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Emigration, remittances and corruption experience of those staying behind

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Emigration, remittances and corruption experience of those staying behind¹

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Abstract

We examine the effects of emigration and remittances on the corruption experience of migrant household members staying in the countries of origin. We hypothesize that the effects of emigration on corruption can be both positive (via migrant value transfer) and negative (via misuse of monetary remittances). Using Gallup Balkan Monitor survey data in instrumental variable analysis, we find that migrant households are more likely to face bribe situations and be asked for bribes by public officials. At the same time, having relatives abroad reduces the probability of actually paying a bribe. This beneficial effect is offset by receiving monetary remittances.

Keywords: emigration, corruption, institutions, diaspora externalities, Western Balkans.

JEL: F22, F24, D73

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Introduction

In the literature on migration, the effect of emigration on the country of origin is among the central themes. Within this strand of literature, the effect of monetary remittances on recipient countries, communities and households has received considerable attention.⁴ Money, however, is not the only thing that is remitted by emigrants. Remittances of ideas, institutional arrangements, norms and attitudes have, arguably, even more far-reaching effects on migrants' countries of origin. Emigration experience changes people as they absorb and internalise behavioural norms, value judgements and institutional arrangements in their attempts to prosper in the host country. Through correspondence, visits and return migration emigrants transmit these intangibles, exerting considerable influence on home country processes, aided by their status of role models (Levitt, 1998; Levitt, 2001). Transmissions of these kinds of intangibles can be, collectively, referred to as either non-monetary – social, political, institutional – remittances, or diaspora externalities.

This paper explores whether, and if so, how the value system absorbed by migrants in their host country affects the incidence of corruption among the migrant's relatives in the country of origin. Several distinct and potentially conflicting channels of influence can be distinguished. On the one hand, migrants who work in a country with lower prevalence of corruption, compared with the country of origin, may transfer good practice from the host to the home country (*value effect*). On the other hand, the relatives of current migrants and, in particular, recipients of monetary remittances may have relatively larger financial resources and be more willing and able to pay a bribe – for example, a bribe to public officials in order to get a high-quality public service quickly (*monetary effect*). In addition, remittance recipients may be a prime extortion target for corruption-prone public officials – again, because of the larger financial resources that people with migration connections are often associated with. Such monetary channels will, arguably, result in a detrimental impact of migration on the incidence of corruption.

We investigate the interplay of these potentially conflicting influences of migration on corruption, seeking to establish causal effects from migration to home country corruption at the household level. Our empirical analysis focuses on the six successor states of former Yugoslavia. Migration and remittances have been defining features of the region, and its

⁴ See, for example, Yang (2011) for an overview.

countries are known to have some of the worst corruption profiles in Europe – making the region well suited for our analysis.

The main challenge in establishing causal effects from migration to corruption is the potential endogeneity of emigration decisions. It could be due to reverse causality, as people might emigrate with an intent of accumulating resources toward engaging in corruption in the home country at a later stage (e.g. paying a doctor for a major surgery or accelerating the licencing process when starting a new business). The very process of preparation for emigration can make people more prone to corruption to secure speedy delivery of passport, visa, certificate of health etc. In addition, there may exist unobserved characteristics of people (and/or households) that are correlated with both the willingness to migrate and the propensity to bribe public officials.

To deal with endogeneity we instrument current migration with historical municipality-level migration rates. During the 1960s and 1970s, Yugoslavia (alongside Turkey, Italy, Spain, Portugal and Greece) actively participated in the guest-worker migration programs with the wealthier countries of Europe, North America and Australia. Information on the scope and composition of these migration flows is available at the municipality level, and we use it to predict the probability that a household, in 2010 and 2011, had a family member abroad. As our dataset allows us to distinguish between households that receive monetary remittances and those that do not, we can construct a more refined picture of the effects of migration on corruption experience.

Our instrumental variable analysis shows that having relatives abroad (regardless of whether, or not, they send monetary remittances back home) increases the probability of facing a bribe situation and the probability of being asked for a bribe by public officials, but reduces the probability of having actually paid a bribe. Given that most migrants from the region of former Yugoslavia go to industrialised countries that typically have better quality governance relative to the migrants' home country, these findings confirm the hypothesis of migrants transmitting “good practice” from host to home country. Receiving monetary remittances, however, does not have any significant effect on the probability of bribing public officials, suggesting that the monetary effect, at least partially, offsets the positive value effect.

This study makes several contributions to the burgeoning literature on diaspora externalities/non-monetary remittances of migration (see, e.g., Beine and Sekkat, 2013; Bertoli and Marchetta, 2012; Beine et al., 2013; Omar Mahmoud et al., 2013; Spilimbergo, 2009; Docquier et al., 2011; Batista and Vicente, 2011; Chauvez and Mercier, 2014; Lodigiani and Salomone, 2012; Li and McHale, 2009; Pérez-Armendáriz and Crow, 2010; Pfutze, 2012; Careja and Emmenegger, 2012). First, we add to the few quantitative *household*-level studies on non-monetary remittances. As family is, arguably, the most important bridge connecting migrants with their countries of origin, we believe that it is particularly insightful to study the transmission of migrant norms, behaviours and attitudes at the household level. Second, the literature on non-monetary remittances has, to date, paid little attention to whether and how it affects the incidence of corruption. This paper offers what, to the best of our knowledge, is the first study on the effects of migration on household-level corruption experience. Finally, we use data from the Gallup Balkan Monitor survey – an underexplored, yet rich, dataset containing extensive information on household-level migration and corruption experience.

The paper proceeds as follows. Section two reviews the literature on diaspora externalities and discusses channels through which migration might affect corruption at home. Section three describes data and variables. Section four discusses estimation issues. Section five presents empirical results, followed by conclusions in section six.

2. Migration, institutions and corruption: conceptual frameworks and related literature

This paper is closely related to the rapidly developing literature on migrants' political and institutional remittances, also known as 'diaspora externalities'. At the theoretical level, several channels of influence from migration to institutions have been suggested (Omar Mahmoud et al., 2013; Li and McHale, 2009). First, following Hirschman's 'exit and voice' approach (Hirschman 1970), migration can be viewed as an 'exit' option allowing people dissatisfied with their current situation at home to leave. If migrants happen to be younger, more talented and politically active, their 'exit' will result in less pressure and 'voice' exercised over the ruling authorities. This will lead weaker institution and governance in the country of origin; corruption would thus be expected to increase with emigration.

However, migrants nowadays are increasingly unlikely to completely 'exit' their country of origin. Falling communication and transportation costs allow migrants to develop, and maintain, transnational spaces and communities, and participate in the social, economic and

political life both at home and abroad. In this context, initial migrant ‘exit’ can strengthen ‘loyalty’ – emotional attachment to the home country – and empower ‘voice’, encouraging migrants to directly influence political and institutional processes in their country of origin (Burgess, 2012). Hoffmann (2010) argues that the externalised ‘voice’ of dissatisfied citizens returns to the home country in an internationalised form and has a stronger political impact. Indeed, migrant diasporas have for a long time successfully influenced political processes in the countries of origin, at times playing major roles in processes of independence, statehood and democratic reform (Shain and Barth, 2003; Ragazzi, 2009; Hladnik, 2009; Phillips, 2012). Seen from this perspective, emigration has a potential to bring about political change, new and more efficient governance, and, as a by-product, lower levels of corruption.⁵

While diasporas can influence home-country political processes intentionally and directly, migrants can also unintentionally transfer social and institutional norms and practices to their family members back home. In her seminal work, Levitt (1998) defines social remittances as “ideas, practices, identities and social capital” that migrants internalise in countries of destination and transmit to their countries of origin. Based on qualitative research conducted in Boston, US, and a village in the Dominican Republic, Levitt finds that migrants transfer notions of gender identity and intra-family responsibility, principles of community participation and norms about the work of clergy, judges and politicians. Importantly, Levitt argues that both good and bad practice can be transferred and that “messenger” characteristics are important: for example, migrants sending home monetary remittances might be more efficient in influencing social behaviour of their family members.

Several empirical studies, conducted at country, community and individual level, have sought to quantify diaspora externalities. For example, Spilimbergo (2009) finds that the ‘elite’ students who acquired foreign education in a democratically governed country foster democracy in their home countries. Docquier et al. (2011) provide evidence that emigration of both high and low skilled labour to democratically governed countries raises support for democracy at home. Beine and Sekkat (2013) find that emigration, and especially high-skilled emigration, has a positive impact on several measures of institutional quality, such as

⁵ This said, the ruling authorities may be well aware of the specter of challenges to the status quo by the internationally empowered migrant ‘voice’ and design emigration policies accordingly. Taking an historical example, in the Kingdom of Serbs, Croats and Slovenes of the 1920s, an influential emigration policy proposal towards the pro-Bulgarian Macedonian minority (Bulgarophiles) was as follows: “If the Bulgarophiles’ organization is more vigorous in America than here, it is better to keep them at home and vice versa” (Miletic, 2008, p. 110).

“Government effectiveness”, “Regulatory quality” and, crucially for our study, “Control of corruption”, but a negative impact on “Voice and accountability”.

Taking a community perspective, Omar Mahmoud et al. (2013) show that the municipality share of vote for the Communist Party in Moldova is negatively (positively) affected by the municipality share of migrants working in the Western countries (Russia), suggesting an effect of migration on political sentiment and institutions. Similar findings are obtained by Pfütze (2012), who shows that migration increases the probability that an opposition party wins municipal election in Mexico, and Chavez and Mercier (2014), who show that return migration increases voter participation and electoral competitiveness in Mali communes.

At the individual level, Pérez-Armendáriz and Crow (2010) uncover a positive association between migration experience and non-electoral political participation, greater tolerance of political and social diversity and more critical evaluations of democracy in Mexico. Careja and Emmenegger (2012) find that, in Eastern European countries which joined the EU in 2004, return migrants are more likely to trust EU institutions, but do not differ from non-migrants in their attitudes toward domestic institutions. Finally, Batista and Vicente (2011) find a higher individual-level demand for political accountability by people living in municipalities with higher proportions of current or return migrants to/from the USA.

Overall, these studies lend support to the hypothesis that migrants transfer institutional norms, values and practices: in most cases, emigration is either associated with or engenders positive institutional and political change. However, a different picture emerges if one focuses on migrants’ monetary remittances instead of emigration in general. For example, Abdih et al. (2012) develop a theoretical model where remittance-receiving households turn to private markets to buy goods and services which are normally provided publicly. With lower reliance on the government for provision of goods and services, households face little incentives to keep the government accountable for corrupt activities, which makes public officials more prone to corruption. Abdih et al. (2012) provide empirical support for their model, using a cross-section of 111 countries. They find that higher ratios of monetary remittances to GDP lead to lower indices of control of corruption, government effectiveness and rule of law. A similar conclusion is obtained by Berdiev et al. (2013), who study country-level effects of monetary remittances on corruption in a panel (1986-2010) of 111 countries. This corruption-increasing effect of monetary remittances at country level is, however, in conflict with

regional-level evidence for Mexico: Tyburski (2012) finds that, in 2001-2007, the Mexican states receiving more remittances witnessed downward corruption trends. Among possible reasons, Tyburski mentions the power of remittances to reduce households' dependence on state programs and clientelism, which encourages voting for opposition parties and increases government accountability.

Turning to our emigration-corruption relationship at the household level and drawing on the reviewed literature, one can expect a number of channels through which emigration and remittances affect corruption experience of those left behind. Depending on whether corruption is more prevalent at home or abroad, migrants can transfer home better or worse institutional practice – in line with Levitt's social remittances hypothesis – and reduce or increase corruption at home. This *value transfer effect* can be either reinforced or weakened by monetary remittances. On the one hand, remittances can imply closer links and more frequent communication between migrants and their family members back home, making value transfer more effective (*communication effect*). Remittance senders may also be particularly successful in influencing behaviours and norms of those left behind as the livelihoods of the latter depend on the money sent from abroad (*conditionality effect*). On the other hand, monetary effects can be at work. It is possible that remittances increase both the demand for public services (if remittances are used to start a new business, buy property, enrol in education, undergo treatment in the hospital – all of which may require more frequent contact with public officials) and the probability of bribery, once the contact with public officials has taken place (public officials target remittance-receiving households for extortion, or remittance receivers are more willing and able to pay a bribe to get a higher-quality service quicker). As a result, remittance receivers will be more likely to bribe (*negative monetary effect*). At the same time, remittances may enable people to consume private sector alternatives of publicly provided goods, if such alternatives exist (e.g. private education or medical treatment).⁶ While Abdih et al. (2012) predict that such shift towards private goods will make authorities less accountable and eventually make corruption more widespread at country level, the incidence of bribery for remittance-receiving households should go down. Which of these multiple and potentially conflicting channels is dominant becomes an empirical issue.

⁶ Some public services are unlikely to have private service alternatives. For example, when starting a new business or buying property, one needs to contact public officials to comply with documentary requirements. However, private agencies may, in some cases, provide an alternative.

3. Context, data and variables.

3.1. Context

This study focuses on the region formerly known as Yugoslavia, which is particularly well-suited for our analysis. Both corruption and migration have been prominent, and often life-defining, experiences for the region's residents.

The ex-Yugoslavian countries have systematically topped the charts of the worst corruption performers in Europe: for example, the 2012 Corruption Perception Index (ranging from 0, the most corrupt, to 100, the least corrupt) of Transparency International scores 39 and 34 for Serbia and Kosovo (the only other European countries with scores below 40 are Greece, Albania, Russia, Belarus and Ukraine). A large survey conducted in the Western Balkans in 2010 (United Nations Office on Drugs and Crime, 2011) indicates that 17% of the adult population in the region have had a direct or indirect exposure to bribery in the year prior to the survey. According to the same survey, people experiencing bribery pay on average 5 bribes in a year, and the average yearly bribes paid in cash (the most common type of bribes) are equivalent to between 27% (Croatia) and 144% (Macedonia) of the average monthly salary.

In most countries of former Yugoslavia, decades of emigration generated massive diasporas and important inflows of monetary remittances. Emigration has been a *longue duree* phenomenon in the region: there was important trans-oceanic out-migration to the USA, Canada, South America and Australia at the end of the 19th – beginning of the 20th century, as well as in the interwar period (Brunnbauer, 2009). A major post-WWII wave of migration was triggered in the 1960s, when the Yugoslavian government signed bilateral recruitment agreements with Germany, France, Austria, Switzerland, Sweden, Australia and other countries of the industrialised world. The contracting of these guest worker schemes was motivated, on the one hand, by the economic boom and growing demands for construction and manufacturing workers in the Western world and, on the other, by the surge in unemployment following Yugoslavia's market-oriented reforms in the 1960s. Politically, the signing of the guest worker agreements has to be seen in the context of the Non-Aligned-Movement, of which Yugoslavia was the only European power (Novinscak, 2009).⁷ Non-

⁷ Yugoslavia broke up with the Soviet Union and was excluded from Cominform in 1948, after which it adopted an independent course towards socialism ('Titoism').

aligned countries sought a balance between the socialist east and the capitalist west, hence Yugoslavia's attempts to pursue its own 'third' way, establish a society 'self-managed by workers' and become a socialist country well integrated into the world economy. The Yugoslavian government actively supported the emigration of workers, considering it a 'necessary evil' to alleviate labour market problems (Mlinaric, 2009). Overall, 3.8% of all Yugoslav citizens, and one in five of all employed Yugoslavs, worked abroad in 1971 (Brunnbauer, 2009). Compared to other European countries which participated in guestworker migration flows the emigration rate was higher only in Portugal (5.7% of all citizen).

There was a clear consensus among the ruling authorities of the host countries and Yugoslavia, as well as migrants themselves, that the guest worker migration would be of a 'temporary' nature. It, however, did not prove to be the case: when jobs dried up after the 1973 oil shock, many temporary migrants stayed in the host countries and migration continued in the form of family reunification in the 1970s and 1980s (Zimmerman, 1987). Migration became a mass phenomenon in Yugoslavia, engendering cultures of migration, fuelled by the consumerism brought about by migrants' remittances (Brunnbauer, 2009). In many countries of the region, remittances continue to play a major role: in 2009, migrant money transfers ranged from 10% to 18% of the Gross Domestic Product in Bosnia and Herzegovina, Kosovo and Serbia (World Bank, 2012).

3.2. Data

The quantitative analysis is based on the Gallup Balkan Monitor survey. The survey was carried out in Albania, Bosnia and Herzegovina, Croatia, Kosovo, Macedonia (FYROM), Montenegro and Serbia in 2006, 2008, 2009, 2010 and 2011 by the international opinion poll agency, Gallup. The core Gallup World Poll questionnaire, augmented by questions relevant to the contexts of Western Balkan countries, was used. The questions were translated into the languages of respective countries. Face-to-face interviews, taking approximately 45 minutes, were conducted at respondents' homes, and restricted to one member per household. Approximately 1,000 people were interviewed in each country each year.

The samples of respondents were designed to be nationally representative and followed a three-stage probability-based respondent selection methodology. In the first stage, Primary Sampling Units (PSUs) were randomly selected from a pool of PSUs based on census,

administrative and migration information. In the second stage, households were selected with the help of a standard random route technique. In the third stage, respondents within households were selected using either Kish-grid or the most recent birthday rule. Certain politically sensitive regions (e.g., Northern Serb enclaves in Kosovo, Republic Srpska in Bosnia and Herzegovina) were intentionally overrepresented in the sample; this is why in our analysis we apply the weighting proposed by Gallup for the purpose of re-balancing. More information on survey methodology and implementation is available in Gallup (2010).

As our instrumental variable analysis is based on the data from the former Yugoslavia population censuses, we exclude Albania from our sample. We also exclude years 2006, 2008 and 2009 from the analysis, as the question on the actual bribe payment was not asked in these years. Our data set thus covers six countries over two years (repeated country cross-section in 2010 and 2011) and consists of slightly more than 12,000 observations.

3.3. Variables

The Gallup Balkan Monitor survey contains several questions on corruption and migration, as well as a rich collection of socio-demographic characteristics. In particular, the respondents were asked about the actual corruption experience – paying bribes to public officials in the last 12 months; several questions about being involved in corrupt exchanges; and questions about family members residing abroad and migrant remittances. Crucially, the survey also provides disaggregated information on the respondents' place of residence (village/ municipality/ commune), which we match with the municipality-level migration-related data of the 1971 Census.

In what follows, we discuss the construction of variables used in the empirical analysis. They are divided into three groups: corruption-related, migration-related and the socio-demographic characteristics. The summary statistics of the variables are displayed in appendix A1.

Corruption-related variables

All respondents were asked the question, *“Sometimes people have to give a bribe or a present in order to solve their problems. In the last 12 months, were you, personally, faced with this kind of situation, or not (regardless of whether you gave a bribe/present or not)?”* We use

this question to create a dichotomous variable *faced bribe situation*. Note that the question does not specify whether the bribe situation involved a public official or not. Neither would an affirmative answer indicate whether the actual bribe was paid and, if so, whether it was the respondent who offered a bribe or whether she was solicited. However, the vague formulation of the question would arguably make the respondent more likely to admit any involvement in bribery, as it avoids admission of both one's own wrong-doing and victimization.

The second dichotomous variable, *was asked for a bribe*, draws on a question, "During the past year, has any government official or a civil servant, for instance a customs officer, police officer or inspector, asked you or expected you to pay a bribe for his service?" This question makes an explicit reference to a contact with public officials and captures their extortion attempts. The affirmative answer, however, does not guarantee that the bribe was paid (the respondent can refuse to pay the bribe even if she was asked for it).

The final corruption variable draws on two related questions. First, the participants were asked whether, in the 12 months prior to the interview, they or anyone living in their household had contact with any of the following institutions/ organizations: education system; judiciary; medical services; police; registry and permit services; utilities; tax revenue; land services; customs. Next, if the answer to the contact question was affirmative, the respondents were asked, with reference to each institution, whether they or anyone in their household "paid a bribe in any form". We combine the answers to this and the previous questions to construct a categorical variable *paid a bribe* which contains three non-overlapping categories: 1) people who, in the last 12 months, had not contacted any of the mentioned public institutions; 2) people who had been in contact with at least one type of institution but never paid a bribe; and 3) people who had bribed at least one type of public official. Importantly, this three-state variable allows us to capture the actual act of bribery (which was not necessarily the case with *faced bribe situation* and *was asked for a bribe*) and to compare the characteristics of bribe givers to people who were in contact with public officials but did not pay a bribe and as well as to those who were not in contact with public officials.⁸

⁸ We have also attempted to estimate the model for the different types of public officials. However, in several cases the multinomial probit model convergence was not achieved because of a relatively low incidence of contact and bribery for some types of officials. Where the convergence was achieved, the signs of the coefficients of interest were in line with the 'merged' model, but the estimated coefficients tended to be insignificant. This is why we prefer to concentrate on the dependent variable which 'merges' all types of public officials.

Migration-related variables

The main variable of interest, *relatives abroad*, is based on the question, “Do you have relatives or friends who are living in another country whom you can count on to help you when you need them, or not?” An affirmative answer to the question could imply that a respondent maintains a minimum level of communication with the relative/friend abroad, which, arguably, is a necessary component for an efficient transfer of values, norms and practices from migrants to those staying behind. We also have information on the countries where the respondents’ friends and relatives reside. The majority of them, as expected, are Western industrialised economies - Germany, Switzerland, Sweden, France, Australia, the US, Canada etc.⁹ However, in 11% of cases, the destinations represent the successor states of the former Yugoslavia. We refrain from qualifying relatives and friends living in these countries as *foreign* networks, as they are likely to originate from past internal migration, as well as the refugee flows of the 1990s and 2000s. Thus, our focus is on international migration which, geographically, extends beyond the borders of the former Yugoslavia.

All respondents were also asked, “In the past 12 months, did this household receive help in the form of money or goods from another individual”, with possible answers 1) Yes, living in this country; 2) Yes, living in another country; 3) Yes, both (living in this or another country); and 4) No. We combine answers 2 and 3 to construct a dichotomous variable (*international*) *remittances*.

Socio-demographic characteristics and other controls.

In all regressions, we include the following socio-demographic controls: age (continuous, in years); dichotomous variables for gender, educational level (primary, secondary, tertiary), five within-country income quintiles (plus a dummy for non-reported income), four degrees of urbanisation (village, small town, suburb of a large city, large city), and main religious affiliations (Orthodox, Catholic, Muslim, other). Country fixed effects (dichotomous variables for Croatia, Bosnia and Herzegovina, Serbia, Macedonia, Kosovo and Montenegro) and year dummies are included to account for all country-wide and year-specific influences.

⁹ Given that most of the migrant destinations are developed Western countries with rather similar corruption environments, we cannot use the variation in the destination country corruption profiles as a possible strategy to identify the strength of the migrant value transfer effect.

4. Identification strategy.

To identify the effects of emigration on the corruption experience of the family members left behind, we use information on historical (1960s and 1970s) municipality-level migration-related variables as instruments for current migration. This approach follows the literature that uses historical regional migration rates as instruments for current migration, particularly in the context of Mexico (McKenzie and Rapoport, 2007, 2010, 2011; Woodruff and Zenteno, 2007; Hindelbrandt and McKenzie, 2005; Pfütze, 2012).

The historical municipality-level data on migration come from the 1971 Population Census of Yugoslavia. During this census, information on the number of migrants, as well as migrants' gender, age, education and destination countries, was supplied by migrants' family members and, where the whole household had emigrated, by neighbours. Only the records on "Yugoslav workers temporarily employed abroad" were collected by the census: the data thus capture only guest worker migration flows, which started in the mid-1960s and were at their peak in 1971, and underestimate the total stock of Yugoslav emigrants at that time. Importantly for our study, the information on the scope and composition of migration flows is available at a disaggregated – municipality/commune – level. 227 randomly selected municipalities (out of 447 possible) were included in the Gallup Balkan Monitor survey.

When employing instrumental variable analysis, instrument validity is of prime concern. To be valid, instruments must be both relevant (highly correlated with the endogenous regressor) and exogenous (not directly affect the outcome of interest). For instrument relevance, we argue that the variation in the probability of having relatives abroad today is driven, via networks, by the differences in the intensity of guest worker migration flows that Yugoslav municipalities experienced 40 years earlier. Transnational family and friends networks are known to be powerful predictors of emigration decision (see e.g. Massey, 2005), and it has been shown that networks played a crucial role in explaining successive waves of Yugoslavian out-migration (Baucic, 1973; Brunnbauer, 2009). For instrument exogeneity, we argue that the 1960s and 70s' guest workers migration flows are independent of today's household-level corruption incidence. An issue, however, could arise if the municipality-level migration 40 years ago was driven by the municipality-level corruption at that time (e.g., people emigrated more from more corrupt municipalities), and the municipality-level variation in corruption has persisted across time. If this were the case, the historical

emigration rates would be linked to today's corruption via past migration. It is, therefore, necessary to understand the reasons behind the variation in municipal guestworker emigration rates in former Yugoslavia.

There are several reasons why the 1960s and 70s's guest worker emigration varied at local level. First, this variation can be traced back to the different regional rates of migration that the countries of ex-Yugoslavia experienced at the turn of the 20th century and the interwar period (Baucic, 1973; Brunnbauer, 2009). This, for example, explains why certain regions of Croatia and the Dalmatian coast of Bosnia and Herzegovina were the first to embrace guestworker emigration opportunities, exhibiting the highest municipal rates of emigration. Prior to the WWI, these regions were part of the Austro-Hungarian Empire which had a particularly favourable emigration regime, had close access to sea ports and, in addition, were subject to agricultural shocks (e.g., the Phylloxera epidemics which destroyed much of the profitable Dalmatian wine industry; see e.g. Mlinaric (2009) and Brunnbauer (2009)). These factors contributed to early out-migrations from the region and to the development of strong cultures of migration which persisted over time. Similarly, the pre-WWI and interwar migration flows can explain why Australia and the United States were important destinations for the 1960s' and 70s' migrants from Macedonia and Montenegro, respectively.

The demand-driven nature of bilateral migration programmes, which had many features of managed migration, is another reason why emigration rates exhibited regional variation. The representatives of the host countries' manufacturing companies had a direct presence in Yugoslavia's state employment agencies. The recruiters selected workers locally (e.g. the workers had to pass a health check) to be employed in specific factories, and had to cover migrants' transportation and accommodation costs. However, the presence of foreign recruiters within Yugoslavia was uneven. For example, the manufacturers from West Germany, the most important destination of Yugoslav workers, recruited workers directly from specific regions in Yugoslavia, because they had a good experience with workers from these regions (Novinscak, 2009).

On the supply side, the 1960s and 70s saw a rapid development of local network- and consumerism-driven cultures of migration. People often used to go where the pioneer guestworker migrants from their community had gone; kin and friendship networks were major channels of emigration (Brunnbauer, 2009; Schierup, 1973). As the Yugoslav

municipalities experienced different rates of early guestworker migration (for the reasons outlined above), local networks further exacerbated the regional variation of emigration rates.

Generally, the factors outlined above – historical roots of migration, host-country recruiters targeting migrants from specific municipalities, and the importance of local networks – do not support the idea that guestworkers emigrated in order to escape corruption in their local community. It should also be stressed that the early guestworker out-migration from Yugoslavia was clearly considered, both by migrants and the ruling elites, to be temporary. Migrants – often young, low-skilled men with agricultural backgrounds – went abroad to earn money which they planned to invest back home in building/extending a house or buying land and agricultural machinery (Pichler, 2009; Zmegac, 2009; Novinscak, 2009). Sale of property at home was rare, and the immediate family (spouse, children) was typically left behind, confirming return intentions of the first guestworker migrants (Brunnbauer, 2009). This, again, does not support the conjecture that the guestworker migration was driven by the extent of local corruption.

Technically, to verify the exogeneity condition of our instrument, we will perform the test of overidentifying restrictions. This test requires at least two instruments per endogenous regressor. Therefore, we consider additional municipality-level variables as potential predictors of today's migration networks and remittances. A combination of valid instruments will also have to pass the Craig-Donald test of excluded instruments, indicating that instruments are relevant, i.e., sufficiently good predictors of the endogenous regressor. We also expect instruments to be individually statistically significant in the first stage regression.

The first additional instrument we consider is related to the country of destination of the 1960s' and 70s' migrants. Yugoslavia signed bilateral recruitment agreements with France in 1965, Austria and Sweden in 1966, the Federal Republic of Germany in 1968, and Belgium, Luxembourg, The Netherlands and Australia in 1970 (Novinscak, 2009). We argue that migration to closer destinations, such as Germany, would be more likely to lead to family reunification at a later stage, relative to migration to farther-away destinations, such as Australia. As a consequence, we would observe today more people with migrant connections in municipalities where four decades earlier migrants went to farther-away destinations. In addition, it can be argued that migrants residing in more distant parts of the world are more willing to maintain contacts with relatives back home (and the other way around). To support

this claim, we refer to Goeke (2009) who discusses an example of a student living in Serbia who has an uncle in Germany and an aunt in Australia. Despite the fact that the uncle regularly sends money to the student's family and the aunt does not, the emotional connection and the exchange of information with the aunt is more intense than with the uncle; the student says about her uncle, "... *it is as if he was excluded from our lives*" (Goeke, 2009, p. 295). As, at the time of the 1971 Census, a non-negligible 6% of all temporary Yugoslav migrants were in Australia, we choose the 1971 municipality-level share of migrants residing in this country as a potential instrument to today's migrant networks.

A further instrument for migration and remittances, that we consider, is the share of high-skilled individuals in the municipality pool of migrants. It has been argued that remitting and family-reunification behaviour of high-skilled migrants is different from that of low-skilled migrants (see, e.g., Faini, 2010; Bollard et al., 2011; Niimi et al., 2010). Highly skilled migrants are more likely to reunite with their families abroad and, coming from wealthier families, are less likely to send remittances back home. We, therefore, expect the historical municipality-level high-skilled emigration rates to be negatively correlated with the probability of receiving remittances today.

Additional estimation issues

The broad prevalence of migration and corruption (both historical and current) will differ in the six countries under consideration (the former republics of Yugoslavia). It is also possible that the broad republic-level emigration in the 1960s was driven by the broad republic-level corruption at that time (for example, people emigrated more from more corrupt republics). If broad republic-level corruption persisted over time, it is crucial to account for the republic-level migration-corruption links and consider only the within-republic variation of our variables. This is why we include country-fixed effects in both the first and second stages of our instrumental variable estimation. This assures that today's probability of having relatives abroad or receiving remittances is predicted by the historical within- (and not between-) republic variation in the instruments. Also, as our instruments vary at municipality (and not individual) level, in all our estimations we cluster the standard errors at the municipality level.

Where the dependent variable is binary (faced bribe situation and was asked for bribe) we will use the 2SLS estimation. While the alternative method – instrumental variable probit – would

be more appropriate for binary dependent variable models, it does not allow us to perform the test of overidentifying restrictions. For the three-state dependent variable *paid a bribe*, we will use the Two Stage Residual Inclusion (2RSI) – see e.g. Terza et al. (2008) and Ivlevs and King (2012) – an instrumental variable estimation appropriate for non-linear models. Essentially, the 2SRI estimation includes the (potentially) endogenous regressor alongside the estimated first-stage residuals into the second-stage (structural) model.

In all models, we will perform the tests of instrument relevance and exogeneity. We will also test whether regressor endogeneity is present in our model; if regressor endogeneity is rejected, we will resort to the results of standard OLS estimations.¹⁰ In the 2SRI estimations, the presence of regressor endogeneity will be indicated by a statistically significant coefficient of the predicted residuals.

5. Results

Initially, we discuss specifications where ‘relatives abroad’ and ‘remittances’ variables are not jointly included in the same model, and will then comment on specifications where they are jointly included.

Table 1 reports the estimates of the effects of having relatives abroad on two corruption-related outcomes: facing bribe situation and being asked for a bribe. Among the three potential instruments we considered, the share of migrants in municipality population in 1971 and the municipality share of migrants residing in Australia in 1971 turn out to be valid instruments for having relatives abroad today (see result column 1). They pass the instrument relevance test, with the Cragg-Donald F-statistic exceeding the commonly accepted threshold value of 10; they are positive (as expected) and individually statistically significant in the first-stage equation. The instruments also pass the overidentification (instrument exogeneity) test, with the Hansen J-statistic being statistically insignificant. However, in both models the regressor endogeneity test rejects the hypothesis that endogeneity is present in our models, meaning that the OLS estimates should be used. The OLS results, reported in columns 3 and 5, suggest that having relatives abroad increases the probability of both facing bribe situation

¹⁰ The endogeneity test is performed with the *endogtest* command in Stata 11. See Baum et al. (2007) for more detail on the test.

and being asked for a bribe by a public official. To gauge the magnitude of the effects, we have estimated both models with binary probit and obtained the marginal effects.¹¹ The results suggest that having relatives abroad increases the likelihood of facing bribe situation by 3.8 percentage points and the likelihood of being asked for a bribe by a public official by 3.7 percentage points - effects similar in magnitude to those obtained in linear probability models presented in table 1.

Next, we look at the effect of having relatives abroad on the three-state corruption outcome *paid a bribe*, which we estimate with the 2SRI procedure in a multinomial probit model. As the first stage of this IV estimation is the same as in the two previous estimations, the instruments pass the Cragg-Donald test ($F=13.82$). As to the instrument exogeneity test, we follow the procedure suggested by Bollen et al. (1995): include all but one instrument into the second stage equation which contains both the endogenous regressor and the first stage predicted residuals; the insignificant coefficient(s) of the included instrument(s) would indicate that they are exogenous. In our case, we cannot reject the null hypothesis that the coefficient of the instrument is zero ($\text{Prob} > \chi^2 = 0.14$), which supports the exogeneity of our instruments.

The presence of endogeneity in the model can be directly tested by the significance of the first-stage predicted residuals in the second stage regression (Terza et al., 2008). The results of the 2SRI estimation, reported in Table 2, indicate that the coefficient of the predicted residuals is statistically significant. Thus, contrary to the two previous models, endogeneity is present in the three-state *paid a bribe* model and the 2SRI results should be used.

The 2SRI results suggest that, relative to the base outcome (contacting public officials without paying bribes), having a family member abroad decreases the probability of paying a bribe and does not affect the probability of not having contact with public officials. In terms of marginal effects, being a migrant household decreases the probability of bribery (relative to the base outcome) by 14 percentage points. This would support a positive value transfer hypothesis, especially given that the destinations of most ex-Yugoslavian migrants are countries with lower levels of corruption compared to their home countries. The positive sign of the predicted residual coefficient for the bribery outcome indicates that in a naïve

¹¹ We have also estimated both models with an instrumental variable probit regression (results available on request). In both cases, the Wald test of exogeneity rejects the hypothesis that endogeneity is present, meaning that a naïve probit estimation is appropriate.

Table 1. The effects of having relatives abroad on corruption experience

	Dependent variable				
	Faced bribe situation			Was asked for a bribe	
	2SLS (1 st stage)	2SLS	OLS	2SLS	OLS
	[1]	[2]	[3]	[4]	[5]
Relatives abroad	Dep. Var.	-0.157 (0.224)	0.039*** (0.010)	-0.096 (0.157)	0.039*** (0.011)
Age	-0.000	-0.001***	-0.001***	-0.001***	-0.001***
Female	0.010	-0.009	-0.011	-0.017**	-0.018**
Education					
<i>Primary</i>	-0.030**	-0.027**	-0.021*	-0.011	-0.007
<i>Secondary</i>	Ref.	Ref.	Ref.	Ref.	Ref.
<i>Tertiary</i>	0.026*	0.020	0.015	0.014	0.011
Income					
1 st quintile	Ref.	Ref.	Ref.	Ref.	Ref.
2 nd quintile	0.060***	0.017	0.005	-0.005	-0.013
3 rd quintile	0.059***	-0.010	-0.022	-0.016	-0.024*
4 th quintile	0.095***	-0.005	-0.024	-0.018	-0.031**
5 th quintile	0.129***	0.006	-0.020	-0.001	-0.019
Degree of urbanization					
<i>Village</i>	Ref.	Ref.	Ref.	Ref.	Ref.
<i>Small town</i>	-0.003	-0.006	-0.006	0.014	0.014
<i>Suburb of a large city</i>	-0.002	0.007	0.006	0.009	0.009
<i>Large city</i>	-0.024	-0.018	-0.014	0.014	0.017
Religion					
<i>Orthodox</i>	Ref.	Ref.	Ref.	Ref.	Ref.
<i>Catholic</i>	0.016	-0.004	-0.010	0.010	0.006
<i>Muslim</i>	0.144***	0.039	0.013	0.028	0.009
<i>Other</i>	0.024	0.037	0.033	0.046	0.043
Country fixed effects					
<i>Serbia</i>	Ref.	Ref.	Ref.	Ref.	Ref.
<i>Bosnia and Herz.</i>	0.002	0.043*	0.041	0.002	0.000
<i>Croatia</i>	-0.040	-0.036	-0.030	-0.061***	-0.057***
<i>Macedonia</i>	0.085**	0.029	0.006	-0.005	-0.021
<i>Montenegro</i>	-0.053**	-0.023	-0.012	-0.029	-0.022
<i>Kosovo</i>	0.044	-0.053**	-0.061**	-0.049**	-0.055***
Year 2011	-0.013	0.003	0.006	-0.011	-0.009
Instruments (municipality-level)					
<i>Share of migrants in population in 1971</i>	0.007*				
<i>Share of migrants residing in Australia, 1971</i>	0.003***				
Cragg-Donald F-test (instrument relevance)	13.82***				
Hansen J statistic p-value (overidentification test)		0.72		0.75	
Regressor endogeneity test		0.32		0.31	
<i>Observations</i>	12,084	12,084	12,084	12,084	12,084
<i>Prob>F</i>	0.000	0.000	0.000	0.000	0.000

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; standard errors, clustered at the municipality level, in parentheses.

Table 2. Relatives abroad, contact with public officials and bribery. 2SRI multinomial probit second stage results (base outcome: contacted public official(s) but did not pay a bribe).

	Did not contact public officials	Contacted public official(s) and paid a bribe
<i>Relatives abroad</i>	-2.140 (2.202)	-2.558* (1.434)
<i>1st stage predicted residuals</i>	1.819 (0.204)	2.625* (1.440)
Age	0.002	-0.004**
Female	0.085*	0.005
Education		
<i>Primary</i>	-0.033	-0.142
<i>Secondary</i>	Ref.	Ref.
<i>Tertiary</i>	-0.063	0.243***
Income		
<i>1st quintile</i>	Ref.	Ref.
<i>2nd quintile</i>	0.044	0.068
<i>3rd quintile</i>	-0.061	-0.067
<i>4th quintile</i>	-0.071	-0.018
<i>5th quintile</i>	0.098	0.063
Degree of urbanization		
<i>Village</i>	Ref.	Ref.
<i>Small town</i>	-0.368**	0.011
<i>Suburb of a large city</i>	-0.467*	-0.154
<i>Large city</i>	-0.350**	-0.092
Religion		
<i>Orthodox</i>	Ref.	Ref.
<i>Catholic</i>	-0.121	-0.170
<i>Muslim</i>	0.495	0.445*
<i>Other</i>	0.105	0.151
Country fixed effects		
<i>Serbia</i>	Ref.	Ref.
<i>Bosnia and Herzegovina</i>	-0.067	0.398**
<i>Croatia</i>	0.142	-0.236
<i>Macedonia</i>	0.926***	0.447**
<i>Montenegro</i>	0.544**	0.142
<i>Kosovo</i>	0.015	0.033
Year 2011	-0.073	0.062
Observations	12,084	
Chi ²	325.2	
Prob > Chi ²	0.000	

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; standard errors, used to calculate the regressors' significance, are clustered at the municipality level.

regression the effect of having relatives abroad on paying bribes would be overestimated (we indeed obtain a positive and statistically insignificant coefficient of the relatives abroad variable in a naïve multinomial probit regression). Such an upward bias in a naïve regression could be explained by a contention that households send migrants abroad with a view of engaging in corrupt exchanges at a later stage or that some unobserved characteristics make households both more likely to send a migrant abroad and bribe public officials.

Next, we examine the effect that receiving monetary remittances has on corruption experience. Table 3 reports the coefficient of interest, as well as the results of instrument validity and regressor endogeneity tests, for the models explaining encounters with bribe situations and being asked for bribes by public officials. The municipality-level shares of migrants residing in Australia and high-skilled migrants, both as of 1971, are relevant and exogenous instruments for receiving remittances today; they are also individually significant in the first stage regression. However, the regressor endogeneity test again suggests that endogeneity is not present in the two models, meaning that the results of the OLS results are appropriate. The OLS results, reported in columns 3 and 5, show that receiving remittances increases the chances of facing bribe situations and being asked for a bribe by public officials. The size of the effects is 6.3 and 4.6 percentage points¹² respectively, which is slightly higher than the corresponding effects of the relatives abroad variable (Table 1). This lends initial support to a higher importance of monetary remittances, relative to migrant networks in general, in explaining encounters with bribing situations; more insight on this question will be provided when we will comment on the results of a joint inclusion of networks remittances in the same model.

Continuing with the effects of remittances, table 4 reports the results of the 2SRI multinomial probit estimation, which distinguishes between contact with public officials and the actual payment of bribes. With the same instruments as in the previous two estimation, the Cragg-Donald test of excluded instruments is satisfied ($F = 13.75$). The instrument exogeneity test is also passed, with the coefficient of the instrument included in the second-stage endogeneity-corrected equation being statistically insignificant ($\text{Prob} > \chi^2 = 0.20$). The statistically insignificant coefficient of predicted residuals indicates that the model does not suffer from endogeneity. Therefore, we resort to multinomial probit estimation which does not correct for endogeneity (lower panel of Table 4). The results indicate that, relative to the base outcome

¹² These are the marginal effects of a binary probit estimation, which, again, are very close to the results of the linear probability model.

Table 3. The effects of receiving remittances on corruption experience.

	Dependent variable				
	Faced bribe situation			Was asked for a bribe	
	2SLS (1st stage)	2SLS	OLS	2SLS	OLS
	[1]	[2]	[3]	[4]	[5]
Receives remittances	Dep. var.	0.072 (0.323)	0.063*** (0.015)	-0.088 (0.231)	0.047*** (0.013)
Instruments (municipality-level)					
<i>Share of migrants residing in Australia, 1971</i>	0.002***				
<i>Share of educated migrants in 1971</i>	-0.001***				
Cragg-Donald F-test (instrument relevance)	13.75***				
Hansen J statistic p-value (overidentification test)		0.51		0.88	
Regressor endogeneity test		0.79		0.44	
<i>Observations</i>	12084	12084	12084	12084	12084
<i>Prob > F</i>	0.000	0.000	0.000	0.000	0.000

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; standard errors, clustered at the municipality level, in parentheses. The same control variables as in Table 1 are included in all regressions.

Table 4. Receiving remittances, contact with public officials and bribery; 2SRI and naïve multinomial probit results.

	Did not contact public officials	Contacted public official(s), but did not pay a bribe	Contacted public official(s) and paid a bribe
<i>2SRI</i>			
Receives remittances	-4.708* (2.824)	Base outcome	-1.325 (2.857)
1 st stage residuals	4.496 (2.837)	Base outcome	1.431 (2.856)
<i>Naïve multinomial probit</i>			
Receives remittances	-0.231** (0.108)	Base outcome	0.100 (0.092)

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; standard errors, clustered at the municipality level, in parentheses. The same variables as in Table 1 are included in all regressions.

(contacting public officials without paying bribes), receiving remittances decreases the probability of not contacting public officials but does not affect the probability of actual bribery.

So far, variables capturing relatives abroad and receiving monetary remittances have been included in our models separately. Table 5 reports the results of *faced bribe situation* and *was*

asked for bribe models which include the two regressors of interest in the same specification. The three instruments are jointly used to predict the potentially endogenous regressors. They pass the instrument relevance (although the F-value for remittances is just under 10) and endogeneity tests, but, as before, the hypothesis that the regressors are endogeneous is rejected. Therefore, we use the results of the corresponding linear probability model, reported in columns 2 and 4 of Table 5. The results suggest that having relatives abroad and receiving remittances independently of each other increase the likelihood of both facing bribe situations and being asked for a bribe. As receiving remittances is largely a subsample of having relatives abroad, our results indicate that receiving migrant money leads to a higher probability of being involved in bribe situations and being asked for a bribe – relative to the case where households have relatives abroad but do not receive remittances. The marginal effects, based on corresponding binary probit models, are equal to 2.6 to 2.9 percentage points for the relatives abroad variable and further 4.4 and 2.6 percentage points for the remittances variable (for facing bribe situations and being asked for a bribe, respectively).

Table 5. The effects of having relatives abroad and receiving remittances on corruption experience.

	Faced bribe situation		Was asked for a bribe	
	2SLS	OLS	2SLS	OLS
	[1]	[2]	[3]	[4]
Relatives abroad	-0.508 (0.437)	0.026** (0.011)	-0.156 (0.315)	0.031*** (0.011)
Receives remittances	0.773 (0.703)	0.048*** (0.015)	0.129 (0.498)	0.028** (0.013)
Cragg-Donald F-test (instrument relevance) for:				
<i>Relatives abroad</i>		10.26***		
<i>Remittances</i>		9.24***		
Hansen J statistic p-value (overidentification test)		0.77	0.76	
Regressor endogeneity test (p-value)		0.40	0.56	
<i>N</i>	12084	12084	12084	12084
<i>Prob > F</i>	0.000	0.000	0.000	0.000

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; standard errors, clustered at the municipality level, in parentheses. The same control variables as in Table 1 are included in all regressions. Instruments: *share of migrants in municipality population in 1971, municipality share of migrants residing in Australia in 1971, municipality share of educated migrants in 1971*

It is, unfortunately, not possible to include two potentially endogeneous regressors in a 2SRI estimation. However, we can gauge the effect of the remittances versus the relatives-abroad-no-remittances variables by comparing the coefficients of the two variables when they are

included into our models separately. Earlier we demonstrated that having relatives abroad (regardless of whether they send remittances back home or not) reduces the likelihood of bribing public officials (Table 2), while receiving remittances has no significant impact on the likelihood of bribery (Table 4). As remittance-receiving households are a subset of households with migrant connections, these two findings indicate that both a positive value effect and a negative monetary effect are at work. On the one hand, migrants transmit to their family members back home norms and practices that are consistent with lower levels of bribery; this result corroborates the country-level evidence that migration leads to better country-level control of corruption (Beine and Sekkat, 2013) and aligns with the wider literature on the positive institutional remittances/ diaspora externalities. However, if a household also receives remittances, the positive value effect vanishes, possibly because remittance-receiving households are particularly attractive extortion targets for corruption-prone public officials or because remittance receivers are more willing and able to bribe public officials. Such negative household-level effect of remittances on corruption is consistent with the recent evidence that remittances have a negative effect on corruption at the country level (Abdih et al., 2012; Berdiev et al., 2013).

Conclusion

This paper has explored effects of migration and remittances on corruption experience of migrants' family members left behind. The analysis is based on the Gallup Balkan Monitor survey, implemented in the six successor states of the former Yugoslavia in 2010 and 2011. Instrumenting current migration with historical (1971) municipality-level migration-related variables, we find that migrant households, and especially those receiving monetary remittances, are more likely to face bribe situations and be asked for bribes by public officials. While this result does not necessarily imply that migrant households are more likely to pay bribes – one can face a bribe situation and be asked for a bribe by a public official without eventually paying a bribe – it does suggest that households with migrant connections are more likely to be targeted for extortion by corruption-prone public officials.

Considering the probability of actual reported bribery, we find that households having relatives abroad (irrespective of whether they send monetary remittances or not) are 14 percentage points less likely to bribe public officials than households without migrant connections. Given that the majority of migrants from the ex-Yugoslavian region reside in

countries with relatively low levels of corruption, this suggests that migrants transfer good practice from destination to origin country and corroborates the general findings in the literature that emigration leads to better social, political and institutional outcomes in the countries of origin. Receiving monetary remittances, however, does not have a significant effect on the probability of actual bribery. This could suggest that the adverse monetary effect of remittances offsets the positive transfer-of-norms effect.

The findings of this paper are policy relevant in that they identify a group of people (households with migrant connections) that are particularly exposed to bribe solicitations and toward whom corruption prevention policies could be directed. Likewise exchanges between public officials and individuals with migrant connections could be monitored. The paper's finding that households with migrant connections that receive monetary remittances are particularly prone to actually pay bribes is difficult to address from the policy point of view. Here a desire toward monitoring and pre-emptive action collides with privacy considerations. Realizing that in the Western Balkans incoming remittances amount to a substantial share of GDP renders additional complexity to thematic and incidence of the linkage between migration, corruption and diaspora externalities.

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Appendix.

Summary statistics.

Variable	Mean	St. dev.	Min	Max
Faced bribe situation	0.129	0.335	0	1
Was asked for bribe	0.088	0.284	0	1
Paid a bribe:				
<i>Did not contact public officials</i>	0.274	-	0	1
<i>Contacted at least one public officials but did not pay a bribe</i>	0.651	-	0	1
<i>Bribed at least one public officials</i>	0.074	-	0	1
Relatives abroad	0.328	0.469	0	1
Receives remittances	0.107	0.309	0	1
Age (years)	42.747	16.960	15	99
Female	0.524	0.499	0	1
Primary education	0.194	0.395	0	1
Secondary education	0.565	0.496	0	1
Tertiary education	0.216	0.412	0	1
Education N/A	0.025	0.157	0	1
2 nd income quintile	0.149	0.356	0	1
3 rd income quintile	0.157	0.363	0	1
4 th income quintile	0.160	0.366	0	1
5 th income quintile	0.169	0.375	0	1
Income N/A	0.225	0.417	0	1
Small town	0.443	0.497	0	1
Suburb of a large city	0.052	0.223	0	1
Large city	0.299	0.458	0	1
Orthodox	0.464	0.499	0	1
Catholic	0.213	0.410	0	1
Muslim	0.277	0.448	0	1
Religion = other	0.046	0.209	0	1
Municipality migration rate 1971	3.06	2.80	0.47	18.77
Share of educated among migrants in 1971	22.78	16.30	1.50	72.80
Share of migrants going to Australia in 1971	4.14	7.34	0.00	68.30

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