Globalization and social networks

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Abstract

Globalization is a universal phenomenon that not only makes domestic economies restructure, but also may impact other areas of local societies. This paper studies the effect of globalization on human relations, in particular on the formation of social networks, both bonding and bridging: I postulate that globalization induces labor market and workplace dynamics that would be destructive. Data come from the European and World Values Survey (1981-2008) on about 320'000 people's values and attitudes, in this study spanning up to 22 years in about 80 countries, which have been matched with an index of economic globalization. In this pseudo micro panel I find robust evidence for a diminishing effect of globalization for bridging social networks with friends, but an enforcing one for bonding social networks among relatives. These results do not appear to be driven by a change in individuals' preferences with respect to consuming and forming social ties. My findings are consistent with theories that claim growing physical distance and stronger reliance on family resources to lower the level of bridging social networks in society.

I Introduction

Traditionally, textbook models of international trade have focused with its predictions on effects for the domestic economy only. While empirical analyses have confirmed the restructuring impact of 'globalization' – the opening-up of a country to world goods, labor, and financial markets – on local production decisions, labor supply, and investment choices, the influence of such globalization may well extend beyond economic outcomes into the social sphere of human activity in general. Most important for this study are preceding investigations into the labor market dynamics of globalization: the lowering of workers` employment protection in the regular sector and the decline in union density – both believed to adversely affect working conditions, wage levels, increase labor turnover and geographical mobility, and reduce leisure time consumption. I conjecture that such globalization-induced restructuring of the economy would exert a destructive impact on leisure-time-consuming social network creation.

Empirical evidence for the influence of economic globalization on social network creation is, to my best knowledge, non-existent so far. In this article I analyze the relation between globalization and the time spent on face-to-face contacts with (a) friends and (b) family members, where I postulate a destructive effect of globalization on social network formation that works through intensified competitive pressures at the workplace, increased job (and income) insecurity through flexible work contracts, and extended geographical worker mobility. Specifically, I analyze micro pseudo panel data on people's self-report values and attitudes in 80 countries between 1981 and 2008, before Internet-based social networks ('Web 2.0') became wide-spread.[1]

This empirical setting is particularly suitable for the analysis of the impact of globalization on social ties because of following characteristics: first, the data on social network creation are obtained from more than 320'000 personal interviews, allowing to fully take into account the heterogeneity across individuals, so that I avoid the aggregation bias in macro analyses that use population shares only. Second, even though there is no 'natural experiment' with respect to globalization, the time span of 25 years and the large number of 80 countries included facilitate a credible estimation of globalization effects with little endogeneity bias, particularly as this setting allows to control for economic and political developments shared by all countries around the world and as it allows to account for unobserved heterogeneity across

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[1] Such virtual social networks may well be viewed as an imperfect substitute for real-world face-to-face contacts.

countries - such as population characteristics, institutions, and national culture (reversed causality is discussed in section III.B). Forth, the rich set of controlling factors at the individual level allows testing to what extent the impact of globalization on social network creation is mediated through personal socio-economic status. Finally, the multi-dimensionality of the globalization index – encompassing international goods exchange, investment flows and internationality of the domestic workforce - ensures that not single economic aspects of a country's openness to world markets is captured, but competitive pressure as such (that influences then individual's workplace characteristics and labor market institutions).

The individual-level data come from the European and World Values Surveys (EVS/WVS), a continuing survey conducted at irregular intervals in various countries, in which the same or comparable questions on people's leisure time activities, such as the creation of social ties with friends or relatives, have been posed – questions relate to the actual occurrence of social face-to-face contacts as well as to how respondents rank these in importance compared to other social and economic activities. The EVS/WVS draws for each country and survey year between 1981 and 2008 a representative sample of 1000 to 1500 persons. All questions are self-report; recent laboratory experiments found self-report questions to be reliable indicators of actual human behavior (e.g., Glaeser et al., 2000). From the same surveys, a rich vector of individual-specific controlling factors has been extracted (e.g. education, income, occupational and marital status). As measure of economic globalization I employ the KOF index which is a compound indicator of the economic openness of one country, relating to, first, international trade, second, international capital flows, and third, international worker migration. The more than 20 single sub-components of the KOF index of economic globalization have been obtained from various national statistical sources. Overall, my analysis draws from 320'000 persons in more than 80 countries, observed between 1981 and 2008, with the degree of globalization varying from about 10 to 99 points out of 100.

I find robust evidence that globalization lowers the time spent on social contacts with friends. In contrast, it intensifies social ties with family members and relatives, both in a non-linear fashion. If globalization rises by one point, the probability of spending leisure time with friends decreases by a maximum of 3 percentage points, while it increases the probability of spending leisure time with family and relatives by a maximum of 8 percentage points.

These findings are interpreted in the light of globalization-induced changes in labor market institutions and work place conditions: arguing that as globalization forces local firms to stay

competitive by increasing their productivity or lowering their wage level they would lobby for a deregulation of labor markets, so that they can more easily pursue policies of labor force rejuvenation, rationalization, technological upgrading, and fast re-allocation of production facilities to more profitable environments (for empirical literature, see Fischer 2012a). For the single worker, such policy responses to increased competition would have the following lowering effects on her social tie creation: (a) first, the competitive pressure may force firms to lower wage levels – a transmission channel of globalization I account for directly in the empirical analysis. Social tie creation is an investment activity that uses up financial resources; for example, Barro and McCleary (2006) argue that social network creation dilutes resources away from economic activity. (b) Second, deregulated labor markets would increase worker's geographical mobility, both within-country as well as between countries, as fixed-term work contracts and re-allocations of firms would force her to move to possibly far-distanced new positions; Glaeser's model of social capital formation (2001) predicts that physical distance between people causes a decline in investments in social networks (see also Glaeser et al., 2002, Putnam, 2000). (c) Flexible work contracts could also imply higher insecurity of future earnings levels, making people revert to family resources as insurance device – a feature that plays an important role for the differential effects of globalization by a country's stage of economic and institutional development, which I equally test. (d) At the workplace, firm's ongoing technological upgrading would demand a continuing acquiring of appropriate skills, reducing worker's time available for her leisure activities. (d) Possibly, globalization-induced competitive pressures at work would serve as a disciplining device, making laborers work overtime, lowering the number of sickness absences, and reducing 'shirking', that is work time spend at the workplace on social tie creation that may spill-over into corresponding leisure time activities. (e) In addition, temporary work contracts would trigger higher effort levels at work, in turn increasing the time necessary for 'recovering' from the now larger psychological pain (Virtanen et al., 2005, provide a review of health-related effects of employment instability). Overall, workers' lesser availability of leisure time, increased income insecurity and enhanced geographical mobility can be predicted to potentially have myriads of social effects, e.g. on the marriage market, for family planning, for educational investmet in children, for the divorce likelihood, and on the care for the elderly. This present paper analyses the social effects of economic globalization through these (unobservable) labor market and work place changes with respect to social network formation, a social capital facet.

This paper differentiates between social ties with friends, on the one hand, and those with family members, on the other, and detects on them a heterogeneous impact of globalization; to assess the differential effects I interpret social ties with (a) friends and (b) family in the light of (a) 'bridging social capital' and (b) 'bonding social capital', that is as 'intra-group' and as 'between-group' network relations. In the social capital literature, bonding social capital is within-group, implying exclusion of non-group members from access to information and other group resources, possibly constituting grounds for nepotism, corruption, and intransparency – the typical, well-cited example for social ties that are bonding is the 'mafia clan'. In contrast, bridging social capital has the characteristics of cross-cutting ties between otherwise isolated social groups, thus providing economic opportunities to minorities and supporting social cohesion in society (Dasgupta and Serageldin, 2001; see also Isham et al., 2002). For example, Barro and McCleary (2006) have identified a growth-lowering effect of bonding social capital, in that specific case of social networks created by members of religious groups and churches. In short, economists and sociologists view strengthening bridging social capital as beneficial for society, while strengthening bonding social capital is perceived as rather hindering economic and societal development. In this paper, I view ties within families as form of bonding social capital, and ties with friends as form of bridging social capital (e.g. Glaeser, 2001). The differential effect of globalization on bonding and bridging social capital is consistent with the theoretical model of unbalanced social capital creation by Alesina and Giuliano (2009) when individuals are more dependent on family resources: unbalanced social capital creation may occur because, as I argue above, globalization lowers individual earnings and makes the future income stream more insecure. Overall, globalization appears to exert a non-beneficial effect on society as it facilitates the depreciation of bridging social networks through non-use (Ostrom, 2000), at the same time fostering social cohesion-endangering bonding social networks.

As next step I ask whether the impact of globalization on social tie creation is different between richer, more developed countries and poorer, developing countries. If the driving force for the social changes of globalization is through its influence on labor market institutions and work-place environment, as I conjecture, the effect should be more pronounced in richer countries than in poorer countries: In developing countries, pre-globalization labor markets have already been dominated by the very flexible informal sector with a policy of hire-and–fire on a day-to-day basis, a labor market sector on which formal institutions governing regular employment would have little impact upon. Indeed, I find

globalization to lower bridging capital and increase bonding capital to a larger extent in developed countries than in developing countries.

The reader may note, however, that my interpretation so far rests on the assumption that the observed change in human behavior would be caused by globalization affecting exogenously given external constraints – specifically, employment conditions. It is well known from micro-economic theory that actual choice, reflecting the utility-maximizing optimum, is always the result of the interplay between individual's preferences and external constraints, like her budget, but also formal and informal institutions that govern society. Thus, an alternative explanation is that globalization would impact human behavior through a change in individual's preference ordering with respect to private and relational goods consumption (viewing social networks as relational goods).[2] This alternative explanation is tested with a survey question on the importance of social tie creation as time-consuming leisure activity, further distinguishing between the bridging and the bonding types. For developed countries, globalization does not appear to impact preference ordering with respect to social network creation, neither with friends nor with family, respectively. In contrast, for developing countries, which are shaped by a less generous welfare state so that income shocks to individuals are less mitigated, friends and family gain in importance as the country globalizes. For developed countries, my findings support the general interpretation that globalization affects peoples' constraints rather than their preferences.

This article is linked to three major strands of literature: first, the literature on the effects of economic globalization on the domestic economy and society, mostly contributed to by economists. The second strand is the literature on the evolution and formation of social capital, where the theoretical modeling has been contributed by economists; the third strand is on the empirically identifiable determinants of social capital, in particular those that relate to the characteristics of the country individuals lives in, explored by sociologists and economists likewise.

Viewing as manifestations of economic globalization the exchange of goods in international markets, the capital flows across countries as well as the migration of workers, economic effects of globalization have been identified in mostly empirical studies that statistically relate measures of globalization with cross-country and cross-time varying economic outcomes (for

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[2] Relational goods are characterized by (1) the inseparability between production and consumption and (2) a minimal number of two consumer-producers.

a review, see Fischer 2012a, and Sinn, 2003). Most prominent outcomes include higher economic growth, but also a rise in income inequality through sectoral shifts in the economy, growing worker turn-over in general and higher unemployment in the shrinking sector - both exerting downward pressures on equilibrium wage in the labor market -, resulting in both immigration and emigration of workers. The pressures of globalization on firms to stay competitive is also shown to spill over into the area of political-decision-making and to influence a country's institutional setting - deregulating labor markets, restraining government spending, leading to a policy of privatizing public utilities (transport, electricity, water, gas). In general, globalization makes essential goods (e.g. grain, oil, electricity, water) and any financial asset subject to traders' speculations, leading to price volatility, causing 'artificial' shortages and global financial crises.

Most societal impacts of globalization that go beyond mere macro-economic and financial effects would then be conjectured to be mediated by these economic impacts described above, but so far have been neglected in most of the theoretical and empirical globalization literature in economics: for example, increasing income inequality could be predicted to imply the impoverishment and social exclusion of certain groups, while higher worker mobility, short-period and low-paid work contracts could possibly impede starting up a family (e.g., Adsera 2004); finally, higher price volatility in markets and less governmental welfare spending may for the single individual induce insecurity in her future consumption stream that can be predicted to make her rely more on family resources as insurance mechanism against economic shocks (e.g., Alesina and Giuliano 2009). Fischer (2012b) is one of the few studies that empirically tests societal globalization effects; she finds that people's trust in political institutions is lowered, arguing that globalization forces ruling politicians to violate the psychological contract between them and the citizenry. Without providing a direct empirical test of these linkages between globalization and its social effects, the interpretation of the present empirical analysis for individuals' social networks creation rests on these assumed impacts of globalization on higher worker mobility in labor markets, stronger competitive pressure at work places, and increased income insecurity.

This research fits also well into the debate how social capital evolves and how it is formed, - defining social capital in a very a broad sense, so that it includes not only social networks but also confidence in institutions and social trust (Coleman 1990, Putnam et al., 1993). Economists explain social capital formation based on micro-theory-models in which rational agents make a social capital investment decision under budgetary and institutional constraints.

Glaeser (2001) predicts with his multi-period model that individuals' social capital contributions would decline as their physical distance to others and the opportunity costs of leisure time rise – shedding light on how labor market deregulation with its short-term contracts, forcing workers to often change geographical locations for professional reasons, may affect their social capital investment decisions; in this paper I find globalization to reduce social networks investments reaching outside the family - while increasing individuals' contributions to those inside the family. Alesina and Giuliano (2009) explicitly model and predict a substitution relation between bonding and bridging social capital where they define bridging social capital as civic engagement and political participation in society; their model mechanism implies that the utility-maximizing agent reduces her investment in bridging social capital the stronger, the more she relies (or has to rely) on her family as source for obtaining resources. This prediction sheds also a fresh light on the role of government for the formation of bridging social capital through income redistribution and welfare state spending, but also through providing public goods such as transportation and communication infrastructure at affordable fees – their constrainment through globalization forces people to rely more heavily on family resources, indirectly contributing to the destruction of bridging-social networks.

Finally, this article also fits loosely into the strand of empirical, often rather explorative literature on the determinants of social capital that arise at the country level – be it institutions, state of the economy, immigration, and government activity. In general, however, most of the empirical research focuses on social trust (trust in strangers), while the country-specific determinants of social network creation have been investigated only little. Regarding national income, Catell (2001) finds unemployment and poverty to let social networks deteriorate in East London neighborhoods. Regarding immigration, Alesina and LaFerrara (2000) and Gijsberts et al. (2011) show for European countries that ethnic heterogeneity and the inflow of immigrants with a different cultural background reduce neighborhood contacts and active memberships in organizations.[3] That the type of public service provided by local governments may crowd in or crowd out social network creation has been demonstrated for the case of public education by Schneider et al. (1997). Despite these few explorative analyses of social network creation there is little research on how it is impacted by a country's degree

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[3] This strand of literature started with Putnam (2007) who showed for the US that ethnic fractionalization in communes lowers social trust levels (see Cheong et al, 2007, for a literature review and conceptional discussion).

of globalization, and in particular by the competitive pressure it exerts on the entire domestic economy.

This paper proceeds as follows. In the next section the survey data and the measure of globalization are introduced and statistically described. Section III estimates the impact of globalization on individuals' social network creation, bridging and bonding, also differentiating between developed and developing countries. Section IV discusses and estimates alternative explanations such as a change in preference structure, while section V concludes.

II Data

The main data source for individuals' social network creation is the World Values Survey/European Values Survey (EVS/WVS).[4] From 1981 to 2008, the EVS/WVS surveyed about 320'000 people in over 80 countries worldwide about their attitudes and values; it also includes questions about their leisure time activities, among them social face-to-face contacts - with friends and colleagues from work, on the one hand, and with family members and relatives, on the other; these questions are employed as measures of individual's social network creation in section III.[5] The EVS/WVS poses also questions on the importance of social face-to-face contacts – which I will exploit in the robustness test in section IV. For each interviewee the survey also records socio-demographic and other background information (age, gender, education, family income, occupational status, marital status, country of residence, year of survey). The EVS/WVS was carried out in five waves – roughly about 1981, 1992, 1996, 2000, and 2006; in each participating country, in each year, a representative sample of about 1000 to 1500 persons had been drawn. The social network questions were posed in the first and the forth waves, covering the years 1981 through 1984 and then again 1999 through 2003, while the questions relating to the importance of social

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[4] European and World Values Surveys four-wave integrated data file, 1981-2004, v.20060423, 2006. Surveys designed and executed by the European Values Study Group and World Values Survey Association. File Producers: ASEP/JDS, Madrid, Spain and Tilburg University, Tilburg, the Netherlands. File Distributors: ASEP/JDS and GESIS, Cologne, Germany; combined with the WORLD VALUES SURVEY 2005 OFFICIAL DATA FILE v.20090901, 2009. World Values Survey Association (www.worldvaluessurvey.org). Aggregate File Producer: ASEP/JDS, Madrid.

[5] Social contacts with 'friends' excludes persons who have the same organizational affiliation in civic organizations.

contacts were included in waves 2 through 5, covering the years 1989 through 2008. With the number of participating countries varying across survey years, the repeated cross-sections of the resulting 110'000 and 280'000 micro observations, respectively, form a pseudo panel that is unbalanced at the country level.[6]

Social network creation as leisure time activity is coded as dichotomous variable. In particular, it takes on the value of '1' in case the respondent indicates that she 'prefers spending her leisure time with friends' in wave 1, or in case she indicates that as leisure time activity she 'spends time with her friends or colleagues from work either weekly or once or twice per month in the following waves, and '0' otherwise. The analogous dichotomous measure is constructed for 'spending leisure time with her family' (wave 1) or 'spending time with parents and other relatives' (subsequent waves), respectively.[7] The individual-specific controlling variables are obtained from the same survey.

To analyze the effects of globalization on social networks, these pseudo micro panel data are, at the country level, matched with an indicator of globalization – the KOF index of economic globalization; for almost all countries and years in the EVS/WVS there are corresponding values of the KOF index. This index of economic globalization encompasses not only the exchange of goods and services across countries, traditionally captured by an export-import-based measure of trade openness, but also the outflow and inflows of capital and laborers migrating across countries (see Dreher, Gaston, and Martens, 2008).[8] It is this multifacetedness and multidimensionality of the KOF index of economic globalization that allows me to interpret it as measure of exposure to global markets in general, and particularly as measure of the resulting economic pressure on the domestic economy to become more competitive.

The KOF index of globalization is measured on a continuous scale between 0 and 100 points; between 1980 and 2008, the index varied between 6.97 and 98.69. For the 144 countries in the

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[6] The loss in observations due to item non-response is negligible.

[7] Original question: "And during your leisure time do you prefer to be alone, to be with your family, to be with friends or to be in a lively place with many people?" (wave 1) and "For each activity, would you say you do them every week or nearly every week; once or twice a month; only a few times a year; or not at all? – Time with friends".

[8] In particular, the KOF index of globalization takes account of actual outflows and inflows of goods, inward and outward FDI, portfolio investments, income payments to foreign nationals - an approximation of internationalization, of the domestic workforce -, but also of trade restrictions, in particular hidden import barriers, the mean tariff rate, taxes on international trade, and capital account restrictions.

world, the between-country variation (standard deviation: 15.66) is smaller than the within-country variation (standard deviation: 26.09); this suggests that a couple of countries had a parallel development in economic globalization, but for the single country involving huge changes over time. Both within-country and between-country differences are substantially large so that an econometric exploitation in a country-panel setting appears justified. It is this panel setting at the country level that aids isolating the effect of globalization and helps establishing a relation with individuals' social network creation that bears a causal interpretation.

III Results

III.A. Raw Data

Descriptive statistics of the raw data already provide some interesting insights (see also Table A2 of the Appendix). Table 1 cross-tabulates the share of the population being socially active in terms of network creation - with (a) friends or (b) family members - with the degree of globalization a country is exposed to (ranging continuously between 0 and 100). "High globalization" and "low globalization" correspond to a degree of globalization higher and lower than 57 points, respectively, lying roughly between the two sample medians of either sample (medians are 61.65 and 56.95, respectively). In the world sample, most people are social-network creating in their leisure time: the first column shows that about 72% to 73% invest regularly in social ties with both friends and family. Viewing individuals' investment activities in social networks as proxy for actual levels of this type of social capital in society, social capital appears to be quite high for both bonding (intra-group) and bridging (between-group) social networks.

As columns 2 and 3 indicate, in countries with high degrees of globalization there are fewer social network activities than in countries that are economically more isolated – for example, population shares for social network activities with friends are 69.55% in countries with a high degree of globalization, but as high as 78.96% in countries that are less globalized. For both types of social networks, social ties with both families or friends, the difference in social network capital across these two groups is about 10 percentage points, - confirming the conjecture that in globalized markets competitive pressure at the workplace reduce the time and resources available for social network formation.

In contrast to the multivariate analysis that follows later, the amount by which social networks in the population decline does not appear to be substantially different across both types (so the difference-in-difference, that is 10.79% - 9.52% = 1.27%, would hardly be statistically significant). However, one should emphasize that such simple comparison of sample means omits important factors from the analysis, such as common development trends and cultural differences across countries, – as the reader will see in the correlation analysis in Table 2, doing so changes the relation between globalization and social network formation considerably.

Table 1: Population shares of leisure activities

	Total	Globalization high	Globalization low	Difference
Meeting friends and colleagues	73.06% (79)	69.55% (49)	78.96% (30)	-9.52% Sign: 10%-level
Meeting family members	72.51% (49)	67.00% (24)	77.89% (25)	-10.79% Sign: 5%-level

Notes: Population shares are based on about 109'000 individual observations obtained between 1981 and 2003 around the world. In round brackets is the number of country-year observations. Significance levels are based on means comparison test between two unpaired groups with unequal variances.

Table 2 presents total and partial correlations of the raw data; it illustrates well the bias that is generated when not accounting for common trends and/or time-invariant country-specific characteristics in the multivariate analysis (Table 3 henceforth). The total correlations between the degree of globalization and individuals' social tie-creation indicate a negative relation, for both friends and family likewise (-.015 and -.386, respectively). Table 1 suggests a world-wide trend that intensifying globalization reduces social interactions with both family and friends - such general trend is accounted for in the second row by including time-specific fixed effects. Possibly, omitting unobserved and time-invariant cultural but also institutional, characteristics of a country leads to a bias that would confound the true impact of globalization on social network creation – therefore the second row adds also country-specific fixed effects. Country-specific fixed effects can also be interpreted as historical starting values of globalization and social capital, so that only the economic and societal developments thereafter are considered as influential for the changes in individuals' social capital creation. Contrasting the first row, the resulting partial correlations suggest now an enhancing relation with bonding social networks, that is ties within the family.

One may argue that simple correlation analyses are biased due to omitted other person-specific determinants − row 3 presents OLS coefficients when individual's investment decision is statistically related to the degree of globalization in her country at the time of survey; the econometric model controls also for age and gender, besides population size, and a set of country-specific and time-specific fixed effects already employed in row 2. Despite the possible bias through the application of OLS to a dependent variable measured on a binary scale, globalization is clearly negatively correlated with social network formation outside the family (-.194***), and clearly positively with social network formation within the family (.605***) – the general result of this paper, that will be confirmed by the multivariate pseudo panel analyses which follow.

Table 2: Total and partial correlations

	Meeting friends and colleagues	Meeting family members
Total correlation	-.015*	-.386***
Adding country-specific and time-specific fixed effects	-.010***	.018***
OLS regression coefficient (adding respondents' age and gender)	-.194***	.605***

Notes: Correlation coefficients for individual investments in social networks and the degree of globalization of a country at a specific year, based on the full micro sample 1981-2003. The OLS regression in the last row includes as controls population size, country-specific fixed effects, time-specific fixed effects, respondent's age and gender. '***' ('*') denotes significance at the 1 (10) percent level.

III.B. Econometric analysis

Now I turn to a multivariate analysis that takes account for the panel-structure at the country level. The general specification has the following form:

(1) $y_{ist} = \alpha_0 + \alpha_1 \text{globalization}_{st} + \beta_1 \text{indicontrols}_{ist} + \delta_s + \zeta_t + \varepsilon_{ist}$

where y_{ist} is a binary measure of social network investment of individual i, in country s, at time t; δ_s is a country-specific fixed effects, while ζ_t is a time-specific fixed effects; ε_{ist} is an error term clustered at the country-level.[9] As described in section II, globalization$_{st}$ is a

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[9] Clustering corrects for within-country correlation of error terms produced by the presence of individuals of the same country in the data, and for heteroscedasticity that may occur in linear probability models, producing a more conservative estimate.

continuous measure of the degree of openness of a national economy s in year t towards international trade, cross-country financial flows, and immigration of foreign workforce. All models include also population size that accounts for the size of the domestic economy – the larger domestic demand is the lesser is the need to open up the economy to foreign markets. The country-specific fixed effects do not only account for unobservable cultural characteristics, but also time-invariant institutions such as the political system. The estimated model specifications differ by the type of social ties, on the one hand, and the different covariates accounted for at the individual level (reflected in the composition of the vector 'indicontrols$_{ist}$').

Equation (1) does not allow yet for the identification of the effects of globalization in terms of competitive pressure that manifests in structural changes in national labor markets and at individuals' workplaces. First, as discussed in the introduction, individual's employment status, educational level, marital status, and disposable income may determine the amount of resources available for her social network investments – all these may, in turn, be directly and indirectly affected by globalization, through both the competitive pressures and the sectoral changes it induces (see Fischer, 2012a). Second, social networks belong to the group of relational goods that are created through parallel investments of *both* parties involved (e.g., with respect to leisure time); both national income per capita and general unemployment level may approximate the (unobservable) resources available for the social network investment by respondent's friends and relatives. In the long-run, globalization may not only affect individual's socioeconomic position but also impact the national economy as whole – in most empirical studies globalization was found to trigger growth and thus positively influence GDP, and to lower general unemployment (e.g., Dollar and Kraay, 2004; Frankel and Romer, 1999; Krueger, 1983). In order to better isolate the institutional and workplace-related competitive-pressure-effect of globalization from its purely economic-financial effects, extensions for equation (1) will progressively add, first, controls for individual's socio-economic status in equation (2), and, second, controls for the state of the national economy in equation (3).

Columns 1 and 3 of Table 3 present the results for equation (1) where the individual-specific control vector includes only gender and age (assuming a hyperbolic function) – both which are most likely to be orthogonal to the globalization measure, assuming that, on average, individuals' gender and current age are not affected by globalization to a large extent. For social ties that go beyond the family, the estimates suggest that globalization reduces the

leisure time spent on social contacts with friends, while for within-family ties the effect of globalization is social-tie-enhancing: an increase of globalization by 10 points, let us say from 20 to 30, decreases the likelihood of spending leisure time with friends by approximately 2 percentage points but increases the likelihood of investing in family networks by 7 percentage points.[10]

The next step extends the baseline specification with additional individual-specific controls. In particular, I add in equation (2) measures of individual's economic and social status to the baseline model. Vector *socioeconomic* includes measures of individual's household income, educational attainment, marital status and labor market participation:

(2) $y_{ist} = \alpha_0 + \alpha_1 \text{ globalization}_{st} + \beta_1 \text{ indicontrols}_{ist} + \beta_2 \text{ socioeconomic}_{ist} + \delta_s + \zeta_t + \varepsilon_{ist}$

As final step, equation (3) adds measures of general unemployment and national income to equation (2), represented in vector *countrycontrols*:

(3) $y_{ist} = \alpha_0 + \alpha_1 \text{ globalization}_{st} + \beta_1 \text{ indicontrols}_{ist} + \beta_2 \text{ socioeconomic}_{ist} + \gamma \text{ countrycontrols}_{it} + \delta_s + \zeta_t + \varepsilon_{ist}$

In columns 2 and 5 of Table 3 are the linear probability model results when equation (2) with additional individual-specific controls is estimated, while columns 3 and 6 present the estimates when in equation (3) controls for the state of the economy are further added. The explanatory power of the models is increased through adding these economic and financial transmission channels of globalization. The effect of globalization, however, is quite insensitive to these variations in the baseline specification - suggesting that the mere amount of personal financial resources are not too overly important for social network creation while the decisiveness of competitive pressure remains. In the full specification in equation (3), the marginal effects for globalization on social tie creation at the 0-starting point of globalization are -2.7 and 9.7 percentage points, respectively.

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[10] Marginal effects are calculated based on both coefficients on globalization and globalization squared: given y = ax + bx²/10, then dy/dx = a + b2x/10.

Table 3: Globalization and social network creation

Leisure time spent with…	(1)	(2)	(3)	(4)	(5)	(6)
	friends and colleagues			family members and relatives		
economic globalization,	-.033**	-.031***	-.027***	.076**	.078***	.097***
KOF, vers.2011	[5.77]	[6.56]	[8.79]	[4.41]	[4.61]	[5.58]
economic globalization, squared /10	.003**	.003***	.003***	-.007**	-.007***	-.008***
	[5.84]	[6.86]	[10.03]	[4.49]	[4.67]	[5.72]
Country-specific fixed effects	yes	yes	yes	yes	yes	yes
Year-specific fixed effects	yes	yes	yes	yes	yes	yes
Age, gender	yes	yes	yes	yes	yes	yes
Occupational status, household income, education, marital status	no	yes	yes	no	yes	yes
Unemployment rate, GDP p.c.	no	no	yes	no	no	yes
R-squared	0.34	0.35	0.34	0.57	0.57	0.57
Observations	109524	107971	98659	109524	107971	98659
no of countries	64	64	59	64	64	59

Notes: Linear probability model estimations (OLS). In squared brackets are the heteroscedasticity- and autocorrelation-robust t-statistics based on standard errors clustered by countries. All models include country-specific and time-specific fixed effects and population size. Baseline individual-specific characteristics include gender and age. Additional socio-economic characteristics include occupational status, educational attainment, marital status, and household income. Controls for the macro-economy include national income per capita, unemployment rate and population size.

The effect of globalization for social ties with friends is a slightly stronger in model (2) than in model (3), which controls for the state of the national economy - this supports the conjecture that improvements in the macro-economy do impact social network-creation. The general unemployment rate is negatively associated with bonding and bridging social capital formation, while GDP per capita shows the expected positive association; the latter may also reflect a better communication and transportation infrastructure that lower the costs of individual's social tie creation. At the individual level, resource-intensive social network creation with friends rises with income and is higher for the single-unmarried, but is lower for the unemployed, the retired, and the disabled ('other') working status, and the one with a primary education only. For social ties within family, the slight increase in marginal effects of globalization from models (5) to (6) suggests that a better condition of the domestic economy lowers the probability of relying on family resources. Table 4 presents qualitatively identical results when Logit and Tobit estimators are employed, which better take account of the ordinal nature (or truncated nature, respectively) of the dependent variable.

Table 4: Globalization and social network creation: Logit and Tobit estimations

	(1)	(2)	(3)	(4)	(5)	(6)
Leisure time spent with…	friends and colleagues			family members and relatives		
	Logit	Logit	Tobit	Logit	Logit	Tobit
economic globalization,	-.258**	-.244***	-.031***	8.859**	9.552***	.078***
KOF, vers.2011	[5.54]	[6.29]	[10.80]	[12.30]	[36.96]	[28.99]
economic globalization, squared/10	.024**	.023***	.003***	-.449**	-.484***	-.007***
	[5.59]	[6.75]	[10.98]	[9.79]	[25.70]	[26.08]
Country-specific fixed effects	yes	yes	yes	yes	yes	yes
Year-specific fixed effects	yes	yes	yes	yes	yes	yes
Age, gender	yes	yes	yes	yes	yes	yes
Occupational status, household income, education, marital status	no	yes	yes	no	yes	yes
Unemployment rate, GDPp.c.	no	no	no	no	no	no
Observations	109016	107971	107971	87448	86454	107971
no of countries	64	64	64	46	46	46

Notes: Models are estimated by logit and tobit. In squared brackets are the z-statistics based on standard errors clustered by countries (logit), or that have been bootstrapped (tobit). All models include country-specific and time-specific fixed effects and population size. Baseline individual-specific characteristics include gender and age. Additional socio-economic characteristics include occupational status, educational attainment, marital status, and household income.

An important question remains whether social tie creation may affect globalization rather than the other way around: Knack and Keefer (1997) argue that trust in strangers and social networks promote goods exchange and, thus, economic growth. A handful of empirical studies do show that social networks have a beneficial impact on international trade; exemplary is Rauch (2001) who focuses on transnational social networks that aid overcome informal trade barriers between countries – social ties that are maintained through, and depend on, means of modern communication technology. A crucial difference between the study by Rauch (2001) and this analysis is, however, that I analyze social networks that are created through face-to-face contacts within the same country, prior to 2004, excluding 'virtual' contacts via telephone and via facebook or other Internet-based social networks. Nevertheless, in principle one cannot deny the possibility that, at the population level, the propensity to create bridging social ties that reach beyond the family, alias with friends and colleagues, may be an approximation of certain national cultural characteristics that could be trade-enhancing.

In case of reversed causality, an alternative interpretation of a *positive* estimate of α_1 in columns 1 through 3 of Table 3 would be interpreted as 'bridging social network creation facilitates the economic globalization of the domestic economy', and one would subsequently

suspect that an endogeneity problem in the model specification was present. An obstacle to the alternative interpretation as reversed causality is, however, that in Table 3 the estimate α_1 on social ties with friends is, indeed, *negative*. Assuming that reversed causality biases α_1 upwards into the positive space, the actually negative estimates of α_1 constitutes a lower bound of the true, unbiased negative association between globalization and bridging social tie creation – the destructive effect of globalization would be larger in reality than the regression results suggest. Possibly, for bonding social capital, which by its nature does not bridge to persons outside the family realm and thus may not aid much in establishing cross-country business contacts for trade, I speculate that reversed causality may be a much less important issue.[11] Finally, to the extent that people's social network creation activities constitute a population characteristics that is a long-inherited cultural trait, it is already captured by the inclusion of the country-specific fixed effects in the specifications (1), (2), and (3). Overall, the estimates α_1 of globalization for social networks in Table 3 appear to be rather robust.

Table 5 reports the results when examining two subsamples: one of poor countries, one of rich countries, measured by whether the present-time GDP per capita exceeds 6000 constant US dollars or not. First, Fields (1975; 2003) argues that poor countries differ from rich ones not only with respect to their quality of government institutions and bureaucratic efficiency in general, but also with respect to the size of the informal labor market sector - this informal sector provides, by its unregulated nature, already very flexible forms of employment, often on a daily hire-and-fire basis, with wages lower than those paid in the formal sector (see also ILO, 2003). In consequence, I argue that the labor market institutions and workplace characteristics as transmission channels of competitive pressures by globalization, as discussed in the introduction, are less prominent in developing countries than in developed countries. Second, developing countries are, in general, often thought to be more protective with respect to certain key industries and state industries than developed countries: protective measures like, e.g., government subsidies may diminish the forces of international competition and their effects on the domestic economy. Differentiating between rich and poor countries, the linear probability model estimates for α_2 in Table 5 suggest a larger impact of

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[11] For family ties, reversed causality could equally bias α_1 upwards, then overestimating the true beneficial effect of globalization for bonding social networks.

globalization by far in developed countries than in developing countries, for both bridging and bonding social networks likewise.[12]

Table 5: Social network creation in rich and poor countries

	(1)	(2)	(3)	(4)
Leisure time spent with	friends		family	
Country is……	rich	poor	rich	poor
economic globalization	-.026***	-.008***	.095***	.013***
	[8.24]	[7.98]	[5.37]	[17.09]
economic globalization, squared/10	.003***	.001***	-.008***	-.001***
	[9.57]	[13.00]	[5.48]	[13.00]
Observations	56625	42034	56625	42034
R-squared	0.43	0.11	0.48	0.53
no of countries	29	30	29	30
Country-specific fixed effects	yes	yes	yes	yes
Year-specific fixed effects	yes	yes	yes	yes
Age, gender	yes	yes	yes	yes
Ocupational status, household income, education, marital status	yes	yes	yes	yes
Unemployment rate, GDP pc	yes	yes	yes	yes

Notes: Linear probability model estimations (OLS). In squared brackets are the heteroscedasticity- and autocorrelation-robust t-statistics based on standard errors clustered by countries. All models include country-specific and time-specific fixed effects and population size. Individual-specific characteristics include gender and age, but also occupational status, educational attainment, marital status and household income.

IV. Alternative explanation: The role of preferences

The previous section identifies a destructive influence of globalization on individual's investments in social networks that bridge, but a beneficial influence on investments in social ties that bond people within their families. So far these findings have been interpreted as changes in human behavior that constitute a response to changes in exogenous and unobservable work-place and labor market-related conditions. An interesting and important question is therefore whether these altered investment decisions are rather the result of changes in people's preferences. In general, observable choice is the outcome of a utility maximization under exogenously given constraints, so that changes in human behavior may occur because of 1) changes in constraints or 2) changes in underlying preference structure. In

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[12] Empirical results are qualitatively identical when estimated with Tobit or Logit.

this section I examine whether globalization affects people's preferences with respect to relational goods with friends and relational goods with relatives, that is the ranking in the preference ordering of consumption of private goods (income), consumption of (or investment in) relational goods with friends, and consumption of relational goods with relatives.

IV.A. Data

I employ a question of the EVS/WVS on the importance of various social networks, in particular with 'friends' and with 'family'. The WVS requires from the respondent "For each of the following aspects, indicate how important it is in your life: Family. Would you say it is (1) Very important, (2) Rather important, (3) Not very important, (4) Not at all important". An analogous question was posed for 'Friends'. The question was included in the EVS/WVS from the second wave until the fifth wave – covering all years from 1989 to 2008, resulting in about 280'000 observations. The resulting measure of preferences with respect to the consumption-creation of these relational goods has four categories; it has been recoded so that higher values reflect stronger importance. For the further analysis I merge these data with the KOF index of economic globalization, the same index used in the first part of my analysis.

IV.B. Results

In the following analysis I examine to what extent globalization affects the preferences with respect to building-consuming social ties with friends, on the one hand, and with family members, on the other. Applying equations (1), (2), and (3) to the ordinal measure of importance of 'friends' and 'family', using ordered Logit estimations, I employ the identical set of controls as already used in the analyses of the impact of globalization on social network creation in section III.

Table 6 reports the results of the ordered Logit estimations. In analogy to Tables 3 through 5, the estimates for the importance of friends are reported first, followed by those for the importance of family. Columns (1) and (4) present the estimates for globalization for equation (1), that is where only micro determinants most possible uncorrelated with globalization are included. Columns (2) and (5) add then economic transmission channels of globalization at the individual level. Finally, columns (3) and (6) also include economic transmission channels of globalization at the level of the domestic economy.

There is strong evidence that economic globalization does not affect the people's preferences with respect to the relational good 'friends': the estimate on globalization is insignificant in all three specifications (columns 1 - 3). In contrast, family appears to increase in importance when measures of the conditions of the macroeconomy - GDP per capita and unemployment rate - are added to the model (column 6). A possible interpretation of the estimates in column 6 can be based on Alesina and Giuliano (2009) by arguing with increased insecurity in financial resources - in one's own or those that available to the economy as whole – a insecurity that would force one to rely more heavily on the family as resource provider and insurer against income shocks; I argue that globalization possibly increases the volatility of income and therefore also the importance of 'family' in relational goods consumption as individual's means to access to those resources within the family realm (so relational good consumption becomes instrumental).

Table 6: Globalization and relational goods preferences

	(1)	(2)	(3)	(4)	(5)	(6)
Preference towards…	Friend important			Family important		
economic globalization	.004	.011	.017	.021	.018	.028**
	[0.46]	[1.09]	[1.32]	[1.33]	[1.20]	[2.40]
economic globalization	.0002	.0003	-.001	-.002	-.002*	-.004***
squared/10	[0.23]	[0.33]	[0.93]	[1.61]	[1.74]	[2.94]
Observations	285738	272226	240720	286752	273161	241448
no of countries	87	87	81	87	87	81
Country-specific fixed effects	yes	yes	yes	yes	yes	yes
Year-specific fixed effects	yes	yes	yes	yes	yes	yes
Age, gender	yes	yes	yes	yes	yes	yes
Ocupational status, education, marital status, household income	no	yes	yes	no	yes	yes
Country-specific fixed effects	yes	yes	yes	yes	yes	yes

Notes: Regressions are estimated by ordered Logit. In squared brackets are the z-statistics based on standard errors clustered by countries. All models include country-specific and time-specific fixed effects and population size. Baseline individual-specific characteristics include gender, and age. Additional socio-economic characteristics include occupational status, educational attainment, marital status, and household income. Controls for the macro-economy include national income per capita and unemployment rate.

The interpretation of Table 6 rests on the assumption that family resources function as substitutes for missing insurance devices against income shocks at the individual level, causing a change in preferences with respect to the relational good 'family tie' (see Alesina and Giuliano, 2009). In developed countries, it is the modern welfare state which usually

serves as insurance mechanism against individual income shocks: Falch and Fischer (2012) have shown with a panel of international student test scores that the degree of welfare state generosity impacts students' educational investment decisions. The more generous welfare state in developed countries should aid mitigate income shocks generated by the restructuring forces of globalization, which is not the case in developing countries with little social transfers and income redistribution.

Table 7 reports the estimates for globalization when the sample is split by the degree of economic development, in analogy to Table 5. There is clear evidence of no preference effects in developed countries (columns 1 and 2).[13]   In contrast, in developing countries the importance of both friends and family have both risen in the degree of a country's exposure to the world economy (columns 3 and 4) – obviously, not only family ties, but also ties with friends serve as means to gain access to additional resources in times of need. The larger estimate on 'family' possibly suggests that family resources are more often used to secure against income shocks than resources obtained through friendships.

Table 7: Relational goods preferences in rich and poor countries

	(1)	(2)	(3)	(4)
Importance of…	friends		family	
Country is….	rich	poor	rich	poor
economic globalization	-.039	.067**	-.020	.132***
	[1.14]	[2.39]	[0.42]	[2.91]
economic globalization, squared/10	.002	-.004**	-.001	-.010***
	[1.05]	[2.11]	[0.33]	[3.58]
Observations	125940	114780	126116	115332
no of countries	36	46	36	46
Country-specific fixed effects	yes	yes	yes	yes
Year-specific fixed effects	yes	yes	yes	yes
Age, gender	yes	yes	yes	yes
Occupational status, education, marital status, household income	yes	yes	yes	yes

Notes: Regressions are estimated by ordered logit. In squared brackets are the t-statistics based on standard errors clustered by countries. All models include country-specific and time-specific fixed effects and population size. Baseline individual-specific characteristics include gender, age (assuming a hyperbolic function), and marital status. Additional socio-economic characteristics include occupational status, educational attainment, and household income. Controls for the macro-economy include national income per capita and unemployment rate.

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[13] In column 1, the globalization coefficients are also jointly insignificant.

Overall, for developed countries there is clear evidence that globalization does not alter preferences with respect to relational goods. This supports strongly the interpretation of worsened labor market and working conditions for the destructive impact of globalization on bridging social ties and the enhancing one for bonding social ties in section III. In contrast, for developing countries I cannot rule out the possible alternative explanation that globalization, aggravating volatility in individual's income, alters people's preferences in the light of an underdeveloped welfare state.

V. Conclusion

This article analyses the effects of economic globalization for social network creation with friends and family. I conjecture that through increased worker mobility, growing competitive pressure at the workplace, and less regulated labor markets, globalization exerts a destructive effect on social tie formation. Matching a set of repeated cross-sections on attitudes and values of 320'000 individuals in more than 80 countries from 1981 to 2008 with a measure of economic globalization of the national economy, I find support that economic globalization has been destructive for face-to-face social ties with friends, a social network that bridges beyond the family.

The impact of economic globalization on social network creation is substantial: a rise in a country's openness from 20 to 30 on a scale of 100 decreases the propensity to have face-to-face contacts with friends by about 2%. My analysis also reveals that the likelihood of having face-to-face contacts with family members increases – possibly an effect of globalization-induced insecurity with respect to earnings which forces people to rely more on family resources as income insurance device. These effects are stronger for developed than for less developed countries - suggesting that also the quality of institutions play a role, in particular the degree to which employment relations have been regulated by national laws.

The identification strategy rests to a large extent on the across-time-between-country variation of economic globalization and the inclusion of country-specific fixed effects that account for unobservable cultural and institutional traits such a general propensity to trade. I also argue that the observed negative direction of influence of globalization on social networks with friends contradicts an interpretation of reversed (but positive) causality that could be based on Keefer and Knack (1997). For developed countries, I can empirically rule out an alternative

explanation that would build upon on a change in people's preference structure with respect to relational goods consumption; in contrast, for developing countries social ties with family, and lesser with friends, appear to have increased in importance – a differential effect that can be explained by a missing welfare state mitigating income shocks.

Economic globalization makes the domestic economy transform – it increases competitive pressure on firms, it leads to unemployment in one economic sector but also to worker shortages in another, it expands the number of more flexible work contracts and it induces income insecurity, and it makes laborers migrate to 'where the jobs are'. In addition, it forces governments to lower taxes and reduce their spending on public goods creation, on income redistribution, and on social transfers. While these economic effects of globalization have been well researched, the economics literature so far has completely overlooked to investigate into the more social effects of economic globalization. Indeed, each of these aspects of a transforming economy mentioned above are also most likely to impact the social sphere in one way or the other – growing numbers of limited work contracts may impede long-term family planning, rising income inequality may decrease social trust, and aggravating competitive pressures may cause psychic and physical diseases among workers, to name a few possibilities. The current analysis suggests that globalization destroys bridging social networks but strengthens social ties within the family; these results support the theoretical predictions by Glaeser (2001) and Glaeser et al. (2002) on the destructive effects of physical distance and increased opportunity costs for (bridging) social capital creation; my findings are also consistent with the substitution effect modeled by Alesina and Giuliano (2009), predicting that growing income insecurity and diminishing personal real income - e.g. through higher prices for using public utilities - may make people rely more on family resources, causing relatively larger investments in bonding social capital.

Overall, globalization appears to exert a non-beneficial effect on society as it facilitates the depreciation of bridging social networks through non-use (Ostrom, 2000), while fostering social cohesion-endangering bonding social networks. These social and societal costs of economic globalization are often missed in the public discussions about the benefits of opening-up a country towards the world markets; in this light, the current analysis for social network formation is an attempt to stimulate an academic and political debate.

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Appendix

Table A1: Globalization and social network creation

Leisure time spent with…	1	2	3	4	5	6
	meeting friends and colleagues			familiy members and relatives		
economic globalization	-.033**	-.031***	-.027***	.076**	.078***	.097***
	[5.77]	[6.56]	[8.79]	[4.41]	[4.61]	[5.58]
economic globalization sqrd. /10	.003**	.003***	.003***	-.007**	-.007***	-.008***
	[5.84]	[6.86]	[10.03]	[4.49]	[4.67]	[5.72]
age	-.018**	-.010***	-.009***	.013**	.006*	.007*
	[5.00]	[3.44]	[2.93]	[2.73]	[1.87]	[1.86]
age squared	.025**	.014**	.012*	-.026**	-.016**	-.017**
	[3.62]	[2.32]	[1.93]	[3.02]	[2.28]	[2.34]
age cubic	-.013**	-.008**	-.007*	.016**	.011**	.012**
	[3.25]	[2.05]	[1.74]	[3.10]	[2.47]	[2.56]
male	.064**	.040***	.042***	-.000	.001	.000
	[8.22]	[6.88]	[7.06]	[0.05]	[0.19]	[0.02]
Elementary education		-.021***	-.024***		-.028***	-.028***
		[3.58]	[3.92]		[4.40]	[4.16]
Tertiary education		.030***	.031***		-.026***	-.026***
		[7.06]	[6.77]		[4.43]	[4.15]
cohabiting		.030***	.026**		-.069***	-.064***
		[2.77]	[2.54]		[5.01]	[4.64]
divorced		.048***	.047***		-.046***	-.039***
		[5.79]	[5.03]		[3.73]	[2.91]
separated		.055***	.053***		-.057***	-.054***
		[5.07]	[4.66]		[3.52]	[3.24]
widowed		.029***	.028***		-.039***	-.035***
		[3.48]	[3.15]		[3.83]	[3.29]
single/never married		.076***	.073***		-.055***	-.050**
		[8.80]	[8.70]		[3.03]	[2.61]
Part-time employed		-.006	-.002		.024***	.022***
		[1.26]	[0.46]		[3.55]	[3.04]
Self-employed		-.007	-.007		.009*	.008
		[1.24]	[1.36]		[1.67]	[1.43]
retired/pensioned		-.035***	-.031***		.021***	.023***
		[3.25]	[2.72]		[2.66]	[2.71]
housewife		-.072***	-.070***		.012	.009
		[6.85]	[6.22]		[1.41]	[1.10]
student		-.013	-.009		.006	.001
		[1.36]	[0.89]		[0.54]	[0.09]
unemployed		-.046***	-.042***		.011	.010
		[5.95]	[5.21]		[1.41]	[1.18]
other employment status		-.052***	-.052***		.031***	.032***
		[3.58]	[3.49]		[2.73]	[2.71]
no reported income		-.001	.000		-.011*	-.008
		[0.16]	[0.00]		[1.71]	[1.11]
Income category = 2		.012	.013*		.022**	.022**
		[1.67]	[1.68]		[2.26]	[2.06]
Income category = 3		.014*	.013		.022**	.022**

		[1.87]	[1.58]		[2.39]	[2.23]
Income category = 4		.017**	.017*		.033***	.031***
		[2.23]	[2.00]		[3.82]	[3.49]
Income category = 5		.020**	.018*		.044***	.042***
		[2.33]	[1.99]		[4.72]	[4.15]
Income category = 6		.018**	.016*		.049***	.044***
		[2.15]	[1.73]		[5.38]	[4.63]
Income category = 7		.023**	.022**		.059***	.052***
		[2.49]	[2.19]		[5.40]	[4.74]
Income category = 8		.028***	.028***		.069***	.066***
		[3.01]	[2.80]		[5.47]	[5.53]
Income category = 9		.027**	.027**		.051***	.046***
		[2.49]	[2.30]		[4.25]	[3.71]
Income category = 10		.046***	.042***		.032**	.036***
		[4.73]	[4.14]		[2.63]	[2.84]
Log(population)	.902**	.892***	.591**	1.914*	1.940**	.245
	[3.63]	[5.01]	[2.49]	[2.03]	[2.04]	[0.18]
logunempl			-.050***			-.170**
			[3.05]			[2.05]
loggdppc			-.039			.402**
			[1.19]			[2.61]
Country-specific fixed effects	yes	yes	yes	yes	yes	yes
Time-specific fixed effects	yes	yes	yes	yes	yes	yes
Log (population)	yes	yes	yes	yes	yes	yes
Observations	109016	107971	98659	87448	86454	76360
no of countries	64	64	59	46	46	41
Goodness of fit measure (R2)	0.34	0.35	0.34	0.57	0.57	0.57

Notes: Linear probability model estimations (OLS). In squared brackets are the heteroscedasticity- and autocorrelation-robust t-statistics based on standard errors clustered by countries. All models include country-specific and time-specific fixed effects and population size.

Table A2: Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
Leisure: friends	109757	0,7424857	0,437267	0	1
Leisure: family	109757	0,4823291	0,4996899	0	1
Important: friends	286489	-1,71453	0,7326482	-4	-1
Important: family	287505	-1,132944	0,3966029	-4	-1
Economic globalization	319982	59,58492	17,259	12,87	97,33
Economic globalization, squared	319982	384,8235	204,7535	16,56	947,31
Age	316774	41,17773	16,40361	15	101
Age squared	316774	19,64683	15,2191	2,25	102,01
Age cubic	316774	10,54222	11,92521	0,34	103,03
Male	319886	0,4807463	0,4996299	0	1
Elementary	319982	0,4405685	0,4964561	0	1
Tertiary	319982	0,1807539	0,3848148	0	1
Married	314929	0,5822423	0,4931906	0	1
Cohabiting	314929	0,0540566	0,2261298	0	1
Divorced	314929	0,035554	0,1851758	0	1
Separated	314929	0,0167403	0,1282969	0	1
Widowed	314929	0,065256	0,2469774	0	1
Single/never married	314929	0,2457538	0,4305339	0	1
Full-time employed	308722	0,3712823	0,4831485	0	1
Part-time employed	308722	0,0744618	0,2625214	0	1
Self-employed	308722	0,0983053	0,2977274	0	1
Retired/pensioned	308722	0,1344381	0,341123	0	1
Housewife	308722	0,142455	0,3495168	0	1
Student	308722	0,0734965	0,2609502	0	1
Unemployed	308722	0,0862394	0,2807177	0	1
Other employment status	308722	0,0193216	0,1376529	0	1
no_income	319982	0,1410892	0,3481141	0	1
income category = 1	319982	0,0848923	0,2787218	0	1
income category = 2	319982	0,1076467	0,3099341	0	1
income category = 3	319982	0,1211943	0,3263535	0	1
income category = 4	319982	0,1233226	0,3288076	0	1
income category = 5	319982	0,2648399	0,4412486	0	1
income category = 6	319982	0,0957898	0,2943032	0	1
income category = 7	319982	0,0771137	0,2667722	0	1
income category = 8	319982	0,0564938	0,2308732	0	1
income category = 9	319982	0,035752	0,1856715	0	1
income category = 10	319982	0,032955	0,178519	0	1
Log(population)	319982	17,13396	1,593352	12,38	21,00
Log(unemployment)	302128	2,022605	0,6562732	-0,51	3,59
Log(GDPpc)	300096	8,490338	1,473012	5,13	14,97
year	319982	1997,546	7,086033	1981	2008