

IS CORRUPTION THE DRIVING FORCE OF MIGRATION FROM CROATIA: EVIDENCE FROM A SURVEY

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Abstract

Migration of higher-educated individuals from Croatia is damaging the long-term perspective of the Croatian economy as lower levels of the participation rate in the Croatian economy may endanger the feasibility of the social, healthcare and pension systems. With Croatia's accession to the EU, a wave of migration was facilitated as a result of easier access to foreign labour markets. The paper focuses on the causes of migration from Croatia given the relatively limited research devoted to this topic. While there is robust evidence of corruption being one of the main causes of migration globally, this paper questions this assertion specifically in the case of Croatia. The paper analyses information from a survey with a random sampling approach of 223 respondents from the Varaždin County. The data is analysed by implementing different logit regression models. The paper conceptualizes economic and political factors that may cause migration as different variables in order to conduct a robustness check. The main finding of the paper is that monetary causes and a belief that individuals could earn more income abroad are the primary motivator of migration from Croatia. This is contrary to much of the existing literature that identifies corruption as the driving force of migration. Knowing individuals who have migrated abroad also makes it more likely for an individual to migrate from Croatia. While the paper found a significant degree of lacking faith in public institutions, this was common to participants regardless of whether or not they considered migrating from Croatia. As such, the paper considers monetary conditions rather than corruption to be the key driving force behind migration from Croatia.

Key words: migration, Croatia, political factors, corruption, logit regression.

JEL classification: E24, F22.

1. Introduction

Croatia is one of the countries within the European Union (hereafter: the EU) that is experiencing a significant demographic decline (Botrić 2016). It is for this reason why it is necessary to analyse the reasons why

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so many competent individuals, particularly those with higher education degrees in the STEM field, are migrating from Croatia. The current demographic trends in Croatia are not sustainable as the increasingly aging structure of the Croatian population will question the sustainability of the healthcare, pension and social system (Pokos 2017). Keeping the labour participation rate stable and ensuring that there is no exodus of highly-skilled individuals from Croatia is essential to its long-term development.

There have been few studies focused on the general sociodemographic traits of individuals considering migrating from Croatia. Similarly, there are few studies analysing their motivation for doing so compared to the numerous global studies about corruption specifically being a key cause of migration including Dimant et al. (2013), Poprawe (2015), Cooray and Schneider (2015), Auer et al. (2020) and Arif (2022). There is a consensus in several papers that most people migrating from Croatia in the migration wave post entry to the EU are not doing so for economic reasons (Hornstein Tomić and Taylor 2018). The main reason why many decide to migrate from Croatia, based on these papers, is a frustration with the social climate based on nepotism, a climate of corruption and an unwillingness to implement structural reforms that would deal with any of the aforementioned issues (Jurić 2017; Troškot et al. 2019). This paper questions this hypothesis as most of the papers that have developed this hypothesis developed this conclusion either based on the anecdotal evidence and interviews or by applying an inconsistent methodological approach between the development of the hypotheses to the interpretation of the final research results. Demographic decline is an existential issue for Croatia and several authors including Živić (2017) have pointed out the devastating impact the continuation of this trend could have. For this reason, finding policy recommendations based on the underlying evidence is of the utmost importance.

This paper examines the motivation for individuals considering migration from Croatia in the case of the Varaždin county. As emphasized by Horvat et al. (2022), the Varaždin County is among the better developed in Croatia with higher levels of GDP per capita and lower unemployment rates compared to the average development of Croatian counties. Perhaps even more importantly, there is a significant influx of foreign labour in the Varaždin County given that there seems to be a labour shortage (Horvat et al. 2022). Compared to other regions in Croatia, the Varaždin county has less concerns regarding migration according to data from the Croatian Bureau of Statistics (2021). According to this data, around 1 500 people

migrated from Varaždin, but 1 350 people migrated to the area. As a result, it did not have as profound of an impact on the adverse economic trends taking place within the country (Croatian Bureau of Statistics 2021). This paper has specifically decided to focus on this county for its booming economic conditions and generally positive outlook. The paper does not question that the adverse impacts of corruption may be hampering the long-term economic growth of Croatia as described in Campos et al. (2010). It should be noted that Croatia is a country marked by high levels of political polarization and increasing dissatisfaction with institutions (Henjak 2017). This paper argues that economic motivators and professional dissatisfaction are the key motivator for many individuals migrating from Croatia. Given the widespread dissatisfaction with political institutions within Croatia that is common to people migrating from Croatia but also to those who have never considered migrating from Croatia, this paper will try to distinguish that while corruption and lacking faith in institutions may be a lingering problem for Croatian society, it is not the key factor driving migration.

2. Literature review

The idea that corruption fuels migration is not endemic to Croatia and has been introduced as a “gravity model of migration” (Poprawe 2015, p. 357-358). The general theory indicates that migration is more likely from countries that have a higher degree of corruption given that corruption is “associated with a lower standard and wasteful spending of government funds that does not prioritize focusing on equity or public welfare” (Poprawe 2015, p. 358). The author examined evidence from 230 countries and determined that corruption is associated with an increase in net migration. There are many reasons for corruption contributing to adverse living conditions that then decrease the overall quality of life for individuals as described in Dimant et al. (2013). The authors have implemented an approach based on regression analysis and have found that corruption drives both net migration as well as the migration of skilled workers (Dimant et al. 2013). Dimant et al. (2013) examined a panel of 165 countries and found that corruption had a much more pronounced impact on the migration of skilled workers, while they noted that their results concerning the possible relationship between corruption and net migration were less statistically robust.

Cooray and Schneider (2015) examined the impact of corruption on a panel of data of 20 OECD economies. The authors utilized different methods

including a general method of movement (GMM) approach as well as instrumental variable estimations and found that there is a link between corruption and the migration of highly-skilled individuals (Cooray and Schneider 2015). The authors point out that one possible explanation is the way many modern migration systems are set up and the ease of migration for highly-qualified individuals compared to those who have less skills or education (Cooray and Schneider 2015).

It should be noted that the impact of corruption on society in general is still an area that is being studied. This is discussed in-depth in Campos et al. (2010) as the authors explain that there is a possibility that corruption could help private sector actors circumvent redundant regulation and could actually help encourage economic activity. While the authors conducted their own research showing that there is a link between corruption and a decrease in economic growth, the authors indicate the bias in the existing academic literature that “fails to critically approach the issue and is biased towards reporting negative findings even when they are not statistically significant” (Campos et al. 2010, p. 15). The authors also indicate that the variables commonly used to measure corruption are not fully adequate and for many countries there are insufficient observations to conduct a valid regression analysis (Campos et al. 2010). Another example pushing the boundaries of the field can be found in Dimant and Schulte (2016). By examining the impact of corruption from a transdisciplinary viewpoint, the authors managed to provide a more meaningful and comprehensive elaboration of how corruption has a strong impact on the fabric of society (Dimant and Schulte 2016).

Further evidence about the impact of corruption is considered in Arif (2022), who has found that highly-skilled migrants are more likely to migrate to a country that is not impacted by a high degree of corruption. The author does not find that there is any link between corruption causing migration in a panel of 122 countries (Arif 2022). Urbanski (2022) has considered the impact of push and pull factors in Romania and Poland and concluded that pull factors tended to be more important than push factors based on the results of the survey conducted. The author particularly notes that economic factors such as wages and better working conditions can be a significant pull factor that drives migration (Urbanski 2022). Auer et al. (2020) conducted regression analysis to understand how corruption impacted the desire of individuals to migrate on representative surveys of 280 000 respondents from a total of 67 countries. The authors found that corruption has an adverse impact and causes net migration (Auer et al. 2020). Auer et al. (2020) argue

that corruption can be connected to an increase in net migration as it causes an increase of economic uncertainty amid lagging levels of economic growth.

Begu et al. (2019) conducted a panel regression analysis of the impact of corruption on net migration across the EU member-states. The authors found that corruption had a statistically significant impact in increasing the level of net migration in the observed time period from 2008 until 2016 (Begu et al. 2019). While the authors show that there is some correlation between migration levels and perception of corruption, causality is not clearly. The authors themselves note that “the connection between perception of corruption and migration is “weak” in the data they have examined” (Begu et al. 2019, p. 476).

There are also numerous papers that have analysed the motivation of individuals to migrate on the level of individual countries such as Lapshyna (2014), who conducted a logit regression based on a survey of Ukraine from 2011 and concluded that both economic and political factors caused net migration. The author found that individuals who believed that corruption was a significant problem in Ukraine were 1.5 times more likely to migrate from Ukraine. Lapshyna (2014) argued that implementing measures to curb corruption were policies that were essential to stemming migration flows from Ukraine. Iacob (2018) conducted a survey in Romania and analysed pull and push factors that were driving migration from the country. The author concluded that controlling the levels of corruption in society was essential to reducing the migration of highly-skilled individuals (Iacob 2018), who also found that the salaries of participants were an important factor in determining the decision to migrate, even though the author did not consider it the most impactful in their decision to migrate.

Begović et al. (2020) analysed survey responses in Bosnia and Herzegovina and argued that analysis of the causes of migration from the Western Balkans is an area of research that has not been sufficiently explored. The paper finds that those who perceived corruption to be a significant issue as well as age were the most significant contributors to migration (Begović et al. 2020). The paper itself notes that younger individuals tended to have significantly more negative views concerning corruption so the paper does not fully clarify whether corruption or age were the primary motivators of net migration as this was not its primary purpose (Begović et al. 2020). While the general theory centred around the link between migration and corruption is important, the findings of studies that have analysed migration in Croatia are particularly significant.

There are numerous studies that question the link between migration and corruption, but there are comparatively few studies that analyse the causes of migration from Croatia. Jurić (2017) conducted surveys and semi-structured interviews on 1,200 Croats migrating to Germany and concluded that moral decay in Croatia and a culture that does not understand what honest labour is drive migration. The author further concludes that there is a clear link between the political structures and weak institutions with the decision of Croats to migrate abroad (Jurić 2017, p. 362). Jurić (2017: 365) concludes the paper with a selection of statements from the interviews that highlight that many of the migrants are highly unsatisfied with the political situation in Croatia and Bosnia and Herzegovina. Troškot et al. (2019) similarly indicates that corruption is a significant problem in Croatia and that it has undermined economic growth and further development of society. The authors conducted a detailed analysis of migration trends and have concluded that the collective pessimism among the Croatian youth is contributing to their desire to leave the country (Troškot et al. 2019, p. 898). The authors believe that Croatia needs to implement drastic reforms to increase its competitiveness and to ensure that the brain drain does not persist (Troškot et al. 2019, p. 899).

Draženić et al. (2018) analysed the causes of migration from new EU member-states by implementing a macroeconomic approach based on regression analysis. The authors found that variables that accounted for the stability of the short-term macroeconomic outlook were statistically significant to increasing net migration (Draženić et al. 2018). The authors further found that corruption was not statistically significant in their model and did not have a meaningful impact in increasing corruption (Draženić et al. 2018). Šverko (2005) emphasizes that as early as 2004 that 75.3% of the students surveyed by the author considered migrating from Croatia. The author conducted a survey of 553 students and emphasized that there was a significant gap between the number of participants who considered leaving and those who were sure about this decision given that only a quarter of those surveyed were certain they would migrate from Croatia (Šverko, 2005: 1157). The author found that the reason why most students considered leaving Croatia was better material conditions that could be expected if they migrated abroad (Šverko 2005, p. 1160). The author compares the results to surveys conducted in 1995 and 1997 and emphasizes that the 40% of participants considering leaving Croatia for this reason was actually a decline compared to the 57% of participants stating this belief in 1995.

Golub (2003) conducted an analysis of why young researchers are migrating from Croatia. The author determined that most of these young researchers were considering migration from Croatia as a result of economic factors including not owning real estate, low wages and a perception that they could not achieve professional development in Croatia (Golub 2003). While this was accounted for 90% of the surveyed individuals, only roughly 50% emphasized that they were not satisfied with the general political conditions in Croatia (Golub 2003). Adamović and Mežnarić (2003) analysed a survey conducted on the University of Zagreb using a logit regression approach. The authors found that dissatisfaction with wages and not having a perspective to progress in the institution were leading causes of the brain drain in the Croatian academic scene (Adamović and Mežnarić 2003).

There are numerous papers that deal with the migration problematics of various states of South-eastern Europe, mostly trying to explain the patterns and factors of migration.

For example, Efendic (2015) analysed intentions to emigrate from Bosnia and Herzegovina, focusing not only on typical individual and household determinants, but also on post-conflict specific influences. Findings indicate that higher intentions for emigration are indeed linked to the typical individual and household conditions: the young, educated and low-family income respondents report the highest intentions to emigrate. In addition, the post-conflict environment characterised by economic and political instability, as well as by conflict and post-conflict related migration, increases these intentions further, both independently and in different combinations. Although determinants such as employment status, household income and perception of economic development are relevant, their effect is of second-order importance. This contradicts the conventional thinking that economic factors are the main driving forces of emigration intentions and conforms to the views expressed in Šverko (2005).

In Kosovo, where almost a fifth of the population is estimated to be living abroad, Kotorri (2017) hypothesizes a nonlinear relationship between the probability that migrant returns and the income they earn abroad, since the income effect might off-set the substitution effect if reverse migration is a normal good.

Loxha (2019) estimates that remittances from migrants considerably decreased the chances of poverty in Kosovar households that received them. Williams and Efendic (2019) examine the trust of institutions among internal and external migrant entrepreneurs in the post-conflict economy of Bosnia and Herzegovina. Drawing on survey data and in-depth interviews, they

find that external migrant entrepreneurs with international experience have lower trust in institutions than internal migrants. This is explained by the comparison of institutions in the country of origin with more stable institutional environments they experienced while being abroad. Consistent with this conclusion, a more complex institutional setup within the country is associated with lower trust in institutions.

Parker (2020) used a UN dataset of foreign-born residents in and from 154 different countries, available every fifth year since 1990, to estimate an augmented gravity model for Eastern Europe and the world. Migration responds to higher incomes in the host country, though the effect diminishes with income. Unlike the rest of the world, East European migration increases with the exchange rate in the host and higher incomes in the origin, but not with political autocracy or conflict in the origin country. Controlling for these differences, Eastern Europe has fewer immigrants and emigrants than the model would otherwise predict. Arandarenko (2021) studies how migration, human capital and the labour market interact in Serbia, drawing conclusions on the factors and specificities that influence migration from Serbia.

Overall, there are numerous studies that have considered the link between corruption and migration. There are several studies that have established that corruption is one of the key factors driving migration including Poprawe (2015), Cooray and Schneider (2015), Auer et al. (2020), and Begović et al. (2020). A number of papers noted that the connection between corruption and migration that was established by the paper was either weak or statistically insignificant such as Draženović et al. (2018) and Begu et al. (2019). Dimant et al. (2013) have noted that the link between corruption and net migration is not particularly statistically robust, but have found a connection between corruption and the migration of skilled migrants. Some authors including Arif (2022) believe that there is no empirical proof that corruption drives migration. Other authors such as Lapshyna (2014) have established that a combination of economic and political factors may drive migration. Most of these studies had different samples and different conceptualizations of how they measured corruption, which can partially account for the diversity of findings within the field. In the case of Croatia, Šverko (2005) has emphasized the problem of material conditions as the main cause of migration while other authors including Jurić (2017) and Troskot et al. (2019) have emphasized that corruption and lacking faith in political institutions are the main causes of migration.

3. Methodology and data

The research approach of the paper includes several steps. The first step was conducting an online survey of participants with a random sampling approach in the Varaždin county. The data was collected by the authors utilizing a random sampling approach through an online questionnaire. The second step was implementation of a logit regression model, while the final step includes a regression analysis of the questions based on the Likert scale. A more detailed breakdown of every aspect of the aforementioned approach is provided below.

3.1. Variable selection

The selection of variables is based on the existing theory as well as similarly-adapted models from the relevant literature including Poprawe (2015), as well as Cooray and Schneider (2015). The survey contains 16 initial questions that question broad sociodemographic and other traits about the participants. It also questions whether they have financial, social, or familial obligations within Croatia. Each of these questions provides a different dimension relevant to the decision to consider migration from Croatia. With the aim of doing so, respondents are expected to address whether or not they have real estate in Croatia, whether or not they have children or other dependents within Croatia. The idea of including real estate and other links in Croatia is based on the findings in Golub (2003). The aim of including these variables is to determine whether strong ties within Croatia have an impact on the decision to consider migrating abroad. A variable is also included that accounts for whether or not participants have anyone in their immediate social group who has migrated abroad. The inclusion of this variable is grounded in numerous papers focused on the transition of social and human capital across borders that illustrates that knowing individuals from your immediate social group abroad may make the difficult decision to migrate more tangible and the consequences of migrating easier to understand (Colic-Peisker 2002; Nowicka 2014 and Lulle et al. 2021).

The paper also includes variables that account for the monthly income of participants as well as their satisfaction with their working conditions. While some of the research has focused on the political drivers of migration including that of Jurić (2017), there are some indicators that migration may be caused by economic concerns. Golub (2003) and Šverko (2005) specifically

found monetary causes to be one of the key factors that fuelled the desire to migrate from Croatia. As a result, this can be considered to be one of the key push factors from Croatia based on findings from Golub (2003) and Šverko (2005). Therefore, there is no clear consensus on what push factor is driving migration from Croatia.

Aside from the 16 initial questions, the paper also includes 20 statements based on a five-point Likert scale. The goal of each question is to operationalize the dissatisfaction of participants with specific aspects within Croatia, namely: 1) the capacity of professional development within Croatia; 2) the problem of corruption, lacking faith in institutions and an ineffective use of public finances; 3) perception of how employees would be treated were they to choose to migrate abroad; and 4) satisfaction with different aspects of their current workplace.

This paper implements several logit regression models. Aside from the actual act of migrating from the country, it can be difficult to conceptualize considering migration within individuals who live in Croatia. This paper approaches this through a survey question that asks participants whether or not they are considering migrating from Croatia. The conceptualization of whether or not people are likely to migrate from a certain country is a difficult aspect to consider and these conceptualization issues have been expressed in Auer et al. (2020). From such a viewpoint, it is likely that not every individual who is considering migrating from Croatia will ultimately migrate from it. If not for any other reason, the individuals in question may fail to find suitable professional opportunities abroad or they may not be able to obtain entry permits in the countries they wish to relocate to. As a result, there are some methodological concerns about fully capturing the desire to migrate abroad and whether this actually translates into relocating.

3.2. Logit model specification

The first set of logit regression models will model the data obtained from the 16 initial questions, while the second set of logit models will aim to operationalize the results of the claims based on the Likert scale. One problem that has been mentioned in the existing literature including Arif (2022) and Campos et al. (2010) is the limited conceptualization of corruption in the available literature. Due to the fact that the paper implemented a survey, dissatisfaction with corruption and issues concerning weak institutions can be conceptualized in different ways. The same is also true for variables that account for economic factors related to

migration. Such different conceptualizations allow for a robustness check as inconsistencies between different conceptualizations of similar variables would signal that the results may not be statistically consistent. While the statistical validity of the data will be ensured by calculating the Cronbach Alfa, this additional robustness check will strengthen the validity of the results. The dependent variable in both models is the same, the decision to migrate from Croatia. Therefore, the research approach will be based around the following equations:

$$(1) MC = \alpha + \beta_1 X + \beta_2 Y + \beta_3 P + \mu$$

$$(2) MC = \alpha + \gamma_1 D + \gamma_2 REF + \gamma_3 V + \gamma_4 W + \mu$$

where MC is the decision to migrate from Croatia and in both models is being explained through a vector of explanatory variables. In the first models, this is a set of socio-demographic traits labelled as X, societal connections labelled as Y, and dissatisfaction with political institutions labelled as P that are explained in greater depth in Table 1. For the second equation, this is a set of potential push and pull factors explained in-depth in Table 2. They include dissatisfaction with the possibility of their professional development in Croatia labelled as D, the problem of lacking faith in institutions and reforms that are not implemented labelled as REF, possible pull factors and better conditions abroad labelled as V and satisfaction with their current working conditions labelled as W. Both models include a constant (α) and an error term (μ). The different coefficients of the logit regression ($\beta_{1..3}$ and $\gamma_{1..4}$) indicate the interrelation between the selected independent variable and the perceived choice of migrating from Croatia.

The logit regression model will test the relevance of a number of independent variables with the research goal of answering the following questions:

- 1) Which variables are most important in determining the choice to consider migrating from Croatia within the surveyed sample of individuals?
- 2) Does dissatisfaction with political conditions make individuals more likely to migrate from Croatia?

This paper conceptualizes the variables for the first set of logit regression models in accordance with the information provided in Table 1.

The questions based on the five-point Likert questionnaire were devised in a manner so as to consider specific components that may lead individuals to consider migrating from Croatia. The conceptualization and relevance of all of the questions is elaborated on in Table 2. All of the variables in the table below are measured on a five-point Likert scale.

Table 1. Key variables

Variable name	Variable abbreviation	Measurement	Relevance
Gender	GEN	Dummy variable	Basic socioeconomic traits
Age	AGE	Stratified groups from the age of 18 to 66	
Monthly income	MI	Stratified 7 groups of income obtained	
Living in rural or urban area	AREA	Dummy variable	
Employment status	EMP	Dummy variable	
Children in Croatia	CHI	Dummy variable	Familial and social obligations in Croatia
Other dependents in Croatia	DPN	Dummy variable	
Belonging to STEM field	STEM	Dummy variable	Workplace traits
Workplace satisfaction	WS	Dummy variable	
Dissatisfaction with corruption	COR	Dummy variable	Satisfaction with the political climate in Croatia
Faith in institutions	INST	Dummy variable	
Owning real estate	RE	Dummy variable	Other social or financial links in Croatia
Political party affiliation	PPA	Dummy variable	
Importance of social network in Croatia	SN_CRO	Dummy variable	Importance of social networks
Association with individuals who have migrated from Croatia	SN_ABR	Dummy variable	

Source: Survey conducted by authors

Table 2. Variables deriving from the Likert scale

Variable definition	Variable abbreviation	Relevance
Competitive environment in Croatia	COM	Dissatisfaction with the general climate in Croatia
Faith in being able to achieve professional outcomes	PRO	
Importance of membership in political parties compared to workplace competences	PP	
General social climate in Croatia	SC	
Dissatisfaction with corruption	DC	
Dissatisfaction with taxes and parafiscal levies	TAX	Lacking faith in institutions and different political concerns
Misuse of government funds	GF	
Public procurement impacted by corruption	CPP	
Lacking rationalization of public administration	RPA	
Slow government intervention in key issues	GS	
Could be paid better for the same work abroad	WA	Perception of condition participants could expect abroad
Workplaces would be more professional abroad	WP	
Easier and more transparent progress abroad	PA	
Quicker and more effective learning on the job	QEL	
More professional opportunities than in Croatia	MPO	
Satisfaction with wage	PAY	Satisfaction with current working conditions
Progress in Croatia under equitable conditions	PEC	
Having all of the necessary equipment to conduct work-related tasks	EQI	
Lacking respect from superiors	LRS	
Having to conduct work outside job description	WOR	

Source: Survey conducted by authors

As can be seen from Table 2, such different conceptualizations enable the paper to broadly understand which specific factors drive migration from Croatia. In terms of workplace satisfaction, two of the variables concerning wages and promotion are based on the research by Golub (2003).

4. Result and discussion

The survey was conducted on a sample of 223 participants who were of working age within the Varaždin County. As a result, given that Varaždin County has 109 452 people of the corresponding age based on the latest census data from the Croatian Bureau for Statistics (2022), this means that the conducted survey has a margin of error of 6.6% assuming a 95% confidence interval. In terms of the characteristics of the sample, there are some problems that are consistent with a survey that was conducted through an online random sampling approach. Notably, the sample has a lower rate of unemployment compared to the Croatian average and the wages are higher compared to the average wage in Croatia that can be found on the Croatian Bureau for Statistics (2022).

The descriptive variables summarizing the results of the Likert scale variables are provided in the appendix. As can be seen from the details provided there, the standard deviation is smallest in the variables that consider satisfaction with political conditions and the impact of corruption. It is clear that almost the entire surveyed sample is highly dissatisfied with the impact of corruption on society and they have little or no faith in public institutions. These findings are mostly consistent with findings in the existing literature including Hornstein Tomić and Taylor (2018) and Jurić (2017). Aside from considering the general results, it is important to analyse how specifically these variables impact the likelihood of migrating abroad. In order to discuss the findings of the survey in greater depth, the first set of logit regression models is estimated and shown in Table 3.

The selection of the variables, as has been previously noted, is based in the underlying theory as well as the authors' own perception of what may impact the desire to consider migrating abroad. While the underlying theory suggested many of these variables may have a statistical significance, few have proven to be significant through this framework. This is likely caused by the fact that the underlying theory has been developed in many different areas around the globe and it is entirely likely that there are country-specific factors that may impact the decision to migrate from a particular country. For example, Lapshyna (2014)

found that a combination of political and economic factors was essential for the decision of individuals to migrate from Ukraine and the author found that lower wages or unemployment were significant to making the decision to migrate abroad. Similar variables that account for whether or not someone is employed that were utilized in this model were not statistically significant. This illustrates the relevance of spatial constraints when studying variables that can have an impact on making the decision to migrate abroad.

This paper identifies that two variables, of those considered, have the largest statistical significance on people considering migrating abroad. The first variable is MI and it is clear that individuals who have higher monthly incomes are far less likely to consider migrating abroad. This is consistent with most of the academic literature published abroad including Urbanski (2022) and Arif (2022). It is also consistent with Draženović et al. (2018), Golub (2003) and Šverko (2005), but contradicts several studies that have specifically analysed causes of migration from Croatia including Jurić (2017) and Troskot et al. (2019).

Another variable that has proven to be significant is knowing individuals who have migrated above. Many papers that have studied the development of social capital and networks of migrants have shown that individuals from their own social circles tend to be first points of contact when migrating abroad (Colic-Peisker 2002; Snel et al. 2006; Ryan 2011). This is a particular area of network analysis that authors such as Ryan (2011) have examined. Individuals abroad can provide information about their own migration experience, thus making the entire process more tangible and easier to implement in practice even as Ryan (2011) emphasizes that every migration experience can be entirely different.

After estimating all of the models above, variables were excluded based on whether or not their exclusion helped improve the key information criterions of the model. The only variables the paper considered omitting were those that were clearly not statistically significant. Finally, after excluding a number of variables the final model is shown in Table 4.

Based on the best estimate utilizing the first set of socio-demographic variables, the paper can easily determine that earning less income on a monthly basis can contribute to the decision to migrate from Croatia. The paper has also determined that knowing individuals from your social network who have migrated from Croatia also significantly interrelated with the decision to migrate from Croatia. Among the observed sample, dissatisfaction with political institutions was actually higher among those who did not consider migrating from Croatia. These findings

Table 3. Logit regression models

Variables	(1)	(2)	(3)	(4)	(5)	(6)
const	1.16 (0.298)	0.238 (0.866)	0.252 (0.859)	0.604 (0.6734)	0.24 (0.872)	-0.073 (0.961)
GEN	-0.578* (0.087)	-0.615* (0.0735)	-0.629* (0.069)	-0.607* (0.828)	-0.75** (0.043)	-0.669* (0.074)
AGE	-0.23 (0.128)	-0.19 (0.212)	-0.199 (0.24)	-0.269 (0.136)	-0.191 (0.309)	-0.237 (0.226)
MI	-0.273** (0.0128)	-0.251** (0.029)	-0.253** (0.024)	-0.233** (0.039)	-0.223* (0.054)	-0.239* (0.0513)
AREA	0.209 (0.605)	0.205 (0.622)	0.197 (0.635)	0.188 (0.656)	0.332 (0.44)	0.478 (0.286)
EMP	-0.007 (0.995)	-0.017 (0.987)	-0.08 (0.941)	-0.102 (0.927)	-0.25 (0.836)	-0.112 (0.924)
COR		0.93 (0.275)	0.959 (0.259)	0.969 (0.249)	0.496 (0.553)	0.562 (0.508)
INST		-1.54** (0.045)	-1.53** (0.046)	-1.48* (0.056)	-1.56** (0.048)	-1.62** (0.048)
CHI			-0.096 (0.849)	-0.11 (0.824)	-0.29 (0.584)	-0.138 (0.800)
DPN			0.196 (0.674)	0.21 (0.658)	0.203 (0.678)	0.13 (0.792)
STEM				-0.264 (0.348)	-0.302 (0.395)	-0.303 (0.402)
WS				-0.438 (0.188)	-0.352 (0.309)	-0.356 (0.316)
SN_CRO					-0.24 (0.497)	-0.282 (0.433)
SN_ABR					1.22*** (0.0022)	1.19** (0.0031)
RE						-0.067 (0.882)
PPA						0.659 (0.103)
Number of observations	223	223	223	223	223	223
Log-likelihood	-130.17	-126.27	-126.17	-124.98	-121.17	-118.25
Pseudo-R ²	0.722	0.722	0.722	0.713	0.731	0.753

Note: *, **, and *** indicate statistical significance at the 0.1, 0.05, and 0.01 levels of statistical significance for each coefficient.

Source: Authors' calculations

concerning the importance of wages conform to the findings of Golub (2003) and Šverko (2005).

Of the remaining variables, most of them are not been statistically significant at the 5 percent significance level. The only remaining variable that was significant was INST. As a result, there is a statistically negative interrelation between the dissatisfaction with political institutions and the decision to migrate

from Croatia. This should be interpreted as a primarily statistical distinction and one that may not be true for the entirety of the Croatian population, but among the sample itself 84% of individuals surveyed were not satisfied with the quality of political institutions in Croatia. While Jurić (2017) broadly indicates that an array of factors contributing to the decision to migrate from Croatia derive from political inaction, corruption,

Table 4. Logit regression model

Variables	(7)
const	0.114 (0.911)
GEN	-0.609* (0.085)
AGE	-0.239 (0.154)
MI	-0.217** (0.041)
COR	0.487 (0.555)
INST	-1.66** (0.035)
STEM	-0.306 (0.388)
WS	-0.368 (0.287)
SN_CRO	-0.201 (0.559)
SN_ABR	1.14*** (0.0037)
PPA	0.581 (0.132)
Number of observations	223
Log-likelihood	-118.98
Pseudo-R ²	0.767

Note: *, **, and *** indicate statistical significance at the 0.1, 0.05, and 0.01 levels of statistical significance for each coefficient.

Source: Authors' calculations

and lacking accountability, some of these conclusions may fail to consider other motivators to migrate from Croatia. A similar problem is present in Troskot et al. (2019) who when indicating the presence of "collective pessimism" among the Croatian youth failed to specifically identify why in the presence of collective pessimism only some individuals decide to migrate, while others do not. Indicating that there needs to be changes to the founding blocks of society is an aspirational idea indicated by Jurić (2017), but such changes take a long time to implement and there may be no political incentive to engage in such broad reforms. On the other hand, the findings here suggest that some measures that are comparatively less expensive for the government budget and less difficult to implement could at least help stem the flow of migration from Croatia.

The current policies implemented by the

government are focused on ensuring that those younger than 30 have higher disposable income through tax cuts. The essential goal of this policy, which does provide more disposable income to at least this targeted group, could be a viable policy solution based on the findings of this paper. Another viewpoint should be considered here. There is no guarantee that individuals older than 30 will not migrate and, as several studies including Gadžo (2019) have already shown, the government is currently not providing sufficient incentive for these individuals to remain in Croatia. Gadžo (2019, p. 134) correctly points out that those younger than 25 are largely too young to benefit from these tax provisions and it could be argued that those in the age group of 25 to 30 face a significant change in their disposable income when they turn 31 and the policy provisions no longer apply. Given that age has not shown to be a variable in many of the studies of migration from Croatia and this is consistent with the findings of this paper, it may be better to develop policies that would encourage people with higher education to remain in Croatia. Encouraging or subsidizing bonuses for individuals who have obtained higher education, such as MA's or PhD's, could be a viable policy step. In the short-term, the ability of the government to navigate the crisis of the cost of living and inflation will have a significant impact on the immediate macroeconomic outlook.

While most of the respondents are not satisfied with the underlying political factors in Croatia, this is a trait shared between those wishing to migrate to Croatia and those not considering doing so. While combating corruption is a priority for ensuring development for Croatia in the long-run, achieving political satisfaction may be more complex and should not be linked to policies concerning migration. As indicated by Henjak (2017), the political state of Croatia is impacted by partisanship and increasing levels of dissatisfaction with the state of politics. In order to further consider findings from the survey, it is necessary both to examine the following logit regression model both as a robustness check and as a method of providing additional insight to the opinions presented by the surveyed participants.

4.1. Robustness check

The Cronbach's Alpha indicator for the results of the Likert scale is 0.913. Such a value indicates that the results are statistically valid as a value as low as 0.7 is considered to be acceptable. In addition, the general value of the Pseudo-R² indicates that the model itself is suitably specified. A lower value of the Pseudo-R²

Table 5. Logit regression model

Variables	(8)
Const	-7.37*** (0.002)
COM	-0.25 (0.225)
PRO	0.892*** (0.0001)
PP	-0.121 (0.541)
SC	-0.354 (0.183)
DC	0.408 (0.381)
TAX	-0.72** (0.029)
CPP	0.512* (0.092)
GS	-0.345 (0.2203)
WP	0.849** (0.0201)
PA	-0.959** (0.0108)
QEL	0.676** (0.0361)
PAY	1.08*** (0.00001)
PEC	-0.477** (0.049)
LRS	0.411** (0.03)
WOR	-0.334* (0.097)
Number of observations	223
Log-likelihood	-93.57
Pseudo-R ²	0.82

Note: *, **, and *** indicate statistical significance at the 0.1, 0.05, and 0.01 levels of statistical significance for the coefficient.

Source: Authors' calculations

would indicate the possibility of the model having selected variables that have no relevance in determining the dependent variable. As the value of this indicator is never lower than 0.7, it is possible to determine that the models are suitably specified. Aside from calculating the value of the Cronbach's Alpha, the paper also analyses whether conceptualizing corruption and wages into different variables had an impact on their

statistical relationship with the desire to migrate from Croatia. The results of the logit regression with the information from the Likert-scale questionnaire are provided in Table 5. Some of the variables listed in Table 2 were omitted from the final model as they were not statistically significant and excluding them provided a better fit for the model.

The initial results appear to be consistent with the finding in Table 5. There is consistent evidence that wages and dissatisfaction with working conditions is the main cause of people migrating from Croatia. This indicates that the findings from Table 3 and 4 are consistent across different types of conceptualization of dissatisfaction with corruption and lacking faith in public institutions. The difference between the participants who considered migrating from Croatia and those not thinking of doing so that was relevant at the 1% level of statistical significance was in the variables PRO and PAY. This is consistent with the findings from the previous logit regression models. Of the previous studies conducted, Golub (2003) clearly established that focusing on workplace conditions was a necessary component of mitigating the brain drain.

This paper similarly finds that focusing on wages and ensuring better conditions for professional development are essential to preventing further migration waves from Croatia. It should be noted that of the variables that accounted for lacking reforms or high taxes and parafiscal levies, none had a positive interrelation with the choice to migrate from Croatia. In fact, dissatisfaction with taxes and parafiscal levies was actually higher among those not considering migrating for Croatia and in the remaining instances the variables used to consider lacking faith in institutions or dissatisfaction with corruption were not statistically relevant.

5. Conclusion

This paper considered factors driving migration from the Varaždin County and considered a wide array of political and economic factors. The main finding of the paper is that a perception of being unable to professionally develop in Croatia, along with dissatisfaction with wages, are the main factors contributing to individuals migrating from Croatia. This finding is consistent across different attempts of conceptualizing both economic factors as well as dissatisfaction with corruption and lacking faith in public institutions. The paper also finds that individuals who know people who have migrated abroad are more likely to also consider doing so. Despite utilizing a significant number of variables that account for dissatisfaction with

political factors including lacking reforms in public administration, mismanagement of public funds, and corruption in public procurement, none of these variables have shown to be statistically significant in determining the decision to migrate from Croatia. As a result, the paper argues that policy-makers should focus on measures that would decrease costs of life and increase the disposable income of consumers.

There is clear evidence that all of the survey participants are highly dissatisfied with institutions and corruption which does reflect the "societal pessimism" mentioned in Jurić (2017). This is not a factor that distinguishes these two groups and this paper does not find that there is a causal link between dissatisfaction with corruption and migrating abroad. The findings of the paper are specific to Croatia and in no way dispute the findings of other country-specific studies such as Lapshyna (2014). For future research, it is clear that considering such country-specific effects is something that researchers should be aware of when devising research frameworks.

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Appendix

The descriptive statistics about information concerning the Likert scale questionnaire are provided in Table A1 below.

Table A1: Descriptive statistics of Likert scale questionnaire

	Mean	Median	Mode	Standard deviation
Statement 1	3.4	3	3	1.02
Statement 2	3.43	3	5	1.25
Statement 3	4.05	5	5	1.24
Statement 4	4.23	5	5	0.95
Statement 5	4.69	5	5	0.68
Statement 6	4.36	5	5	0.82
Statement 7	4.36	5	5	0.99
Statement 8	4.23	5	5	0.96
Statement 9	4.44	5	5	0.87
Statement 10	4.31	5	5	0.91
Statement 11	4.45	5	5	0.86
Statement 12	3.97	4	5	1.12
Statement 13	3.95	4	5	1.06
Statement 14	4.07	4	5	0.97
Statement 15	4.07	4	5	0.98
Statement 16	3.44	3	5	1.26
Statement 17	3.31	3	5	1.31
Statement 18	2.9	3	3	1.37
Statement 19	2.78	3	2	1.34
Statement 20	3.24	3	3	1.31

Source: Authors' calculations