

# 7

## LABOR EMIGRATION AND ITS IMPACTS ON SENDING COUNTRY

Б.Отгонтөгс

### Абстракт

Орчин үед хөгжиж буй орнуудын мэдлэг, боловсролтой, ажлын туршлагатай хүмүүс өндөр хөгжилтэй орнуудад ажиллан амьдрах хандлага нэмэгдэж байна. Эдгээр хүмүүсийн төрөлх орны эдийн засгийн хувьд хөлөмөрийн ийм төрлийн шилжилт нь зерэг, сөрөг үр дагавруудыг агуулж байдаг.

Тухайлбал, боловсролын үр ашиггүй зардал, хөдөлмөрийн зах зээл дээрх гажуудал үүсэх зерэг сөрөг талуудаас гадна хүмүүн капитал болон иргэдийн хувийн мөнгөн шилжүүлгийн өсөлт, үүнээс үүдэн өрх гэрүүдийн орлогын нэмэгдэл зерэг зерэг үр дагаврууд оршдог талаар судалсан тандалтын ажил юм.

## 1. Introduction

Migration or labor mobility is an important economic phenomenon. Migrants flow from regions with high unemployment and or low wages to more prosperous regions, attracted by higher wages and better employment prospects. The term "brain drain" describes the growth in the skilled individuals migration from developing countries to developed countries. By some definition, only employment based emigration understood by "brain drain". The cost of this type of international labor movement is believed to be high for developing countries in terms of output, employment, public financing, and human capital situation in sending countries. In 1990s some developed countries began actively attract most talented, educated individuals from developing countries for reason that not to be lost in the information technology competition. Such easy access to high human capital, knowledge market has a positive impact on productivity growth in developed countries while more problems arising in sending countries from the shortage of skilled labor.

At the same time, some economists recognize that the emigration of skilled labor could have positive impact for the sending country by raising motivation for higher education, thereby raising human capital, and possibly promoting growth and by providing some technological and financial supports to set up new businesses. Beine, Docquier, Papoport (2001b) divide the effects of migration into a "brain effect" which is human capital accumulation and into a "drain effect"- losses due to actual emigration. In this paper we discuss about both.

This paper has three objectives. First, it attempts to survey of empirical and theoretical works in recent period, secondly to discuss recent situation of labor emigration, including brain drain tendency, thirdly, to describe the positive and negative impacts of the all types of emigration, not only employment-based, on the sending countries' well- being in the case of Mongolia. The paper is organized as follows. After briefly reviewing the theoretical and empirical literature on the emigration in the section 1, the recent situation is given in the section 2 and an analysis of the impacts of emigration on the sending country is discussed in sections 3 and 4. Finally, the main conclusions are summarized in the last section.

### 1. Theories and empirical evidence

Theoretical foundations of modern literature were laid by Todaro (1969) and Harris Todaro (1970). In their framework, migration is motivated by wage differentials between home and destination regions. Accordingly, the higher the wage (the lower the unemployment rate) in the region of destination, the greater will be immigration to that region.

Faini and Venturini (1994) argue, however, that the effects of wages in the region of origin need not to be linear because migration from poor regions may be limited by liquidity constraints.

Borjas (1987) points out that migration responds not only to average wages but the different level of rewards to skills. He emphasizes, regions (countries) with relatively egalitarian wage distribution will attract primarily low skilled workers, whereas high

skilled workers will choose to migrate to regions with more uneven wage distribution, where the returns to skills are higher. (Borjas, 1987).

Stark (1991) focuses on more risk issue. In particular, he explores the migration as intra family risk sharing- by migrating; members of family can reduce the variance of family income. Bhagwati pioneered "brain drain" research, connecting migration with education issues. Bhagwati and Hamada (1974) worked with a general equilibrium framework to model the home country labor market and analyse the welfare implications of skilled emigration. From this model, which is widely used, the two sets of distortions were introduced. The first is relating to the wage settings and the second to the financing of education.

J. Vidal (1998) developed a model in which labor emigration may be constructive for economic growth by providing an incentive for human capital formation in the sending country. This conclusion is consistent with the empirical findings by Chua (1993) and Beine (1998). According to the Vidal( 1998) the formation of human capital in the some extent is driven by individuals' incentives to work in a technologically superior country at high wage rate.

A. Mountford (1997) concluded from the theoretical models in which he investigated interaction between human capital accumulation decision, growth and income distribution that a brain drain, either temporary or permanent, may increase the long run income level and income equality in a small, open economy.

The empirical evidence suggests, emigration is positively related to unemployment and negatively to the wages. Many empirical evidence confirms that skilled workers systematically earn less (adjusted for purchasing power) in developing countries than in developed countries. S. Commander, M. Kangasniemi and A.Winters, L (2003) reported that a recent study of new immigrants to the USA finds that average men experienced a 68 percent increase in his wage, women a 62 percent.

Migration in transition economies received little attention so far, partly because of lack of suitable data. J. Fidrmuc (2001) compared patterns of migration in transition economies with those in Western European economies. He points out that many other factors besides unemployment and wages affect migration: the quality of infrastructure, education and amenities, the regions social, cultural and demographic characteristics

## 2. Labor emigration situation

The new growth theory pioneered by Romer (1986,1987) and Lucas (1988) suggest human capital, as a factor of production is the source of long run differences in income levels across countries. While there is no doubt that highly educated, skilled workers are scarce in many developing countries, it is also true that many scientists, engineers, doctors and other highly trained individuals from LDCs work in the Western countries. By losing the increasing amount of skilled workers to the developed countries developing countries lose efficiency in economic growth.

How big is brain drain? Which countries are especially affected? Does the number of emigrated persons represent a sizable of fraction of educated labor force or it is too small to worry about?

Unfortunately, we cannot answer to these important questions because there is no statistics on the number and characteristics of international migrants. National

statistical offices have been maintained very limited databases on migration. There is lack of data on characteristics of individual migrants such as age, sex, education, marital status and the changing status of migration: permanent, legal, illegal, visa overstayed. It is difficult to measure precisely the flow of migrants. Researches estimate the gross migration flows as percentage of total population. For example J. Fidrmuc (2001) estimated the gross migration for some transition economies.

**Table 2.1 Gross migration for selected transition economies (in percents)**

Countries	1992	1993	1994	1995	1996	1997	1998
Czech Republic	1.26	1.15	1.01	1.00	0.94	0.98	0.98
Slovakia	0.85	0.82	0.73	0.62	0.61	n.a.	n.a.
Poland	1.3	1.2	n.a.	n.a.	1.1	1.1	n.a
Lithuania	n.a.	n.a.	n.a.	n.a.	2.26	2.2	1.77

Source: J. Fidrmuc (2001)

For the Mongolia, we do not have accurate information on gross migration rate by years. Carrington and Detragiache (1999) provide a benchmark for skilled migration in 1990 year. The combined USA Census and OECD migration statistics for that year and then compared it to the size of the educated population in the sending countries using Barro-Lee data for 1993. Table 1.1 provides information on population, expenditure on tertiary education and measure of the intensity of migration by migration rate. The migration rate is measured as the share of a country's labor force having tertiary education that has migrated.

**Table 1.1 Population, Migration and Education Expenditure**

Countries of origin	Population, millions	Migration rate	Total Expenditure on tertiary education, per student, international \$
Fiji	0.79	21.3	
Guyana	0.85	77.3	
Mauritius	1.16	7.2	5080.9
The Gambia	1.12	59.1	3842.6
Trinidad Tobago	1.29	57.2	
Lesotho	2.06	2.9	18452.6
Jamaica	2.58	67.3	
Panama	2.76	19.5	2006.1
Congo	2.78	0.5	
Uruguay	3.29	3.7	2047.2
Central African Republic	3.48	1.7	
Costa Rica	3.53	7	
Togo	4.46	1.3	6572.2
Papua New Guinea	4.60	2.2	

Nicaragua	4.79	18.7	
Sierra Leone	4.85	24.1	
Paraguay	5.22	1.9	
Benin	5.95	0.4	2141.0
El Salvador	6.06	26.1	312.0
Honduras	6.16	15.7	1623.9
Bolivia	7.95	4.2	1176.0
Rwanda	8.11	2.2	
Dominican Republic	8.25	14.2	1567.4
Senegal	9.04	1.6	
Tunisia	9.34	1.6	3764.8
Zambia	9.67	5	2574.2
Malawi	10.53	2	9066.7
Mali	10.60	0.9	2573.4
Guatemala	10.80	13.5	1074.4
Zimbabwe	11.69	4.6	8783.9
Ecuador	12.18	3.8	1114.3
Chile	14.82	3.3	1670.2
Syria	15.28	3.1	
Mozambique	16.95	8.6	
Ghana	18.46	15.1	
Sri Lanka	18.78	3.7	2476.9
Uganda	20.90	15.4	
Malaysia	22.18	4.4	4901.7
Venezuela	23.24	1.6	
Peru	24.80	3	680.5
Sudan	28.35	1.7	
Kenya	29.29	9.9	
Algeria	29.92	0.7	
Argentina	36.13	1.9	2325.0
Colombia	40.80	5.6	2173.6
South Africa	41.40	2.6	
Korea	46.43	5.7	881.0
Thailand	61.20	1.2	1618.3
Egypt	61.40	2.5	
Iran	61.95	14.7	398.6
Turkey	63.45	1.4	3365.2
Philippines	75.17	6.6	560.1
Mexico	95.85	10.3	3459.9
Bangladesh	125.63	0.6	
Pakistan	131.58	2.4	448.3
Brazil	165.87	0.6	
Indonesia	203.68	1.4	387.2
India	976.67	1.1	2014.4
China	1238.60	1.4	1943.4

Source: S. Commander and A. Winters, 2003

From the table 1.1 there are a significant number of small countries with very high skilled migration rates. The migration rate calculated as a share of a country's labor force having tertiary education that has migrated. For large countries like China and India skilled migration does not amount to a significant share of their educated workforces. For very small countries the rate is very high such as 77.3 percent of

educated labor force works and lives in USA, 67.3 percent for Jamaica. For countries like, Panama, Nicaragua, Honduras, Dominican Republic, Guatemala, Ghana, Uganda, Iran, Mexico about 10-20 percent of educated work force has emigrated. A country size appears to be an important factor in understanding the impact of skilled emigration. It can be explained by the labor market distortions in small developing countries when there is still very low demand for the skilled labor and also by low capacity to absorb large number of high skilled workers.

For instance, if the productivity of skilled labor is low because of factors such as lack of capital, managerial skill, inability to achieve economies of scale, then the emigration of skilled labor may indeed be the best outcome.

Following the collapse of the Soviet Union, since the late of 1989 Mongolia began its transformation from centrally planned economy with on official unemployment and very egalitarian distribution of wages to a market economy. As an illustrated in Table 1.2, Mongolia has a small population of about 2.4 million. As of 2001, around 58 percent of the population was in the labor force, of which about 62 percent was economically active.

**Table 1.2 Mongolia: Population and Labor Statistics**

	1995	1998	1999	2000	2001
Population	2.275.0	2.356.1	2.378.3	2.398.0	2.409.0
Total Employment (Percent of economically active)	767.6 ...	729.6 ...	813.6 95.3	809.0 95.4	823.3 95.4
Unemployed (Percent of economically active)			39.8 4.7	38.6 4.6	40.3 4.6
Economically active (Percent of labor force)			853.4 66.7	847.6 61.7	872.6 62.2
Labor Force (Percent of population)		1,256.8 53.3	1,279.3 53.8	1,374.4 57.3	1,402.8 58.2

Sources: National Statistical Office of Mongolia, World Bank, World Development Indicators Database.

During the early years of the transition, major dislocations arose in the labor market and total employment fell and the economy has experienced first time the unemployment. Over last years, the outflow of labor to the industrialized countries such as South Korea, Germany, USA, UK and Japan has been steadily growing. According to the Report on "2000, Population and Housing Census, Mongolia" conducted by the National Statistical Office with support of UNFPA, UNSD, AusAID, since 1992 more than 60000 Kazakh ethnic Mongolian citizens officially emigrated to Kazakhstan.

The reasons of labor emigration in Mongolia can be defined as follows:

- At the beginning of transition, the collapse of the inefficient state owned large enterprises led to the structural unemployment and **unemployment** is one the reasons why emigration has begun in the country.
- Another reason why labor emigration has been intensified that since early 1990s the rapid liberalization of foreign trade, tourism had begun and individuals realized about possibility to work abroad and earn more.
- However, the main reasons are **the low per capita income level** and **high poverty rate**. According to the Living Standards Measurement Survey (LSMS), conducted in 1998, poverty rate of total households was 34.3 percent. GDP per capita is around 450\$. 2000: Population and Housing Census of Mongolia reports that in 2000, 49.1 percents of all households lived in conventional housing, apartments while 50.9 percents lived in gers. Ger is the traditional housing with outdoor plumbing. According to the research conducted by Hk. Tsevelmaa (2003) the average apartments price in the Ulaanbaatar, depending on the number of bedrooms, location, time from the construction range between 12-25 million togrogs which is about 10-22 thousand dollars. If the per capita GDP in the country is about 450 dollars then for average Mongolian to buy 3 bedroom apartment (used about 20-30 years) at price 20000 dollars he or she needs to work in Mongolia and save all the earnings approximately 50 years. Therefore temporarily to work abroad is the private incentive to increase income level and reduce poverty for many Mongolians.
- Finally, there can be exist a possible mismatch between acquired knowledge and skills and the quality of jobs offerings on the local labor market.

In fact, the country's labor emigration history has been accounting for 10 years only. During these years the National Statistical Office of Mongolia does not keep a record about labor emigration so it is difficult to define how many individuals are emigrated or just working abroad. If we assume that mainly working age population does emigrate then by 2001, from 1,402.800 individuals in the labor force 832,300 are employed and 40.300 are unemployed, so from the remaining 530.200 we can estimate the number of individuals who are working abroad. The officially emigrated persons are eventually being distracted from the population statistics. There is existing an unofficial estimation of about 100.000 individuals work abroad, from which 20000 persons in the South Korea. If we take this into account and assume that all individuals who work abroad have tertiary education then Table 2.2 can be continued as a following.

**Table 2.2 (a) Population, Migration, Education expenditure (2001)**

	Population millions	Migration rate (labor migration rate)	Total expenditure on tertiary education, per student, \$
Mongolia	2.4	7.1	2000

Source: National Statistics Office 2001 Yearbook, Ministry of Education, Science, Culture official information

The migration rate of 7.1 percent of labor force is very rough estimation and it is based on the assumption that all individuals who work abroad have tertiary education. Because of lack of exact information at the moment we can not say a lot about emigrants characteristics such as age, sex, marital status, education level, median income they receive in the host countries.

Researchers define migration as a permanent and temporary migration, so labor migration can be also characterized as a temporary migration. While sending countries do not have accurate statistics on emigrated individuals, the some receiving countries have the accurate information on this flow. For example, USA's Immigration and Naturalization Service has been publishing yearbooks in which we can observe the exact numbers.

**Table 2.3 The number of Mongolians as a admitted legal immigrants**

	199 2	199 3	199 4	199 5	199 6	199 7	199 8	199 9	200 0	200 1	200 2	Total
Mongolia	6	8	21	17	17	22	26	41	46	103	136	346

Source: 2002 Yearbook of Immigration and Naturalization Service

From the total legal immigrants from Mongolia to USA, as a 2002, 27 are immigrated on employment-based preferences, 83 are as an immediate relatives of US citizens, others as a winners in visa diversity program. During 2001 and 2002, 8348 Mongolians were admitted as non-immigrants into USA. From table 2.5 we can see the classified visa status with which individuals entered into USA.

**Table 2.4 Non-immigrants from Mongolia admitted into USA, Fiscal years2001-2002**

Visa classes	Numbers of individuals Admitted in 2001	Numbers of individuals Admitted in 2002
<b>Total</b>	<b>3,176</b>	<b>5,172</b>
Foreign government officials	168	126
Temporary visitors for business and pleasure	1,789	3,091
Transit aliens	66	31
Treaty traders and investors	3	7
Students	423	1,080
Spouses and children of students	42	117
Temporary workers and trainees	95	113
Spouses and children of temporary workers and trainees	19	44
International representatives	97	101
Representatives of foreign information	11	11

media		
Exchange visitors	384	329
Spouses and children of exchange visitors	54	102
Fiancés (ees) of U.S. citizens	7	6
Intra company transferees	11	1
Spouses and children of intra company transferees	7	4

Source: 2001, 2002 Yearbooks of *Immigration Statistics, U.S.*

The above table shows that even for two years the number of Mongolians who entered into US grew by enormously, and it is about 2000 persons. From the observation, usually individuals who hold temporary visitors' visa for business and pleasure and students are most likely visa over stay, and it is accounting about over 80 percent of the total admitted non immigrants into the country for 2002. This is only two year's statistics and for only one country of destination.

Over last years researchers are accounting students who stay on after completion of degrees into the component of skilled migration. Over the 1990s there has been strong growth in the numbers of students from developing countries pursuing education in developed countries. S. Commander, M. Kangagniemi A. Winters (2003) report, by 1998-1999 just over 10 percent of all international students enrolled in US higher education were from China and 8 percent were from India. At a doctoral level, between 80-90 percent of these students were enrolled in science and engineering schools. Clearly a significant share of these students will stay on, but what proportion does return to home is unclear. One survey found that only 19 percent of the 160,000 Chinese students who studied in USA between 1978-1998 had returned home (S. Commander and others, 2003). Each year, the Government of Mongolia is awarding scholarships to study at Master and Doctoral level at western countries. As the Ministry of Education, Science and Culture of Mongolia reports, during 2001-2003 in total 672 persons went to study at western universities of 16 countries for postgraduate studies at the State Fund for Postgraduate Scholarship and 304 persons at the Government Scholarship. The total cost for these 976 students who went study on the public financing and the number of returned students are not available from the corresponding government authority. These 672 students at the State Fund for Postgraduate Scholarship are only the fraction of the total number of students who went to study abroad.

### **Sector 3. Negative impacts**

The characteristics and financing of the education system have major importance for the potential costs and benefits analysis.

The cost of labor emigration to the developing countries that has been widely discussed is the lost of education investment. Estimating the exact cost of education is a very difficult task and the result depends on the approach that is taken allocating fixed costs across output. There are some available cost estimates. The tertiary education cost information is from the official Government documentation, namely

from Ministry of Education, Science and Culture's official document on the budget allocation (in variable cost) per student to the regions' of the country kindergartens, primary, middle and secondary schools. The public financing in variable cost estimation per student from kindergarten to secondary education is about 1000\$. University tuition fee ranges between 250000-350000 togrogs in the last years. The average cost of university education cost about 1000\$ per student in Mongolia. World Bank/ UNESCO data show that average government expenditure per student on tertiary education varies a lot, but mostly lies between the range of 1000-3000 (international) dollars. In both China and India the expenditure is around 2000 dollars per student. Although the private financing higher education has been developed, in most developing countries students' own contributions to the costs of higher education are still small (Johnstone 1998, Tilak 1996).

If we will take into accounts all these estimation considerations and a very rough estimation of about 100000 individuals working abroad, about 200 million dollars of public financing of education are lost. This is about 20 per cent of the total annual GDP of the country.

In the 1960-1970s the concern about brain drain was about the emigration of doctors, nurses, and teachers from developing countries. S. Commander, M. Kangagniemi A. Winters (2003) report in their research paper that share of Non European Union doctors among new registrants has remained stable at around 40 percent. Ghanda (2001) has estimated that there are at least 60.000 doctors of Indian origin in the UK, which amounts 30 percent of registered doctors in the UK. In 1980-1990s the movement of skilled information and communication technology (ICT) sector workers, engineers from developing countries has accelerated. For only one year, 2002, 45 Mongolians were admitted into U.S as H-1B visa holders and to compare the data with other Asian countries it is very small. However, for Mongolian economy size, it is a considerable loss of educated individuals and the number 45 is the data only for one host country for one year. There is growing number of engineers, ICT specialists, researchers in Mongolia who are leaving for Japan, EU countries, especially Germany on the employment based visa.

The possible welfare implications of emigration are evident. In the case of doctors, in the health sector the likely negative effects arise from the direct impact on the population's health status, which connects with the productivity and welfare situation of the population. In the case of IT sector, the technology development will slow down thereby affecting the economic growth situation. The skilled emigration makes future human capital accumulation cheaper in the receiving country and more expensive in the sending country.

There are also a number of negative social impacts are arising from temporary emigration. Because of visa overstayed situation, remained members of the families can not arrive to the destination countries at the legal status. This situation can lead to the divorces, to worsen children' education attainments, etc.

#### 4. *Positive impacts*

The first point on the positive impacts can be the remittances send by abroad working individuals and sometimes it can offset the negative impact of public financing loss. The Bank of Mongolia: Annual Report points out that as the number of residents working abroad increases, the percentage of their remittances in the current account increases as well. Furthermore, some research studies indicate that the remittances have reached over 10 percent of the GPD. According to 2002 the Balance of Payment of Mongolia, private transfers were 25 millions dollars in 2001 and 64.4 millions dollars in 2002. (The Bank of Mongolia, Annual Report, 2002). According to the most recent estimation made by the some researchers of the Bank of Mongolia, in 2003 the total amount of the remittance exceeds 120 millions dollars. This is the official channel of private transfers through commercial banks, non banking organizations and it is only part of the total remittance. If we assume that abroad working individuals send on average about 100 millions dollars per year, then for only last 5 years it is about 500 million dollars. If our rough estimation of lost public financing of education for the supposed 100000 emigrated workers is about 200 million dollar in the total, then the incoming capital might offset the public financing loss in the short run.

For the small economy such inflow of capital can affect foreign exchange market, the supply and demand in real estate and boost the private investment furthermore the private sector development. In this case, outflow of labor is substituting by inflow of capital. If we assume that the capital is scarce factor of production in the country and labor is relatively abundant factor then from the Hecksher-Ohlin theorem the economy's factors' movement is very accordant to the H-O model. This substitution can lead to the more positive results on economic growth.

The second point is that the possibility of emigration encourages human capital growth in poor countries and that the growing stock of human capital does influence growth positively. These are both necessary conditions for beneficial brain drain. The possibility of temporary or permanent labor emigration raises expected welfare for anyone who takes education. As the workers went abroad to work, they left openings for newly educated workers to take jobs. The net effect on the home country would be to have same number of educated workers as without emigration and hence the same spillovers but few uneducated workers. Hence the increase in aggregate private income. At the beginning of 1990s, in Mongolia there were only about 20 public universities and institutes whereas since mid 1990s there were established about 210 of private universities, institutes, and the number of graduates with university education is increasing rapidly. However we can only assume that possibility to work abroad at higher wage might affect on the growth of the numbers of graduates from higher education.

Labor emigration encourages more skill creation than skill loss and this accumulation of skills, knowledge has beneficial effects beyond private gains anticipated by those who acquire the skills, the whole economy can benefit. Vidal (1998) and Mountford

(1997) point such benefit include enhanced intergenerational transmission of skills and education and spillovers between skilled workers.

Some emigrated individuals return and return migrants could come back with enhanced skills, experience, and financial resources, links to networks. In general, individuals decide to return if they prefer consumption in the sending country, if prices are lower or if human capital acquired in the receiving country is more valuable in the sending country (Dustmann 1996). In addition this will depend on government policy in sending country regarding human capital.

About the empirical evidence on relationship between economic growth and labor emigration we can refer Beine, Docquier and Rapaport (2001) work which estimated the loss of growth due to emigration and it appears to be rather small, of order of 0.05% annually. According to the research conducted by B. Altantsetseg (2003), the GDP growth rate of Mongolia between 1992-1999 can be explained by the following estimation:

$$\ln Y_t = 0.738 \ln K_t + 0.317 \ln L_t \quad (R^2 = 0.994).$$

The estimation shows that capital is more influential factor of production on the economic growth rate of Mongolia. When she inserted human capital into the estimation, taking human capital as a share of university educated workers to the total labor force, economic growth response to the human capital increase was as a following:

$$\ln(Y_t) = 0.43 \ln(L_t) + 0.59 \ln(K_t) + 0.032 \ln(H_t) \quad (R^2 = 0.998)$$

The above estimation tells us that growth elasticity of human capital in the country is quite low  $\gamma=0.032$ . From this estimation we can conclude that impact of outflow of human capital on economic growth can be much lower than the positive impact of the inflow of capital on growth.

It is also worth mentioning that positive effects of brain drain for the sending country could arise from a terms of trade. Davis and Weinstein (2002) point out in their work, a technologically super country, like the US, is likely to experience inflow of all factors of production, including skilled and unskilled labor and this will eventually lead to deteriorate its terms of trade and increase gains for the labor sending country.

## Conclusion

The purpose of this paper is to consider the labor emigration including brain drain, and how it affects on the small sending country. We have not yet done any formal empirical work. Yet what evidence and a very rough estimation suggests that the phenomenon needs in more research and policy recommendations. Temporary labor emigration from Mongolia continues to be substantial. No one knows with any great precision how many Mongolians reside outside of the country. The research just

emphasized the emigration's possible positive and negative impact from theoretical and empirical evidence. However we conclude that in the country's case the outflow of labor has been substituted by the inflow of the capital into country. It can have a substantial impact on not only the financial sector, on stabilization of the exchange rate of togrog and on the housing price but positive impact on the economic growth since the coefficient of capital impact on economic growth rate is much higher than labor and human capital coefficients. The final conclusion is there is a need in the research on all impacts and regarding public policy formulation.

### References

A.Mountford (1997) "Can brain drain be good for growth in the source country?", *Journal of Development Economics*, 53:278-303

B. Altantsetseg 2003, "Economic growth, Human Capital, Stabilization Policy" *Journal of Economy: theory and practice*, no.214 edited by School of Economic Studies, National University of Mongolia

BeineM, Docquier F and Rapoport H, 2001a, " Brain drain and economic growth: theory and evidence", *Journal of Development Economics*, V64, n1 ( February) pp.275-89

Bhagwati, Jagdish N., Hamada, Koichi, 1974, "Brain drain, International Integration of Markets for professional and Unemployment: A theoretical Analysis", *Journal of Development Economics* V1, n1 (June), pp.19-42

Carrington William J and Detragiache, Enrica, 1998, "How Big is the Brain Drain?", IMF Working paper no.201

Christian Dustmann, 1996, "Return migration: The European Experience", *Economic Policy: A European Forum*, V0, no 22 ( April), pp.213-42

Hk. Tsevelmaa, 2003, "The housing privatization impact on equality and poverty situation in Mongolia", *Journal of Economy: theory and practice*, no.214 edited by School of Economic Studies, National University of Mongolia  
<http://www.mol.mn>

Immigration and naturalization Service, U.S. Department of Justice, 2002 " Statistical Yearbook of the Immigration and Naturalization Service"

James R. Markusen, Stephen Zahniser, 1997, "Liberalization and Incentives for labor migration: theory with application to NAFTA", National Bureau of Economic Research Working paper no.201

Jan Firdmuc, 2001, " Migration and adjustment to shocks in transition economies", Working paper, Center European Integration Studies (ZEI)

Jean-Pierre Vidal (1998), « Effects of emigration on human capital formation », *Journal of Population Economics*, V11, issue 4

National Statistical Office of Mongolia, 2000, " 2000 Population and Housing census: Main Results", Ulaanbaatar, Mongolia

Simon Commander, Mari Kangasniemi and Alan Winters, L., 2003 "The Brain Drain: Curse on Boon?", IZA Working paper, no.809

The Bank of Mongolia-Annual report, 2002, Ulaanbaatar, Mongolia

The Government of Mongolia's resolution 170 from February 2002, Ulaanbaatar, The Government News, 2002, February