



RESEARCH PAPER

International migration, transfers of norms and public goods back home

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Abstract

International migration represents a potential channel for the transmission of norms, attitudes, and values back to the home countries. In this paper, we explore how international migration affects tax morale and aversion to the free-riding of members of the household left behind in the home country. We use a rich longitudinal household-level database on Polish society (period 2007–2015) that allows us to observe social attitudes and values of individuals before and after the actual migration of a member of the household. We find that having a migrant in the household has a significant and positive effect on tax morale and increases aversion toward free-riding of stayers. We also find that migrants have a lower level of tax morale before departure compared to stayers, suggesting that international migration leads to an overall gain in pro-social behaviors.

Keywords: international migration; social remittances; transfer of norms; tax morale; free riding

JEL Codes: D83; F22; F24; H26; P20; Z10

1. Introduction

Why people pay taxes? How do they perceive public goods and collective obligations to finance public services? These questions have been raised for a long time within the literature on tax compliance and, one of its determinants, tax morale¹ [Alm (2019)]. Traditional models based on rational *homo economicus* and the analysis of costs and benefits of deviating from tax obligations [Allingham and Sandmo (1972)] are not able to fully explain the incidence of relatively high levels of tax evasions and free-riding in some countries. A growing literature has shown that tax morale is

¹In the rest of the paper, we refer to tax morale, in line with most studies in the literature, as self-reported attitudes toward tax evasion and free-riding of public goods. Tax morale can be considered as a “separate” factor determining individuals’ tax compliance or simply a “proxy” of tax behavior. This distinction is not of high relevance for our purposes. In fact, several studies have demonstrated that measures of tax morale similar to the one we employ in the paper are highly correlated to actual measures of the shadow economy [Torgler and Schneider (2009)] or to tax compliance in experimental settings [Torgler (2003)].

dependent on the individual as well as context-level characteristics, such as ethnic and linguistic diversity of the society [Lago-Peñas and Lago-Peñas (2010), Alesina *et al.* (2018), (2020), (2021)]. Within this literature, behavioral economics has demonstrated the important role of social interactions as determinants of an individual's tax morale [Pickhardt and Prinz (2014), Ritsatos (2014)].

International migration is likely to radically transform the nature of social interactions for all parties involved in the migration process; the migrants themselves as well as receiving and home communities. The nexus between international migration and attitudes toward redistribution and contribution to the finance of public goods has been recently addressed in the context of migrant-receiving countries [Alesina *et al.* (2018), (2020), (2021)] while, to our knowledge, the effects on migrant-sending countries have so far been less investigated.

In this paper, we analyze the effect of international migration on tax morale, or more generally on individual attitudes and norms toward the contribution to the financing of public goods. We rely on a unique longitudinal household-level database – the Polish Social Diagnosis (SD). SD is a large bi-annual survey carried out between 2007 and 2015, a period of intense outmigration of Poles due to the process of integration with the European Union (EU) – which allows us to observe the change of individual attitudes and social values, as well as a rich set of characteristics before and after the actual migration of each member of the household. We find that having a migrant in the household leads to a significant increase in stayers' aversion to tax avoidance and free-riding of social benefits and stronger support for the provision of public goods. We also show that as migrants are negatively selected with respect to tax morale compared to stayers in family exposed to migration, the “net” effect of international migration on tax morale is positive. Interestingly, this positive effect of international migration on tax morale strongly depends on the characteristics of the migrant and is higher when those who leave are relatively young and highly educated. Thus, the transfer of attitudes, cultural traits, and norms is more likely to happen when migrants have a sufficient absorptive capacity. We also find that gender matters for this process, as the effect of international migration on tax morale are found almost exclusively for male migrants. This latter result might be explained by the differences in the migration experience – for instance, employment opportunities and type and extent of social interactions in the destination country – that are often strongly based on gender.

The results suggest that the wave of post-accession migration from Poland after 2004 might have induced significant changes in pro-social behavior in the households of migrants. Our findings are coherent with the increase in aggregate tax morale indexes observed in Poland. According to Word Value Survey, while only 52.2% of Poles considered cheating on taxes as “never justifiable” in 2005, the share of such respondents has risen to 76.4% in 2018 [WVS (2021)].

Our paper is related to a relatively novel strand of economic research on international migration that analyzes on how population movements induce social change in home countries [Tuccio *et al.* (2019)] and how this social change can affect their economic, cultural, and political development [Clemens *et al.* (2014), Docquier *et al.* (2016), Barsbai *et al.* (2017)]. The existing literature has emphasized multiple-channels through which international migration impacts home countries [Clemens *et al.* (2014)], ranging from skill transfers of the labor force across international borders and the changes in the human capital allocation due to migration decision [Docquier and Rapoport (2012)], through diaspora investments

[Wei and Balasubramanyam (2006), Boly *et al.* (2014)], or via transfers of savings and worker's remittances [León-Ledesma and Piracha (2004)] and transnational entrepreneurial activities of immigrants conducted mutually in home and host country [Brzozowski and Cucculelli (2020)]. Non-financial transfers toward the countries of origin of migrants became known in migration studies as social remittances [Levitt (1998)] and are understood as ideas, norms of behavior, and cultural practices that are "imported" from – usually more developed – host countries to migrants' countries of origin.

Social remittances might materialize in the form of migration-induced political change. Tuccio *et al.* (2019) show that having a returnee from Western European countries increases the need for political and social change in Moroccan households. Political change does not necessarily require the return of migrants, as demonstrated by the work of Barsbai *et al.* (2017) which shows that in Moldovan regions with more intensive out-migration to Western Europe, the remaining adult population shifts voting to more democratic, liberal parties. Also, Docquier *et al.* (2016) have demonstrated that openness to international migration has a positive effect on home country institutions and democracy. Spilimbergo (2009) identifies student migration as a powerful channel for the transfer of democracy. Another strand of research analyzes the impact of social remittances on civil society and attitudes toward public matters. For instance, Nikolova *et al.* (2017) find a positive linkage between having a family member or friend abroad and engaging in pro-social behavior in Romania and Bulgaria. Ivlevs and King (2017) demonstrate that individuals in ex-Yugoslavian countries who have relatives abroad are less likely to bribe public officials and more often perceive bribing as socially less acceptable. Other studies have focused on the role of international migration in transferring gender norms and promoting female empowerment. Bertoli and Marchetta (2015) using household-level data for Egypt show that return migration from other Arab countries (which have a higher number of children per woman than Egypt) has a positive and significant impact on fertility choices, increasing the number of children in households with former migration experience. Evidence of transfers of destination countries' fertility norms from migrants to source countries has also been found by Beine *et al.* (2013) using cross-country evidence. The studies that analyze the impact of international migration on female empowerment yield mixed results. On one hand, Tuccio and Wahba (2018) find that return migration to Jordania strengthens the traditional gender norms in families: as most migrants return from more conservative Arab countries, this suggests a transfer of traditional gender norms. On the other hand, Lodigiani and Salomone (2020) show – using panel data for a large sample of countries between 1970 and 2010 – that international migration in countries with a higher share of female holding seats in Parliament positively affects the female parliamentary representation also in home countries, thus contributing positively to female political empowerment.

We contribute to the economic literature on the relationship between international migration and social change in home countries in several aspects. First, our analysis focuses on social remittances in the form of changes in norms of cooperation and free riding in the home society. Individual attitudes toward public goods – such as tax evasion, free-riding, and misuse of social benefits – are crucial in shaping well-functioning institutions and in sustaining the social pact on which modern societies are built. International migration by exposing the migrants, as well as all individuals involved in the migration process, to a new reference point might

significantly affect norms and behaviors in this crucial dimension. This form of social remittances has, to the best of our knowledge, not been investigated yet.

Second, we take advantage of a longitudinal dimension of our dataset, which enables us to trace the evolution of the social attitudes of members of the household of migrants over time. So far, the few quantitative studies on social remittances were based on cross-sectional data [Nikolova *et al.* (2017)]. In cross-sectional studies, the obvious problem is a double selection into migration within and between households and, as most studies are based on those who return back home, on self-selection into return migration [Wahba (2015), Murard (2019)]. Households with migrants are different compared to those without migrants due to some observable as well as unobservable characteristics. The same is true for migrants and stayers in households exposed to migration. Therefore, only datasets tracking changes in social norms and attitudes, as well as the location of household members over time, allow the researcher to causally assess the relationship between migration and changes in social behaviors.

Thirdly, our paper contributes to the literature by highlighting the heterogeneous and complex effect of international migration on the social transformation of sending countries. We find that the existence and the magnitude of social remittances depend on which specific sub-groups of the population are involved in the migration process. The transfer of norms and attitudes of household members leaving home is more likely when younger and more educated individuals migrate; this finding confirms that not all migrants are “agents” of social transformation.

Finally, we focus on Poland which represents an interesting case study on the effect of international migration on social change as it is the largest immigrant-sending country in the EU in the post-accession period (i.e., after 2004) [Bahna (2016)]. Outmigration from Poland had a profound impact on sending and host economies and societies [Barrell *et al.* (2010), Coniglio and Brzozowski (2018)]. While for almost all economic migrants from Poland, the destination countries are the most developed democracies of Western Europe, the potential impact of social remittances from these countries can indeed be substantial and drive social change in Poland. So far, most of the analyses on social remittances in post-communist economies were focused on relatively smaller or poorer economies such as Moldova [Barsbai *et al.* (2017), Berlinski (2019)] or when it dealt with Poland, it relied mostly on qualitative studies [Grabowska and Garapich (2016), White (2016), (2021), Jazwińska and Grabowska (2017)], which makes the generalizations more difficult. We employ a large longitudinal survey for the Polish economy and society, the SD database, which is specifically designed to monitor the evolution of attitudes, norms, and behaviors [Czapiński and Panek (2015)].

Our paper is structured as follows: in the second section, we present a discussion on the theoretical mechanisms that link international migration to tax morale at home and provide background information on outmigration from Poland in the considered period. The third section presents the data set, the main hypothesis, and the empirical methodology. In section 4, we present the results of empirical analysis and discuss our findings. Conclusive remarks are reported in the final section of the paper.

2. Theoretical mechanisms and context of the study

The most important channel through which the attitudes of those who stay can be affected by international migration is the exposure to foreign modes of behavior, institutions, values, and norms. This exposure in turn leads to a socialization process,

as migrants and their relatives and friends accommodate new practices [Lodigiani and Salomone (2020)]. Such exposure to foreign culture can happen directly: through visits that stayers can pay to relatives who live abroad, visits of emigres in their home country or through return migration. However, immersion in a foreign culture and its values can also take place indirectly through various means, such as migration and diaspora networks, personal communication via the Internet, and engagement with formal or informal diaspora organizations and community groups on social media [Levitt (1998)].

Social anthropologist Peggy Levitt (1998) has created a term social remittances to describe ideas, patterns of human behavior, or social norms which are transferred from receiving- to sending-country communities. She also identifies factors and mechanisms of such cultural diffusion. Social remittances are enhanced by geographical proximity and ease of travel between host and home countries. The strength of social remittances depends also on the size of interaction that migrants have with the receiving society: the more intensive and multi-level it is, the more profound is the socio-cultural influence exerted on them, which then can be transmitted back to the home country. The crucial element which explains why social remittances occur is their intentionality: migrants communicate their ideas or promote social norms in order to influence a specific recipient or group of recipients and change their behavior [Levitt (1998)].

White and Grabowska (2019) widen the definition of social remittances, arguing that these transfers can be intentional, but also unintentional. These are mostly person-to-person flows, sent from migrants to non-migrants, but also later within non-migrants, mostly through social networks [White and Grabowska (2019)]. When it comes to economic literature, usually such networks are used for exchange of goods and services, thus they impact positively on bilateral trade, flow of finances, and investments between host and home countries. However, such networks can also become important channels of knowledge and technology diffusion, and also the transition belt for social norms and patterns of human behavior [Docquier *et al.* (2016)]. The literature on social remittances stresses the transnational nature of migrant's households [Sørensen (2012)]: while families become divided by geographical space, emotional connections and contacts are kept regularly through multiple visits, but also virtually – through regular phone calls, exchange of e-mails, and via Internet communicators such as Skype, WhatsApp, or Messenger. Such transnational (virtual) contacts between migrants and their family members in their home country became even more pronounced with the outbreak of covid-19 pandemic. In a recent study, Galstyan and Galstyan (2021) demonstrate how the migrants from Armenia living in Czech Republic had influenced their family members in their home country, encouraging them to adopt security measures such as wearing masks and keeping a social distance. On the other hand, Armenians who lived in Belarus or Russia, the countries in which the security approach to covid-19 was as “undisciplined” as in Armenia, had not impacted on more responsible and careful behavior of their families and friends in their home country. This implies that the potential of social change through migration depends greatly on the dominant attitudes and values in the host country.

In our study, we contribute to the existing literature by exploring social remittances from a new perspective by investigating the role of international migration on the attitudes toward free-riding and tax avoidance of members of the household left at home. In this aspect, Poland is a very promising object of research for

migration-induced social change. In 2004, Poland has joined the EU which resulted in facilitated cross-border mobility of Poles. As the result of enlargement, a significant new wave of international migration from Poland and other Central and Eastern European countries occurred. This migration flow was indeed substantial; in 2007, the number of EU-10 CEE² nationals in EU-15³ countries had risen to 3.7 million, compared to 1.5 million in 2003. Out of these 3.7 million migrants from CEE, approximately 1.3 million were Polish citizens [Górny and Kaczmarczyk (2019)]. There are already some theoretical [White (2016)] and empirical [Grabowska and Engbersen (2016), Grabowska (2018)] studies that indicate that post-accession migration has indeed induced important changes in social, cultural, and political norms, especially at the local level. However, there is also evidence on some conservative opposition toward the assessment of changes promoted by migrants [Grabowska and Garapich (2016)].

In the Polish context, after joining the EU in 2004, the country has experienced a very intensive outflow of people, which was subsequently labelled by the experts as post-accession migration [Grabowska (2018)]. As for 2004, the number of Poles residing abroad was estimated at 1 million, while in 2015 (the last wave of SD study, from which we derive data for empirical analysis) this number was 2.4 million. The main destinations for Poles in 2015 were the UK (788,000 persons), Germany (687,000), the Netherlands (116,000), Ireland (112,000), and Italy [93,000, cf. Statistics Poland (2021)]. Therefore, the post-accession migration after 2004 was directed mostly to Western European countries who were members of the EU. According to the World Values Survey wave 5 (2005–2009), all of the major destination countries demonstrated significantly higher proportions of their population opposing free-riding on public goods compared to Poland, while simultaneously showing lower rates of individuals who considered free-riding justifiable [Inglehart *et al.* (2014)].

For Polish migrants, arriving in Western EU countries represented a significant “Institutional Discovery,” particularly due to the significantly higher extent of coverage for individual and collective risks, as well as the provision of public goods compared to their home country. As a result of this exposure to different models of the welfare state, individuals may engage in reflective comparisons between Poland and the host countries, particularly regarding public policies. This can fuel aspirations to strive for “European” standards of public policies within their home country.⁴ For instance, the expenses on the health system – one of the pillars of the Welfare State – in Poland in 2007 were equal to 5.8% of the GDP, among the lowest in OECD countries and 2–4 percentage points less compared to the main destinations of Polish migrants (10% in Germany, 8.8% in the UK). In absolute

²EU10 CEE countries include countries which entered the EU in 2004 (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia) and Bulgaria and Romania, which entered in 2007.

³EU-15 are the “old” member states, i.e., those who were members of the European Union before 2004.

⁴The effect might potentially go in the opposite direction if Polish families exposed to emigration, comparing Polish public welfare provision to what they observe in destination countries, may perceive it as inadequate and disappointing. Consequently, they may become less inclined to contribute through taxes in Poland. We are grateful to anonymous referee for suggesting this potential “disappointment effect.” Our *ex-ante* expectation is that the positive effects would be the dominant one as the process of migration occurred in the early phase of EU membership for Poland, and many Poles strongly believed that EU integration constitutes a civilizational advance for the country. Ultimately, given potential contrasting theoretical channels the question is of empirical nature.

terms, the differences in the provision of public goods – the other side of the coin of the payment of taxes – were even more spectacular. The health expenditure for an average Polish citizen was 661 US dollars in 2007, against amounts in the top five migrant destinations ranging from a minimum of 3,093 US dollars for Italy and a maximum of 4,859 US dollars for Ireland. Comparable disparities could be observed across various dimensions of public provision of collective goods and services.

As a result, Poles who migrated to the West experienced immersion in a new society with distinct approaches toward the welfare state, contrasting those in Poland. This experience could profoundly influence attitudes toward public goods among both migrants and their non-migrating family members who remained in their home country. In the Polish context, the transmission of social norms from migrants back to their families at home can be particularly influential, owing to the prevalence of transnational practices such as regular visits or phone calls. This has been highlighted in various studies on the Polish diaspora [Ryan (2011), Sime and Pietka-Nykaza (2015)].

The primary hypothesis of our study, aligning with the social remittance literature, posits that when a household member is exposed to alternative norms of behavior prevalent in the host country through migration, socially accepted norms, including those influenced by the tax system, can undergo changes. New insights from behavioral economics have enriched the analysis of tax compliance by considering the importance of fairness, empathy, shame, morality, etc. [Alm (2019)]. In addition to intrinsic individual-specific factors, tax compliance is in fact strongly influenced by social interactions that shape attitudes and norms of cooperation [Pickhardt and Prinz (2014)]. Pro-social and cooperative behavior – and their antithesis such as free riding and tax-evasion – can be the result of specific social and institutional settings and hence explain (at least partly) the observed differences in tax compliance between countries and regions sharing similar tax enforcement efforts [Daude *et al.* (2013)].

As attitudes, norms of behaviors, and social values are affected by the social context in which individuals live, international migration might represent a powerful shock to the type, intensity, and diversity of social interactions and, in turn, might have strong effects on them, including on those related to tax morale and free-riding behaviors [Kountouris and Remoundou (2013), Alesina *et al.* (2018), (2020)]. In particular, migration can affect the perception of social norms, i.e., informal rules of behavior that individuals belonging to a given community share and follow for reasons that are not totally explained by the fear of incurring penalties.

In line with this reasoning, we expect to observe a change in social attitudes and values of individuals before and after the actual migration of a member of one's the household.

3. Data description and empirical methodology

We use data from the SD project, a large-scale longitudinal survey on Polish society in the 2003–2015 period [Czapiński and Panek (2015)]. For the purpose of our study, we employ data for the period 2007–2015 as only these five waves (2007, 2009, 2011, 2013, and 2015) include details of the current migration experience of household members. We focus our main analysis on all stayers belonging to households with and without members currently residing abroad. The panel dimension of our dataset allows us to employ an individual-level within-household approach as we investigate the change

in norms of individual stayers due to migration within the household.⁵ It is well-known in the literature that migrants – and their families – are not random samples of the home country population. Self-selection into migration occurs both between and within household. The first type of self-selection, between household, implies as suggested by Murard (2019, p. 3) that “Direct comparison of individuals left behind in migrant households with individuals living in non-migrant household is not satisfactory, neither empirically nor conceptually.” As argued by Murard (2019), a between-household approach for identifying the effects of international migration on the left behind would need a rather complex two-step matching strategy on (i) household selection into migration and (ii) individual selection, within-household, into stayers and movers. As in our longitudinal panel we can identify stayers in households which self-select into migration over time, our identification strategy is based on individual-level fixed effects which allow us to observe the tax morale of *the same individual before and after migration in the household*.⁶

We employ three main dependent variables that measure individuals’ attitudes toward cooperative behaviors and free riding. The first variable, *social benefit misuse*, captures individual aversion toward free-riding of social benefits – unemployment benefit misuse.⁷ In five consecutive waves of the SD survey, individuals have been asked the following question: “how much do you care if someone unjustly obtains unemployment benefit?” and the answers were coded from value 1 (i.e., not caring at all) to 5 (i.e., caring a lot). As a second measure, we employ the variable *tax avoidance*, which captures individual aversion toward tax avoidance. This variable is based on the following question: “how much do you care if someone pays lower taxes than he/she should?” The third measure, *ticket avoidance*, measures free-riding on local public services and is based on the following question: “how much do you care if someone avoids paying the fares for the public transport? (e.g., buses, trains).” The answers for those two questions were also coded from 1 (min) to 5 (max value). All of these variables reflect individuals’ norms of cooperation and tax morale but capture its different dimensions. In fact, the avoidance of social benefits is more likely to be undertaken by individuals that are relatively worse-off within the society. On the contrary, tax avoidance is more likely to be more severe for the relatively well-off. As fairness consideration might shape norms [Barth *et al.* (2013), Alm (2019)], these measures of respectively free-riding from the “bottom” and the “top” end of the income distribution might be affected in a potentially heterogeneous way by exposure to international migration. The third variable, ticket avoidance, is potentially capturing a dimension of cooperation that is perceived as closer to the local community compared to the other two. An additional consideration that might

⁵Our unit of analysis is an individual and not household average. This allows us to overcome the issue of within-household self-selection into international migration. In fact, if migrant and stayers within the same household differ in the pre-migration level of the outcome variables then household “average” level of the behavioral norms and attitudes of interest will change even if individual norms and attitudes do not change because of migration. This issue is widely discussed by Murard (2019).

⁶Clearly stayers, our unit of analysis, are self-selected based on observed and unobserved characteristics but this is not a concern in our study as these individuals are precisely those that interest us as “recipient of social remittances.” In our analysis, we also consider the (pre-departure) tax morale of migrants as this is relevant if we want to analyze whether international migration causes an overall “gain” or “drain” of tax morale in the home country.

⁷The work by Sztandar-Sztanderska (2009) suggests that this form of exploitation of the Polish welfare system was a relevant issue in the period covered by SD survey (2007–2015).

differentiate these three different measures of free-riding is the role of policymakers' effectiveness [Dell'Anno (2009), Alm (2019)]. In fact, tax evasion and tax morale can be affected by people's perceptions toward the ability of policymakers to employ tax receipts in a fair and effective way. International migration can affect individuals' trust in national and local policymakers differently.

Finally, we combine all of these three dimensions in a single variable, *public good*, which represents an overall index of individual aversion toward free-riding in a society.⁸

In line with our hypothesis as described in the previous section, we expect that the international migration of a member of the household affects individuals' pro-social attitudes as measured by the variables defined above. In fact, several studies have shown that attitudes and norms of cooperation – including those related to taxes – are strongly affected by social interactions [Alm (2019)]. International migration might represent a powerful channel through which social interactions of the entire household – not only of migrants – change. In particular, households are exposed to different social norms, i.e., those prevailing in countries/localities where immigrants reside. If destination countries significantly differ from the home country, migration in the household generates an “institutional discovery” where exposed individuals learn about a new collective pact in which the provision of public goods is different. Whether these “new” social norms are remitted in destination countries might depend on several features of the migration experience, including the characteristics of those who migrate and those who stay put.

In the empirical analysis, we estimate the effect of international migration on our dependent variables using a panel approach specified as follows:

$$\begin{aligned} \text{Free_riding_attitudes}_{ijvt} = & \beta_0 + \beta_1 \text{Migration_HH}_{ijvt} \\ & + \beta_2 X_{ijvt} + \theta_i + \delta_{vt} + \gamma_t + \varepsilon_{ijt} \end{aligned} \quad (1)$$

where *Free_riding_attitudes*_{ijvt} is the set of our dependent variables as described above for individual *i*, in household *j*, residing in region *v* (NUTS level 2, equal to Voivodeship) at time *t*. *Migration_HH*_{ijvt} is our main independent covariate and is either specified as: (i) a dummy which takes the value of 1 if between time *t* and *t* – 1 (a 2-year period) a member of the household migrates abroad; (ii) the number of household members migrated abroad in the same time interval. The estimated coefficient β_1 can be interpreted as the average effect of international migration (the “treatment”) on the household member left at home (the “treated”).

A set of time-variant control variables is included in the vector X_{ijvt} . At the individual level, we include *marital status*, *age* (and its *square*), *educational level* (primary or lower, secondary and tertiary), and *employment status*. Changes in these variables might affect directly or indirectly – through changes in socio-economic interactions – cooperation attitudes and norms and, thus, tax morale. As several studies show that income is also an important determinant of tax morale and compliance, we include the (log of) of *household income* in our specification. This variable might also be directly affected by the migration of one or more members of the household, hence controlling for this channel is important as we are interested in isolating social remittances from financial ones. At the household level, we control for changes in the *size of the household*.⁹ Finally, we include region by time fixed effects, δ_{vt} , as well as time (or

⁸The variable public good is defined as a simple average of the three measures described above.

⁹Some of the control variables might be affected by migration and thus might constitute “bad controls.” In order to assess this potential issue, we estimate models in which all covariates are measured in the period

wave) fixed effects, γ_r . These fixed effects serve the purpose of controlling for regional shocks and time common shocks that might affect both the propensity to migrate and tax morale. These variables capture – at least partly – also the indirect impact of out-migration in the region, for instance of weak ties outside the family, on individual attitudes toward the provision of public goods.

Our specification includes *individual-level fixed effects*, θ_i , as we are interested in how the attitudes of stayers are affected by migration in the household. In order to better isolate the effect of international migration of those left behind, we restrict the sample to include only individuals who have been interviewed at least for two consecutive waves: (1) had never migrated in the past; (2) none of the members of their household has migrated in a previous wave ($t - 1$).

In Table 1, we report the main summary statistics of the variables employed in the analysis. Our sample includes approximately 60,000 individuals. In the considered period, we observe that approximately 3% of the individuals in our sample experience the migration of at least one member of the household.

4. Empirical analysis

We report the first set of estimation results in Table 2, using alternatively as main covariates the dummy migrants in the household (columns 1–4) and the number of migrants in the household (columns 5–8) for the different measures of tax morale. International migration of a member of the household significantly affects the attitudes of those left behind, increasing their aversion to free-riding and opportunistic behaviors.¹⁰ The aversion to the abuse of unemployment benefits (*social benefits misuse*) increases when the household is exposed to international migration. The change of the dependent variable is 0.11 when an individual experiences the migration of a family member, keeping other covariates at mean values; this is equivalent to a chance of 4.4% (*column 1*). When considering the number of migrants in the household, the change in the dependent variable is +0.57 when moving from the lowest value (0 emigrants) to the highest (6 emigrants), an increase of +22% at mean values for other covariates (*column 5*). The effect on individual aversion to tax evasion (*tax avoidance*) is also positive and significant and

prior to the start of the migration episode. The results are in line with those presented below and are reported in the online Appendix (see Table A1 with inclusion of lagged control variables). We are thankful to an anonymous referee for suggesting this analysis.

¹⁰As rightly pointed out by the anonymous reviewers, an important dimension of the norm's transmission is the heterogeneity of the countries into which members of the household migrate. However, in case of Poland the vast majority of migrants left to a narrow set of EU countries, which are quite similar in terms of the overall level of provision of public goods as well as tax morale and attitudes toward public goods. For instance, the provision of public goods aimed at reducing collective risks (health expenditure and other pillars of the welfare state) in all these destinations was substantially higher than that of Poland; the distance between the home country and any of these destinations overshadowed the much smaller distance across migrant destinations. Additional analysis on the influence of a specific destination country on tax morale is reported in online Appendix Table A4. In these alternative specifications, we estimate a version of the model in equation (1) where we allow for heterogeneous impacts of migrants according to their country (one or more) of destination. The results do not yield conclusive findings on heterogeneous effects in the transmission of tax morale norms across destinations. These findings can be explained both by the relative homogeneity of destination countries as well as by the fact that in Social Diagnosis full information on the destination countries is not available for a significant share of households.

Table 1. Summary statistics and variable description

Variable name	Description	Min	Max	Mean value/incidence for all individuals			St. Dev.	T/Z value
				HH with migrants	HH with no migrants	Full sample		
Social benefits misuse (ordinal)	Answer to a question how much do you care if someone unjustly obtains unemployment benefit (1 – min, 5 max)	1	4	2.521	2.573	2.581	1.076	4.429***
Tax avoidance (ordinal)	Answer to a question how much do you care if someone pays lower taxes than he/she should? (1 min, 5 max)	1	4	2.258	2.333	2.346	1.043	6.525***
Ticket avoidance (ordinal)	Answer to a question how much do you care if someone avoids paying the fares for the public transport? (e.g., buses, trains 1 min, 5 max)	1	4	2.228	2.324	2.341	1.021	8.6791***
Public good (ordinal)	Calculated from a combination of 3 indexes of tax morale ([taxavoid + ticketavoid + socialavoid]/3)	1	4	2.329	2.403	2.416	0.951	6.848***
Migrants in HH (dummy)	Dummy for having at least 1 migrant in household at time <i>t</i>	0	1	na	na	0.03	0.164	nr
Total no of migrants in HH (continuous)	Total number of migrants in household at time <i>t</i>	0	5	1.235	0	0.032	0.204	nr
Household size (continuous)	Size of the household (number of persons residing in HH)	1	15	4.624	3.796	3.616	1.823	−55.355***

(Continued)

Table 1. (Continued.)

Variable name	Description	Min	Max	Mean value/incidence for all individuals				
				HH with migrants	HH with no migrants	Full sample	St. Dev.	T/Z value
Married (dummy)	Dummy for marital status	0	1	0.41	0.196	0.38	0.484	-69.242***
Age (continuous)	Age of the individual (years)	0	105	33.529	41.113	40.718	18.809	43.654***
Female	Dummy when individual has primary education completed or lower	0	1	0.5	0.518	0.56	0.496	4.65***
Primary education or lower (dummy)	Dummy when individual has secondary education completed	0	1	0.131	0.081	0.13	0.337	-23.908***
Secondary education (dummy)	Dummy when individual has tertiary education completed	0	1	0.535	0.219	0.4	0.489	-97.596***
Tertiary education (dummy)	Dummy when individual is employed at time t	0	1	0.101	0.053	0.09	0.291	-27.787***
Currently employed (dummy)	Natural logarithm of HH income	0	1	0.564	0.468	0.47	0.499	-20.795***
(ln of) Household income	Description	0	10.819	5.823	5.637	5.869	2.596	-5.494***

For each variable, two-sample test of proportions (for dummies) and t -test with equal variances (for continuous vars) has been performed to investigate systematic differences between households with migrants and household with no migrants. The last column in the table includes t -values (for proportion test) and z -values (for equal variances test) and significance levels (***) for >0.001 .

Table 2. Impact of international migration on household members' attitudes toward public goods (panel FE regression)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Social benefits misuse	Tax avoidance	Ticket avoidance	Public good	Social benefits misuse	Tax avoidance	Ticket avoidance	Public good
Migrants in HH (dummy)	0.110** (0.043)	0.106** (0.045)	0.069 (0.043)	0.081** (0.040)				
Total no of migrants in household					0.095*** (0.035)	0.082** (0.036)	0.055 (0.035)	0.064** (0.032)
Household size	-0.020** (0.009)	-0.022** (0.009)	-0.025*** (0.009)	-0.020** (0.009)	-0.021** (0.010)	-0.022** (0.009)	-0.025*** (0.009)	-0.020** (0.009)
Married (dummy)	0.049 (0.033)	0.097*** (0.033)	0.059* (0.033)	0.059* (0.030)	0.050 (0.033)	0.097*** (0.033)	0.059* (0.033)	0.059** (0.030)
Age	0.034** (0.015)	0.029* (0.015)	0.046*** (0.015)	0.032** (0.014)	0.034** (0.015)	0.029* (0.015)	0.046*** (0.014)	0.032** (0.014)
Age squared	-0.0001*** (0.00007)	-6.14 × 10 ⁻⁵ (7.04 × 10 ⁻⁵)	-0.0002*** (6.65 × 10 ⁻⁵)	-0.0001** (6.41 × 10 ⁻⁵)	-0.0002*** (7.15 × 10 ⁻⁵)	-6.23 × 10 ⁻⁵ (7.05 × 10 ⁻⁵)	-0.0002*** (6.65 × 10 ⁻⁵)	-0.0001** (6.41 × 10 ⁻⁵)
Primary education or lower (dummy)	-0.020 (0.050)	-0.008 (0.048)	-0.012 (0.047)	-0.013 (0.045)	-0.020 (0.050)	-0.009 (0.048)	-0.012 (0.047)	-0.013 (0.045)
Tertiary education (dummy)	-0.032 (0.047)	0.029 (0.047)	-0.003 (0.046)	-0.001 (0.042)	-0.032 (0.047)	0.029 (0.047)	-0.003 (0.046)	-0.0006 (0.042)
Currently employed (dummy)	0.025 (0.023)	0.033 (0.022)	-0.013 (0.022)	0.020 (0.020)	0.025 (0.023)	0.033 (0.022)	-0.013 (0.021)	0.020 (0.020)

(Continued)

Table 2. (Continued.)

Variables	(1) Social benefits misuse	(2) Tax avoidance	(3) Ticket avoidance	(4) Public good	(5) Social benefits misuse	(6) Tax avoidance	(7) Ticket avoidance	(8) Public good
Household income (ln of)	−0.007 (0.010)	−0.013 (0.010)	−0.015 (0.010)	−0.013 (0.009)	−0.007 (0.010)	−0.013 (0.010)	−0.015 (0.010)	−0.013 (0.009)
Constant	1.556** (0.758)	1.023 (0.744)	0.546 (0.718)	1.233* (0.674)	1.559** (0.758)	1.018 (0.744)	0.544 (0.718)	1.230* (0.674)
<i>Observations</i>	59,829	59,613	60,049	57,105	59,829	59,613	60,049	57,105
<i>R</i> ²	0.007	0.011	0.009	0.011	0.007	0.010	0.009	0.011
<i>Fixed effects (Voivokdeship by year/ survey wave)</i>	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

similar in magnitude (*column 2* and *column 6*). The effect of migration on free-riding of local public services (*ticket avoidance*) is not statistically significant and smaller in magnitude (*column 3*), probably suggesting a stronger intrinsic tolerance toward deviation from cooperation and pro-social norms at the local community level or for free-riding of minor entities. Our results hold when using the overall aversion to free-riding, labelled *public good* in [Table 2](#). These effects do not depend on the change in the *size of the household* or change in *household income* due to the international migration of a member of the family as we include both controls in the empirical specifications reported. These two variables have respectively a negative and positive effect on our dependent variables. Among other covariates, we find a weakly significant and positive effect of marital status. Age has also a positive effect on tax morale while other covariates do not seem to affect attitudes toward free-riding and tax avoidance in a significant way. As some of these covariates are likely to be also affected by outmigration, we estimate the same models presented in [Table 2](#) with measures of all the control variables in the period prior to the start of the migration episode. The results confirm the overall findings reported above and are presented in the online Appendix ([Table A1](#)).¹¹

4.1 Within-household self-selection into migration: migrants have an ex-ante lower tax-morale and aversion to free-riding than stayers

International migration is highly selective not only across household, but also within them as migrants differ from non-migrant with respect to both observable and unobservable characteristics. Do migrants and stayers differ in their attitude toward the provision of public goods and in their tax-morale? This question is particularly important for an overall assessment of the role of international migration on the dynamic evolution of social norms in the home country. In fact, if those who leave have a higher level of tax morale, than the “positive” effects on the stayers highlighted above might be more than offsetted by the drain of those individuals with higher pro-social attitudes toward the provision of public goods. On the contrary, if those who leave are largely drawn from the pool of individuals with low levels of tax morale than international migration might unambiguously lead to a “pro-social collective gain.”¹²

In this section, we investigate the within-household self-selection with respect to our outcomes of interest. More precisely, we restrict the analysis to all the individuals that belong to households that at some point during the different waves of the SD Survey are interested by international migration of one or more of the members (i.e., all households self-selected into migration). We estimate the same models reported in [Table 2](#) where the dependent variables are our measures of tax morale and the main covariate of interest is a dummy “*migration in the next wave*” which is equal to one if the individual migrates within the next two years. All other covariates are specified at the time of the survey, hence before migration takes place. The estimated coefficient on this variable identifies the *ex-ante* differences in our outcome variables

¹¹These estimates confirm that our estimates do not suffer from “bad control” issues. We prefer to report the estimates with lagged controls in the Appendix rather than in the main manuscript as the number of observations is significantly reduced, thus generating a potential issue in terms of sample selection (the inclusion of lags implies that only individuals observed in at least three waves are included in the analysis).

¹²We are thankful to an anonymous referee whose comments inspired us to carry out this analysis.

between migrants and stayers in household that are interested by international migration. The results of this empirical exercise are reported in Table 3 below. We find a strong evidence of a negative self-selection of migrants in terms of initial level of tax morale. In fact, migrants have a systematically lower aversion to abuse of the social security system, to tax avoidance, and free-riding behavior. In general, those who migrate have a lower attitude to cooperate for the provision of public goods. This finding together with the evidence on positive effects on pro-social norms of the stayers suggests that international migration is likely to have a positive contribution toward the development of social norms in the home country.

4.2 Social remittances: who migrates and who remains matters!

The general argument related to social remittance is that migration, by exposing the migrants to a new socio-economic context, might represent a powerful vector for the transfer of attitudes, values, and norms to members of the household left home, and more generally from the host to the home country. While international migration generates a bridge between host and home countries, whether and how this new link generates a flow of social remittance depends on who migrates – i.e., individual’s “absorption” capacity of new values, attitudes, and norms in the new location – and on who remains. To our knowledge, this potential heterogeneity has not been explored in the current literature on social remittances, but it is a rather established fact in the literature on financial remittances.¹³

In this subsection, we explore whether the general results highlighted above mask some heterogeneity depending on some observable characteristics of those who migrate. In Table 4, we report the results of our estimates considering three different characteristics of migrants: *role within the household* (head, partner, or other), *educational level*, and *gender*.¹⁴

Interestingly, the positive effect of international migration on tax morale and the free-riding aversion of the family members left at home is found only if the migrant is not the head of the household or his/her partner. In fact, the transfer of tax morale attitudes and norms is associated with the migration of other dependents, generally the siblings who are the youngest and more educated components of the household. The result is confirmed when looking at the educational level. We find no evidence of change in attitudes toward free-riding and tax avoidance in society when migrants have primary or no formal education. On the contrary, the effect is positive and statistically significant for secondary education (for *social benefits misuse* and *tax avoidance*) and tertiary education (for *ticket avoidance*). A striking difference emerges also when we consider the gender of those who migrate. In fact, we find that the results are driven by the migration of males while the effects are not statistically significant when only females are the migrants within the family.

The above results suggest that social remittances do not happen automatically but depend on “who” migrates. There are two possible and not mutually excludable explanations behind the heterogeneity found in Table 4. The first is related to the fact that migrants with different characteristics are likely to have a different exposure

¹³The propensity to send financial remittances is strongly heterogeneous across several dimensions: such as gender [Carling (2008), Holst *et al.* (2012)] or skill-level and formal education [Faini (2007)].

¹⁴In Table 4, we report only the estimated coefficients on the main covariates of interest. The full estimates are available in the online Appendix (Tables A5–A7).

Table 3. Intra-household self-selection: migrants have a lower tax morale compared to stayers (panel FE regression)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Fixed-effects panel model				Random-effects panel model			
	Social benefits misuse	Tax avoidance	Ticket avoidance	Public good	Social benefits misuse	Tax avoidance	Ticket avoidance	Public good
Migration in next wave (dummy)	−0.240** (0.113)	−0.300*** (0.115)	−0.250** (0.116)	−0.271** (0.105)	−0.105* (0.058)	−0.072 (0.059)	−0.136** (0.054)	−0.112** (0.052)
Household size	−0.005 (0.029)	−0.062** (0.031)	−0.041 (0.029)	−0.028 (0.025)	0.006 (0.012)	−0.014 (0.011)	0.002 (0.011)	−0.000 (0.010)
Married (dummy)	0.129 (0.155)	0.255* (0.141)	−0.008 (0.139)	0.117 (0.131)	0.001 (0.049)	−0.006 (0.047)	0.004 (0.046)	0.010 (0.044)
Age	−0.052 (0.068)	−0.019 (0.061)	0.065 (0.070)	−0.001 (0.060)	0.019** (0.008)	0.018** (0.007)	0.019*** (0.007)	0.018** (0.007)
Age squared	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	−0.000** (0.000)	−0.000* (0.000)	−0.000* (0.000)	−0.000* (0.000)
Primary education or lower (dummy)	0.449 (0.288)	0.596** (0.264)	0.416* (0.222)	0.564** (0.255)	−0.079 (0.062)	−0.066 (0.061)	−0.147*** (0.054)	−0.104* (0.056)
Tertiary education (dummy)	0.034 (0.169)	−0.058 (0.182)	−0.041 (0.169)	−0.013 (0.156)	0.306*** (0.053)	0.271*** (0.056)	0.236*** (0.053)	0.271*** (0.049)
Currently employed (dummy)	0.064 (0.097)	0.129 (0.100)	−0.017 (0.096)	0.058 (0.091)	0.007 (0.047)	0.107** (0.045)	0.038 (0.044)	0.052 (0.042)

(Continued)

Table 3. (Continued.)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Fixed-effects panel model				Random-effects panel model			
	Social benefits misuse	Tax avoidance	Ticket avoidance	Public good	Social benefits misuse	Tax avoidance	Ticket avoidance	Public good
Household income (ln of)	−0.008 (0.047)	0.004 (0.049)	0.022 (0.044)	0.015 (0.044)	0.027 (0.028)	0.028 (0.027)	0.038 (0.026)	0.028 (0.024)
Constant	4.514* (2.717)	2.522 (2.548)	−1.334 (2.868)	1.615 (2.335)	2.066*** (0.294)	1.687*** (0.276)	1.653*** (0.261)	1.840*** (0.256)
Observations	4,132	4,096	4,134	3,885	4,132	4,096	4,134	3,885
R ²	0.081	0.077	0.054	0.084	0.077	0.070	0.064	0.084
Fixed effects (Voivokdeship by year/survey wave)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Estimates include only individuals in household that experience the migration of one or more members during the period 2007–2015. Robust standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 4. Impact of international migration on household members' attitudes toward public goods: characteristics of migrants (panel FE regression)

Variables	(1) Social benefits misuse	(2) Tax avoidance	(3) Ticket avoidance	(4) Public good
<i>Role of migrant within the household</i>				
Head of HH is migrant (dummy)	0.066 <i>(0.102)</i>	0.036 <i>(0.102)</i>	0.048 <i>(0.101)</i>	0.031 <i>(0.091)</i>
Partner of the head of HH is migrant (dummy)	-0.062 <i>(0.126)</i>	0.028 <i>(0.113)</i>	-0.063 <i>(0.109)</i>	-0.066 <i>(0.104)</i>
Other HH member is migrant (dummy)	0.120*** <i>(0.041)</i>	0.097** <i>(0.043)</i>	0.071* <i>(0.042)</i>	0.087** <i>(0.037)</i>
Observations	59,829	59,613	60,049	57,105
R ²	0.007	0.010	0.009	0.011
<i>Educational level of migrant</i>				
Migrant in HH has primary or lower edu (dummy)	0.016 <i>(0.133)</i>	-0.016 <i>(0.155)</i>	0.068 <i>(0.131)</i>	0.013 <i>(0.118)</i>
Migrant in HH has secondary edu (dummy)	0.109** <i>(0.050)</i>	0.118** <i>(0.052)</i>	0.027 <i>(0.051)</i>	0.068 <i>(0.045)</i>
Migrant in HH has tertiary edu (dummy)	0.166 <i>(0.108)</i>	0.0823 <i>(0.103)</i>	0.182* <i>(0.101)</i>	0.133 <i>(0.099)</i>
Observations	59,829	59,613	60,049	57,105
R ²	0.007	0.010	0.009	0.011
<i>Gender of the migrant (1)</i>				
Migrants in HH are male only (dummy)	0.135** <i>(0.056)</i>	0.167*** <i>(0.058)</i>	0.0883 <i>(0.057)</i>	0.121** <i>(0.050)</i>
Migrants in HH are females only (dummy)	0.0401 <i>(0.083)</i>	0.0112 <i>(0.081)</i>	0.0360 <i>(0.079)</i>	0.0104 <i>(0.078)</i>
Observations	59,560	59,351	59,781	56,855
R ²	0.007	0.011	0.009	0.011

Note: (1) estimates include households with no more than one emigrant in the current period; all estimates include region by time and time fixed effects. Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ (only the covariates of interest are reported; full estimates available upon request).

Table 5. Is international migration different from other forms of household members mobility? A placebo test

	(1)	(2)	(3)	(4)
	Social benefits misuse	Tax avoidance	Ticket avoidance	Public good
<i>International migrants in HH</i>	0.110*** (0.041)	0.103** (0.041)	0.068* (0.040)	0.080** (0.037)
Internal migrants in HH	0.005 (0.0506)	0.163*** (0.0506)	0.028 (0.0488)	0.063 (0.0457)
Other reasons for absence HH	-0.055 (0.039)	-0.001 (0.039)	0.018 (0.038)	-0.012 (0.035)
Household size	-0.021** (0.009)	-0.023*** (0.009)	-0.025*** (0.009)	-0.020** (0.008)
Married	0.050 (0.032)	0.097*** (0.031)	0.059* (0.030)	0.059** (0.028)
Age	0.034** (0.014)	0.030** (0.014)	0.046*** (0.013)	0.032*** (0.012)
Age_square	-0.000228*** (6.30×10^{-5})	-6.16×10^{-5} (6.25×10^{-5})	-0.000184*** (6.06×10^{-5})	-0.000149*** (5.61×10^{-5})
Primary education or lower (dummy)	-0.020 (0.043)	-0.007 (0.042)	-0.011 (0.041)	-0.013 (0.038)
Tertiary education or higher (dummy)	-0.032 (0.046)	0.029 (0.045)	-0.004 (0.044)	-0.001 (0.041)

Currently employed	0.025	0.033	-0.013	0.020
	(0.022)	(0.022)	(0.021)	(0.020)
Household income (ln of)	-0.007	-0.013	-0.015	-0.013
	(0.010)	(0.010)	(0.010)	(0.009)
Constant	1.557**	0.997	0.529	1.219**
	(0.699)	(0.689)	(0.669)	(0.621)
Observations	59,829	59,613	60,049	57,105
R ²	0.007	0.011	0.009	0.011
Wald test of equality of coefficients <i>international migr. = internal migr.</i>	0.112	0.366	0.521	0.777
<i>International migr. = other reasons</i>	0.003	0.065	0.360	0.070

Note: all estimates include region by time and time fixed effects. Standard errors clustered at the household level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ (only the covariates of interest are reported; full estimates available upon request).

to the host-country economy and society. For instance, high-skilled migrants might have professional opportunities that will lead to a social context that differs from the one to which low-skilled migrants are exposed. Gendered segmentation of the labor market in the destination country might lead to similar differences. The second explanation might rely upon a different absorptive capacity of attitudes and norms of migrants (and stayers) with different characteristics and abilities. Our methodological approach and the data at our disposal do not allow us to uncover the contribution of these factors as we do not have adequate information on the migration experience of those who leave.

4.3 A placebo test: absence from the household for reasons other than migration

A critical issue in our empirical analysis might be that our findings are not specifically related to international migration but are simply driven by the temporary or permanent absence of a member of the household for any reason. In [Table 5](#), we present a placebo test by including internal migration as well as other reasons for the absence of some members from the household.¹⁵

Also other forms of mobility might in principle generate new social contacts that have the potential to affect the attitudes toward free-riding and tax aversion of members left behind. This is particularly true when considering internal migration which is also typically associated with a change in the social context in particular as individuals move from more peripheral and rural areas toward urban ones. As regions within a country share common institutional and cultural traits, we expect that the effect on our dependent variables is likely to be less radical compared to international migration and, thus, leads to a lower impact in terms of transfer of values and norms. The results reported in [Table 5](#) suggest that our findings are likely to be stronger when considering international migration. No statistically significant effect is found on our four dependent variables when a member of the household is absent for reasons other than migration. Interestingly, internal migration is found to have a statistically significant and positive effect on the aversion to tax avoidance; in general, the effect of internal migration is rather similar to that of international migration.¹⁶ Exposure to other regions within the country – as well as other countries – is probably a channel through which individuals are better able to appreciate the fundamental importance of public goods and cooperative behavior.

4.4 Dealing with attrition bias

A critical issue in our empirical analysis might be that of self-selection due to attrition bias. Household who leave the longitudinal panel might be systematically different from those who remain, for instance because the entire household has migrated. In our setting where we use individual fixed effects for identifying the effect of migration within the household on tax morale, this attrition bias might lead to an

¹⁵Among other reasons for absence from the household, we consider the following: residence in a hospital or nursing home, non-voluntary residence in other places (ex. prison), business travel, military service, etc.

¹⁶Even for social benefits misuse, for which the estimated coefficients diverge substantially, the Wald test of equality of the estimated coefficients suggest that we cannot reject the equality hypothesis at any significance level below 11.2%.

over-representation of individuals in households with partial migration compared to those with complete outmigration. We address the relevance of this potential empirical threat in two ways. Firstly, using the approach of Fitzgerald *et al.* (1998), we test whether the attrition in our panel is random by estimating a probit in which the dependent variable assumes a value of 1 for the household which drops out of the sample in the following wave and zero otherwise. We employ all the explanatory variables which might affect the outcome variable of interest. As in Outes-Leon and Dercon (2008), we examine the pseudo R^2 from the probit which can be interpreted as the proportion of attrition that is non-random. We report in online Appendix Table A2 the results of the probit. The low value of the pseudo R^2 and the not significant effect of migration in the household on the probability of attrition are reassuring in terms of the potential extent of the attrition bias in our data.

The second exercise for assessing the potential role of attrition bias is based on the following logical consideration: if “full-migrant households” are different in terms of the outcome variable(s) compared to “partial-migrant households” that the bias in the estimates is growing in the number of waves in which households are observed (households where all individuals migrate are likely to be observed in the data for fewer waves). We estimate the models presented in Table 2 (columns 1–4) restricting the sample to a more homogeneous pool of households, that is those observed only in two waves of the SD survey. The results, available in online Appendix Table A3, confirm that the migration of a member of the household has a significant, positive, and strong effect on the tax morale of those left behind, when considering the social security proxy and the overall attitude to contribute to public goods. The results of tax avoidance and ticket avoidance shows the same (positive) signs, but the coefficients are not statistically significant.

We conclude that the potential attrition bias in our analysis is unlikely to be of great concern and seems to lead to a downward bias in the estimates of the effects of migration on tax morale.

5. Conclusive remarks

International migration is a powerful engine of social, economic, and cultural change as it facilitates the circulation and transfer of not only tangible resources, but also equally important intangible ones. This paper suggests that international migration can be an important determinant of individual attitudes toward tax compliance and free-riding leading to an increase in pro-social behaviors. We document this effect using individual-level data from a longitudinal survey (SD) carried out in Poland, the most important migrant-sending country within EU between 2007 and 2015. While existing studies on social remittances in Poland have focused mostly on qualitative analyses [White (2016)] with limited potential to generalization and investigated mostly return migrants – stressing the change in their personal attitudes but also some resistance toward their actions who aim to change their communities upon return [Grabowska and Garapich (2016)] – our study based on a large-scale longitudinal survey clearly demonstrates that international migration can induce social change in a large fraction of Polish society which experiences directly or indirectly exposure to different social structures. The profound change in aggregate tax morale indexes for Poland, as found in Word Value Survey between 2005 and 2018, can be at least partially explained by social norms transferred by Polish migrants back home.

The panel dimension of the analysis and the richness of information contained in the dataset allow us to conduct an analysis that is akin to a difference-in-difference approach, and hence measure the impact of emigration of individuals on the tax morale of their family members who stay put in the home country. The focus of our analysis on non-movers (stayers) and the evidence that they are affected by migrants from their households is a novel finding in the literature: this implies that social remittances can materialize even without the definite return of the household's members from a foreign country.

Our study brings novel insights into a research area that we believe is important and has not received so far the due attention, but we acknowledge that the Polish emigration experience – although one of the most important of the last decades – may not be fully representative for the experiences of all developing and transitioning economies. Where migrants go, the cultural and institutional proximity between host and home countries is also likely to be important in the cross-border transfer of values and norms of behaviors. In this respect, our study provides little knowledge on the specific role of destinations, given that Polish outmigration has been largely directed toward a group of relatively rich and homogeneous Western European countries.

Interestingly, while our study suggests that international migration boosts pro-social and cooperative behaviors in home countries, the few studies conducted on host countries seem to suggest the opposite, that is, a negative effect of migration on native support for redistribution. In particular, Alesina *et al.* (2021) find that the negative effect of immigration on natives' support for redistribution (and hence provision of public goods) is stronger when immigrants originate from Eastern Europe. Taken together these findings are suggestive of a cross-country convergence in social norms via migration where countries “meet in the middle.” This is a tentative hypothesis that would be interesting to explore in future research.

More studies on different countries and with different data and methodologies would enrich the finding uncovered in this initial contribution on the effect of migration on tax morale in the home country. In particular, more studies applying longitudinal data are needed, and also the transnational activity of immigrants [Grabowska and Engbersen (2016)] should be deeply investigated.

Supplementary material. The supplementary material for this article can be found at <https://doi.org/10.1017/dem.2023.24>.

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