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Modelling the costs of informal networking: Evidence from the Western Balkans region

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Modelling the costs of informal networking: Evidence from the Western Balkans region[1]

Adnan Efendic and Alena Ledeneva

Abstract

This is the first study to explore costs of informal networking in the Western Balkans. In a comparative survey, we find that informal networking, or use of personal contacts for getting things done, is common in the region while the economic cost of informal networking is substantial (100 euros against average monthly income of 250 Euros). In the structure of networking costs, the estimated costs of invested time, a proxy for sociability, dominate over money. Higher costs are associated with larger networks built on strong ties. Respondents who perceive networking as important tend to invest more time and money. The informal networking costs are also higher for those with more education and income, and for entrepreneurs. Individuals bear the high costs of informal networking not only for social and culturally determined reasons, but also with an instrumental purpose. Our evidence suggests that both sociability and instrumentality drive informal networking.

Key words: informal networking; informal networking cost; Western Balkans

JEL codes: O17; E26; P30

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1. Introduction

In this study we investigate the costs of informal networking among individuals in the Western Balkans (WB) region. While informal networking is well recognized in the literature, its related costs remain unexplored. On the one hand, informal networking is often presumed to be burdensome, likely to disappear where formal avenues become effective; on the other, it is reported to provide a shortcut in problem-solving, thus increasing effectiveness. Our data, collected in Horizon 2020 INFORM project, indicate that informal networking in WB tends to occur as the way to circumvent administrative barriers. The costs of informal networking, however, cannot be associated directly with ineffective institutional framework or routine problem-solving. While the predominance of informal networking is not a new finding, the contribution of this article is in showing that informal networking is not free but entails substantial costs. The paper measures the costs of informal networking in WB region and uses the measure to explain determinants of informal networking costs and to provide empirical evidence on the size and two-dimensional structure of these costs (money and time). These findings are important not only from both theoretical and empirical perspectives, but also have policy implications for the examined WB region and its integration into the EU.

The argument is structured as follows. In the next section, we define the specific characteristics of the WB institutional environment with regard to formal and informal institutions; establish the need to assess the costs of informal networking; and articulate our assumptions. In the third section, we explain our model of the cost of informal networking and introduce the notions of direct, hidden and indirect costs of informal networks. The fourth section introduces the parameters of networks, our methodology and descriptive statistics from variables used in the empirical investigation. In the fifth section, we test the measurability of the cost of informal networking on the basis of survey

data, contextualised by the econometric analysis. The final section concludes with implications of integrating the network level of analysis and the costs of informal networking into in the policy making in the WB region.

2. Formal institutions and informal networking in WB region: assumptions and limitations

The Western Balkan region (Albania, Bosnia and Herzegovina, Kosovo, Macedonia, Montenegro, and Serbia) is known for its complex transition from communist to market economy, set against the historical background of ethnically based conflicts. While these setbacks influenced the development of formal institutional environments, they also invited externally driven institutional changes. In negotiating the EU integration, formal institutions in WB countries today are still frequently described as "being at an early stage" and having "some level of preparation"; and very rarely as "moderately prepared" for the EU integration, which is a strategic goal of the whole region (European Commission, 2015a, 2015b, 2015c, 2015d, 2015e, 2015f, 2016). The latest EU reports suggest that the economic performance is better rated than the political one. Bosnia and Herzegovina (BiH) and Kosovo are at an "early stage" both in developing a functioning market economy and in their capacity to cope with competitive pressure. Policy makers consider Albania, Montenegro and Serbia as "moderately prepared". Only Macedonia has a "well prepared" rating. Despite improved economic performance, most EU candidate countries remain far from having a developed institutional framework constituting business-friendly environment.

The inability to enforce the law and ineffective formal institutions were suggested as the main reasons for the massive increase in informality observed in Peru (De Soto, 1989). In such environments, informal institutions tend to become an integral part of everyday life, and to shift

their role in society from a complementing to a substituting one (Estrin and Prevezer, 2011; Guseva, 2007; Helmke and Levitsky, 2004). Without good government, informal networks serve a variety of purposes, from exchange of information, experience and ideas between agents to the provision of goods, services, and favours, not freely accessible on the market (Jackson and Wolinsky, 1996). Efendic et al. (2011) find that lengthy and costly formal procedures undermine confidence in formal institutions and encourage the substitutive reliance on informal institutions in BiH, creating a vicious circle of co-dependence. This is likely to change once countries in transition have progressed further towards developed market economies, but understanding how informal institutions work and including this into the policy design can assist the process (Mungiu-Pippidi, 2015; Williams and Vorley, 2015).

Formal institutions are costly. They are costly to set up, implement, maintain, and change (North, 1990). However, daily practices are constrained by both formal and informal (social norms, customs and traditions) rules of the game. The informal practices are reliant on informal networks. These are also costly to maintain. The costs of informal networking can be considered as part of transaction costs economics (Coase, 1937): these are partly market costs paid in money; and partly the costs of time spent gathering information, engaging in time-consuming procedures, informal networking, and so forth (North, 1987, 1990). While the existing literature investigates predominantly the transaction costs of formal institutions (e.g. Wallis and North, 1987), the precise cost of sustaining informal networks remains largely neglected. In this paper, we model and calculate the monetary (money) and non-monetary (time) costs of informal networking.

Assumptions

Data on the use of informal contacts in the WB region have been sparse. Some have been collected in the 2013 Global Corruption Barometer and in various regional reports (UNDP BiH, 2000-2010 reports). But data on informal networks requires special considerations. The existing ethnographic research reveals practices of informal networking, *štele* or *veze* (Bougarel et al., 2007; Grandits, 2007; Ledeneva, 2018a; Vetters, 2014; Brković, 2017). Residents of BiH, regardless of generation, ethno-national group, gender, or income have used *štele* to access public and private resources throughout the 2000s and 2010s (Brković and Koutkova, 2018). Expressed in the language of participants, such practices are a good proxy for understanding informal networking in the region and our comparative analysis. As a matter of routine, people rely on people they already know to access resources – friends and kin relatives, acquaintances, former classmates, or work colleagues – and such networks are biographical by-products. Informal networks are often assessed in terms of their dual purpose of sociability and instrumentality and conceptualised as vehicles of 'economies of favours' (Ledeneva, 1998, 2017, 2018b). While it is tempting to presume a reverse correlation between effectiveness (development) of the formal institutions and the willingness (scale) of investment into informal networking, the workings of informality do not fit well into the models based on logic or rationality. For example, the assumption that household members are ready to meet informal networking costs as long as they have benefits that exceed or are equal to the opportunity cost of formal institutional inefficiency might run against the habits, social norms, and peer pressure in the WB region.

The development of market economies tends to be associated with the following assumptions about formal institutions: progress means formalisation; effective formal institutions reduce risks

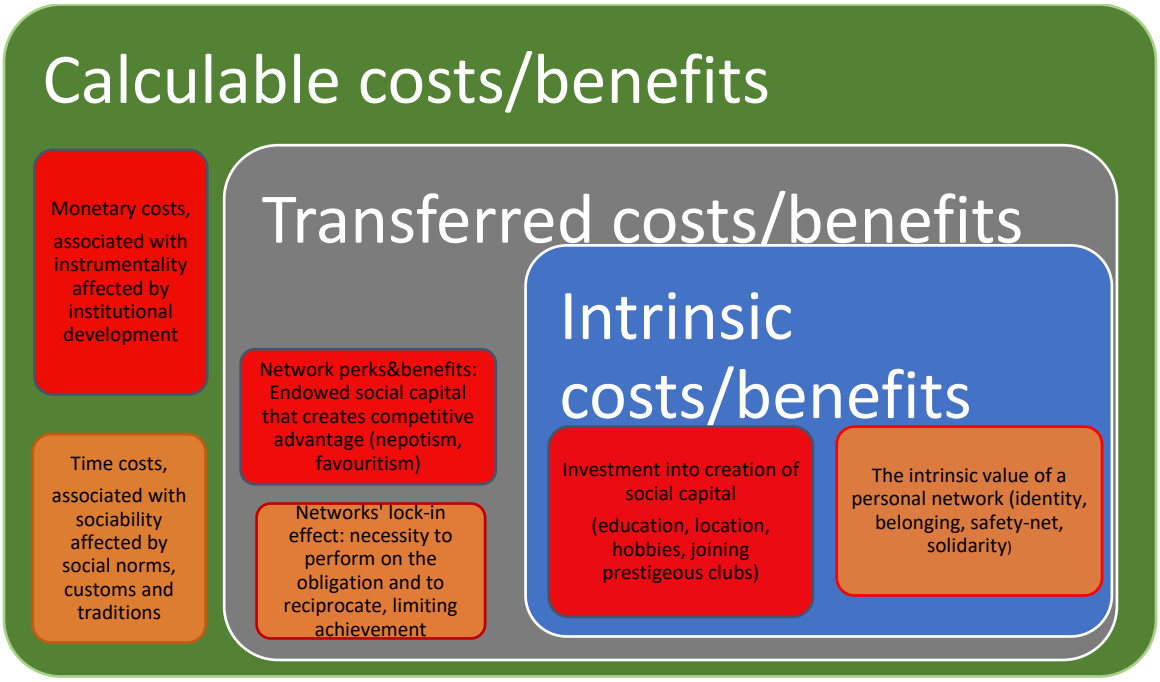
and the cost of transactions; both households and entrepreneurs would rationalise their transaction costs and reduce their burden where possible. Against these we place the following set of assumptions about the informal networking that have determined our methodology:

1) Informality is context-bound. Whereas formal procedures are conceived to be logical, universal and rational, informal practices serve to solve problems in particular contexts and tackle imperfections of social life.
2) Just as formal organisations serve to enforce formal rules, informal networks channel social norms and peer pressure. The use of networks is fluid and dynamic (unlike norms, networks themselves can change quickly; can be dormant, or inactive, until a particular problem arises).
3) Similar to positions in formal hierarchies, informal networks are valuable to people. Care (serious attention, invested time and resources) is given to establish and maintain them.
4) Currencies circulating within informal networks often remain non-articulated and their value is subjective and thus difficult to measure.

And estimate of the cost of using personal contacts is underrepresented in the existing accounts. Investigating the costs of informal networking is essential for the understanding of transaction costs in different institutional frameworks. In this article, we intend to address the missing constituent of transaction costs – the costs of maintaining informal networks – and focus on the calculable costs of informal networking (money and time).

Box 1. Reducing complexity: focusing on the calculable costs of informal networking

The full-cost modelling of informal networking goes beyond the remit of this paper, but its complexity is essential for understanding our interpretative model (Figure 2) and the measurement effort undertaken in this paper. Informal networking, defined as the use of personal contacts for getting things done, varies significantly across cultures and institutional frameworks. Informal networks can be used to satisfy most basic needs and serve as strategies of survival, but are also associated with 'gaming the system' (Ledeneva, 2018a). Informal networking is hard to model due to its dual nature. For example, as participants, people insist on sociability of informal networking in their own case, but they emphasize instrumentality of informal networking of others as observers. In the Western Balkans, informal networking is associated with both socialising and gaining access to resources. Here we focus on those informal networks that are biographical by-products emerging spontaneously and omit those generated on purpose, top-down, or as part of organisational design. Since informal networks appear to serve both households and the business sector (Valdez and Richardson, 2013; Williams and Vorley, 2015), we use the survey data relevant for these sectors and ask people to estimate their time and money spent on personal contacts. To assess the full costs of informal networking for an individual, however, one should be able to estimate not only calculable costs but also the so-called transferred and intrinsic costs, as represented in the diagram below, to include perks, benefits, liabilities and long-term investments into social capital. We outline the dimensions of the full cost of informal networking and leave it for future research.



Calculable costs and benefits: Households need resources on the daily basis, and they tend to use networks to get what they need with less money or time spent. Co-operation is a way of coping with hardships (with loans and mutual help) and operates under the pressure of informal constraints, through social norms, customs and traditions, to reciprocate

favours, to display loyalty, to fulfil obligations, to help friends, and to engage in solving problems for others in the network. Informal networking is considered to be less costly, more effective, and more easily accessible than any other alternative – such as market purchases or acquiring state redistributions (Polanyi, 1957; Wellman and Wortley 1990). With calculable costs, we can test for size, centrality, density, strength of ties, the time spent in maintaining them, the number of contacts in a week, the number of contacts in smartphones andsocial media etc., the time and money spent on contacts (for hospitality and gifts).

Transferred costs and benefits: Frequently, informal networking is associated with avoiding competition or increasing one's chances in it, but this comes at a cost. Households in the WB region engage in strategies of securing status and expanding networks through traditional means such as marriage and *kumstvo,* the godfather relationship, and through the available social opportunities, tried and tested on a daily basis, but especially in the times of need. Those with limited contacts might have to opt for a bribe, while those with endowed social capital might be able to avoid paying a bribe altogether, to 'delay' payment or reciprocate in a longer term in other ways. The endowed social capital, associated with family, name, ethnicity, education, habitus, background, can open many doors and substantially save money and time in various settings. The transfer of social capital from generation to generation is one of the most obvious, yet non-articulated privileges associated with informal networking. By providing what formal systems cannot, networks not only enable their members to get a competitive advantage, but also create a lock-in effect that limits individual choice and independent development.

Intrinsic costs of informal networking are incurred in the form of investment into one's own social capital: strategies related to education, migration, quest for success, which can potentially undermine the bonding social capital and the intrinsic value of personal identity, the sense of belonging, solidarity, and safety nets. Social networks are expressions of human interdependence: offering co-operation and mutual help, providing emotional support and defining human ambition. Such investments are difficult to calculate empirically.

Certain costs, benefits and constraints do not lend themselves to quantitative analysis, so there are limits to what can be achieved in the empirical analysis. The functional ambivalence of informal networks, represented by the tensions between formal and informal constraints is difficult to capture by quantitative methods but it remains important to keep in mind when thinking about the implications of our findings and proposing policy solutions.

Theoretically, it is possible to differentiate types of costs associated with functions that informal networks perform in societies and to disaggregate three levels of their analysis. From a micro-

perspective, sociability within networks results in access to resources, whereby friends and relations may at times become instrumental for survival and access to resources (Ledeneva, 2008: 61-62). From a meso-perspective, the necessity to resort to informal ways of solving problems may vary from region to region, or from sector to sector (for example, entrepreneurs are more reliant on the informal networking for their daily activities than state employees). In locales where informal networks are ubiquitously used and it is possible to speak of a degree of their institutionalisation, the variations across countries and the differences in their institutional frameworks can be observed also from a macro-perspective. We pursue this multi-level approach in interpreting our findings, but inevitably there are certain aspects of informal networking that go beyond our research focus. In what follows we focus on the calculable costs as depicted in Box 1 and evaluate the following propositions:

1) Network size is associated with the level of networking costs.
2) The costs of informal networking are not trivial: significant resources are used in the household and business sectors.
3) Economic position of individuals reflects the level of costs they can meet.
4) Informal networking is economically beneficial and often considered as an "investment", especially among entrepreneurs. Thus, entrepreneurs engage more into informal networking and face higher costs than ordinary citizens.
5) Individual perception of informal networking importance in their respective societies is associated with larger presence of networks and their readiness to face higher costs.

3. Modelling the calculable costs of informal networking in WB

We treat informal networking as a complex phenomenon defined by a number of parameters: size of the informal network; its structure; associated costs; as well as individual predispositions to use informal networking; and, importantly, the capacity to finance these costs. We propose that all these different dimensions of informal networking are mutually related, and this proposition will affect our empirical strategy applied later.

As every social interaction is costly (Marmaros and Sacerdote, 2006), establishing, maintaining and expanding informal networks also incur costs. It is more difficult to measure the costs related to informal networking, because it includes not only gifts and other investments of resources in a relationship, but also, inevitably, opportunity costs, such as the costs of time and other hidden costs associated with social capital. Although informal costs are linked to activities that are not formally visible, they still include cost (Marmaros and Sacerdote, 2006). Informal networks take financial resources, individual effort and time, and can consume immense resources overall (De Soto, 1989: 131).

Network size is a good starting point in considering informal networking costs. Several entrepreneurs we interviewed noted the importance of large informal networks for their business. Some concluded that "the larger [the network] is, the more successful you are." This fits with the conventional finding that the larger networks are more costly to maintain and expand (Henning et al., 2012). Although we do not preclude the possibility of this linear relationship, we crosscheck the association between size and cost variables. We deem this necessary because the relationship between network size and cost depends considerably on the context. Belonging to an exclusive

club, for example going golfing, hunting, belonging to an informal CEO club, or engaging in mutual hospitality, could be very costly for an individual. The cost of a membership in a circle pays for the privilege of maintaining an informal network with those who can afford it. Thus, small does not automatically mean cheap. In addition, the centrality of the network, and one's role in it (patron, client, broker, a member of a core or periphery), is also an important factor that affects the non-linearity of size and cost. Literature also proposes that factors such as diversity of networks caninfluence informal costs (Marmaros & Sacerdote, 2006; Silk, 2003). Variation in race or ethnicity or homogeneity of networks based on family and friends might have opposite effects on the costs: these could be higher for more diverse networks and lower for the more homogeneous ones. In line with these arguments, the type of network and one's position in it, as well as the network position in the society might all constitute factors determining the costs (Marmaros & Sacerdote, 2006; Silk, 2003). This leads us to test the economic status of respondents and the related economic position of their networks for relevance in our analysis. And finally, the individual predisposition for networking, perception of the importance of networking and the willingness to engage in reciprocal exchanges are also to be taken into account. Since all these parameters of networking should be explored, a simple model with causal linear or non-linear relationships would not be able to capture the complexity of relationships between these variables. Instead, we need a system of equations related to informal networking to come closer to the complex realities that we want to analyse.

In our model, we make provisions for both monetary and non-articulated types of costs, making them standardized and comparable. We use monetary costs as a proxy (for example for the cost of

time) so that non-monetary costs and characteristics can be assessed. Our intention is not to provide a precise calculation of these costs, but to offer a useful numerical representation for them.

4. Survey data on informal networking and descriptive statistics of variables

We analyse data[2] collected in six WB countries: Albania (Alb), Bosnia and Herzegovina (BiH), Kosovo (Kos), Macedonia (Mac), Montenegro (Mng), and Serbia (Srb) over the period March – June 2017. To collect this data, a multi-stage random (probability) sampling methodology was used to ensure representative samples. In every household, the "closest birthday" rule was applied to select respondents, while every subsequent address was determined by the standard "random route" procedure. The survey was implemented by a professional research agency operating in all WB countries and implementing simultaneously the survey in the whole region. The dataset comprises 6,040 respondents from these countries, or around 1,000 observations per country. The survey covers a variety of topics related to formal and informal institutions and practices in the countries of WB, including relevant questions about informal networking and associated costs.

We use the terminology as follows: the 'costs' of informal networking is an aggregate variable for costs in money (resources) and costs in time (lost opportunities), direct and indirect, measurable and immeasurable. 'Parameters' of networks are their characteristics – size, strength of ties, centrality, diversity etc., each of which constitutes a 'factor', if found significant. Parameters of networks are 'objective' and 'subjective'. The objective characteristics are measurable and not changeable in a short run. Subjective characteristics are less measurable, based on perception of

[2] This study relies on primary data specifically gathered as part of the INFORM project. INFORM is an EU Horizon 2020 project, which aims to conduct multidisciplinary research on formal and informal institutions in the Balkans.

the importance of networks (on the meso-level) and individual predisposition for networking (on the micro-level), both contributing to the perception of the importance of networks and towards trust in informal institutions.

A descriptive statistic of relevant variables used in empirical modelling is presented in Table 1, and the supporting explanation of these variables is reported in the next section. With regard the costs of informal networking we asked respondents the following two questions:

> Over a typical week, how many hours do you spend in contacts with your relatives (outside your household), friends, neighbours, professional and business colleagues, and acquaintances through face-to-face meeting and other means of communication (e.g. chat, talks, lunch, coffee, party, Skype, Viber, etc.)? Responses: 1 – 2 hours; 3 -5 hours; 6 – 10 hours; 11 - 20 hours; more than 20 hours; I cannot estimate.
>
> and
>
> Over a typical week, what is an approximate amount of money you spend with these people (e.g. gifts, coffees, meals, party, internet, phone, transportation, hosting people at home, preparing meals, etc.)? Responses: No money at all; up to 10 EUR; from 11 to 20 EUR; from 21 to 50 EUR; from 51 to 100 EUR; more than 100 EUR; I cannot estimate.

These questions were asked in the local language in all WB countries respecting the language specifics. The term "informal networking" was not used directly in these questions to avoid confusion over its meaning. The formulation of these questions was checked in our piloting procedure in all WB countries, with subsequent modifications after the pilot. Pilot interviews have

highlighted the importance of informal networking in the region. References to ‘one’s own people’, like in the following quote, have been supported by the survey-based data on the use of contacts on getting things done:

> I was educated in the USA, and when I came back here I tried to do everything by the book…. This was the case until several years ago when I realized how our system is functioning, and that it was better for me to start socializing and networking more to find my ‘own people’. I could not progress without them. So, Yes. Some informal networks are built. (CRO_2)

Theoretically, the use of informal networks serves both social and instrumental purposes, and these dimensions are captured in these questions. If we could distinguish between the sociability and instrumentality in informal networking, we could adjust the existing policy approaches towards informality accordingly. However, this is barely feasible, and as pointed out by one of entrepreneurs in our sample: “When you are meeting other businessmen, you never know if you are having a break or doing business”. Some two and a half centuries ago Adam Smith made a similar conclusion: “People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in conspiracy against the public, or in some contrivance to rise prices” (n.d. [1776]: paragraph 27). Keeping in mind this complexity, our approach seems to offer the best instrument for the direct observations of these costs.

Following good research practice, we give the detailed descriptive statistics for the variables used in the empirical modelling, including correlations between them, in Appendix 1.

Table 1. Descriptive statistics for variables used in modelling – full sample by country

VARIABLE	No of obs.	WB mean	Alb* mean	BiH* Mean	Kos* mean	Mac* Mean	Mng* mean	Srb* mean
moneyeurppp (weeky cost of networking, money, ppp Eur)	4,792	10.25	10.86	8.81	14.20	8.58	13.89	7.48
timemoney_inppp (weeky cost of networking, time, ppp Eur)	3,549	13.59	9.83	14.80	21.04	11.86	14.00	12.40
costppp_in *(weekly informal costs of networking, PPP)*	3,226	22.8	21.4	21.2	34.4	20.3	31.1	18.3
netsize *(size of the informal networks)*	6,040	13.40	7.55	14.71	9.10	16.00	18.58	14.24
strongnet *(1=strong ties; 0=weak ties members)*	6,040	0.87	0.90	0.85	0.75	0.88	0.94	0.92
pincome *(continuous income 1-9, n.a. excluded)*	4,341	2.89	2.35	2.64	3.12	2.97	3.54	2.88
income_1 *(1=income is up to 100 Euro; 0=other)*	6,040	0.16	0.25	0.20	0.18	0.12	0.08	0.13
income_2 *(1=income is 101-200 Euro; 0=other)*	6,040	0.18	0.29	0.16	0.13	0.21	0.16	0.17
income_3 *(1=income is 301-400 Euro; 0=other)*	6,040	0.15	0.14	0.11	0.12	0.21	0.17	0.17
income_4 *(1=income is 401-500 Euro; 0=other)*	6,040	0.10	0.06	0.07	0.10	0.10	0.17	0.12
income_5 *(1=income is 501-750 Euro; 0=other)*	6,040	0.07	0.04	0.05	0.11	0.07	0.12	0.04
income_6 *(1=income is 751-1,000 Euro; 0=other)*	6,040	0.03	0.02	0.03	0.05	0.03	0.07	0.02
income_7 *(1=income is 1,001-1,500 Euro; 0=other)*	6,040	0.02	0.01	0.01	0.02	0.02	0.02	0.02
income_8 *(1=income is 201-300 Euro; 0=other)*	6,040	0.00	0.00	0.00	0.01	0.00	0.00	0.00
income_9 *(1=income is over 1,500 Euro; 0=other)*	6,040	0.00	0.00	0.00	0.00	0.00	0.00	0.00
income_na *(no response)*	6,040	0.28	0.17	0.37	0.29	0.24	0.21	0.34
age *(age of the respondents in years)*	6,040	46.53	44.81	48.05	40.73	49.54	44.11	50.06
urban *(1=urban area; 0=other)*	6,040	0.53	0.51	0.47	0.43	0.60	0.62	0.55
female *(1=female; 0=male)*	6,040	0.55	0.56	0.56	0.52	0.56	0.54	0.55
marr_married (B) (1=married; 0=other family status)	6,040	0.58	0.67	0.54	0.60	0.67	0.55	0.48
marr_single (1=single; 0=other family status)	6,040	0.24	0.22	0.25	0.31	0.15	0.28	0.22
marr_cohab (1=cohabitation; 0=other family status)	6,040	0.02	0.02	0.01	0.01	0.02	0.02	0.04
marr_divorced (1=divorced; 0=other family status)	6,040	0.04	0.03	0.04	0.00	0.03	0.06	0.09
marr_widow (1=widow; 0=other family status)	6,040	0.11	0.07	0.15	0.06	0.12	0.08	0.14
int_nouse (B) (1=do not use internet; 0=other internet use)	6,040	0.30	0.33	0.34	0.13	0.35	0.24	0.38
int_often	6,040	0.14	0.20	0.11	0.13	0.13	0.13	0.14

(1= use internet often; 0=other internet use)								
int_daily (1=use internet daily; 0=other internet use)	6,040	0.54	0.46	0.52	0.71	0.50	0.62	0.48
alb *(1=Albania; 0=other WB country)*	6,040	0.15	1.00	0.00	0.00	0.00	0.00	0.00
bih (*1=Bosnia and Herz.; 0=other WB country)*	6,040	0.21	0.00	1.00	0.00	0.00	0.00	0.00
kos (B) *(1=Kosovo; 0=other WB country)*	6,040	0.15	0.00	0.00	1.00	0.00	0.00	0.00
mac *(1=Macedonia; 0=other WB country)*	6,040	0.17	0.00	0.00	0.00	1.00	0.00	0.00
mng *(1=Montenegro; 0=other WB country)*	6,040	0.13	0.00	0.00	0.00	0.00	1.00	0.00
srb *(1=Serbia; 0=other WB country)*	6,040	0.19	0.00	0.00	0.00	0.00	0.00	1.00
netimp *(Importance of networking:1=min to 10=max*	5,894	7.12	7.21	7.15	7.74	6.84	7.00	6.87
reciprocity *(readiness for reciprocity: 1=min to 10=max)*	5,898	7.39	6.84	7.67	7.68	6.80	7.55	7.73
netwper *(factor variable, netimp and reciprocity)*	5,837	7.27	7.02	7.41	7.73	6.84	7.28	7.31
gentrust *(General trust in people: 1=min to 10=max)*	5,961	3.41	3.81	3.36	3.36	2.93	3.46	3.59
insttrust *(Trust in instituitons:1=min to 10=max)*	5,876	4.25	4.70	3.54	4.40	3.67	4.88	4.61
educ_elem (B) (1=elementary education; 0=other education)	6,040	0.25	0.26	0.26	0.29	0.33	0.14	0.22
educ_second (1=secondary education; 0=other education)	6,040	0.52	0.46	0.56	0.44	0.46	0.62	0.59
educ_univer (1=university education; 0=other education)	6,040	0.19	0.21	0.16	0.23	0.18	0.22	0.18
educ_mscphd (1=postgraduate education; 0=other)	6,040	0.03	0.07	0.02	0.03	0.03	0.02	0.02
(B) refers to the base or omitted category in the estimated models (Table 2). For space reason, we omit do not know dummies. * alb-refers to Abania; bih-Bosnia and Herzegovina; kos-Kosovo; mac-Macedonia; mng-Montenegro; srb-Serbia.								

One of the challenges that we face with the available data is a high percentage of missing observations for the cost of networking variable (47%). This is an aggregated variable which integrates the estimated costs of time, the estimated costs of money, and the personal income variable used to standardize the costs of time. Hence, it integrates these missing responses into a new aggregated variable. As the missing data comes from three different types of questions, we

assume that these responses are missing randomly and that our inference remains valid. Despite such exogenous limitations in the data set, we rely on the effective sample of over 3,000 observations and consider it sufficient for our purpose.

5. Measuring informal networking in WB region: empirical evidence and levels of analysis

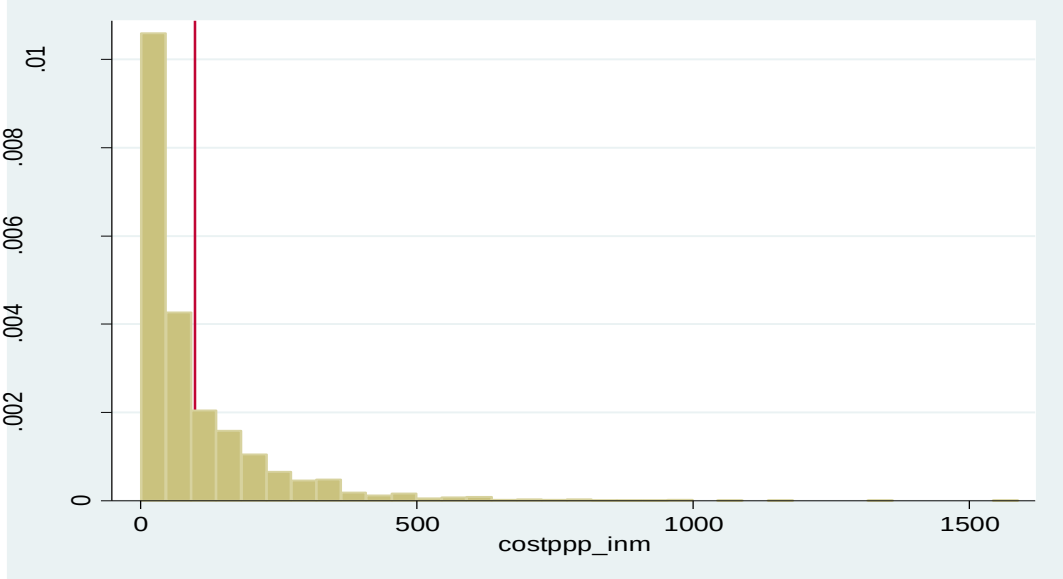
The dependent and independent variables

The main innovation of our study is our intention to provide an estimate of *the cost of informal networking*. We focus on two main types of informal networking cost – the costs of money (resources) and costs of time (lost opportunities). Our dataset contains information on both types of costs - estimates of time and money spent on informal networking by our respondents in WB region. To estimate of money invested into informal networking over a typical week, we asked the respondents to assess their expenses on a nine category scale: 1) 0 euro; 2) 1-10 euro; 3) 11-20 euro; …; 9) over 100 euro. We use the mean value of the scale to calculate the average amount of money invested by every individual[3]. The calculation of the time spent on informal networking is also based on a weekly scale: 1) 1-2 hours; 2) 3-5 hours; 3) 6-10 hours; 4) 11-20 hours; 5) over 20 hours[4.] Following the same procedure, we use the mean value of the scale to calculate the average time spent in networking over a typical week by every individual. In the next stage, we monetize the costs of time by calculating the average value of a working hour (euros) for every individual based on the information on their net monthly earning[5]. The advantage of this approach is that it produces more accurate estimates, since we also have a question on their total income, from both formal and informal sources. To check the data reliability, we carry out the same procedure on the average gross salaries sourced from the country level official statistics (and with higher level of aggregation). The results suggested 30% higher costs, as expected, since the taxes were a part of

[3] For the last category, which is open (over 100 Euro), we use 150 Euro as the mean value.
[4] For the last category, which is open (over 20 hours), we use 30 hours as the mean value.
[5] Question: What is your monthly income (including all sources): *income_1*: up to 100 Euro*; income_2*: 101-200 Euro; *income_3*: 201-300 … to the highest income category, *income_9*: over 1,500 Euro.

this calculation. In the next stage, we multiply this hourly rate by the number of reported hours spent on informal networking for every individual. After this transformation, we summarize the estimated costs of money and time expressed in euros. In the final step, we use purchasing power parity (PPP) indices to equalize the monetary costs between different countries in the WB region and aggregate them to monthly totals. The estimated (aggregated) costs per month across the WB region (*costppp_inm*) are reported in Figure 1.

Figure 1. The total costs of informal networking (monthly estimate, euro) in WB



Our survey data suggests that, on average, individuals in the WB region spend around 10 hours of their time on informal networking and around 11 euros per week for gifts, coffee, meals, parties and other related costs. The total informal networking cost, the costs of time and money standardized by the PPP index, is around 23 Euro per week, on average, and if aggregated at the monthly level, around 100 euros (red line on Figure 1). This means that the estimated (opportunity)

costs of time are greater than the reported monetary costs. Comparing the total cost among countries, the highest monthly level is reported for Kosovo (150 euros, average net earnings reported in our dataset for Kosovo is 270 euros), the lowest one in Serbia and Macedonia (80 and 85 Euro, average net earnings reported for these two countries are 240 and 250 euros respectively), while the other countries fall closer to the average.

The next relevant variable of informal networking system that we consider is the *size of networks* (*netsize*), which is the number of people reported to be members of respondents' networks (the average network size in the sample is 13 members). Assuming the informal networking is not free, an increase in the number of members in a network could be associated with a higher total cost of networking. The pairwise correlation between the two variables – the cost and size of the networks – is indeed positive (0.09) and statistically significant (p-value=0.000). Accordingly, we expect that the larger network size is associated with higher informal networking cost.

With respect to the network characteristics, we find *the composition of the networks* to be relevant for the cost of informal networking. Following examples from the literature (Efendic et al., 2015; Rebmann et al., 2017), we ask respondents about people in their network that they can rely if they need help, and distinguish between strong network members (cousins, friends, and godfathers) and weak ties (other more distant members of the network). The strong ties dominate in the WB region (*strongnet*), with 87% of respondents reporting their reliance on them. Accordingly, we control for whether the structure of personal networks based on this differentiation is associated with the total cost of networking.

It is essential to include in the next step the availability of financial resources to individuals into the analysis, i.e. *economic positions of the individuals and their networks in the society*. We do so by controlling the individual economic performance measured by their total monthly income. We argue that the individual income level captures the economic positions of individuals in these societies, hence, very likely, the economic status of their informal networks. We control for the income status of respondents which includes nine income categories: starting from low income categories *income_1*: up to 100 euro*; income_2*: 101-200 Euro; … to the highest income category, *income_9*: over 1,500 euro. We expect that lower income categories will be associated with lower cost of informal networking; and higher income categories with higher costs. Empirically, we use this indicator as a continuous variable for ease of interpretation (*pincome*). The scale is evenly distributed for the first five categories which capture 92% of observations, while the remaining categories have an increasing scale, but they account for less than 8% of observations. If we exclude these categories we arrive at the same conclusions.

The income-related variable is also relevant in distinguishing whether the networking cost is independent of economic influences, or rather linked to sociability, defined by tradition, culture, religion and other individual or societal factors.

Our approach relates the system of informal networking to *individual predispositions for networking*. First, we include the individual's assessment of the importance of having large networks for their everyday life, expecting that the individuals perceiving networking as more important will have greater predispositions to engage in growing their networks. For this, we rely on a variable that measures how respondents perceive the importance (1-min to 10-max) of

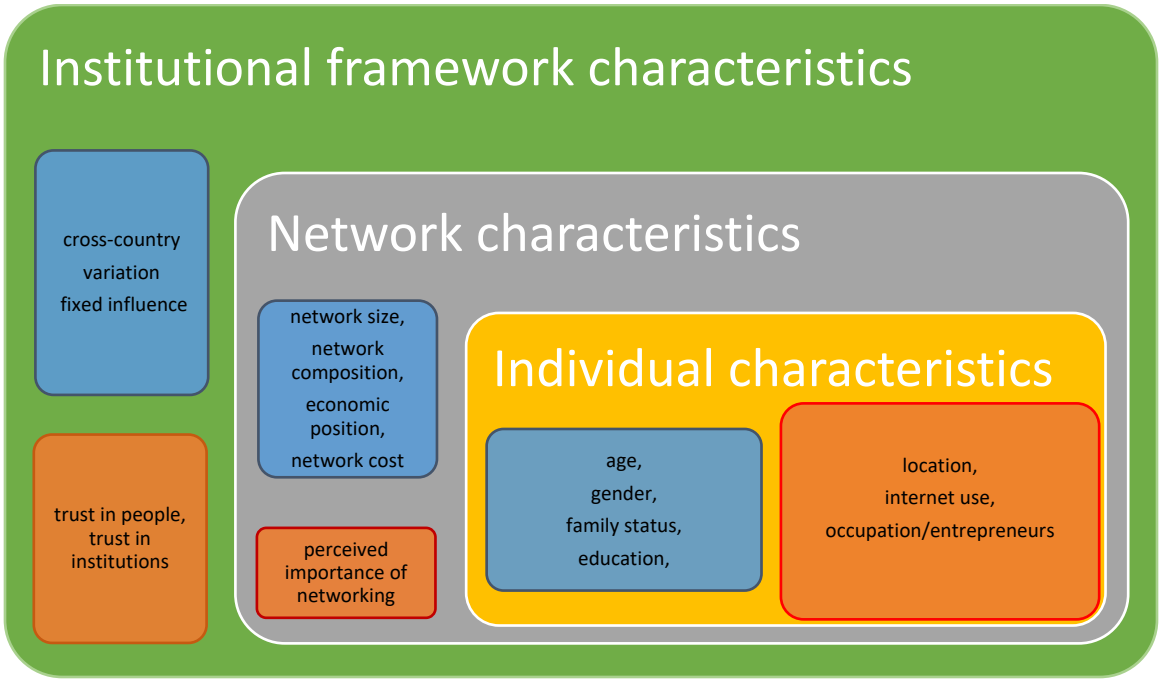
networking in their society (*netimp*)[6]. The average response in the sample is 7.1, suggesting high predispositions for networking, with little variation between the observed WB countries (all located in the range 6.8 to 7.7). Next, as informal networking includes reciprocity and the exchange of favours, we assume that the individuals keener to be involved in reciprocity will be also keener to build larger networks. Accordingly, our next variable (*reciprocity*) measures a strength of readiness for reciprocity (1-min to 10-max), with an average of 7.4, confirming a high desire for reciprocity in the WB region[7]. This norm of reciprocity might influence network size, as exchange of favours grows with the number of participants in the network, without direct effect on the total costs. A factor analysis reveals that these two variables (*netimp* and *reciprocity*) provide similar information and can be combined into a single variable capturing an aggregated *individual predisposition for networking (netwper).* We use this variable in our final model.

The challenge now is to establish potential relationships between informal networking cost and other informal networking influences discussed in this section. While there is a lack of clear theoretical guides for such a model, we follow our theoretical underpinnings to establish a system of equations linked to informal networking with causal relationships. We argue that the parameters of informal networking – size, type, costs, economic position and individual predispositions for networking – constitute a system, whereby they are determined by exogenous factors. Moreover, we argue that this system contains three levels of influences – macro-level with the institutional environment, meso-level with network characteristics, and micro-level with individual influences.

[6] Original question is: On the scale from 1 to 10 please rate how important is to you to have a large number of people that you can rely on. 1 means not important at all, 10 means very important. You can choose any number in the scale.
[7] Original question is: On the scale from 1 to 10 please rate how ready you are to return a favor to someone who helped you. 1 means that it depends on many aspects and 10 that you are unconditionally ready to return a favor. You can choose any number in the scale.

These three levels contain determinants which might be referred to as "objective" and "subjective" (see Figure 2). The objective characteristics are those independent of individual choices in the short run (in blue), while subjective characteristics depend on individual choices (in red). The blue "objective" influences that can be treated as given. In the institutional environment, they includes cross-country influences (i.e. country of residence). At the network level they contain network size, structure, economic position of network and network costs. At the individual level they capture personal characteristics such as age, gender, family status and the achieved level of education.

Figure 2. The three-level model of factors associated to the cost of informal networking



Source: authors

The red boxes in this system contain "subjective" variables at institutional level (trust in contacts and institutions), network level (individual incentives for networking), and individual level (location, entrepreneurial status and internet use). We argue that, taken together, these combined factors reflect individual perceptions, experiences, and attitudes.

The objective and subjective characteristics at these three levels are the independent variables in our study. The dependent variables are those five network characteristics - size, structure, costs, economic position and individual predispositions for networking – and they are influenced by the independent variables at all three levels. The model presented above allows for factoring in the unobserved influences.

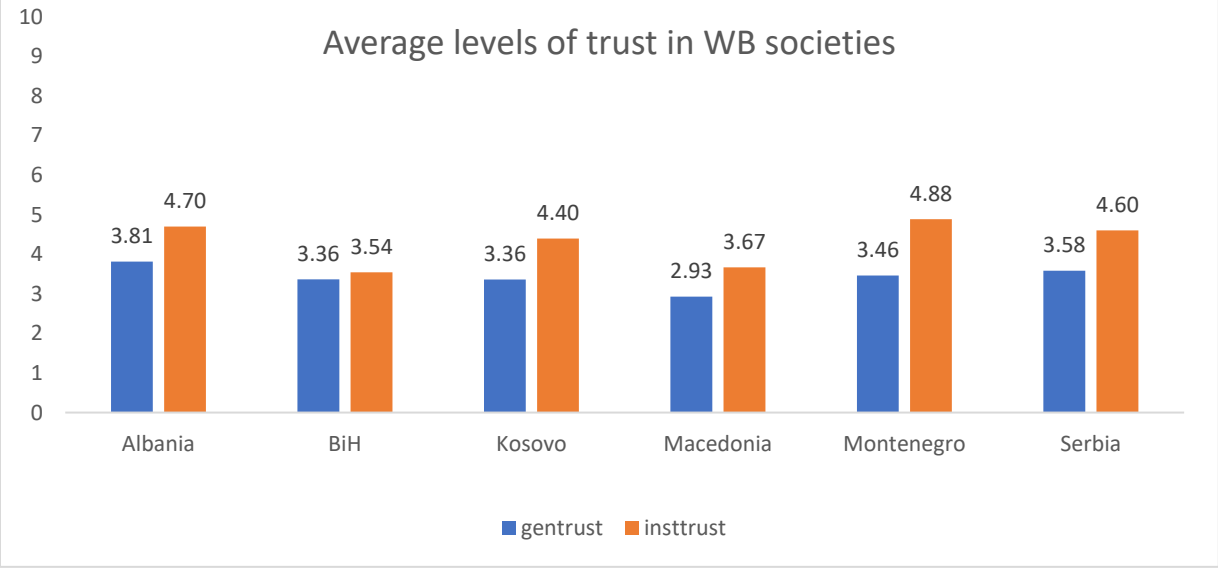
Institutional environment – macro influences

Starting from the institutional environment influences, we control the cross-country effect, as our sample contains countries with different levels of economic and institutional environments. We include five dummy variables to code five WB countries (Albania, Bosnia and Herzegovina, Macedonia, Montenegro, and Serbia, denoted as *alb*, *bih*, *mac*, *mng*, *srb* respectively) with Kosovo (*kos*) as the base (omitted) category. These variables capture the macro-level objectives and specific influences (e.g. institutional and EU integration performance differences) and their effect on the informal networking.

In addition, networking is generally linked to trust, both 'personalised' trust in the network of people and 'impersonal' trust in formal institutions. To some extent, these two types of trust reflect

outcomes of the formal and informal institutional environment of a country. The result of the (subjective) questions with a scale of 1-minimum to 10-maximum, yield an average of 3.4 and 4.2 for personalized and impersonal trust respectively, suggestion that the WB region is a low-trust environment, for both formal and informal institutions (see Figure 3). The personalized trust is assessed with a slightly lower score. As networks mainly links trusted individuals in untrustworthy institutional environments, we expect that higher general trust in people (*gentrust*) has a positive effect on networking. In line with our theoretical discussion, we predict that a higher institutional trust might have a reverse (negative) relationship with the formation and expansion of networks. As informal networks are used most frequently to offset the defects of formal institutions, a greater trust in formal institutions (*insttrust*) could decrease incentives to expand informal networks.

Figure 3. The levels of generalised and institutional trust in WB region[8] (1-min to 10 max)



[8] Generalized trust is based on the question: Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people [you can choose any number in the scale from 1 to 10] Institutional trust is based on the question: Based in your own experience, what is your trust in state institutions in our country (like courts, police, or government).

Individual characteristics - micro influences

Our model also includes a set of individual characteristics that we treat as "objective", which is standard practice in modelling informal networking (e.g. Efendic, 2010). We control for the urban or rural area of living (*urban*) with the expectation that urban areas with more developed public and institutional infrastructure will be systematically linked with more informal networking. As mentioned earlier, different categories of population might use informal networks differently, with a general expectation that entrepreneurs will have stronger incentives to build informal networks. Thus, we include a variable capturing the entrepreneurial status of respondents (*entr*).

The development of information technologies have made communication easier, more efficient, and networking cheaper. To capture this potential effect, we rely on a variable measuring how frequently respondents use the internet, ranging between 1 – "every day" to 6 – "do not use it at all". This variable should also capture the internet literacy and reliance of respondents on internet services. 30% of respondents in the region do not use the internet at all (*int_nouse*), while 50% use it every day (*int_daily*); and the remaining responses fall in between (*int_often*). One can expect that this variable is highly correlated with the age and education of individuals, which are also part of the model. However, upon checking we find that the frequency of internet use is not highly correlated (the rule of thumb is 0.7) either with age or education of individuals (the coefficients of pairwise or tetrachoric correlations do not exceed 0.6 in either combination). We therefore leave this variable as part of our model specification.

We also control for the effect of other individual and "objective" variables, including age (*age*), gender (*female*), family status (married vs. *other, marr_single, marr_cohab, marr_widow*), and a

set of variables capturing different categories of education (elementary, secondary, university, and postgraduate level denoted as *educ_elem, educ_second, educ_univer, educ_mscphd* respectively).

Network characteristics – meso influences

The five dependent variables linked to different parameters of informal networks include network size (*netsize*), structure (*strongnet*), costs (*lncostppp_in*), economic position (*pincome*) and individual incentives for networking (*netwper*). We use a logarithmic transformation of the informal networking cost variable (*lncostppp_in*) to reduce the skewness of the original variable (Appendix 1). The system of informal networking equations is estimated as seemingly unrelated endogenous model, which is implemented by *sureg* (Baum et al., 2007) method of estimation and Stata 14 econometric software. This approach doesn't control for endogeneity. This means that there still could be unobserved factors that affect our dependent variables, and measurement errors, but the approach accounts for non-independence of equations.

Our regression model is a joint estimate of five regression models, each with its own error term. These five network parameters constituting our informal networking model are likely to be correlated. Indeed, the correlation matrix of the residuals between informal networking equations which compose our system of equations does confirm this expectation. The results are reported in Table 2.

Table 2. The correlation matrix of the residuals between informal network equations

	netsize	*strongnet*	*netwper*	*pincome*	*ln costppp*
netsize	1				
strongnet	0.137	1			
netwper	0.133	0.164	1		
pincome	0.037	0.014	-0.005	1	
lncostppp in	0.085	0.134	0.118	0.455	1
Breusch-Pagan test of independence: chi2(10)=422.167 Pr = 0.0000					
Source: Authors					

The Breusch-Pagan test of independence equations (H0: equations are independent) suggests that we can reject the null hypothesis at the highest conventional level, which means we can estimate this model as a system of equations instead as a set of five separate models. If we look the correlations between the informal costs and other network characteristics, we obtain positive associations ranging around 0.09-0.45. This implies that higher informal costs are associated with larger informal networks, with stronger networks, with respondents perceiving networking as important, and with a higher economic status. The highest coefficient for economic status suggests that individuals with higher incomes can afford higher informal costs (the part of costs covered by spending money, not necessarily by time).

Table 3. Models of informal networking - the five-pronged model of informal networking

	Lncostpp (Model 1)		*Netsize (Model 2)*		*Strongnet (Model 3)*		*Netwper (Model 4)*		*Pincome (Model 5)*	
VARIABLES	**Coeff.**	**p-value**	**Coeff.**	**p-value**	**Coeff.**	**p-value**	**Coeff.**	**p-value**	**Coeff.**	**p-value**
age	0.00	0.061	0.06	0.107	0.0	0.661	0.00	0.795	0.00	0.087
female	-0.41	0.000	-2.63	0.006	0.00	0.941	-0.07	0.415	-0.52	0.000
urban	0.16	0.000	-1.10	0.249	-0.02	0.113	-0.05	0.562	0.18	0.001
entr	0.45	0.000	2.53	0.245	0.02	0.489	0.27	0.164	0.50	0.000
Marital status										
marr_single	0.11	0.087	-1.63	0.233	-0.01	0.383	-0.14	0.267	-0.51	0.000
marr_cohab	0.26	0.121	-2.95	0.387	0.03	0.422	-0.28	0.366	0.04	0.827
marr_divorced	-0.07	0.486	-4.40	0.048	-0.07	0.006	-0.21	0.301	0.00	0.973
marr_widow	-0.02	0.785	0.80	0.620	-0.02	0.382	-0.01	0.972	-0.05	0.554
marr_naother	-0.05	0.879	9.33	0.188	-0.01	0.927	-0.08	0.900	-0.71	0.064
Education										
educ_second	0.47	0.000	3.22	0.008	0.02	0.156	0.14	0.193	0.53	0.000
educ_univer	0.83	0.000	4.66	0.002	0.03	0.047	0.04	0.787	1.38	0.000
educ_mscphd	1.03	0.000	4.76	0.097	0.04	0.177	0.65	0.011	1.87	0.000
educ_na	-1.05	0.224	-11.71	0.514	0.12	0.546	-3.27	0.043	-0.36	0.713
Internet usage										
int_often	0.22	0.003	0.29	0.852	0.03	0.060	-0.03	0.841	0.34	0.000
int_daily	0.55	0.000	2.90	0.039	0.04	0.023	0.11	0.395	0.53	0.000
int_na	0.07	0.777	-2.40	0.654	-0.04	0.539	-0.59	0.221	0.39	0.174
Trust										
gentrust	0.05	0.000	0.37	0.062	0.01	0.012	0.03	0.074	0.03	0.011
insttrust	0.02	0.032	-0.04	0.846	0.00	0.059	0.01	0.435	-0.001	0.951
Countries										
alb	-0.26	0.001	-2.16	0.190	0.12	0.000	-1.18	0.000	-0.70	0.000
bih	-0.21	0.010	4.02	0.019	0.10	0.000	-0.41	0.009	-0.34	0.000
mac	-0.19	0.019	6.16	0.000	0.14	0.000	-0.66	0.000	-0.10	0.266
mng	-0.19	0.030	7.06	0.000	0.16	0.000	-0.37	0.024	0.30	0.002

srb	-0.19	0.423	-2.16	0.190	0.12	0.000	-1.18	0.000	-0.70	0.000
_cons	1.78	0.000	4.02	0.007	0.10	0.000	-0.41	0.009	-0.34	0.000
R-squared	0.23			0.03	0.04		0.03		0.25	
No. of observ.	3,151									
The base categories are explained in Table 1 and they include the following variables: *marr_married* (1=married; 0=other family status); *int_nouse* (1=do not use internet; 0=other internet use); *educ_elem* (1=elementary education; 0=other education); *kos* (*1=Kosovo; 0=other WB country).*										

Our Model 1 shows the total cost of informal networking. The institutional influences which belong to our subjective measures, show a positive effect of personal and impersonal types of trust on the total cost of informal networking. The estimated coefficients imply that an increase in trust in people by 10% (increase in one unit on 10 point scale) is associated with 5% higher cost, while the effect of institutional trust is 2%. This suggest that informal networking depends more on the trust in people. In all five models that compose the system of equations, the general trust in people is consistently positive and statistically significant (or very close to be significant at the 5% conventional level), which is not the case for institutional trust. As informal networking is implemented more in contacts with people than with institutions, this result is not surprising.

The cross-country effects (country dummies) are mostly statistically significant and quantitatively large in their magnitudes. Apart from Serbia, all countries have around 20% lower informal networking cost in comparison to Kosovo. This finding reflects the formal institutional efficiency and EU integration status of these WB countries, where Kosovo scores the lowest, although the pattern for other countries is not that clear.

Among the micro-level influences, we find that "objective" individual factors are relevant determinants in explaining informal networking cost. Older individuals, men and single in comparison to married or with other family statuses, report systematically higher cost of informal networking. For example, the informal networking costs for men is 41% higher than for women, which suggest that informal networking is gendered.

The variables that can be interpreted as opportunity costs of engaging in networking while engaged in something else (i.e. being a by-product of everyday activities) are significant. Location, education and internet use have a significant influence. Urban respondents face 16% higher informal costs than those from rural areas; respondents with higher education report higher costs of informal networking; and so do frequent internet users. The level of education provides a consistent effect on the informal networking cost: the effect is positive, statically significant at the highest level, and it systematically increases with higher levels.

Entrepreneurial status has the highest effect in the model. Entrepreneurs report 45% higher informal networking costs than do the non-entrepreneurs. This large effect implies that individuals operating in the business sector invest much more money and time into informal networking than other citizens. Indeed, their network size is around 30% higher than the network size of others, while many entrepreneur report themselves that they "invest" more money into networking (INFORM, 2017). This finding again indicates that informal networking is likely to be driven by economic, rather than by traditional, cultural or societal influences.

Our network size model (Model 2) finds that larger networks are associate with male respondents, with higher levels of education and frequency of internet use, and with greater trust in people. These results support expectations and finding from the similar literature from the region (Efendic et al., 2015, 2017; Rebmann et al., 2017).

The network structure model (Model 3) reports that higher level of education, higher trust in people and institutions, and higher frequency of internet use are important factors supporting for larger networks with stronger ties among members. The dominance (87%) of strong ties is striking but it is in line with a very low trust in people reported earlier. It is also surprising to find that higher level of education does not support weaker ties in networks, but rather remain based on close family contacts. This finding can be interpreted as representative of the powerful grip of kinship that enables economic exchanges but also has a lock-in effect for the size of network.

The model explaining network importance for individuals (Model 4) suggests that individuals with the highest levels of education, i.e. those with MSc and PhD degrees, and those with greater trust in people, consider informal networking most important. Interestingly, higher level of education goes hand in hand with the perception of importance, and the use of networking (Model 2), as well as with higher level of investment into informal networking (Model 1). This result is fully consistent with the previous findings. It confirms the importance of informal networking in the Western Balkan region for even the most educated individuals.

The economic status model (Model 5) suggests that higher levels of income is associated with older individuals, men, married respondents, living in urban areas, of higher education, more

frequent use of internet, greater trust in people, and finally, with entrepreneurial status. These results can be seen also as an important robustness test; they report conventional economic effects of all these determinants on personal income. The cross-country effects are relevant in most cases and important to be included, however, we do not comment further on these influences as it exceeds the scope of our interest.

As an additional robustness check we investigate the non-linear effect of age. This effect is significant for the income equation only (if age squared term is included in all regressions), suggesting that older respondents have a higher income. As this non-linear effect is not significant in other equations, it is not included in the final model. The other results remain consistent. We also exclude potential outliers from the dependent variable (i.e. those reported their costs over 100 euro per week, around 5% of respondents), with the results retaining very similar estimated correlations between equations, estimated coefficients and their signs, magnitudes and significance for the separate equations.

Finally, we have estimated the preferred model for individual WB countries and examined the equation with informal networking costs (Appendix 2). In general, we find consistent results for majority of influences. In particular, the positive effects of higher education and personal trust on informal networking costs is fully consistent for all countries in the region. A positive influence of daily use of internet and gender also applies to all countries, while these influences are imprecisely measured only for Kosovo. As the only noteworthy difference, we identify that age has an opposite effect in Montenegro – younger respondents report higher informal networking costs.

Summary

An assessment of the controlled factors in our models composing our informal networking system can be expressed in the following conclusions. First, subjective macro influences are relevant - general trust in people is a determinant that comes as statistically significant factor (10% or lower) in all models. All considered parameters of informal networking are determined by general trust in people, i.e. all informalities linked to our system are enhanced if trust in people is higher, and more frequently than trust in institutions. Second, most cases show also significant effect of education. Higher level of education does not reduce informal networking – including perception of importance, size or costs – to the contrary, more educated individuals seem to recognize the benefits of informal networking in these societies and invest their effort, time, and money. Third, online communication, which reduces costs of communication and enhances possibilities for more frequent and distant communication, has a stimulating effect on informal networking size, but is interestingly not associated with reduced costs of informal networking. While individuals can spend less money for communication, they might spend more time and our calculations take this into account. The net effect on the overall informal networking costs is positive. Fourth, the informal networking in WB region is gendered – men are building larger informal networks, have higher income and also face higher costs of informal networking. The fifth worthy finding is that entrepreneurs report systematically larger informal networks and higher informal networking costs than ordinary people, which is often categorized by them as an investment. Finally, the cross-country influences, capturing economic and institutional developments in the model, have quantitatively the largest effect, and hence, from a policy perspective, are particularly relevant to

consider. Overall, there is a very strong indication that WB countries which are more successful institutionally and in the EU integration, report higher incomes and lower costs of informal networking, while they still rely on informal networking, perceive it as important and desire stronger ties with network members

6. Conclusion

The study investigates informal networking in the Western Balkans (WB) through five relevant parameters – informal networking size, structure, related cost (money and time), economic position of individuals and individual perception on networking importance - and two factors of influence, objective (institutional environment) and subjective (individual characteristics). The empirical analysis is based on quantitative data obtained from a regional WB survey, implemented in six countries, namely, Albania, Bosnia and Herzegovina, Kosovo, Macedonia, Montenegro and Serbia. Our investigation reveals that informal networking is widely used in all WB countries, although more among entrepreneurs than ordinary people. On average, household members report spending around 100 euros (including the costs of resources and time) per month. There is a strong indication that the "opportunity costs" of time invested into informal networking are larger than the real costs claimed to be spent on networking. Informality is associated with significant indirect costs, which are not always visible, but are taken into account.

We analyse informal networking empirically in a system of equations with network parameters including network size, structure, costs, economic positions and perception of networking importance as explained variables. These informal networking parameters are part of a joint system

of influences, mutually related and affected by similar determinants. We find that the larger costs of informal networking are associated with larger informal networks, with stronger network ties, when respondents perceive networking as more important, and when they have a higher economic status. In addition, higher informal networking costs are higher among men than women, higher for single than married respondents, higher in urban areas, among more education people, more frequent internet users, and finally, substantially higher among entrepreneurs than non-entrepreneurs. These findings imply that informal costs are non-trivial, individuals who are involved into informal networking do so at a high price, and do more if they are more educated or entrepreneurs, hence very likely not as their cultural or traditional predisposition.

As the key policy implication we recognize that individuals in WB region who invest (resources and time) into informal networking do so at a high cost, in order to gain economic benefits while also following cultural or traditional preferences. To decrease these costs, more efficient formal institutional environments and better performance in the EU integration perspectives of WB societies are necessary, especially when it is possible to create alternative routes for the instrumental use of informal networks. Given the ambivalent nature of informal networking – social yet also instrumental – further research and qualitative study of informal networking is needed to identify policy measures that could affect the pressure of sociability and release the powerful grip of strong ties in the region.

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Appendix 1. Descriptive statistics of the variables, WB sample

Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
netsize	6,040	13.40	32.86	0	1413
strongnet	6,040	0.87	0.34	0	1
netwper	5,837	14.53	4.76	2	20
pincome	4,341	2.89	1.63	1	9
costppp_in	3,226	22.76	30.57	0.3	366.8
lncostppp_in	3,226	2.35	1.39	-1.1	5.9
age	6,040	46.53	17.64	18	93
female	6,040	0.55	0.50	0	1
marr_married	6,040	0.58	0.49	0	1
marr_single	6,040	0.24	0.43	0	1
marr_cohab	6,040	0.02	0.15	0	1
marr_divor~d	6,040	0.04	0.20	0	1
marr_widow	6,040	0.11	0.31	0	1
marr_naother	6,040	0.01	0.10	0	1
urban	6,040	0.53	0.50	0	1
educ_elem	6,040	0.25	0.43	0	1
educ_second	6,040	0.52	0.50	0	1
educ_univer	6,040	0.19	0.40	0	1
educ_mscphd	6,040	0.03	0.16	0	1
educ_na	6,040	0.00	0.04	0	1
int_often	6,040	0.14	0.34	0	1
int_daily	6,040	0.54	0.50	0	1
int_nouse	6,040	0.30	0.46	0	1
int_na	6,040	0.02	0.13	0	1
entr	5,940	0.05	0.22	0	1
gentrust	5,961	3.41	2.53	1	10
insttrust	5,876	4.25	2.51	1	10

alb	6,040	0.15	0.36	0	1
bih	6,040	0.21	0.40	0	1
kos	6,040	0.15	0.36	0	1
mac	6,040	0.17	0.37	0	1
mng	6,040	0.13	0.34	0	1
srb	6,040	0.19	0.39	0	1

	netsize	strong~t	netwper	pincome	costpp~n	lncost~n	age	female	marr_m~d	marr_s~e	marr_c~b	marr_d~d	marr_w~w
netsize	1.0000												
strongnet	0.1479	1.0000											
netwper	0.1437	0.1507	1.0000										
pincome	0.0893	0.0439	0.0391	1.0000									
costppp_in	0.0756	0.0640	0.0981	0.5242	1.0000								
lncostppp_in	0.1076	0.1495	0.1383	0.5332	0.7483	1.0000							
age	0.0187	-0.0442	-0.0268	-0.0910	-0.2146	-0.2667	1.0000						
female	-0.0606	-0.0083	-0.0250	-0.1812	-0.1589	-0.1765	-0.0039	1.0000					
marr_married	0.0207	0.0192	0.0093	0.0772	-0.0253	-0.0408	0.1543	-0.0734	1.0000				
marr_single	-0.0142	0.0121	0.0110	-0.0229	0.1519	0.1847	-0.4971	-0.0980	-0.6243	1.0000			
marr_cohab	-0.0113	0.0296	-0.0118	0.0475	0.0296	0.0584	-0.1238	0.0045	-0.1737	-0.0691	1.0000		
marr_divor~d	-0.0276	-0.0309	-0.0194	0.0194	-0.0232	-0.0222	0.0306	0.0421	-0.2752	-0.1095	-0.0305	1.0000	
marr_widow	0.0031	-0.0369	-0.0099	-0.1179	-0.1452	-0.1767	0.4199	0.2028	-0.4652	-0.1851	-0.0515	-0.0816	1.0000
marr_naother	0.0290	0.0044	-0.0002	-0.0089	-0.0014	0.0085	-0.0536	-0.0106	-0.0809	-0.0322	-0.0090	-0.0142	-0.0240
urban	0.0071	-0.0002	-0.0079	0.1380	0.0931	0.1165	-0.0129	0.0759	-0.0327	0.0139	0.0292	0.0623	-0.0223
educ_elem	-0.0725	-0.0732	-0.0366	-0.2989	-0.2185	-0.3235	0.3275	0.1290	0.0212	-0.1955	-0.0609	-0.0262	0.2550
educ_second	0.0335	0.0255	0.0273	0.0011	-0.0010	0.0821	-0.1470	-0.1123	0.0076	0.0788	-0.0020	0.0358	-0.1323
educ_univer	0.0386	0.0395	-0.0060	0.2747	0.1933	0.2078	-0.1265	-0.0041	-0.0151	0.0721	0.0636	-0.0065	-0.0916
educ_mscphd	0.0006	0.0209	0.0330	0.1318	0.1195	0.1144	-0.1218	0.0106	-0.0404	0.1017	0.0162	-0.0214	-0.0547
educ_na	-0.0096	0.0083	-0.0362	-0.0134	-0.0159	-0.0247	0.0218	-0.0276	-0.0057	0.0191	-0.0035	-0.0056	-0.0094
int_often	-0.0296	0.0148	-0.0219	-0.0057	-0.0321	-0.0331	0.0145	-0.0114	0.0962	-0.0955	-0.0007	0.0539	-0.0611
int_daily	0.0459	0.0465	0.0587	0.2227	0.2591	0.3237	-0.5752	-0.0056	-0.0831	0.3121	0.0649	-0.0265	-0.2743
int_nouse	-0.0236	-0.0570	-0.0416	-0.2312	-0.2469	-0.3145	0.5965	0.0113	0.0131	-0.2530	-0.0665	-0.0131	0.3328
int_na	-0.0137	-0.0223	-0.0222	-0.0099	-0.0250	-0.0282	0.0302	0.0188	0.0073	-0.0335	-0.0119	-0.0011	0.0368
entr	0.0273	0.0159	0.0320	0.1073	0.1124	0.1225	-0.0969	-0.0909	0.0294	0.0349	0.0030	-0.0049	-0.0819
gentrust	0.0217	0.0654	0.0276	0.0544	0.0931	0.1512	-0.0545	-0.0117	-0.0561	0.0848	-0.0015	-0.0089	-0.0096
insttrust	-0.0049	0.0479	0.0210	0.0234	0.0542	0.0841	0.0173	-0.0135	-0.0558	0.0366	-0.0186	0.0280	0.0362
alb	-0.1041	0.0298	-0.1177	-0.1499	-0.0248	-0.0072	-0.0962	0.0205	0.0613	0.0242	0.0068	-0.0492	-0.0883
bih	0.0154	-0.0306	0.0292	-0.0747	-0.0256	-0.0443	0.0684	0.0199	-0.0619	0.0169	-0.0196	-0.0031	0.0851
kos	-0.0394	-0.1320	0.1058	0.0694	0.1545	0.0981	-0.1346	-0.0328	0.0179	0.0752	-0.0120	-0.0807	-0.0598
mac	0.0580	0.0198	-0.0194	0.0386	-0.0367	-0.0302	0.0869	0.0025	0.1005	-0.0983	-0.0487	-0.0315	0.0094
mng	0.0623	0.0558	0.0364	0.1382	0.0282	0.0306	-0.0518	-0.0232	-0.0306	0.0243	0.0327	0.0228	-0.0163
srb	0.0152	0.0464	-0.0105	0.0103	-0.0712	-0.0306	0.1067	0.0053	-0.0940	-0.0286	0.0438	0.1368	0.0651

	marr_n~r	urban	educ_e~m	educ_s~d	educ_u~r	educ_m~d	educ_na	int_of~n	int_da~y	int_no~e	int_na	entr	gentrust
marr_naother	1.0000												
urban	0.0099	1.0000											
educ_elem	-0.0270	-0.2008	1.0000										
educ_second	0.0129	0.0569	-0.6128	1.0000									
educ_univer	0.0189	0.1318	-0.2896	-0.5035	1.0000								
educ_mscphd	-0.0115	0.0455	-0.1057	-0.1837	-0.0868	1.0000							
educ_na	-0.0016	-0.0020	-0.0150	-0.0261	-0.0123	-0.0045	1.0000						
int_often	-0.0001	-0.0114	-0.0159	0.0582	-0.0400	-0.0350	-0.0108	1.0000					
int_daily	0.0333	0.1134	-0.3498	0.0866	0.2216	0.1331	-0.0006	-0.4375	1.0000				
int_nouse	-0.0344	-0.1115	0.3789	-0.1360	-0.2012	-0.1121	0.0094	-0.2976	-0.7127	1.0000			
int_na	-0.0056	-0.0030	0.0341	-0.0065	-0.0230	-0.0153	-0.0022	-0.0368	-0.0881	-0.0599	1.0000		
entr	-0.0142	0.0147	-0.0755	0.0584	0.0044	0.0137	-0.0056	-0.0185	0.1059	-0.0984	-0.0012	1.0000	
gentrust	-0.0203	0.0258	-0.0817	0.0043	0.0717	0.0294	0.0162	0.0400	0.0547	-0.0910	0.0102	-0.0018	1.0000
insttrust	-0.0397	-0.0192	-0.0366	-0.0024	0.0437	0.0053	-0.0335	0.0350	0.0004	-0.0291	0.0091	-0.0340	0.3478
alb	-0.0200	-0.0394	0.0206	-0.0654	0.0128	0.1098	-0.0127	0.1038	-0.0548	-0.0205	-0.0058	0.0071	0.1303
bih	-0.0163	-0.0511	0.0305	0.0127	-0.0310	-0.0467	0.0220	-0.0377	-0.0310	0.0530	0.0500	-0.0441	0.0160
kos	-0.0103	-0.0695	0.0333	-0.0588	0.0322	0.0134	-0.0098	-0.0005	0.1665	-0.1771	-0.0001	0.0407	-0.0054
mac	0.0071	0.1182	0.0219	-0.0234	-0.0000	0.0092	0.0202	-0.0336	-0.0227	0.0489	0.0065	0.0262	-0.1230
mng	0.0206	0.0632	-0.0884	0.0846	0.0114	-0.0450	-0.0096	-0.0041	0.0588	-0.0556	-0.0213	-0.0008	-0.0234
srb	0.0209	-0.0223	-0.0265	0.0578	-0.0209	-0.0506	-0.0120	-0.0329	-0.0855	0.1221	-0.0310	-0.0257	-0.0015

	insttr~t	alb	bih	kos	mac	mng	srb
insttrust	1.0000						
alb	0.1013	1.0000					
bih	-0.0986	-0.2285	1.0000				
kos	0.0586	-0.1945	-0.1768	1.0000			
mac	-0.1478	-0.2412	-0.2194	-0.1867	1.0000		
mng	0.0392	-0.1898	-0.1726	-0.1469	-0.1822	1.0000	
srb	0.0561	-0.2372	-0.2157	-0.1835	-0.2277	-0.1791	1.0000

APENDIX 2.

Networking costs equation (*lncostppp_in*) estimated for all WB countries separately using the same system

	All		**ALB**		**BIH**		**KOS**		**MAC**		**MNG**		**SRB**	
age	0.00	0.061	0.00	0.851	-0.01	0.258	0.00	0.629	0.00	0.454	-0.01	0.066	0.00	0.259
female	-0.41	0.000	-0.54	0.000	-0.47	0.000	-0.05	0.713	-0.32	0.003	-0.64	0.000	-0.40	0.000
marr_single	0.11	0.087	0.11	0.455	-0.29	0.065	0.30	0.138	0.22	0.211	0.24	0.123	0.15	0.301
marr_cohab	0.26	0.121	0.65	0.059	0.07	0.891	0.07	0.899	-0.28	0.699	0.58	0.104	0.15	0.591
marr_divorced	-0.07	0.486	-0.51	0.089	-0.18	0.500	0.69	0.608	0.04	0.882	0.02	0.943	0.08	0.614
marr_widow	-0.02	0.785	-0.14	0.502	0.28	0.092	-0.89	0.002	-0.01	0.937	0.03	0.908	0.07	0.628
marr_naother	-0.05	0.879	-2.10	0.073	0.65	0.594	-1.19	0.379	-0.36	0.617	-0.01	0.991	0.66	0.239
urban	0.16	0.000	0.24	0.012	-0.17	0.115	0.01	0.951	0.14	0.221	0.17	0.175	0.39	0.000
educ_second	0.47	0.000	0.39	0.001	0.63	0.000	0.74	0.000	0.42	0.002	0.46	0.017	0.36	0.005
educ_univer	0.83	0.000	0.69	0.000	1.11	0.000	1.16	0.000	0.78	0.000	0.75	0.001	0.62	0.000
educ_mscphd	1.03	0.000	0.77	0.000	1.88	0.000	1.27	0.001	1.29	0.000	0.98	0.108	0.42	0.346
educ_na	-1.05	0.224	0.00	-	-1.17	0.341	0.00		-0.35	0.778	0.00		0.00	
int_often	0.22	0.003	0.63	0.000	0.38	0.042	-0.42	0.113	0.21	0.231	0.22	0.296	-0.06	0.704
int_daily	0.55	0.000	0.73	0.000	0.79	0.000	0.26	0.266	0.40	0.014	0.52	0.006	0.42	0.002
int_na	0.07	0.777	-0.16	0.783	-0.20	0.641	0.71	0.375	0.00	0.995	0.89	0.453	-0.24	0.832
entr	0.45	0.000	0.79	0.000	-0.03	0.919	0.55	0.041	0.28	0.212	0.48	0.095	0.54	0.036
gentrust	0.05	0.000	0.08	0.000	0.03	0.247	0.00	0.886	0.04	0.093	0.11	0.000	0.05	0.014
insttrust	0.02	0.032	0.04	0.028	0.02	0.396	0.02	0.438	0.01	0.615	-0.01	0.357	0.00	0.873