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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 behind<sup>1</sup>

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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 data from Gallup Balkan Monitor survey in instrumental variable analysis, we find that having relatives abroad reduces the probability of bribing public officials but receiving monetary remittances offsets this beneficial effect. We also find that migrant households, and especially remittance-recipient households, are more likely to be extortion targets for public officials. These findings support both the direct value transfer and the indirect monetary channels of influence.*

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

JEL: F22, F24, D73

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## INTRODUCTION

In the literature on migration, the effects of monetary remittances on recipient countries, communities and households are among the central themes.<sup>4</sup> 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'.

A burgeoning literature has shown that migration and remittances can indeed change various political, institutional and social outcomes in the migrants' countries of origin (Beine and Sekkat, 2013; Bertoli and Marchetta, 2015; 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). Many of these contributions focus on the effects of migration that are observed at the country- or community-level. The transfer of norms and practices at the household level, however, remains less well understood. As family is 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.

In this paper we explore whether and, if so, how migration and remittances affect a specific household-level outcome: corruption experience of the migrants' household members staying in the countries of origin. Corruption has always been a salient feature across the developing world. There is a broad consensus that it is associated with inferior socio-economic outcomes; the World Bank has identified corruption as one of the "greatest

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<sup>4</sup> See Yang (2011) for the overview of this literature.

obstacles to economic and social development”.<sup>5</sup> As both fighting corruption and managing migration have become major preoccupations of governments across the world, it is important to understand the links between migration and corruption. In particular, does migration augment or deter corruption in the migration-sending country?

One can conceive several channels through which migration and remittances might affect corruption experience of those staying behind. Consistent with the value transfer hypothesis, migrants who work in a country with lower prevalence of corruption, compared with the country of origin, may directly transfer good practice from the host country to family members back home. However, migrant relatives, and especially those receiving remittances, may be a prime extortion target for public officials – because of the larger financial resources that people with migration connections are often associated with. We investigate the interplay of these potentially conflicting influences of migration on corruption in the migrant-sending country at the household level.

A main challenge in establishing the *effect* of migration on corruption is the potential endogeneity of migration. 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. In an attempt to reduce potential endogeneity, we perform instrumental variable analysis where present-day household-level migration and remittances are predicted with information on the scope and composition of historical emigration at the local level.

Geographically, our analysis focuses on the six successor states of former Yugoslavia – a region with rich and complex migration history, the broader social effects of which remain under-researched. In addition, the countries of former Yugoslavia are known to have some

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<http://web.worldbank.org/WBSITE/EXTERNAL/EXTSITETOOLS/0,,contentMDK:20147620~menuPK:344192~pagePK:98400~piPK:98424~theSitePK:95474,00.html>

of the worst corruption profiles in Europe. The salience of both migration and corruption makes the region well suited for our analysis.

The paper proceeds as follows. Section two reviews the literature on the social and institutional effects of migration and discusses channels through which migration might affect corruption at home. Section three describes the context. Section four presents data, variables and estimation strategy. Section five reports the results, followed by discussion and conclusion.

## 2. MIGRATION, INSTITUTIONS AND CORRUPTION: RELATED LITERATURE, CONCEPTUAL FRAMEWORK, AND TESTABLE HYPOTHESES

This paper is closely related to the rapidly developing quantitative literature on migrants' non-monetary 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 to weaker institution and governance in the country of origin; corruption would thus be expected to increase with emigration.

However, it is increasingly observed that migrants do not 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 lower levels of corruption.<sup>6</sup>

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 in the sending country, such as “Government effectiveness”, “Regulatory quality” and, crucially for our study, “Control of corruption”, but a negative impact on “Voice and accountability”.

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<sup>6</sup> 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).

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 Pfutze (2012), who shows that migration increases the probability that an opposition party wins municipal election in Mexico, and Chauvez 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 leads to a positive institutional and political change. However, a different picture emerges if one focuses on migrants' monetary remittances instead of emigration in general. For example, Abdi 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. Abdi 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).<sup>7</sup> 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 may instead go down.

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<sup>7</sup> 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.



Drawing on the discussion above, we formulate the following hypotheses:

*Hypothesis 1: Migrant households are less likely to pay bribes to public officials than non-migrant households, and receiving remittances reinforces this effect.*

*Hypothesis 2: Migrant households are more likely to be asked for bribes by public officials than non-migrant households, and receiving remittances reinforces this effect.*

### 3.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 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.

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 19<sup>th</sup> – beginning of the 20<sup>th</sup> 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).<sup>8</sup> Non-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 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%).

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).

#### 4. DATA, VARIABLES AND ESTIMATION STRATEGY

##### 4.1. 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, and annually from 2008 to 2011, by the international opinion poll agency, Gallup. The core Gallup World Poll questionnaire, augmented by

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<sup>8</sup> Yugoslavia broke up with the Soviet Union and was excluded from Cominform in 1948, after which it adopted an independent course towards socialism ('Titoism').

questions relevant to the contexts of Western Balkan countries, was used. The questions were translated into the languages of the 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 key 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.

#### 4.2. Variables

##### Corruption-related variables

A nested question is used to capture households' actual bribe-paying experience. First, the respondents were asked whether, in the 12 months prior to the interview, they or anyone in their household had contact with any of the following public institutions/ organisations: 1) education system, 2) judiciary, 3) medical services, 4) police, 5) registry and permit services,

6) utilities, 7) tax revenue, 8) land services and 9) customs. 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 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.<sup>9</sup>

Second, the respondents were asked, "*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?*" Based on this question, we construct a dichotomous variable *was asked for bribe*. Note that the affirmative answer to the question does not guarantee that the bribe was paid (the respondent can refuse to pay the bribe even if she was asked for it).

### Migration-related variables

The first regressor 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

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<sup>9</sup> 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.

Western industrialised economies - Germany, Switzerland, Sweden, France, Australia, the US, Canada etc.<sup>10</sup> 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) and age squared; dichotomous variables for gender, education level (primary, secondary, tertiary), three income levels (low, middle and high),<sup>11</sup> four degrees of urbanisation (village, small town, suburb of a large city, large city), and main religious affiliations (Orthodox, Catholic, Muslim, other).<sup>12</sup> Country/region fixed effects (dichotomous variables for Croatia, Bosnia and Herzegovina, Serbia, Macedonia, Kosovo, Montenegro, as well as for the Serbian province of Vojvodina) and year dummies are included to account for all country-wide and year-specific influences. The summary statistics of all variables are reported in the appendix.

#### 4.3. Estimation strategy

Our aim is to estimate the following model:

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<sup>10</sup> 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.

<sup>11</sup> We first calculated income per household member and then split it into three equal groups (terciles) within each country.

<sup>12</sup> 'No answer' dummies have also been included for the education, income and urbanisation variables.

$$\begin{aligned}
Bribery_i = & \alpha_1 * relatives\ abroad_i + \\
& \alpha_2 * receiving\ remittances_i + \\
& \alpha_3 * socio-demographic\ controls_i + \\
& \alpha_4 * country/region\ fixed\ effects + \\
& \alpha_5 * year\ fixed\ effects + \\
& unobserved\ error\ term_i
\end{aligned}
\tag{1}$$

where *Bribery* is the dependent variable capturing individual *i*'s involvement in a corrupt exchange (either *paid a bribe* or *was asked for bribe*), and  $\alpha_1$  through  $\alpha_5$  are the parameters (parameter vectors) to be estimated.

Given the categorical nature of the dependent variables, we estimate binary and multinomial probit models (for *was asked for a bribe* and *paid a bribe* dependent variables, respectively). We first report *conditional correlations*, i.e. the results of the models which do not account for the potential endogeneity of migration and remittances. We then employ instrumental variable (IV) approach in an attempt to deal with endogeneity and estimate the *effect* of migration on bribery.

While, technically, estimating a *binary* IV probit model is straightforward,<sup>13</sup> estimating a *multinomial* IV probit model is more challenging. Terza et al. (2008) find that the application of the standard two-stage-least-squares technique in a non-linear model produces inconsistent results and recommend using two-stage-residual-inclusion (2SRI) estimation instead.<sup>14</sup> The idea of the 2SRI approach is to run a standard first-stage regression, where a potentially endogenous regressor (migration/remittances) is explained with the instruments and control variables, and then to include the predicted first stage residuals, alongside the endogenous regressor, into the second stage equation. The estimated coefficient of the endogenous regressor in the second stage represents the unbiased effect of migration on the three-state bribery outcome, while the coefficient of the predicted residuals captures the endogeneity bias. Formally, the 2SRI procedure can be expressed as follows:

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<sup>13</sup> We use the readily available command *ivprobit* in Stata.

<sup>14</sup> See also Ivlevs and King (2012) for the application of 2SRI technique to estimating emigration decision.

$$\text{First stage:} \quad \text{MIGR}_i = \beta_1 * \text{INSTR}_i + \beta_2 * Z_i + u_i \quad (2)$$

$$\text{Second stage:} \quad \text{Paid bribe}_i = \gamma_1 * \text{MIGR}_i + \gamma_2 * u_i^{\text{est}} + \gamma_3 * Z_i + \varepsilon_i \quad (3)$$

where, for each individual  $i$ ,  $\text{MIGR}$  is a variable capturing household migration/remittances,  $\text{INSTR}$  is a set of instrumental variables,  $Z$  is a vector of socio-demographic characteristics, country and year fixed effects,  $u$  is the error term of the first-stage regression,  $\text{paid a bribe}$  is a three-state bribery variable,  $u^{\text{est}}$  is the predicted residual from the first-stage equation, and  $\varepsilon$  is the error term in the second-stage regression.

The success of the IV analysis relies on the use of valid instruments. In order to be valid, instruments must be relevant (highly correlated with present-day migration) and exogenous (affecting bribery only through migration). The relevance will be tested through the instruments' joint significance in the first stage regression (an F value higher than the commonly accepted threshold value of 10 would indicate that instruments are significant); in addition, we expect instruments to be individually statistically significant in the first stage regression. To test instrument exogeneity, we will perform the standard Hansen test of overidentifying restrictions.<sup>15</sup>

### Instruments

To identify the effect of emigration and remittances on the corruption experience of the family members left behind, we use information on historical (1960s and 70s) 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 (McKenzie and Rapoport, 2007, 2010, 2011; Woodruff and Zenteno, 2007; Hindelbrandt and McKenzie, 2005; Pfutze, 2012).

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<sup>15</sup> We follow the procedure suggested by Bollen et al. (1995) for non-linear models: 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.

The historical municipality-level data on migration come from the 1971 Population Census of Yugoslavia (Baucic, 1973b). 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 very disaggregated (municipality/commune) level.

We argue that the household probability of having relatives abroad today is driven by local migration networks which were established 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). We also argue that the 1960s and 70s' local-level guest-worker migration flows can be considered independent of present-day household-level corruption. An issue, however, could arise if the municipality-level migration 40 years ago was driven by local corruption at that time (e.g., people emigrated more from more corrupt municipalities), and the local-level variation in corruption has persisted over time. If this were to be the case, the historical emigration rates would be linked to present-day corruption via past migration. It is, therefore, crucial to understand the reasons behind the variation in local-level guest-worker emigration intensity in former Yugoslavia.

There are several reasons behind such variation. First, it can be traced back to the different regional rates of migration that the countries of ex-Yugoslavia experienced at the turn of the 20<sup>th</sup> century and the interwar period (Baucic, 1973a; Brunnbauer, 2009). This, for example, explains why certain regions of Croatia and the Dalmatian coast of Bosnia and Herzegovina were the first to embrace guest-worker 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.

The demand-driven nature of bilateral migration programmes is another reason why emigration rates exhibited regional variation. The representatives of the host countries' manufacturing companies recruited workers directly, in some cases through the Yugoslav state employment agencies. 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 from specific regions in Yugoslavia, because they had good experience with workers from these regions (Novinscak, 2009).

The historical roots of migration and host-country recruiters targeting migrants from specific localities does not lend support to 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.

Another instrument for the likelihood of having a relative abroad and receiving remittances is related to the country of destination of the 1960s' and 70s' migrants. Between 1965 and 1970, Yugoslavia signed bilateral recruitment agreements with Austria, Australia, Belgium, Federal Republic of Germany, France, Luxembourg, the Netherlands (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. 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 for present-day migrant networks and remittances. Our expectation is that this instrument is positively correlated with the outcomes of potentially endogenous regressors.

A further instrument candidate for remittances 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). For example, 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: regional effects*

The broad prevalence of migration and corruption (both historical and current) will differ across the republics/regions of former Yugoslavia (Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia, as well as the former autonomous regions of Kosovo and Vojvodina). It is also possible that the republic/region-level emigration in the 1960s and 70s was driven by the republic/region-level corruption at that time. If the broad region-level corruption persisted over time, it is crucial to control for the region-level migration-corruption links and focus on the within-region variation in the variables of interest. This is why we include dummies for the seven Yugoslav regions (currently, independent countries, with the exception of Vojvodina) in both the first and second stages of our instrumental variable estimation. This assures that today's migration is predicted by the historical variation in local migration rates within (and not between) regions. Also, importantly, the inclusion of the country/region dummies automatically controls for having a historical

connection to the Austro-Hungarian empire,<sup>16</sup> which might be driving both present-day corruption (Becker et al., 2014) and, as mentioned earlier, migration – though a particularly favourable emigration regime that citizens of the Austro-Hungarian empire enjoyed relative to people in other parts of Yugoslavia.

## 5. RESULTS

### Regressions which do not account for endogeneity

Table 1 reports the results of estimations which do not account for the endogeneity of migration variables. The results of the model explaining the three-state bribery variable (Panel A) suggest that, relative to the probability of having a contact with public officials but not paying a bribe (reference category), having migrant in the family is associated with a 7.8 percentage points lower probability of not contacting public officials (Column 1) and does not affect the probability of paying a bribe (Column 2). When, in addition to the relatives abroad variable, we also include monetary remittances, their coefficient is insignificant; the sign and significance of the relatives abroad variable remain unchanged (Columns 3 and 4). Thus, regardless of remittance receipt, migrant households appear to have a higher demand for public services, but are as likely as non-migrant households to pay bribes once the contact with public officials has taken place.

Both of the above migration-related variables are highly significant in the model explaining the probability of being asked for bribe by a public official (Panel B). The results suggest that having a relative abroad is associated with a 3.7 percentage points higher probability of being asked for a bribe (Column 5). Receiving remittances reinforces the likelihood of extortion: when both relatives abroad and remittances variables are included (Column 6), having a migrant in the household increases the likelihood of being asked for bribes by 2.9 percentage points and receiving remittances increases this likelihood by further 2.8 percentage points.

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<sup>16</sup> Croatia, Bosnia and Herzegovina, and Vojvodina used to be part of the Austro-Hungarian empire.

**Table 1. Relatives abroad, remittances and corruption experience: conditional correlations**

	A. Dependent variable: 1 – did not contact public officials; 2 – contacted public officials but did not bribe (base outcome); 3 – paid a bribe Multinomial probit coefficients				B. Dependent variable: was asked for bribe Probit coefficients	
	No contact	Paid bribe	No contact	Paid bribe	Was asked for bribe	Was asked for bribe
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Relatives abroad</b>	-0.328*** [0.078]	0.061	-0.317*** [0.074]	0.033	0.244*** [0.037]	0.193*** [0.029]
<b>Remittances</b>	-	-	-0.038	0.094	-	0.181*** [0.028]
Age	0.008	0.036***	0.008	0.037***	0.025***	0.026***
Age squared	-0.000	-0.000***	-0.000	-0.000***	-0.000***	-0.000***
Female	0.060	-0.039	0.060	-0.040	-0.132***	-0.134***
Education						
Primary	0.032	0.002	0.032	0.001	0.005	0.003
Secondary	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Tertiary	-0.097	0.166*	-0.097	0.167*	0.062	0.066
Income						
Low						
Middle	-0.179**	-0.152	-0.179**	-0.151	-0.096	-0.097
High	-0.179*	-0.237**	-0.179*	-0.238**	-0.109*	-0.111*
Degree of urbanization						
Village	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Small town	-0.393***	0.015	-0.394***	0.019	0.089	0.096
Suburb of a large city	-0.487**	-0.147	-0.487**	-0.145	0.059	0.061
Large city	-0.316**	-0.019	-0.317**	-0.017	0.125	0.127
Religion						
Orthodox	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Catholic	-0.237	-0.245*	-0.236	-0.247*	0.049	0.051
Muslim	0.238	0.076	0.240	0.069	0.052	0.039
Other	0.037	0.091	0.038	0.088	0.261*	0.258*
Country/region fixed effects						
Serbia	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Bosnia and Herzegovina	0.083	0.380**	0.082	0.381**	-0.020	-0.020
Croatia	0.407*	-0.162	0.405*	-0.159	-0.437***	-0.433***
Macedonia	0.880***	0.176	0.880***	0.179	-0.168	-0.165
Montenegro	0.802***	0.285*	0.803***	0.282*	-0.167	-0.173
Kosovo	0.101	-0.074	0.103	-0.078	-0.395***	-0.406***
Vojvodina	0.527**	-0.014	0.527**	-0.017	-0.133	-0.136
Year 2011	-0.046	0.100	-0.045	0.097	-0.064	-0.070
Observations	12,084		12,084		12,084	12,084
Prob > Chi <sup>2</sup>	0.000		0.000		0.000	0.000
Pseudo R <sup>2</sup>	-		-		0.0332	0.0347

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , robust standard errors, clustered at the municipality level, used to calculate regressors' level if significance. Probit marginal effects in square brackets (reported for statistically significant variables of interest only). Full econometric output available on request.

### Instrumental variable results

Table 2 reports the results of the IV estimations. We start by instrumenting only the relatives abroad variable (Panel A). 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 appear to be valid (Column 1). The instruments pass

the relevance test, with the F-statistic exceeding 10 (14.04). The coefficients of the instruments are individually statistically significant and, as expected, positive. Instrument exogeneity is supported by the overidentification test, with the Hansen J-statistic being statistically insignificant ( $p=0.114$ ).

Columns 2 and 3 report the effect of having relatives abroad on the three-state corruption outcome *paid a bribe*, which we estimate according to the 2SRI procedure. The probability of not contacting public officials does not seem to be affected by having relatives abroad – both the relatives abroad and the first-stage predicted residuals are statistically insignificant. For the outcome ‘paid a bribe’, the relatives abroad variable has a negative sign and the first-stage predicted residuals have a positive sign, and both are significant at the 10% level. This result suggests that, relative to the base outcome (contacting public officials without paying bribes), having a family member abroad decreases the probability of paying a bribe (in terms of marginal effects, by 16.5 percentage points). The positive coefficient of the predicted residuals variable indicates that, in a model which does not account for endogeneity (Panel A of Table 1), the effect of having relatives abroad on paying bribes is overestimated (by 18.8 percentage points).

Column 4 of Table 2 reports the results of the IV extortion model. While the instruments again appear valid (the overidentification test suggests that the instruments are exogenous ( $p=0.618$ ), and the relevance condition is satisfied as the first-stage equation is the same for both models), the coefficient of relatives abroad is negative but insignificant. This implies that relatives abroad, as predicted by historical emigration flows, do not affect the likelihood of being extorted by public officials. A positive and statistically significant coefficient, obtained in the corresponding non-IV regression (Column 5 of Table 1), is likely to be an over-estimation of the ‘true’ effect of migration on the probability of being extorted and is possibly driven by unobserved factors affecting both the endogenous regressor and the outcome of interest.

Next, we turn to remittances. Estimating a non-linear IV model with two endogenous regressors (relatives abroad and remittances), which are closely related, represents a technical challenge. This is why we run a restricted model where only remittances are treated endogenous (and the relatives abroad variable is omitted); we believe that such

model, in conjunction with findings reported in Panel A of Table 2, can still help us disentangle the value transfer and monetary effects of migration on bribery.

The results are reported in Panel B of Table 2. The municipality-level shares of high-skilled migrants and migrants residing in Australia, both as of 1971, turn out to be a valid instruments: they are individually and jointly significant ( $F = 13.24$ ) and have the expected signs (Column 5); the overidentification test is also passed in both models ( $p = 0.204$  for the actual bribery model and  $p = 0.892$  for the extortion model). The results of the actual bribery model suggest that receiving remittances has no significant effect on either the probability of contacting public officials or the probability of actual bribery among those who have contacted public officials (Columns 6 and 7).

The results of the extortion model, where remittances are treated as endogenous, are presented in the last column of Table 2. As with the relatives abroad variable, monetary remittances do not seem to affect extortion: their coefficient is negative but statistically insignificant. Thus, one can at most claim that there is a positive and significant *association* between receiving remittances and the probability of being extorted for bribes (Column 6 of Table 1).

**Table 2. Relatives abroad, remittances and corruption experience: instrumental variable results**

	A. Effect of having relatives abroad on bribery				B. Effect of remittances on bribery			
	1 <sup>st</sup> stage	2 <sup>nd</sup> stage			1 <sup>st</sup> stage	2 <sup>nd</sup> stage		
	Dependent variable: relatives abroad	Dependent variable: 1 – did not contact public officials; 2 – contacted public officials but did not bribe (base); 3 – paid a bribe (2SRI multinomial probit)		Dependent variable: was asked for bribe (IV probit)	Dependent variable: remittances	Dependent variable: 1 – did not contact public officials; 2 – contacted public officials but did not bribe (base); 3 – paid a bribe (2SRI multinomial probit)		Dependent variable: was asked for bribe (IV probit)
		No contact	Paid bribe			No contact	Paid bribe	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Relatives abroad	-	-2.470	-2.406* [0.165]	-0.353	-	-	-	-
1 <sup>st</sup> stage residuals	-	2.150	2.475* [0.183]	-	-	-	-	-
Remittances	-	-	-	-	-	-4.720	-1.231	-0.550
1 <sup>st</sup> stage remittances	-	-	-	-	-	4.510	1.350	-
Age	-0.003	0.001	0.029**	0.022**	-0.004***	-0.008	0.032**	0.022*
Age squared	0.000	0.000	-0.000***	-0.000***	0.000***	0.000	-0.000**	-0.000**
Female	0.011	0.086*	-0.008	-0.120**	0.006	0.086*	-0.031	-0.122**
Education								
<i>Primary</i>								
<i>Secondary</i>	-0.037***	-0.049	-0.091	-0.018	-0.002	0.041	-0.000	-0.004
<i>Tertiary</i>	0.030**	-0.034	0.238***	0.077	-0.009	-0.153**	0.155*	0.063
Income								
<i>Low</i>								
<i>Middle</i>	0.042**	-0.090	-0.047	-0.068	0.011	-0.154*	-0.138	-0.078
<i>High</i>	0.089***	0.011	-0.016	-0.052	0.040***	-0.037	-0.187	-0.062
Degree of urbanization								
<i>Village</i>								
<i>Small town</i>	-0.001	-0.393***	0.016	0.086	-0.032**	-0.551***	-0.025	0.070
<i>Suburb of a large city</i>	-0.002	-0.482**	-0.145	0.058	-0.004	-0.549**	-0.159	0.050
<i>Large city</i>	-0.023	-0.360**	-0.070	0.109	-0.012	-0.425***	-0.049	0.102
Religion								
<i>Orthodox</i>								
<i>Catholic</i>	0.018	-0.176	-0.162	0.066	0.024	-0.136	-0.214	0.077
<i>Muslim</i>	0.144***	0.527	0.413*	0.129	0.106***	0.685*	0.208	0.136
<i>Other</i>	0.026	0.082	0.147	0.264*	0.034*	0.176	0.127	0.274*
Country/region fixed effects								

	A. Effect of having relatives abroad on bribery				B. Effect of remittances on bribery			
	1 <sup>st</sup> stage	2 <sup>nd</sup> stage			1 <sup>st</sup> stage	2 <sup>nd</sup> stage		
	Dependent variable: relatives abroad	Dependent variable: 1 – did not contact public officials; 2 – contacted public officials but did not bribe (base); 3 – paid a bribe (2SRI multinomial probit)		Dependent variable: was asked for bribe (IV probit)	Dependent variable: remittances	Dependent variable: 1 – did not contact public officials; 2 – contacted public officials but did not bribe (base); 3 – paid a bribe (2SRI multinomial probit)		Dependent variable: was asked for bribe (IV probit)
		No contact	Paid bribe			No contact	Paid bribe	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Serbia</i>								
<i>Bosnia and Herz.</i>	-0.004	0.105	0.402**	-0.013	-0.007	0.088	0.386**	-0.016
<i>Croatia</i>	-0.048	0.343	-0.248	-0.441***	-0.047**	0.192	-0.221	-0.461***
<i>Macedonia</i>	0.081**	1.122***	0.453**	-0.096	-0.020	0.893***	0.199	-0.130
<i>Montenegro</i>	-0.057**	0.679***	0.141	-0.195*	0.010	0.871***	0.294*	-0.171
<i>Kosovo</i>	0.038	0.190	0.024	-0.356**	0.044*	0.417	0.017	-0.334*
<i>Vojvodina</i>	-0.018	0.520**	-0.025	-0.131	0.011	0.572***	-0.004	-0.122
Year 2011	-0.013	-0.074	0.068	-0.069	0.021**	0.061	0.126	-0.056
Instruments								
<i>Migration rate in 1971</i>	0.007*				-			
<i>Share of migr. in Australia in 1971</i>	0.003***				0.001***			
<i>Share of educated migrants in 1971</i>	-				-0.001***			
F-test of excluded instruments	14.04***				13.24***			
Overidentification test		0.114		0.618		0.204		0.892
Observations	12,084	12,084		12,084	12,084	12,084		12,084
Prob > F/ Prob > Chi <sup>2</sup>	0.000	0.000		0.000	0.000	0.000		0.000

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ , robust standard errors, clustered at the municipality level, used to calculate regressors' level of significance. Probit marginal effects in square brackets (reported for significant variables of interest only). Full econometric output available on request.



## 6. DISCUSSION

Our objective was to test whether migrant and remittance-recipient households are more likely to pay bribes and be asked for bribes by public officials. Our results show that 1) having a relative abroad reduces the likelihood of paying a bribe; 2) receiving remittances has no effect on the probability of paying a bribe; and 3) migrant households, and especially those receiving remittances, are more likely to be extorted for bribes by public officials than non-migrant households. Findings 1 and 2 are based on estimations which have taken into account the endogeneity of migration and remittances, while finding 3 represents (conditional) correlations.

The first finding supports the hypothesis that migrants transfer norms and practices across borders. As principal destinations of migrants from the former Yugoslav region are industrialized market economies with lower levels of corruption, migrants are likely to transmit to their family members back home norms and practices that are intolerant of bribery. This result lends support to the Levitt (1998)'s concept of social remittances, corroborates 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 effects of migration on institutions.

However, our second finding indicates that receiving monetary remittances has no effect on paying bribes. As remittance-recipient households are nested within migrant households, it is likely that receiving remittances augments bribery and thereby neutralises the positive value transfer effect associated with 'relatives abroad'. The implied negative remittances effect can be explained by the remittances recipients' higher-than-average probability of being in contact with public officials, which may increase bribery indirectly (Ivlevs and Hinks, 2015), by higher-than-average willingness and ability of remittance receivers to bribe public officials, as well as by a contention that remittances receivers are a prime extortion target for corruption-prone public officials. The latter conjecture finds support in our third finding: migrant households, and remittance-recipient households in particular, are more likely to be asked for bribes by public officials. In the context of the wider literature, the finding is consistent with the evidence that remittances increase corruption at the country level (Abdih et al., 2012; Berdiev et al., 2013).

In several cases, our findings reveal discrepancies of the results in the non-IV and the IV estimations. Regressions not accounting for endogeneity tended to overestimate the ‘true’ effect of migration on bribery. Such an upward bias could be explained by reverse causality – households send migrants abroad with a view of engaging in corrupt exchanges at a later stage – as well as by unobserved characteristics that make households both more likely to send a migrant abroad and be involved in corrupt exchanges.

Overall, our findings point at a mix of direct, indirect and feedback effects that might exist between emigration and corruption at the household level. This work makes a first step towards theorising, disentangling and substantiating these effects. Many limitations, however, remain to be addressed – opening directions for future research. First, the use of cross-sectional data does not allow us to account for unobserved heterogeneity – household-level factors which might affect both emigration and corruption. Panel data, where for each household emigration and corruption experience can be traced over time, would allow controlling for such unobserved effects. Second, a common weakness of any empirical work on bribery is that people are likely to under-report their involvement in corrupt exchanges. While talking about bribing public officials carries lower stigma in countries where corruption is more widespread (such countries would be most developing and transition economies, including many parts of former Yugoslavia), the results of this paper are likely to represent the lower bounds of the ‘true’ effects of migration and remittances on corruption. Third, the instruments we use to identify the effects of emigration on corruption can still be subject to criticism – in particular, one may argue that historical migration was affected by historical corruption which persisted over time and fed into current corruption. Although we include region dummies, which should account for broad historical corruption-emigration links, stronger and more exogenous instruments should improve identification even further. Finally, we have hypothesised that migrants transfer corruption-related norms and practices to their family members back home and have provided some quantitative support for this. However, the exact mechanisms behind such transfer, which could involve visits, return migration and correspondence, remain to be clarified. This question is policy-relevant, as the authorities in migration sending countries may wish to facilitate (or block) specific channels through which migration affects

corruption. Qualitative research could provide more insights into how exactly institutional norms and practices are transferred from migrants to their family members back home.

## **Conclusion**

This paper has explored the effects of migration and remittances on corruption experience of migrants' family members left behind. Using data from Gallup Balkan Monitor survey in instrumental variable analysis, we found that having a migrant in the family reduces the probability of bribing public officials. Given that the majority of migrants from the ex-Yugoslavian region reside in countries with relatively lower levels of corruption, this finding supports the hypothesis that migrants transfer good practice to their family members back home. Receiving monetary remittances, however, neutralises this beneficial effects. One of the reasons why monetary remittances could contribute to more corruption is that remittance-receivers are more likely to be extortion targets for public officials – a conjecture which also finds support in our empirical analysis.

The findings of this paper are policy relevant in that they identify a group of people (migrant households receiving remittances) 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 (however, a desire toward monitoring and pre-emptive action collides with privacy considerations). While these policy considerations are relevant for poorer countries where remittances constitute a high share of GDP, our results are also policy relevant for countries with relatively high income levels but weak institutions, where people may be emigrating not because they want to send remittances back home but because they are not satisfied with the quality of institutions. Here our findings suggest that remittance-free emigration might be helpful in combatting corruption in the countries of origin, supporting a view that migrants can generate positive social and institutional change.

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## Appendix

### Summary statistics

Variable	Mean	St. dev.	Min	Max
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
Was asked for bribe	0.088	0.284	0	1
Relatives abroad	0.292	0.455	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	0.411	0	1
Education N/A	0.025	0.157	0	1
Low income	0.239	0.426	0	1
Middle income	0.262	0.440	0	1
High income	0.276	0.447	0	1
Income N/A	0.223	0.416	0	1
Village	0.196	0.397	0	1
Small town	0.442	0.497	0	1
Suburb of a large city	0.052	0.223	0	1
Large city	0.298	0.457	0	1
Orthodox	0.465	0.499	0	1
Catholic	0.213	0.410	0	1
Muslim	0.276	0.447	0	1
Religion = other	0.046	0.209	0	1
Municipality migration rate 1971	2.969	2.576	0.468	18.514
Share of educated among migrants in 1971	22.799	16.295	1.5	72.8
Share of migrants going to Australia in 1971	4.123	7.319	0	68.3