The Propensity to Emigrate from the Perspective of the Household – a Comparison over Time between two Kosovo Data Sets

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Abstract

The aim in this paper is to analyse the stability over time of a household planning to send at least one additional member abroad due to dissatisfaction with the national economic situation by replicating the model in Kotorri (2010). The analysis is motivated by the political change, that is, the Declaration of Independence of Kosovo in the time period between the two surveys. The empirical results indicate support for the hypothesis of the overall stability over time, and that the only differences in model structure include the coefficient estimate on the attitudinal variable Worse and on the location-related variable Type of Area.
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Introduction

The aim of this research is to analyse the stability over time of migration behaviour as modelled in Kotorri (2010). For this purpose, this paper replicates the analysis in Kotorri (2010) by estimating the model of the propensity to emigrate using a 2008 data set. Both of these data sets, the 2007 and the 2008, were based on the same sampling framework (see Kotorri, 2010 for details). An important political change occurred during this period, but the time difference between the two samples is very short, only 1 year. The independence of Kosovo was declared in February 2008 just before the second survey was conducted. Thus the 2007 sample is from the period before the Declaration of the Independence, while the 2008 sample is from the period after. Therefore, some differences between the two years may be anticipated in households' attitudes towards the future economic situation resulting from the resolving of the political status of Kosovo. However, as will be explained in the following paragraphs, a variable that captures the effect of households' expectations was included in the model of the propensity to emigrate developed in the paper.
The model in Kotorri (2010) deploys an expected utility maximisation framework to model household decision-making behaviour regarding migration using the same broad assumptions. There, the households are modelled as maximising utility from current and future consumption, including in their choices the possibility of a) sending at least one additional member abroad, or b) not sending any or any further members abroad. This is conditional on the household income constraint. The households as the decision-making unit are assumed only to choose to send members abroad if the

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resulting positive effects offset the negative effects.

Households are considered to be forward-looking and to discount future utility. Given this assumption, the model included an attitudinal variable, modelled as a series of dummies, based on a question that asked the household's current view of its economic situation compared to one year ago. The answer to this question may be considered to be a forward-looking opinion (of the near future) if expectations are adaptive. The dummy variable for whether the household head perceived the household economic situation to have worsened compared to the previous year was significant in the estimations presented there. Given that any changes in households' perceptions regarding their economic situation, measured in this way, are controlled for in the relationship, we test the hypothesis of stability of the model.

Despite the political change, the economic performance of the economic fundamentals during the period of investigation was mixed. The economy expanded in real terms at 5.4 per cent in 2008 from the 3.9 per cent level in 2007 mainly based on large public investments. The GDP deflator increased from 3.3 per cent to 5.4 per cent in 2008, partially due to increases in international food prices. The trade deficit was still immense and increased by €300 million in 2008, probably reflecting the increase in imports induced by the additional investment in public infrastructure. The unemployment rate remained high at above 40 per cent (World Bank, 2007). Remittances and foreign assistance, though, have remained stable.

In the literature reviewed in Kotorri (2010) and to the best of our knowledge, the stability of this aspect of migration behaviour has not previously been considered for any country. Therefore, the analysis presented in this research is the first to examine the stability over time of this relationship. The analysis is based on the Blinder-Oaxaca decomposition technique to distinguish between the sources of the differential and their corresponding significance levels between the variables in the two models and to provide a test of the statistical significance of the overall differential between the two models. Although admittedly a period of some political and economic change in Kosovo, the time between the data collection was very short. If the structural relationship is not found to be stable this raises the question of whether such instability in the determinants of emigration behaviour is also a feature in other countries.

Survey and Data

The analysis in Kotorri (2010) is based on a survey conducted by the Riinvest Institute in July 2007 comprising of a sample of 1,384 Kosovar households. The sample used in this research consists of a smaller sample of 400 Kosovar households stemming from a survey conducted by EDG in December 2008. To ensure the compatibility of the data sets for the comparative analyses in this research with that used in Kotorri (2010), the questionnaire used in this latter survey was designed in a manner that it includes identical questions to enable the same variables to be used as in the model in Kotorri (2010).[1] The key question is again households' plan to send at least one

[1] Ensuring compatibility between the data sets was possible since one of the authors was part of the team designing the questionnaires both for the Riinvest survey and the EDG surveys conducted for the purposes of the research.

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additional member abroad for economic reasons. The same sampling technique was used for the second Kosovo survey; the reason for this is that there has been no recent census of population in Kosovo.

Given that the two data sets are based on random samples, some differences between the two are expected. The two samples are different with regard to the variable controlling for households' perceptions on their future economic situation. The proportion of households that perceive their economic situation to have improved being larger in 2008, but the proportion of households that perceive the economic situation to have remained the same has decreased. Still, the proportion of households that perceive the economic situation to have worsened is similar. The data sets, however, are largely similar and they support the view that the desired sampling framework was achieved. They therefore provide a sound basis for investigating the stability over time of the economic model of households' emigration behaviour.

The Extended Blinder- Oaxaca Decomposition For Non-Linear Models

To investigate the stability over time of migration behaviour an extension of the Blinder-Oaxaca decomposition for nonlinear models (henceforth, BO decomposition) is applied (Blinder, 1973; Oaxaca, 1973; Bauer and Sinning, 2008). The BO technique was developed to decompose the gender wage differential in the context of linear regression models. It decomposes the differential into a part that is explained by differences in observed productivity characteristics, the endowments/characteristics effect, and a residual part that cannot be accounted for by observable characteristics, the coefficients effect. The residual part is attributable to differences in the estimated coefficients and is frequently used as a measure of discrimination. Also, the residual part subsumes the influence of model misspecification, either in terms of not explicitly controlling for determinants in the model or imprecise measurement of the explanatory variables. The same holds for the decomposition by variable. This technique is mainly applied to labour market discrimination. However, it can be applied to decompose group differentials in any outcome variables. Park and Lohr (2010) used it to decompose differences in the use of crop disease and nematode management strategies by gender, while Gang et al. (2010) deployed it to decompose differences in the jump in attitudes towards foreigners displayed by Europeans.

The literature points at several limitations of the BO technique. According to Masters (1974), Daymont and Andrisani (1984) and Cotton (1988) the principal concern is statistical in nature and relates to the discrimination effect. The OB technique interprets the residual part not accounted for by productivity-related characteristics as the gender discrimination effect. The critics question whether the residual is an appropriate measure of the discrimination effect or simply a result largely of model misspecification. They argue that for the residual to be an exact measure of discrimination the model must be correctly specified. Otherwise, the discrimination effect will represent the influence of missing variables and/or incorrect functional form and therefore bias the discrimination effect. So far, no solution to this problem has been found, but results from this technique need to be interpreted with caution (Cotton, 1988 and Masters, 1974).

In the literature, various authors have suggested and used alternatives to the traditional formula. Masters (1974) argued that the sum of the discrimination and the endowments effect does not necessarily equal the total wage differential. Hence, even in the absence of discrimination and if females had the same values of the independents the total effect would be greater (lower) than the individual effects since females with above average values for the independents may face (lower) discrimination. Consequently, he suggests adding the so called "interaction effect" which is a combination of the endowment effect. As such, the interaction effect is part of the discrimination effect.

There is yet another critique on the applicability of this technique. Fairlie (2005), Bauer and Sinning (2008), Sinning et al. (2008) and Zhao and Shyr (2009) question its validity when applied to categorical dependent variables. According to them, the standard BO technique cannot be applied in this case since there is a difference between the parameter estimates of linear models and the marginal effects of the latent outcome variable. In this regard, Bauer and Sinning (2008) have developed an extension of the BO decomposition for non-linear models. Sinning et al. (2008), use that approach and explain how to apply the BO decomposition to models with categorical dependent variables using the STATA command nldecompose. The nldecompose command performs only the overall decomposition but not by variable contributions separately. After decomposition, the STATA command bootstrap calculates the standard errors of the decomposition components.

In this paper, these two alternatives of this technique are used to decompose the characteristics effect from the coefficients effect. Also, a detailed decomposition by variable of the two effects is provided given the differences revealed in the comparison by direction and level of significance of explanatory variables between the two years.[2] The characteristics effect measures how observable characteristics across the two years influence migration behaviour, while the latter measures the relative strength of a characteristic on the migration decision across the two years. The first approach is that suggested in Masters (1974). This variant of the technique decomposes the difference in migration decisions into the part resulting from differences in the mean values of explanatory variables and the part resulting from differing model structures. The second component consists of the coefficients effect and the interaction effect. Additionally, the Oaxaca and Ransom (1994) approach is followed which further decomposes the coefficients effect into the so called "disadvantage effect" and "advantage effect". Please note that within the context of this research the discrimination/coefficients effect measures the difference in the probability to send one additional member abroad for economic reasons between the two years, 2007 and 2008 resulting from the differing model structures. As argued above, the residual component is considered to contain this latter effect. It has to be noted, though, that, there was no significant economic change between the two years. Additionally, the two samples are largely similar with respect to all the variables. So, a priori, it is expected that the probability to emigrate between the two years will be similar with respect to both the predictabilities of the variables, that is, the

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[2] For brevity, the results have not been reported. However, they are available from the authors upon request.

same model structure holds in both years, and to the mean differences. However, some difference due to mean values of the variables is expected as the statistical analysis indicates statistically significant differences in mean values for some of the variables.[3] Considering the a priori expectations of no or relatively small differential, the suggestion in Neumark (1988) and Oaxaca and Ransom (1994) about using the coefficients from the pooled regression as the counterfactual coefficient vector β*for this decomposition seems reasonable. The table below shows the results from the decomposition for the two years.

Table 1 Analysis of Stability over Time of the Emigration Propensity Model Between the years 2007 and 2008

	Coefficient effect	P>|t|	Percentage
Using 2007 as the standard			
Characteristics effect	-0.011	0.742	34.37
Coefficients effect	-0.011	0.743	33.54
Interaction effect	-0.011	0.792	32.09
Using the pooled regression			
Characteristics effect	-0.016	0.164	49.30
Coefficients effect			
Advantaged	-0.013	0.558	39.84
Disadvantaged	-0.004	0.56	10.86
Raw	-0.033	0.296	100
B Number of observations A	255		
A Number of observations	922		
Bootstrap replications	50		

Given the focus of the analysis on whether the model structure has remained the same in 2008 compared to 2007, the results presented in the table above take the year 2007 as the reference category. So, following Masters (1974) the first panel provides results of the three effects using the 2007 data set as the standard. The second panel provides results applying the Oaxaca and Blinder (1994) and Neumark (1988) suggestion on using the counterfactual coefficient vector derived from the estimated coefficients of the pooled sample. The hypothesis of interest is that in the absence of differences in the independent variables and in the absence of significant economic differences between these two years the model structure of the emigration behaviour will remain stable over time.

As expected, the decomposition results suggest that the overall differential and the two different sources of the differential are statistically insignificant. So, these results provide support for the hypothesis that the migration decision is stable over the time before the declaration of independence and afterwards. This also suggests that the political change, which was not followed by any significant economic changes, has not altered the migration behaviour of Kosovon households and that the same model

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[3] Results of the statistical analysis are available from the author upon request.

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structure can be applied to the samples in both years.

The Extended Oaxaca-Blinder-Fairlie Decomposition for Non-Linear Models

Here, a detailed decomposition is conducted by variable. The focus of this complementary analysis is on testing whether the coefficient estimates have remained stable over time and the policy implications derived based on it. Hence, attention will be put on the coefficients effect of the explanatory variables and its statistical significance. The calculation of the contribution of individual variables to the group differences in the probability of households' planning the emigration of one additional member abroad for economic reasons is based on the STATA command *fairlie* (Fairlie, 2005). For reasons explained above, the results take the year 2007 as the reference category. For brevity, only explanatory variables which have a statistically significant coefficients effect will be interpreted.

The results indicate that 99 per cent of the differential is explained by the mean differences in the observable characteristics, while only 0.01 per cent of the differential is due to the coefficients effect. So, this is in line with the hypothesis of stability over time of households' migration behaviour. There are only two variables the coefficient estimates on which have not remained stable over the period under investigation, the attitudinal variable worsen and type of area. These results indicate that compared to their counterparts in 2007, all else equal, households living in rural areas and households whose heads perceive the economic situation of the household to have worsened have a marginally lower probability of planning emigration.

Concluding Remarks

This study replicates the empirical analysis in Kotorri (2010), using a data set stemming from a survey conducted in 2008, to examine the stability over a short period of time of the models of the propensity to emigrate in Kosovo. It investigates whether the economic model that includes variables that proxy households' perceptions of the future economic climate as deployed in Kotorri (2010) is appropriate for modelling the same relationship after the Declaration of Independence in Kosovo. The 2008 sample may reflect a changed socio-economic and political situation after the Declaration of the Independence. It was argued that the Declaration of Independence may have altered households' economic expectations. So, in this analysis the validity of the attitudinal variable as a proxy of expectations, the particular specification and the validity of the economic model are tested. The analysis is based on two samples that are two different random draws from two different years using the same sampling frame. Differences between these samples are expected because of randomness. There may also be structural differences in the economic model of the probability of emigration given the political (and other unidentified) changes. Indeed, given the lack of evidence from elsewhere it is unclear as to whether instability is uncommon, linked to occasional important events, or whether such instability is often to be found in migration behaviour over short periods of time. Instability is hardly the result of model specification as it is similar to those used in the literature. The model was actually developed based on the literature on emigration propensity.

To distinguishing to what extent and whether the differential is due to mean

differences in the observable characteristics or due to differing model structure, the extended BO decomposition was deployed. The results indicate that overall the relationship is actually stable over time. This is supported also by the lack of statistical significance of the decomposition components. The results from the detailed BO decomposition suggest that the coefficient estimates of the explanatory variables have remained stable over time, except for that on the attitudinal variable **Worsen** and on **Type of area**. According to these results, rural households have a lower probability of planning emigration compared to their counterparts in 2007, all else equal. Given that this variable was assumed to capture the impact of worse paid-employment opportunities in rural areas, this result may be indicative of an improvement in the economic situation in rural areas. The results also indicate that households whose heads perceive the household economic situation to have worsened have a lower emigration probability in 2008, all else equal. This may suggest that the attitudinal variable is not a strong proxy of future expectations, or that it has been affected by political factors.

The analysis using the BO technique suggests that household migration behaviour is stable over the time period under examination. The structure of the relationship has not altered, maybe because the Declaration of Independence was not followed by significant economic changes given the short time period between the two surveys, and therefore the economic model in Kotorri (2010) can be used to model the relationship in 2008.

To our knowledge the migration decision in a country or countries has not yet been examined by any other author in terms of its stability over time. The macroeconomic performance of Kosovo was mixed in 2008 compared to 2007 probably due to the very short time difference. This and the short time difference between the two surveys warrants further investigation of the time stability of the relationship between 2007 and a later year.

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Appendix 1 Variable Definitions

Table A1 Variable lable and variable description

Label	Abbreviated definition	Definition
P_i	Probability to emigrate	Probability to emigrate = 1 if household plans to send at least one additional member abroad for economic reasons
	Household Characteristics	
YH_i	Total income at home	Household income, exc luding remittances, of those employed in the home country divided by household size including migrant-members
YA_i	Total income abroad	Household income per capita, excluding remittances, of those employed in the host country divided by household size including migrants
TR_i	Total remittances per capita	Remittances divided by household size including migrant-members
$R(DV)_i$	Remittances	= 1 if household receives remittances, 0 otherwise
$SU16_j$	Total share of those under the age of 16	Share of those under the age of 16 including migrant-members
SWA_i	Total share of those of working age	Share of those of working age including migrant-members
$SFWA_j$	Total share of females in those of working age	Share of females in those of working age including migrant-members
Edu_i	Education	=1 if household head in the home country has higher education
RY_i_1	Improve	=1 if the household head in the home country perceives the economic situation of the household to improve compared to one year ago, 0 otherwise
RY_i_3	Worsen	=1 if the household head in the home country perceives the economic situation of the household to worsen compared to one year ago, 0 otherwise
	Psychic Income	
S_i	Total number of household members	Number of household members within the household including migrant-members
$Network_i$	Network	= 1 if household has any household members abroad
Nuc_i	Total number of nuclear families	Number of nuclear families within the household including migrants
	Location-related characteristics	
RU_j	Regional unemployment rate	Regional unemployment rate
TA_j	Type of area	= 1 if household lives in a rural area, 0 otherwise