

Migration and Poverty in the Post-Communist Countries of Europe and Central Asia

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On my honor, I have neither given nor received any unacknowledged aid on this paper.

Introduction

Following communism's collapse across Eastern Europe and Central Asia, many citizens of the post-communist world began to view westward migration as a source of economic opportunity in the face of their newfound political freedoms. With many wealthy OECD nations located nearby, migration proved to be a feasible way for people to gain access to better jobs and higher wages. The prospect of living in the West consequently offered people the comfort of knowing that they could escape the poverty and vulnerability that struck their nations after the communist state renounced its obligation to provide for its citizen. Although many people decided to leave their home country, those staying behind often received support from the remittances that their migrating relatives sent home. By providing citizens in post-communist countries with a steady flow of income, remittances could potentially play a key role in alleviating poverty and generating economic growth.

Despite the additional income benefits that remittances bring, empirical evidence is inconclusive in regards to whether remittances actually contribute to economic growth and poverty reduction. Using a comparative analysis of the effect of remittances on economic growth in southern Europe, the Middle East, Latin America, the Caribbean, and Asia, Taylor et al. (1996) suggest that remittances may have greater costs than benefits for some sending countries. The authors acknowledge that remittances generally alleviate constraints on foreign exchange, increase domestic savings and consumption, and raise overall living standards for migrants' families. However, they also suggest that remittances may fail to exert a positive effect on long-term growth. If remittances' greatest effect is in increasing a country's consumption of imports rather than boosting entrepreneurial investment or consumption of domestic goods, then remittances may have a negative effect on growth. Because poverty tends to have a negative relationship with economic growth, a negative relationship between remittances and growth could suggest that remittances actually fail to alleviate poverty.

While many of the past studies on migration have focused on the effects of remittances, recent migration studies are beginning to focus on the consequences of skilled migration in more depth. In his study of changes in European migration policy, Frank Laczko (2002) suggests that Western countries in the European Union (EU) have been selecting high-skilled migrants over medium skilled and low skilled workers. If enough skilled migrants decide to leave their home countries, then the high demand for their skills in the West could unleash a “brain drain” across post-communist states. Since high levels of human capital are often necessary for countries to innovate and use complex technology, build strong public institutions, and implement government programs, the emigration of skilled workers could have severe negative effects a country’s ability to develop and reduce poverty (Kapur and McHale 2005).

On the other hand, even skilled migration may have positive effects on growth if it has certain spill-over benefits. Educated migrants working abroad can improve a nation’s access to capital, technology, information, and business contacts, all of which may prove beneficial for sending countries’ growth rates (World Bank 2006). If there is a surplus of skilled labor, emigration may also relieve pressure on the labor market by decreasing unemployment and increasing wages. Thus, emigration of skilled labor has the potential to have either positive or negative effects on poverty in sending countries.

The positive or negative effect of migration on poverty could ultimately have substantial policy implications on both the Western EU states and their post-communist neighbor states. Western European nations wishing to play a role in reducing poverty in Eastern Europe and Central Asia may wish to consider allocating more funds toward temporary migrant worker programs specifically for their post-communist neighbors. As the value of migrant remittances continue to surpass the value of foreign aid, Western EU countries may also wish to consider turning guest worker programs into a form of foreign aid. Work programs for temporary migrants may indeed

prove more efficient in reducing poverty than supplying foreign aid, which may simply improve consumption capabilities. By contrast, the skills that individuals develop while working abroad could be valuable investments in human capital.

Migration also has significant policy implications as the EU continues to enlarge. In 2004, the EU enlarged to allow eight former communist countries into the common market and has since then allowed two more. It is currently working closely with Turkey and countries in the Western Balkans to prepare them for eventual accession. The EU may wish to re-consider its aims to guarantee a free movement of labor if migration has adverse effects on poverty in post-communist states. On the other hand, if remittances manage to combat poverty more than the brain drain exacerbates it, then the EU may wish to introduce policies that guarantee the free movement of people more rapidly than in Central Europe. Given the potentially positive and negative effects of migration and their significance for international public policy, this paper aims to answer the following question: What effect does migration to the OECD have on poverty in the post-communist countries of Eastern Europe and Central Asia?

Although most research studying the effects of migration on poverty tend to focus on Latin American and Asian emigration, I focus my study entirely on emigration from post-communist countries. Most studies also tend to focus on the relationship between economic growth and migration, rather than the relationship between poverty and migration. While economic growth is certainly related to poverty, my study will focus primarily on determining whether migration could play a key role in reducing poverty in the post-communist world. Finally, my research differs from most of the migration literature in that it focuses on both remittances and the flight of human capital as the key effects of migration. Most studies isolate their focus on either remittances or the effects of brain drain, whereas I include both in my model to determine what each of their effects are while holding the other constant.

Literature Review

Researchers have begun to study different aspects of international migration more extensively over the past twenty years in an effort to decipher its effects on developing countries. Much of the international migration literature currently focuses on the effects of unskilled labor flows, the consequences of brain drain and brain gain, the costs and benefits of return migration, and the impact of remittances (Katseli et al. 2006). Despite a general agreement among researchers that skilled emigration and remittances affect poverty, much controversy remains as to whether migration has a clear positive or negative effect on sending countries in both the short term and long term.

Recognizing that poor data on unofficial remittance flows prohibits any accurate conclusions regarding remittances' effect on poverty, several scholars have nevertheless used official remittance flows to conclude that remittances may indeed play a significant role in reducing poverty. Using panel data from countries around the world, Adams and Page (2003) conclude that a 10% increase in the share of remittances will lead to a 2% reduction in the depth or severity of poverty. They also estimate that a 10% increase in the share of remittances can lead to a 1.2% decrease in the share of people who are poor in a given country. According to their study, remittances primarily reduce poverty by increasing per capita income. Chimhowu et al. (2003) additionally report that migrants tend to remit more in times of economic hardship or crisis, which may provide a cushion for family members who face dire poverty in the wake of a crisis. Remittances tend to be particularly important for poor households because they often constitute a considerable proportion of the household's income and allow for greater consumption expenditures (Mansoor and Quillin 2007).

Though remittances may reduce poverty in the short run by allowing poor households to consume more, several studies have suggested that remittances may not have any long term effects on reducing poverty. Chimhowu et al. (2003) argue that if remittances contribute primarily to

consumption, rather than investment spending, then they may not reduce poverty significantly in the long run. In the Europe and Central Asia (ECA) region, there remains substantial debate as to whether remittances constitute enough investment spending to have a significant positive effect on reducing long term poverty. Through a survey analysis, the Mansoor and Quillin (2007) estimate that less than 5% of remittances in the ECA region are for investment and approximately 10% are for education and savings, while 80% are used for consumption. Taylor et al (1996) observe that in Yugoslavia specifically, remittances were channeled into home construction costs and consumer durables, rather than investment. Léon-Ledesma and Piracha's (2004) study of Central and Eastern Europe, on the other hand, estimates that remittances have significantly contributed to increasing the level of investment and may consequently lead to poverty reduction in the long run.

Several researchers have also questioned remittances' role in reducing poverty by observing that wealthier individuals tend to have greater migration opportunities and therefore greater opportunities to remit. Wealthier households tend to receive more remittances as a proportion of all households, in part because migration is costly and because wealthier households often have a better chance of receiving information about migration opportunities (Mansoor and Quillin 2007). Many OECD countries also select highly skilled migrants (Katesli 2006), which tend to come from upper socio-economic groups. If skilled migrants do not remit much income that can then contribute to their country's development, then their migration may have the overall negative effects of decreasing tax revenue in their home country and decreasing the number key personnel in fields such as education and health care (Davies 2003). Faini's (2007) study in fact suggests that skilled migrants do not remit significantly more than unskilled migrants, and therefore migration may have negative effects on poverty by causing a brain drain.

Controversy, however, remains as to whether a brain drain could eventually produce a brain gain that could lead to development and poverty reduction in the long run. Frank and Stark (2007)

argue that the prospect of migration and higher wages in other countries may motivate citizens to stay in school longer, which could result in a brain gain. They observe that a brain drain is often associated with a brain gain, which can then increase the levels of human capital in a developing country. With higher levels of human capital, countries can increase their production possibilities and consequently alleviate unemployment and poverty. Migration may also lead to a brain gain if workers acquire valuable skills and experience while working abroad and then use their new skill sets in jobs at home. León-Ledesma and Piracha (2004) estimate that the return of migrants in the Central and Eastern European region has specifically had a positive significant effect on productivity, in part because migrants learn valuable entrepreneurial skills by working in strong market economies.

Although several researchers have examined the effects which skilled emigration and remittances have on development, there is little consensus as to whether migration has a definitively positive or negative effect on poverty. The results differ substantially across regions and countries, and seem to be somewhat dependent upon the strength of public and private institutions within the sending country. For example, countries that provide good climates for investment may be more likely to see long term poverty decrease as a result of remittances because people will be more likely to use remittances for investment than consumption. In addition to estimating the overall effects of skilled emigration and remittances on poverty, I observe how these effects differ across countries in the ECA region. As more accurate data accumulates, scholars may eventually reach certain conclusions regarding the circumstances that make migration particularly effective in reducing poverty.

Theory

In his works on poverty, Amartya Sen (1992, 1999) emphasizes that poverty exists when basic capabilities fail to achieve a minimally acceptable level. The poor are consequently those who

do not have the capability to obtain basic needs like food, shelter, or medical care. While Sen notes that poverty should be defined as capability inadequacy rather than income deprivation, he concedes that the two are often closely related because income can serve as a means to obtaining capabilities (Sen 1999). Likewise, certain capabilities may improve an individual's access to income, which can serve as a means to fulfill other capabilities (Sen 1999). The capability to obtain adequate nutrition, for example, may improve a person's productivity and increase his wages, which may in turn provide access to other basic needs like health care. Drawing on Sen's analysis of the relationship between income and capabilities, I have chosen to measure poverty as the percentage of people living below a threshold level of income.

In studying the relationship between migration and poverty, I have chosen to use the value of remittances and emigration of skilled workers as my focal variables. As a result, my study primarily focuses on the economic effects of migration, rather than the political, sociological, or psychological effects of migration. The literature suggests that other migration variables, such as the prevalence of single-headed households, may affect poverty by changing family dynamics and children's functioning capabilities (McKenzie and Sasin 2007). However, I omit these sociological variables because it would be difficult to measure and determine their effect on poverty with much accuracy. Because the sociological and psychological effects of migration may effect other aspects of society (i.e. the formation of ethnic enclaves), policy makers should consider the non-economic factors of migration before implementing any migration policy.

Remittances may play an important role in reducing poverty primarily by providing individuals with additional income (Adams and Page 2003). According to macroeconomic theory, an increase in income will consequently increase people's capabilities to consume items such as food and other basic necessities. By increasing people's consumption possibilities, remittances may in turn have a multiplier effect on the economy. They could shift the demand for goods and services

out by providing families with greater purchasing power. Firms may then respond to the increase in consumer demand by producing a greater quantity of goods. If the expenditures on goods and services equal the income that firms earn from selling the goods, then firms will need to hire more workers to account for the increase in the quantity demanded of goods. Remittances may consequently have an indirect effect of increasing an economy's employment. My hypothesis was therefore that the multiplier effect that remittances could generate on economic growth would ultimately lead to a negative effect on poverty.

Brain drain theory, on the other hand, suggests that migration may increase poverty by decreasing the amount of human capital in a nation. A reduction in the level of human capital would theoretically rotate a country's production possibilities curve downward, which would then decrease its economic growth. According to classical macroeconomic theory, this downward rotation in the production curve would decrease the demand for labor and lead to less employment. People would then earn lower wages and states would have less tax revenue to provide social safety nets for the poor. The emigration of skilled labor may also decrease investment, as skilled workers often form the entrepreneurial base for a country. A decrease in investment may similarly rotate the production curve downward and consequently increase poverty. I therefore hypothesized that the emigration of skilled workers would have a positive relationship with poverty.

Although the benefits of remittances could outweigh the harmful effects of skilled migration, Faini (2007) suggests that skilled workers do not remit more than unskilled workers and therefore their migration is particularly harmful for countries aiming to alleviate poverty. Without skilled workers in critical fields such as health care and education, a nation may not be able to provide its citizens with the capabilities to avoid poverty. Skilled workers who do not send remittances also fail to provide incomes for their compatriots to access their basic needs. Although remittances theoretically decrease poverty while the brain drain theoretically increases poverty, I

hypothesized that migration on the whole would increase poverty. By removing valuable human capital from a country's economy, migration denies countries the capability to increase incomes through investment. Faini's study (2007) suggests that remittances do not compensate for the exodus of skilled workers because skilled workers do not remit more than unskilled workers. Thus, the brain drain effect should ultimately outweigh the remittances effect, and poverty should increase as a result of more migration from the post-communist world to the OECD.

In order to focus my study on migration's effect on poverty, I have chosen to control for several other variables that may influence individuals' income. I estimate that poverty is largely a function of an individual's ability and ambition to earn income, the state's ability to provide safety nets, and the market's ability to provide jobs. I use mean per capita income as the primary indication of the wealth in a country, and use it to proxy for the state's ability to provide social safety nets. As mean per capita increases, poverty should decrease because the government will be able to provide people with greater capabilities through safety nets. I use the gini coefficient as an indication of whether people have the capabilities to earn a high income. A high gini coefficient indicates that there is a large degree of social inequality that may prevent many people from earning sufficient incomes. Finally, I use the percentage of people with a tertiary education as an indication of individuals' opportunities to demand higher incomes and pursue entrepreneurial investments. I hypothesized that as the educational attainment in a country increases, poverty will decrease.

While unemployment should also contribute to poverty, the available data that measures unemployment is ultimately inconsistent across the ECA region. Many of the International Labor Organization's (ILO) unemployment statistics are those that individual countries report with regards to their own labor markets. Governments have an incentive to under-report unemployment, as often occurred during communist times, to ensure that the leadership could stay in power. Poorer countries in Central Asia may also lack the institutional infrastructure to calculate unemployment

accurately, particularly countries like Tajikistan and Azerbaijan that have only recently begun to recover from violent conflicts. Finally, although the ILO does attempt to conduct its own sample surveys on the unemployment rates in ECA countries, these independent surveys are not available for many countries in the region. Where they are available, however, they often differ from the official unemployment rate by several percentage points. Thus, while unemployment should theoretically be incorporated into my model, I have decided to omit it because of data irregularity and unavailability.

My model thus estimates the effect of remittances (REMIT) and emigration of skilled labor (BDRAIN) on poverty (POV), controlling for mean per capita (MEANINC), the gini coefficient (GINI), and educational attainment (EDU):

$$POV = f(\text{REMIT}(-), \text{BDRAIN}(+), \text{MEANINC}(-), \text{GINI}(+), \text{EDU}(-))$$

Model

I use the following regression model to determine migration's effect on poverty:

$$POV = \beta_0 + \beta_1(\text{REMIT}) + \beta_2(\text{BDRAIN}) + \beta_4(\text{GINI}) + \beta_5(\text{MEANINC}) + \beta_6(\text{EDU}) + E$$

where: POV = Percentage of people in the sending country living on an income of less than \$2 per day in 2002¹

REMIT = Value of workers' remittances, compensation of employees, and migrant transfers (in \$U.S. million) in 2000

BDRAIN = Rate of emigration to the OECD for highly skilled workers, medium skilled workers, and low skilled workers; year 2000

MEANINC = Sending country's mean per capita income in 2002²

GINI = Sending country's gini coefficient in 2002³

EDU = Percentage of people in the sending country with a tertiary education in 2002⁴

Data and Methodology

I include most post-communist countries in Europe and Central Asia in my sample. Due to insufficient data, however, I have chosen to omit Uzbekistan, Turkmenistan, Bosnia and

¹ Poverty data published by the World Bank's POVCALNET

² GNI per capita data available at UNSTATS

³ GINI coefficient published by the World Bank's POVCALNET

⁴ Education attainment based on UNESCO educational enrollment records

Herzegovina, and Serbia and Montenegro from my model. As a result, my sample may not adequately reflect migration's effect on poverty in the Western Balkans region specifically. However, because my sample includes twenty-three other post-communist countries, it should adequately represent the ECA region as a whole. Given that my sample captures approximately 90 percent of the countries in the post-communist world, I believe that it is a sufficiently large sample size.

I have obtained my data for the value of remittances from the World Bank's 2006 Global Economic Prospectus, which is based on the IMF's Balance of Payments Statistics. As McKenzie and Sasin (2007) emphasize, this data on remittances only includes official remittances and consequently underestimates the value of remittances. The level of underestimation is likely to be particularly severe in Central Asian countries, where official banking channels are not well established. However, accurate data on unofficial remittance flows are by definition unavailable and consequently cannot be included in the model. The official remittance flows may nevertheless provide some indication of migration's effect on poverty, particularly if remittances prove to decrease poverty significantly.

My remittance data also includes the total value of remittances from all host countries, rather than the value of remittances from OECD countries. In so far as I am analyzing the effect of migration specifically to the OECD, my remittance dataset is inadequate because it includes remittance data from countries outside the OECD. While most Central European countries likely send a vast majority of their migrants to the OECD, many Central Asian countries send migrants to Russia. To minimize the effect of this discrepancy, I use data from the year 2000, which was when official migration to Russia from Central Asian countries and the Caucasus reached their lowest point since communism's fall (Jafarov et. al 2006). I also believe that most of the remittances from Russia to Commonwealth of Independent States (CIS) countries travel through unofficial channels

because of poor banking systems. The vast majority of the remittances included in my dataset should therefore come from OECD countries, even though some of the remittances do not stem from OECD countries.

I use Docquier and Marfouk's (2005) Brain Drain Database to estimate the effect of brain drain on poverty. Their study counts all working-age (25 and over) foreign-born individuals living in an OECD country as a migrant and defines high skill as obtaining a tertiary education. They subsequently define medium skill as those migrants who have a secondary education and low skill as those migrants who have a primary education. Their study, however, does not distinguish between migrants who were educated after migrating and those who were educated at the time of arrival. Thus, some of the migrants may have left as medium skilled workers and obtained a college education while working abroad. They would then be considered as high skilled workers, even though they left their country as medium skilled workers.

Because my poverty data and control variable data are for the year 2002 and my remittances and migrant education data are for the year 2000, there will be some time lag in my results. While the time lag may affect the magnitude of my independent variables' effect, it should not be substantial enough to alter the sign of their effect.

Although international migration has become a growing area of research, McKenzie and Sasin (2007) note that there is a good deal of inaccuracy in the literature because scholars rarely account for several characteristics that are fundamental to the nature of migration. They note that key methodological problems include obtaining accurate data on official and unofficial remittances, avoiding intrinsic endogeneity in models, and ignoring the indirect sociological effects of migration. Despite the inherent flaws in basing many conclusions on official remittance data and the endogeneity in many migration models, however, McKenzie and Sasin note that an OLS regression analysis may work well in analyzing the effects of migration if bias is small. I therefore rely on OLS

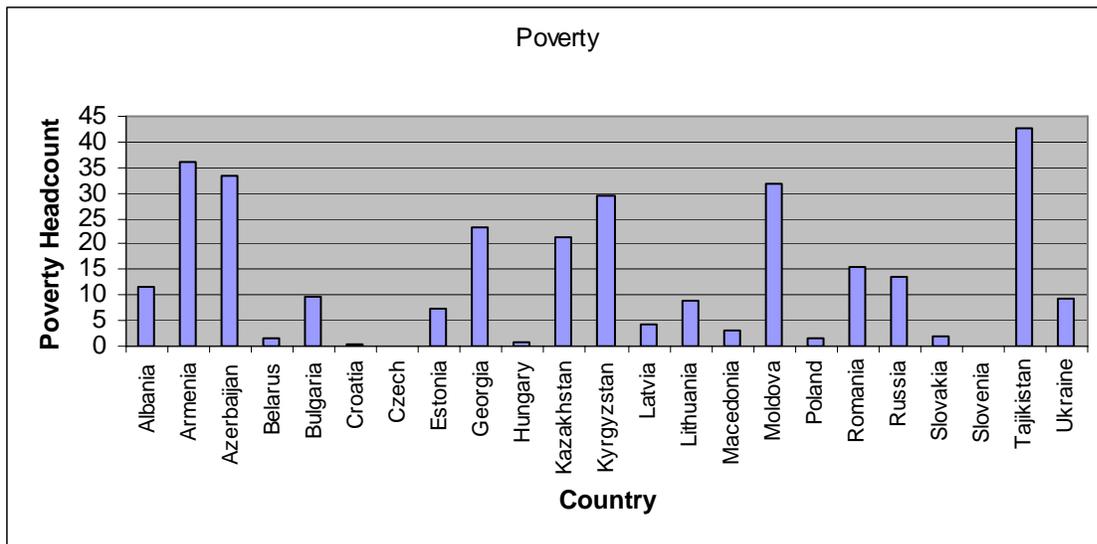
regression analysis. Although my dataset is flawed like many other researchers' datasets because it only reports official remittance values, the natural lack of data regarding unofficial remittances will necessarily preclude any accurate estimation of remittances' effect on poverty.

Descriptive Statistics

The ECA countries in my sample include a wide variation of poverty rates, with the minimum poverty rate being 0% and the maximum poverty rate being 42.5%. In general, countries that are closer to Western Europe have lower poverty rates than those in Central Asia. The lower poverty rates in Central Europe may be reflective of the EU's ability to leverage strong political institutions that can address poverty. In order to obtain membership to the EU, these countries had to implement significant political and economic reforms that would ensure the stability of their states as they transitioned from communism. The stability that their states gained by working to fulfill EU criteria for membership may have ultimately translated into lower poverty rates.

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Graph 1: Poverty Across the ECA Region

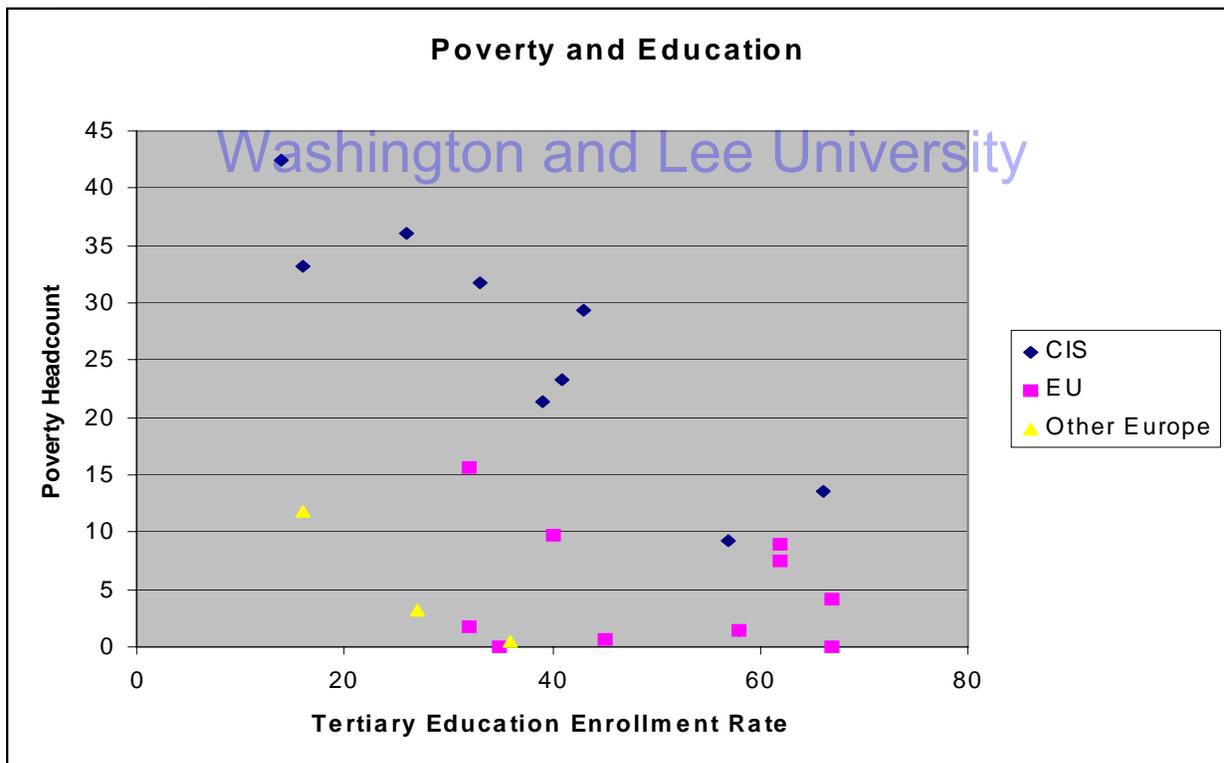


Mean Poverty Rate: 13.35%
 Standard Deviation: 13.31

Maximum: 42.5% (Tajikistan)
 Minimum: 0% (Slovenia & Czech Rep.)

Of all my control variables, per capita mean income had the highest correlation with poverty rate. Approximately 73% of the variation in poverty can be explained by the variation in mean per capita income. Given that I measure poverty as income deprivation, a strong negative relationship between per capita mean income and poverty is to be expected. Education and the gini coefficient were also somewhat strongly correlated with poverty, though they were not nearly as highly correlated as the mean per capita income. Approximately 53% of the variation in poverty can be explained by the variation in the tertiary education enrollment rates. Approximately 42% of the variation in poverty can be explained by the variation in the gini coefficient.

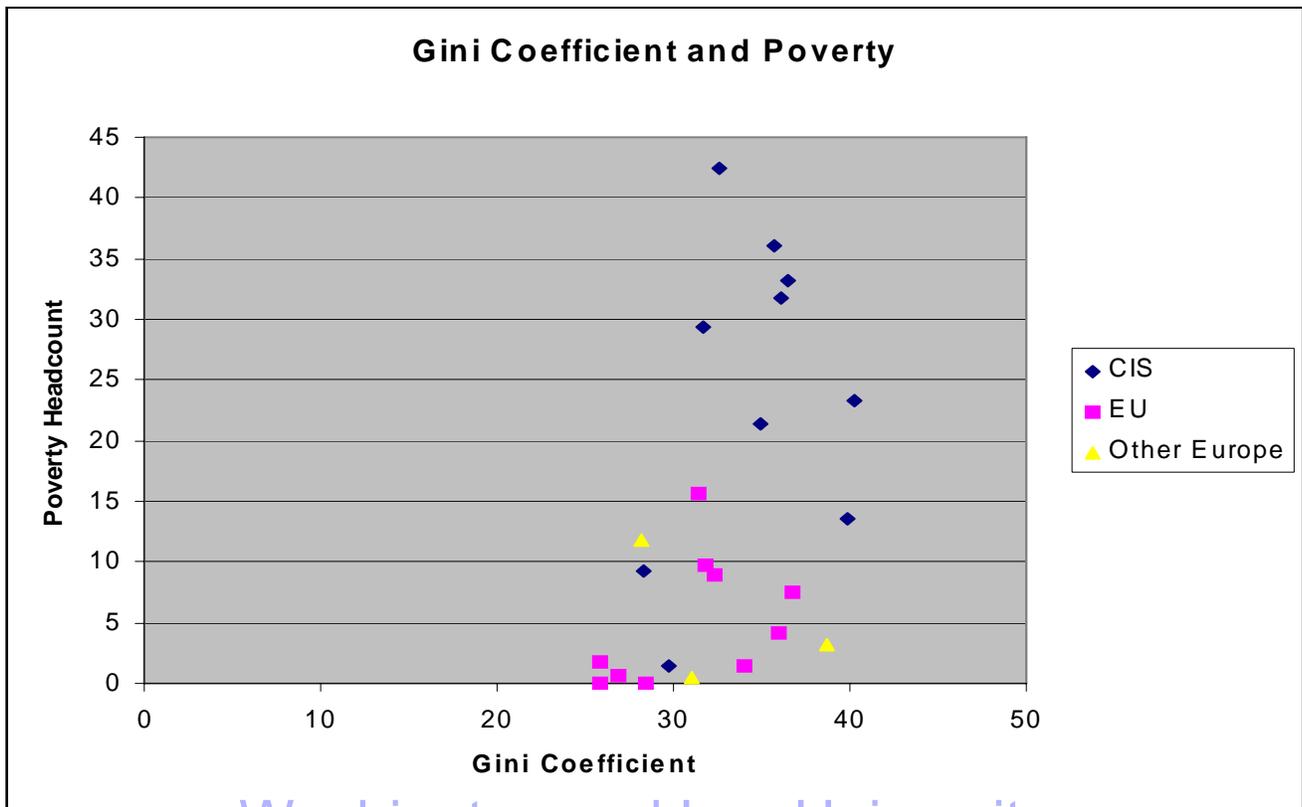
Graph 2: Poverty and Education Across the ECA



Mean Tertiary Enrollment: 42%
Standard Deviation: 17

Maximum: 67% (Latvia & Slovenia)
Minimum: 16 (Tajikistan)

Graph 3: Poverty and the Gini Coefficient



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Mean: 32.7

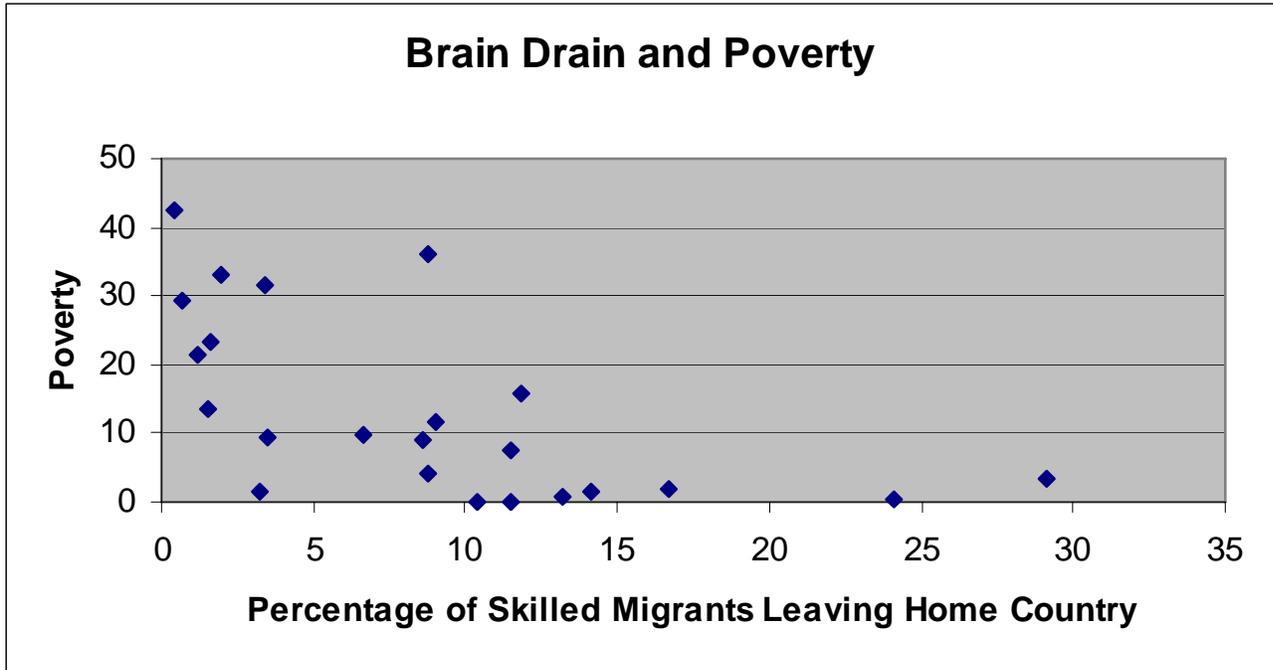
Standard Deviation: 4.3

Maximum: 40.3 (Georgia)

Minimum: 25.81 (Slovakia)

With regards to my focal variables, the exodus of highly skilled workers had a high correlation with poverty, whereas the remittances had a fairly low correlation with poverty. Approximately 61% of the variation in poverty can be explained by the variation in highly skilled migration. However, only 25% of the variation in poverty can be explained by the variation in remittance values. I suspect that the low correlation between remittance values and poverty is largely due to differences in population sizes. The value of remittances is more likely to be associated with the number of migrants a country sends abroad than the poverty rate in a country. Countries with large populations will therefore receive more remittances on the whole than those countries with smaller populations.

Graph 4: Brain Drain and Poverty



Mean: 8.8%

Standard Deviation: 7.4

Maximum: 29% (FYR Macedonia)

Minimum: 0.4% (Tajikistan)

Results: Brain Drain

Turning to Table 1, regression equations (1), (2), and (3) indicate that skilled migration has a significantly negative effect on poverty. This suggests that regardless of the migrants' skill level, their exodus from the country will lead to a decrease in poverty. For every 1% increase in the percentage of tertiary educated individuals leaving a country, poverty is likely to decrease by 0.87%. Migration's effect on poverty, however, becomes more economically significant as the migrant's education level decreases. For every 1% increase in the percentage of secondary educated individuals leaving, poverty decreases by 1.86%. Similarly, for every 1% increase in the percentage of primary educated individuals leaving, poverty decreases by 1.33%.

The variation in the effects that the three types of skilled migration generate suggest that it is more beneficial for a country to lose its lower educated populace than its higher educated

populace to migration. The migration of secondary educated citizens decreases poverty by more than twice the amount that the migration of tertiary educated migrants decreases poverty. Consequently, even though skilled migration has a statistically significant negative effect on poverty in each equation, the varying economic significance suggests that a brain drain effect may in fact exist. Countries do not benefit as much from their tertiary educated citizenry migrating and consequently, their migration may have some negative effects on poverty.

I suspect that skilled migration has a negative effect on poverty largely because any form of migration will put pressure on wages to increase. Migration may have a substantial impact on the labor market by shifting the supply of labor to the left. With a lower supply of labor, wages may eventually increase and consequently provide people with the income to escape poverty. Migration may also have the effect of decreasing the unemployment rate in a country and thereby limiting the number of people who are poor as a result of unemployment. Rather than staying in their home country and living unemployed in poverty, migrants may find work abroad. Simply by leaving their home country, the migrants decrease the amount of people living in poverty.

Although I did not anticipate that skilled migration would have a negative effect on poverty, my findings are consistent with the literature. Frank and Stark (2007) point to the benefits of a brain gain when migration opportunities motivate people to earn an education in the hope of earning a higher income abroad. Given that tertiary education rates are fairly high in the ECA region, citizens may be investing in their education in the hopes of using their skill sets to find better wages and employment opportunities abroad. The more migration opportunities available to people, the more incentives they may have to invest in their education at home.

Those who do not migrate will consequently increase the human capital in their home country, which can increase economic growth and reduce poverty.

Results: Remittances

Although remittances exhibited the expected sign in equations (1), (2), and (3), the variable was statistically insignificant in equation (1) and economically insignificant in all of the equations. My results show that a \$100 million increase in the value of remittances will decrease poverty by between 0.31-0.47%. Given that the mean value of remittances was \$277 million, on average, countries would have to increase the value of their remittances by almost 30% to decrease poverty by a fraction of a percentage. The high standard deviation in the remittance variable (\$426 million), however, points to the fact that many countries would actually have to double their share of remittances to reduce poverty by such a small amount. Thus, it seems that remittances do not have an economically significant effect on poverty.

Several other economists also suggest that remittances may not have a substantial effect on economic growth or poverty in the ECA region. Mansoor and Quillin (2007) note that 80% of remittances in the ECA region contribute to consumption, rather than investments. If most people in fact spend the additional income they receive from remittances on imports or other durables, then long run economic growth is unlikely to occur. Remittances are likely to have their greatest effect on poverty when they pay for investments that can contribute to the country's long term economic growth, rather than daily consumption needs.

Results: Control Variables

My control variables all exhibited the expected signs, and both tertiary education enrollment rates and the gini co-efficient were statistically significant. Although per capita mean income did not exhibit statistical significance, I chose not to omit it from the regression equation

because its presence is justified in theory and in the literature. Adams and Page (2003) utilize per capita mean income as a control variable in their study on the effects of remittances on poverty.

The mean income is theoretically significant to poverty because it is an indication of whether government has the capability to obtain tax revenues that can contribute to public services.

Public services such as schools, infrastructure, and hospitals can consequently play an important role in limiting poverty. The statistical insignificance of mean income may also have been a function of its multicollinearity with other variables. Mean income had the highest vif score of all my variables, measuring from 2.2 in equation (1) to 1.8 in equation (2).

Table 1: Regression Results

Dependent Variable: Percentage of population living on less than \$2/day						
* Indicates significance at p = .01						
	BDRAINH (1)		BDRAINM (2)		BDRAINL (3)	
GINI	0.974*	(0.276)	0.873*	(0.237)	0.853*	(0.269)
EDUH	-0.394*	(0.074)	-0.403*	(0.074)	-0.408*	(0.077)
MEANINC	-0.019	(0.017)	-0.026	(0.018)	-0.024	(0.018)
BDRAIN	-0.874*	(0.174)	-1.864*	(0.348)	-1.337*	(0.241)
REMIT	-0.003	(0.002)	-0.005*	(0.001)*	-0.005*	(0.002)
N	23		23		23	
Adj R2	0.847		0.866		0.860	

Conclusion

This study indicates that migration does not have any significantly detrimental effects on poverty in the post-communist countries of ECA. Economic theory and literature suggest that remittances and the loss of human capital are the two key side effects of migration that have a potential effect on poverty. My results, however, indicate that neither skilled migration nor remittances lead to an increase in poverty. On the contrary, a 1% increase in skilled migration leads to a decline in poverty of between 0.87-1.87%. Remittances similarly exhibited a negative effect on poverty, where a \$100 million increase in the value of remittances leads to a decrease in poverty of between 0.31-0.47% decrease in poverty.

Since migration appears to be somewhat beneficial for poverty reduction, developed countries in the OECD may wish to consider offering more migration opportunities to post-communist countries as a development strategy. Migration may ultimately prove more beneficial for developing countries in the ECA region than foreign aid donations because migration allows citizens to develop valuable skill sets while working abroad. They may then bring their improved skill back home when returning from their work abroad and use the skills they gained to develop their home country's economy. In order for developing countries to reap the benefits of return migration, OECD countries should therefore ensure that migration opportunities are temporary. Guest worker programs spanning a short period of time may therefore prove very effective in helping developing ECA countries reduce poverty.

More research on the effects of migration in the ECA region should also be performed in order to enhance the robustness of my findings. My research consisted of 23 observations, which may not be a sufficient amount to reach conclusive results. Increasing the number of

observations by either obtaining a full dataset of all ECA countries or by utilizing panel data should improve the robustness of my findings.

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