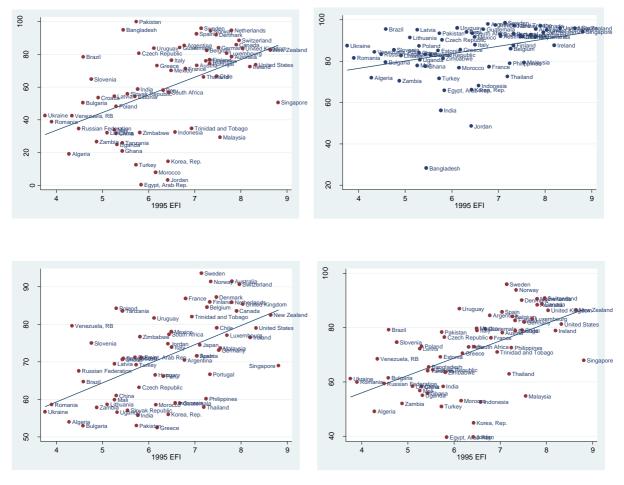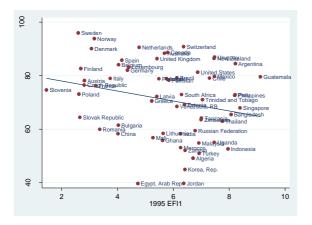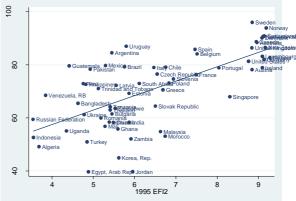**Fig. 1** Economic freedom, social trust and tolerance

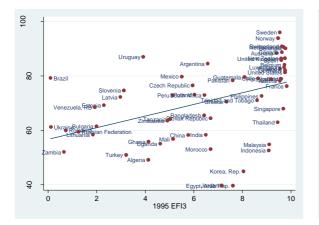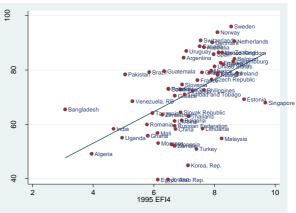**Fig. 2** Economic freedom and measures of tolerance

Notes: The diagram in the upper left corner shows tolerance towards homosexuals and, continuing clockwise, the others show tolerance towards people of another race, importance of teaching kids tolerance and the global tolerance index.

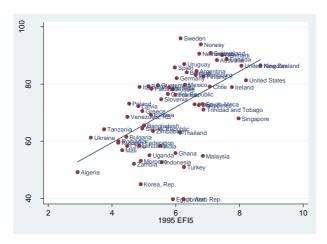**Fig. 3** The five areas of economic freedom and the global tolerance index

Fig. 4 The effect of economic freedom on global tolerance conditional on trust levels
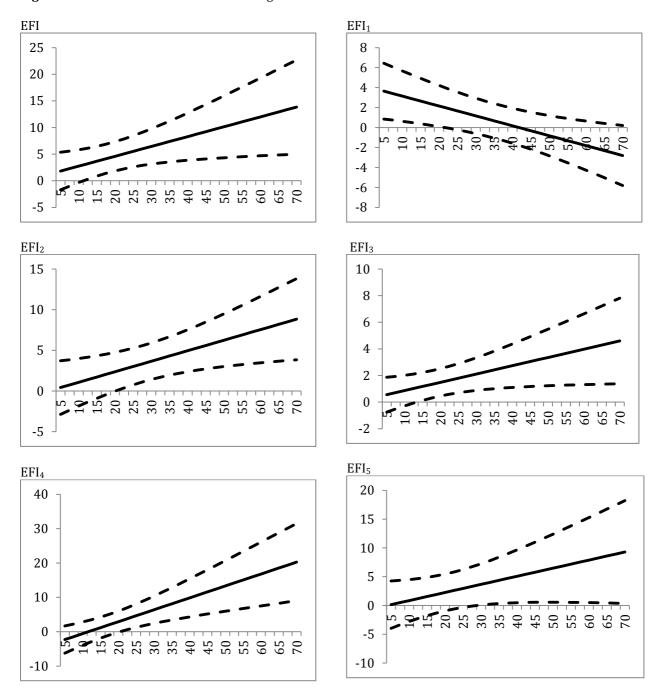
Table 1 Expected effects of the five areas of economic freedom on tolerance

Type of economic freedom	Expected effect	Motivation
EFI$_1$ Size of government	-/+	Hinder tolerance-building market mechanisms through taxation and by non-general policies; provide tolerance-enhancing goods such as judicial system and education
EFI$_2$ Legal structure and security of property rights	+	Provide assurance of equal treatment and punishment of cheaters, which will make people less fearful of diversity
EFI$_3$ Access to sound money	+	Stimulate voluntary contracts and the tolerance that stems from such activities; precludes wealth redistribution through inflation and ensuing tensions
EFI$_4$ Freedom to exchange with foreigners	-/+	Make citizens segmented and suspicious; make citizens realize that others who are different can display the same good behavior as the own group
EFI$_5$ Regulation of credit, labor, and business	-/+	Dampen opportunistic behavior; hamper competition and breed rent-seeking

Table 2 Economic freedom and tolerance: cross-sectional results

Dependent variable:	Tolerance homosexuals	Tolerance different race	Kids	GT index
EFI	8.916**	2.516	3.626*	5.125**
	(3.752)	(1.531)	(1.890)	(2.028)
Log GDP per capita	1.463	0.358	2.425	0.201
	(5.880)	(2.733)	(2.715)	(3.020)
Education	-0.120	-0.0256	-0.0525	-0.0917
	(0.215)	(0.087)	(0.146)	(0.110)
Young (dependency)	0.0482	-0.144	0.114	-0.00843
	(0.303)	(0.132)	(0.206)	(0.144)
Urban population	0.201	0.00411	0.107	0.104
	(0.193)	(0.055)	(0.076)	(0.072)
Family value	-0.0842	-0.0106	0.284*	0.0601
	(0.371)	(0.137)	(0.148)	(0.189)
Religious fractionalization	-18.33	6.463	4.053	-3.567
	(10.99)	(4.336)	(6.771)	(5.514)

Ethnic fractionalization	2.361	-0.745	-8.411	-2.904
	(11.76)	(6.300)	(6.185)	(6.870)
Religion - Catholic	-0.0155	-0.000680	-0.0466	-0.0156
	(0.064)	(0.029)	(0.044)	(0.036)
Religion - Muslim	-0.411***	-0.0545	0.00533	-0.154***
	(0.143)	(0.057)	(0.077)	(0.055)
Civil liberities	6.704	1.044	-3.408	0.670
	(3.986)	(1.911)	(3.242)	(2.381)
Political rights	-7.313**	-0.595	1.785	-1.734
	(2.875)	(1.140)	(2.257)	(1.499)
Net income Gini	-0.339	-0.161	-0.283	-0.278
	(0.351)	(0.173)	(0.261)	(0.208)
East Asia	1.192	0.682	-3.291	-1.053
	(14.43)	(8.222)	(6.274)	(7.888)
Europe	13.57	7.524	4.063	8.151
	(14.08)	(7.789)	(5.476)	(7.254)
Latin America	17.87	19.40**	8.971	15.55*
	(15.77)	(8.989)	(7.552)	(7.929)
North America	16.05	10.33	-0.107	9.056
	(15.66)	(8.963)	(7.326)	(8.290)
South Asia	23.83*	-17.48**	-6.334	0.0134
	(12.94)	(8.092)	(7.061)	(6.838)
Sub-Saharan Africa	12.04	12.60	12.49	11.26
	(17.09)	(11.00)	(10.72)	(9.133)
Constant	-5.149	68.38**	6.762	37.19
	(55.61)	(26.30)	(32.58)	(26.49)
Adj. R^2	0.701	0.589	0.406	0.711
Observations	63	62	63	61

Notes: Robust standard errors in parentheses.

* significant at 10%

** significant at 5%

*** significant at 1%

The geographical reference for country-group dummies is the Middle East and North Africa (MENA).

Table 3 The areas of economic freedom and tolerance: cross-sectional results

Dependent variable:	Tolerance homosexuals	Tolerance different race	Kids	GT index
EFI_1	0.0771	1.164	-1.547	0.106
	(2.448)	(0.880)	(1.447)	(1.253)
EFI_2	7.513**	2.621*	3.123*	4.777***
	(3.015)	(1.373)	(1.592)	(1.632)
EFI_3	3.461***	0.487	1.333**	1.784***
	(1.250)	(0.530)	(0.600)	(0.660)
EFI_4	3.415	1.821	3.158	2.606
	(4.287)	(1.621)	(1.912)	(2.329)
EFI_5	4.994	1.397	3.271*	2.890
	(4.223)	(1.729)	(1.785)	(2.308)

Notes: Robust standard errors in parentheses.

* significant at 10%

** significant at 5%

*** significant at 1%

All estimated equations include the specified measure of economic freedom, a constant term and the same full set of control variables as before, including the country-group dummies.

Table 4 Economic freedom and tolerance: first-difference results

Dependent variable:	Change tolerance homosexuals	Change tolerance different race	Change Kids	Change GT index
Change EFI	0.052**	0.003	-0.026	0.006
	(0.018)	(0.013)	(0.015)	(0.009)
Initial tolerance value	-0.665***	-0.736***	-0.355**	-0.553***
	(0.124)	(0.169)	(0.143)	(0.127)
Log GDP per capita	0.002	0.044	0.077***	0.027
	(0.044)	(0.028)	(0.025)	(0.021)
Education	0.001	-0.001	0.000	0.001
	(0.002)	(0.001)	(0.001)	(0.001)
Young (dependency)	0.002	-0.004*	0.004***	0.001
	(0.002)	(0.002)	(0.001)	(0.001)
Urban population	0.002	0.000	0.001	0.001*
	(0.001)	(0.001)	(0.001)	(0.001)
Family value	-0.448*	-0.142	0.105	-0.200

	(0.258)	(0.166)	(0.197)	(0.133)
Religious fractionalization	-0.011	-0.050	-0.078	-0.075*
	(0.080)	(0.053)	(0.055)	(0.042)
Ethnic fractionalization	0.117*	0.001	-0.055	0.039
	(0.060)	(0.055)	(0.047)	(0.034)
Religion - Muslim	-0.005***	-0.002**	-0.002**	-0.003***
	(0.001)	(0.001)	(0.001)	(0.001)
Religion - Catholic	-0.001	-0.000	-0.001	-0.000
	(0.001)	(0.000)	(0.000)	(0.000)
Civil rights	0.030	-0.008	-0.015	0.008
	(0.038)	(0.028)	(0.018)	(0.019)
Political rights	-0.085***	0.022	0.017	-0.023*
	(0.030)	(0.021)	(0.013)	(0.013)
Net income gini	-0.000	0.007**	0.001	0.002
	(0.003)	(0.003)	(0.002)	(0.002)
Constant	0.721	0.274	-0.662**	0.261
	(0.502)	(0.392)	(0.316)	(0.257)
Adj. R^2	0.637	0.443	0.423	0.476
Observations	37	38	40	36

Notes: Robust standard errors in parentheses.

* significant at 10%

** significant at 5%

*** significant at 1%

Table 5 The areas of economic freedom and tolerance: first-difference results

Dependent variable:	Change tolerance homosexuals	Change tolerance different race	Change Kids	Change GT index
Change EFI_1	0.047**	0.008	-0.025***	0.012
	(0.018)	(0.012)	(0.008)	(0.010)
Change EFI_2	0.019	0.001	-0.006	0.003
	(0.013)	(0.009)	(0.013)	(0.006)
Change EFI_3	0.015*	-0.002	-0.001	0.001
	(0.008)	(0.007)	(0.007)	(0.004)
Change EFI_4	-0.011	0.005	-0.015	-0.005
	(0.020)	(0.009)	(0.014)	(0.008)
Change EFI_5	0.025	0.001	-0.022	-0.002
	(0.025)	(0.013)	(0.017)	(0.010)

Notes: Robust standard errors in parentheses.

* significant at 10%

** significant at 5%

*** significant at 1%

All estimated equations include the specified measure of economic freedom, a constant term and the same full set of control variables as before.

Table 6 The role of social trust

Dependent variable:	Tolerance homosexuals		Tolerance different race		Kids		GT index	
EFI	7.505**	(3.360)	2.340	(1.423)	2.767*	(1.623)	4.233**	(1.685)
Trust	0.597***	(0.169)	0.074	(0.103)	0.289***	(0.097)	0.337***	(0.092)
Interaction	0.322**	(0.157)	0.0810	(0.104)	0.0428	(0.085)	0.185**	(0.086)
EFI_1	2.234	(2.274)	1.548*	(0.819)	-0.638	(1.355)	1.290	(1.017)
Trust	0.742***	(0.209)	0.132	(0.121)	0.321***	(0.111)	0.424***	(0.120)
Interaction	-0.0928	(0.077)	-0.109***	(0.035)	-0.0491	(0.043)	-0.099**	(0.038)
EFI_2	5.287*	(2.791)	2.517*	(1.302)	1.977	(1.383)	3.588**	(1.336)
Trust	0.522***	(0.163)	0.024	(0.090)	0.269***	(0.095)	0.282***	(0.0763)
Interaction	0.116	(0.114)	0.115**	(0.050)	0.0611	(0.055)	0.129**	(0.056)
EFI_3	2.781**	(1.174)	0.384	(0.505)	0.935*	(0.549)	1.359**	(0.582)
Trust	0.569***	(0.191)	0.086	(0.114)	0.285***	(0.101)	0.332***	(0.109)
Interaction	0.117*	(0.065)	0.00170	(0.036)	0.0205	(0.036)	0.0622*	(0.031)
EFI_4	3.437	(3.880)	1.824	(1.636)	2.780*	(1.600)	2.428	(2.025)
Trust	0.685***	(0.198)	0.102	(0.109)	0.315***	(0.100)	0.388***	(0.110)

Interaction	0.461**	(0.202)	0.292**	(0.125)	0.0425	(0.107)	0.347***	(0.109)
EFI$_5$	4.079	(3.702)	1.269	(1.595)	2.765*	(1.555)	2.312	(1.924)
Trust	0.651***	(0.170)	0.091	(0.104)	0.303***	(0.091)	0.371***	(0.094)
Interaction	0.219	(0.143)	0.106	(0.083)	0.0210	(0.090)	0.141	(0.089)

Notes: Robust standard errors in parentheses.

* significant at 10%

** significant at 5%

*** significant at 1%

All estimated equations include the specified measure of economic freedom, a constant term and the same full set of control variables as before, including the country-group dummies.

Table 7   Regression results using an instrumental variable

Method:	2SLS	2SLS
	Tolerance	Tolerance
Dependent variable:	homosexuals	homosexuals
EFI	11.88**	
	(5.202)	
EFI$_3$		4.502**
		(2.062)
Log GDP per capita	-1.237	-0.829
	(7.175)	(7.345)
Education	-0.168	-0.267
	(0.170)	(0.163)
Young (dependency)	-0.223	-0.0262
	(0.359)	(0.322)
Urban population	-0.158	-0.0168
	(0.158)	(0.167)
Family value	0.214	0.0543
	(0.255)	(0.236)
Religious fractionalization	-0.693	6.659
	(9.214)	(9.917)
Ethnic fractionalization	13.65	20.74*
	(9.206)	(11.37)
Religion - Catholic	-0.0733	-0.109*
	(0.0561)	(0.0664)
Religion - Muslim	-0.421***	-0.417***
	(0.126)	(0.132)
Civil liberities	5.785	2.362

	(3.893)	(3.105)
Political rights	-8.600***	-6.741**
	(3.078)	(2.742)
Net income Gini	-0.529	-0.0220
	(0.364)	(0.299)
East Asia	-4.208	1.202
	(11.08)	(11.32)
Europe	14.42	21.67
	(11.90)	(14.03)
Latin America	33.24**	36.08**
	(16.17)	(17.71)
North America	2.332	8.108
	(13.99)	(14.85)
South Asia	11.56	11.25
	(15.51)	(16.25)
Sub-Saharan Africa	-2.738	-10.20
	(15.60)	(16.22)
Constant	15.17	34.38
	(48.85)	(56.11)
Centered R^2	0.854	0.840
Observations	55	55

Notes: Robust standard errors in parentheses.

* significant at 10%

** significant at 5%

*** significant at 1%

EFI and EFI_3 are instrumented by the CBI index, measuring central-bank independence, and the control variables given in the table.

Appendix

Table A1 The Economic Freedom Index

1: Size of Government: Expenditures, Taxes, and Enterprises

A. General government consumption spending as a percentage of total consumption

B. Transfers and subsidies as a percentage of GDP

C. Government enterprises and investment as a percentage of GDP

D. Top marginal tax rate (and income threshold at which it applies)

i. Top marginal income tax rate (and income threshold at which it applies)

ii. Top marginal income and payroll tax rate (and income threshold at which it applies)

2: Legal Structure and Security of Property Rights

A. Judicial independence: the judiciary is independent and not subject to interference from the government or parties in disputes

B. Impartial courts: A trusted legal framework exists for private businesses to challenge the legality of government actions or regulation

C. Protection of intellectual property

D. Military interference in rule of law and the political process

E. Integrity of the legal system

3: Access to Sound Money

A. Average annual growth of the money supply in the last five years minus average annual growth of real GDP in the last ten years

B. Standard inflation variability in the last five years

C. Recent inflation rate

D. Freedom to own foreign currency bank accounts domestically and abroad

4: Freedom to Trade Internationally

A. Taxes on international trade

i. Revenue from taxes on international trade as a percentage of exports plus imports

ii. Mean tariff rate

iii. Standard deviation of tariff rates

B. Regulatory trade barriers

i. Hidden import barriers: no barriers other than published tariffs and quotas

ii. Costs of importing: the combined effect of import tariffs, license fees, bank fees, and the time required for administrative red tape raises costs of importing equipment: by 10% or less = 10, by more than 50% = 0

C. Actual size of trade sector compared with expected size

D. Difference between official exchange rate and black market rate

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E. International capital market controls

i. Access of citizens to foreign capital markets and foreign access to domestic capital markets

ii. Restrictions on the freedom of citizens to engage in capital market exchange with foreigners—index of capital controls among 13 IMF categories

5: Regulation of Credit, Labor, and Business

A. Credit market regulations

i. Ownership of banks: percentage of deposits held in privately owned banks

ii. Competition: domestic banks face competition from foreign banks

iii. Extension of credit: percentage of credit extended to private sector

iv. Avoidance of interest rate controls and regulations that lead to negative real interest rates

v. Interest rate controls: interest rate controls on bank deposits and/or loans are freely determined by the market

B. Labor market regulations

i. Impact of minimum wage: the minimum wage, set by law, has little impact on wages because it is too low or not obeyed

ii. Hiring and firing practices: hiring and firing practices of companies are determined by private contract

iii. Share of labor force whose wages are set by centralized collective bargaining

iv. Unemployment benefits: the unemployment benefits system preserves the incentive to work

v. Use of conscripts to obtain military personnel

C. Business regulations

i. Price controls: extent to which businesses are free to set their own prices

ii. Administrative conditions and new businesses: administrative procedures are an important obstacle to starting a new business

iii. Time spent dealing with government bureaucracy: senior management spends a substantial amount of time dealing with government bureaucracy

iv. Starting a new business: starting a new business is generally easy

v. Irregular payments: irregular, additional payments connected with import and export permits, business licenses, exchange controls, tax assessments, police protection, or loan applications are very rare

Notes: For more information, see Gwartney et al. (2011) and www.freetheworld.com.

Table A2   Descriptive statistics, definitions and sources

Variable	Description	Source	Mean	Std. dev.	Min	Max
Tolerance homosexuals	Share of the population that does *not* pick homosexuals in answering to the question "On this list are various groups of people. Could you please mention any that you would not like to have as neighbors?"	World Values Survey (2012) and European Value Study (2012)	57.63	26.58	0.40	96.01
Tolerance different race	Share of the population that does *not* pick "people of different race" in answering to the question "On this list are various groups of people. Could you please mention any that you would not like to have as neighbors?"	World Values Survey (2012) and European Value Study (2012)	85.65	10.69	48.58	98.60
Kids tolerance	Share of the population answering "Important" to the quality "Tolerance" when being asked the question "Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important?"	World Values Survey (2012) and European Value Study (2012)	71.61	11.38	52.51	93.62
GT index	Average measure of Tolerance homosexuals, Tolerance different race and Kids tolerance	World Values Survey (2012) and European Value Study (2012)	70.98	14.12	39.71	96.00
EFI	The economic freedom index (chain-linked)	Gwartney and Lawson (2010)	6.38	1.23	3.76	8.81
EFI_1	Size of government	Gwartney and Lawson (2010)	5.58	1.81	1.46	9.12
EFI_2	Legal structure and security of property rights	Gwartney and Lawson (2010)	6.58	1.72	3.54	9.28
EFI_3	Access to sound money	Gwartney and Lawson (2010)	6.72	3.06	0.10	9.83
EFI_4	Freedom to exchange with foreigners	Gwartney and Lawson (2010)	7.12	1.09	3.95	9.68
EFI_5	Regulation of credit, labor, and business	Gwartney and Lawson (2010)	5.89	1.21	2.92	8.66

GDP per capita	Log GDP per capita, constant prices	Heston et al. (2009)	9.06	1.18	5.88	10.81
Education	Share of population that have completed secondary education	Barro and Lee (2010)	22.67	12.14	0.71	47.36
Young population	Share of population younger than 15 years	WDI (World Bank, 2011)	44.38	20.99	21.87	101.3
Urban popultion	Share of population living in urban areas	WDI (World Bank, 2011)	62.86	20.89	9.60	100
Family value	Measure of the importance of family. Average of three variables measuring parents' duties and responsibilities, how much children should respect the elderly and how important family is in life.	World Values Survey (2012) and European Value Study (2012)	82.70	9.53	58.63	96.17
Religious fractionalization	Index of religious fractionalization	Alesina et al. (2003)	0.43	0.25	0.01	0.86
Ethnic fractionalization	Index of ethnic fractionalization	Alesina et al. (2003)	0.37	0.23	0.01	0.93
Religion - Catholic	Percent Catholic	La Porta et al. (1997)	38.13	37.46	0	96.90
Religion - Muslim	Percent Muslim	La Porta et al. (1997)	12.45	27.81	0	99.40
Civil liberties	Civil liberties (measured from 1 to 7, where 7 is the lowest and 1 the highest degree)	Freedom House (2012)	2.84	1.61	1	7
Political rights	Political rights (measured from 1 to 7, where 7 is the lowest and 1 the highest degree)	Freedom House (2012)	2.46	1.77	1	7
Gini	Gini coefficient measuring net income inequality	SWIID (Solt, 2009)	35.08	9.37	20.22	62.84
Trust	Share of the population in each country who answer that "Most people can be trusted" to the	World Values Surveys (2012) and European Value Study (2012	25.89	16.40	3.8	74.16

	question "In general, do you think most people can be trusted or can't you be too careful?"					
CBI	Central-bank independence (measured from 0 to 1, where 1 is the highest degree of independence and 0 is the lowest degree)	Polillo and Guillén (2005)	0.297	0.185	0	0.77
East Asia dummy	Dummy for East Asian countries	WDI (World Bank, 2011)	0.16	0.37	0	1
European dummy	Dummy for European countries	WDI (World Bank, 2011)	0.48	0.50	0	1
Latin America dummy	Dummy for Latin American countries	WDI (World Bank, 2011)	0.14	0.35	0	1
Middle East dummy	Dummy for countries in Middle East	WDI (World Bank, 2011)	0.06	0.25	0	1
North America dummy	Dummy for North American countries	WDI (World Bank, 2011)	0.03	0.18	0	1
South Asia dummy	Dummy for South Asian countries	WDI (World Bank, 2011)	0.02	0.13	0	1
Sub-Saharan Africa dummy	Dummy for countries in sub-Saharan Africa	WDI (World Bank, 2011)	0.11	0.32	0	1

Table A3 Correlation matrices

	Tolerance homosexuals	Tolerance different race	Kids	GT index	EFI	EFI_1	EFI_2	EFI_3	EFI_4	EFI_5
Tolerance homosexuals	1									
Tolerance different race	0.5839	1								
Kids	0.3952	0.6073	1							
GT index	0.9018	0.8182	0.6959	1						
EFI	0.5598	0.2351	0.2962	0.4826	1					
EFI_1	-0.2382	-0.2154	-0.3160	-0.2985	0.1946	1				
EFI_2	0.6289	0.3482	0.4023	0.6211	0.7431	-0.3388	1			
EFI_3	0.5069	0.1872	0.3412	0.4453	0.8694	-0.0050	0.6088	1		
EFI_4	0.5564	0.2942	0.2176	0.4661	0.7174	-0.0924	0.6007	0.4721	1	
EFI_5	0.5211	0.2262	0.3157	0.4554	0.8684	0.1996	0.6264	0.6468	0.6142	1

	Log GDP per capita	Education	Young (dep)	Urban population	Family value	Religious fract.	Ethnic fract.	Religion - Catholic	Religion - Muslim	Civil liberities	Political rights	Net income Gini	Trust
Log GDP per capita	1												
Education	0.5151	1											
Young (dependency)	-0.7949	-0.6237	1										
Urban population	0.7655	0.4733	-0.6572	1									

Family value	-0.4153	-0.4481	0.5078	-0.2962	1								
Religious fractionalization	-0.0231	0.1079	-0.0410	-0.1031	0.0295	1							
Ethnic fractionalization	-0.4719	-0.3733	0.4735	-0.2356	0.4174	0.1419	1						
Religion - Catholic	0.1651	-0.0664	-0.0731	0.1975	-0.080	-0.1192	-0.0982	1					
Religion - Muslim	-0.1822	-0.2024	0.2992	-0.0440	0.3739	-0.3740	0.2611	-0.4948	1				
Civil liberities	-0.5243	-0.4017	0.5117	-0.3407	0.3978	-0.1260	0.3655	-0.4012	0.5874	1			
Political rights	-0.4712	-0.3639	0.4825	-0.2955	0.3857	-0.0907	0.3694	-0.3958	0.5655	0.9298	1		
Net income Gini	-0.5783	-0.5171	0.6908	-0.4112	0.5807	0.0559	0.4351	0.1260	0.1212	0.3432	0.3288	1	
Trust	0.4353	0.2877	-0.4448	0.0353	-0.316	0.2032	-0.4094	-0.4195	-0.2554	-0.3532	-0.2635	-0.5896	1

	Tolerance homosexuals	Tolerance different race	Kids	GT index	EFI	EFI_1	EFI_2	EFI_3	EFI_4	EFI_5
Log GDP per capita	0.6726	0.3767	0.3730	0.6220	0.6911	-0.1831	0.7418	0.5890	0.6064	0.5852
Education	0.1564	0.1737	0.0861	0.1530	0.3330	-0.2357	0.4581	0.2275	0.4539	0.2614
Young (dependency)	-0.5362	-0.3470	-0.2362	-0.4957	-0.5138	0.3023	-0.6897	-0.3777	-0.5627	-0.4369
Urban population	0.5395	0.2862	0.3128	0.4926	0.5226	-0.0774	0.5737	0.3548	0.5307	0.4445
Family value	-0.3542	-0.0470	0.0023	-0.2247	-0.1394	0.3651	-0.3513	-0.1168	-0.4607	-0.0816

Religious fractionalization	-0.0503	0.1671	0.0439	0.0135	-0.0074	0.0383	0.0331	-0.1075	0.0526	0.1064
Ethnic fractionalization	-0.3747	-0.0226	-0.1168	-0.2868	-0.3966	0.1995	-0.4896	-0.3851	-0.3315	-0.2963
Religion - Catholic	0.4585	0.4094	0.1675	0.4602	0.1322	0.1619	-0.0183	0.0765	0.1855	0.0960
Religion - Muslim	-0.6415	-0.5662	-0.2295	-0.6245	-0.1854	-0.0082	-0.2021	-0.0411	-0.2848	-0.2412
Civil liberities	-0.6711	-0.6092	-0.4964	-0.7396	-0.5393	0.2455	-0.6480	-0.3753	-0.5745	-0.5512
Political rights	-0.6693	-0.5987	-0.4218	-0.7062	-0.4743	0.2439	-0.5952	-0.3276	-0.5219	-0.4814
Net income Gini	-0.3286	-0.1193	-0.2165	-0.3129	-0.2710	0.6151	-0.6273	-0.3134	-0.3786	-0.1810
Trust	0.2996	0.1561	0.3755	0.3468	0.4369	-0.3830	0.6575	0.5251	0.3616	0.2451

Table A4   Values for economic freedom and global tolerance

Country	EFI	GT index
Algeria	4.28	50.83
Argentina	6.77	15.50
Australia	7.80	11.63
Austria	7.04	21.80
Belgium	7.26	15.90
Brazil	4.58	20.80
Bulgaria	4.579	38.51
Canada	7.90	11.31
Chile	7.47	20.95
China	5.30	41.75
Czech Republic	5.79	23.50
Denmark	7.46	9.91
Egypt, Arab Rep.	5.84	60.29
Estonia	5.70	30.78
Finland	7.32	17.31
France	6.80	23.74
Germany	7.52	17.95
Ghana	5.43	44.15
Greece	6.18	29.45
Guatemala	6.68	20.40
Hungary	6.14	n.a.
India	5.76	41.67
Indonesia	6.57	47.35
Ireland	8.20	21.13
Italy	6.50	21.05
Japan	7.11	n.a.
Jordan	6.42	60.26
Korea, Rep.	6.42	55.04
Latvia	5.26	27.77
Lithuania	5.10	41.58
Luxembourg	7.70	16.79
Malaysia	7.55	45.19
Mali	5.26	43.18
Mexico	6.49	20.25
Morocco	6.15	46.94
Netherlands	7.80	9.38
New Zealand	8.64	13.50

Norway	7.34	6.13
Peru	6.31	27.15
Philippines	7.24	27.38
Poland	5.30	26.87
Portugal	7.32	21.19
Romania	3.90	40.03
Russian Federation	4.49	40.56
Singapore	8.81	32.09
Slovak Republic	5.54	35.61
Slovenia	4.76	25.36
South Africa	6.44	27.09
Spain	7.04	14.18
Sweden	7.14	4.00
Switzerland	7.96	9.11
Tanzania	5.43	35.87
Thailand	7.19	37.08
Trinidad and Tobago	6.93	28.98
Turkey	5.72	49.02
Uganda	5.31	44.91
Ukraine	3.76	38.81
United Kingdom	8.04	13.64
United States	8.32	18.69
Uruguay	6.11	13.04
Venezuela	4.34	31.51
Zambia	4.87	47.97
Zimbabwe	5.81	36.41

Notes: The GT index is only calculated for those countries that have information on all the three tolerance measures.

Table A5   First-stage regression results

Dependent variable:	EFI	EFI_3
CBI 1990	1.920**	5.068**
	(0.767)	(2.109)
Log GDP per capita	0.848***	2.149**
	(0.296)	(0.813)
Education	-0.0152	-0.0182
	(0.0117)	(0.0322)
Young (dependency)	0.0339	0.0457

	(0.0210)	(0.0576)
Urban population	0.0143	0.00639
	(0.0125)	(0.0344)
Family value	-0.0199	-0.0171
	(0.0168)	(0.0461)
Religious fractionalization	0.165	-1.197
	(0.705)	(1.938)
Ethnic fractionalization	-0.229	-2.180
	(0.674)	(1.854)
Religion - Catholic	0.00324	0.0166
	(0.00403)	(0.0111)
Religion - Muslim	-0.00414	-0.0118
	(0.00977)	(0.0269)
Civil liberities	-0.466**	-0.471
	(0.205)	(0.563)
Political rights	0.307	0.397
	(0.182)	(0.500)
Net income Gini	0.0367	-0.0156
	(0.0221)	(0.0608)
East Asia	0.226	-0.606
	(0.837)	(2.300)
Europe	-0.926	-4.057*
	(0.850)	(2.336)
Latin America	-2.313**	-6.739**
	(1.031)	(2.835)
North America	-0.452	-2.475
	(1.091)	(2.999)
South Asia	-0.0876	-0.163
	(1.196)	(3.287)
Sub-Saharan Africa	-0.845	-0.573
	(1.200)	(3.299)
Constant	-2.240	-10.18
	(3.388)	(9.313)
Centered R^2	0.780	0.740
Observations	55	55
F-statistic	6.6	5.77

Notes: Robust standard errors in parentheses.

* significant at 10%

Table A6   Point estimates for tolerance towards homosexuals when outliers are removed

Dependent variable:	Tolerance homosexuals	Tolerance homosexuals	Tolerance homosexuals	Tolerance homosexuals	Tolerance homosexuals
EFI	8.916**	8.916**	9.084**	9.237**	9.229**
	(3.752)	(3.722)	(3.858)	(3.985)	(3.998)
Sample	Full	Excl India	Excl India United Kingdom	Excl India United Kingdom South Africa	Excl India United Kingdom South Africa Luxembourg

Notes: Robust standard errors in parentheses.

* significant at 10%

** significant at 5%

*** significant at 1%

All estimated equations include EFI, a constant term and the same full set of control variables as before, including the country-group dummies.

Table A7   Economic freedom and tolerance: panel-data results

	Tolerance homosexuals	Tolerance different race	Kids	GT index
EFI	0.077***	-0.026	0.011	0.019
	(0.024)	(0.018)	(0.033)	(0.017)
Log GDP per capita	0.005	0.068	0.209**	0.122***
	(0.089)	(0.072)	(0.092)	(0.034)
Education	-0.001	-0.005*	-0.002	-0.003**
	(0.002)	(0.003)	(0.002)	(0.001)
Urban population	-0.016**	0.007	0.017**	0.000
	(0.006)	(0.006)	(0.007)	(0.003)
Young (dependency)	0.002	-0.005	-0.003	-0.003
	(0.003)	(0.003)	(0.005)	(0.003)
Family value	0.583***	-0.096	0.298	0.264**
	(0.205)	(0.124)	(0.235)	(0.123)
Net income Gini	-0.012**	-0.005*	-0.002	- 0.006***
	(0.005)	(0.002)	(0.005)	(0.002)

Civil liberties	0.027	0.007	0.029	0.012
	(0.020)	(0.022)	(0.033)	(0.008)
Political rights	-0.011	-0.018	-0.015	-0.012
	(0.022)	(0.013)	(0.020)	(0.010)
Time and country fixed effects	Yes	Yes	Yes	Yes
Observations	75	75	81	73
R-squared (within)	0.519	0.441	0.508	0.616
Number of countries	40	41	42	39

Notes: Robust standard errors in parentheses.

* significant at 10%

** significant at 5%

*** significant at 1%

Table A8   The areas of economic freedom and tolerance: panel-data results

	Tolerance homosexuals	Tolerance different race	Kids	GT index
EFI_1	0.022	-0.014	0.015	0.008
	(0.014)	(0.009)	(0.014)	(0.008)
EFI_2	0.017	-0.030***	-0.013	-0.008
	(0.015)	(0.005)	(0.012)	(0.007)
EFI_3	0.020***	0.000	0.003	0.007**
	(0.005)	(0.005)	(0.009)	(0.003)
EFI_4	-0.050***	0.012	0.003	-0.014
	(0.017)	(0.016)	(0.015)	(0.010)
EFI_5	0.005	0.034***	0.002	0.011
	(0.017)	(0.010)	(0.017)	(0.009)
Full set of controls	Yes	Yes	Yes	Yes
Time and country fixed effects	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses.

* significant at 10%

** significant at 5%

*** significant at 1%