

4. Управління гірничим землекористуванням має бути, в першу чергу, інструментом гармонізації багаточисельних інтересів і цілей суб'єктів гірничого землекористування, з урахуванням цілей екологічного розвитку гірничопромислового регіону.

5. До вирішення проблем інтегрованого управління гірничим землекористуванням необхідно підходити, виходячи з конкретних регіональних можливостей і пріоритетів; його доцільно розробляти і здійснювати за двома напрямками: стратегічне і оперативне управління.

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**Ключові слова:** гірниче землекористування, управління, суб'єкти гірничого землекористування, гармонізація цілей і інтересів, протиріччя, сталий розвиток, гірничопромисловий регіон

**Ключевые слова:** горное землепользование, управление, субъекты горное пользование, гармонизация целей и интересов, противоречия, устойчивое развитие, горнопромышленный регион

**Key words:** mining land-using, management, subjects of mining land-using, harmonization of objectives and interests, contradictions, ecological aspect of sustainable development, mining region.

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## SUSTAINABILITY OF MIGRATION MODEL IN MOLDOVA

**Mishova T., Vachulovschi D., Peleah M. Sustainability of migration model in moldova.** We consider sustainability of current migration model, developed in Moldova in recent years. Using available data we are concluding, that the model unsustainable in medium and long term. From natural resource perspective, population of Moldova is decreasing and country will be physically unable to supply so many migrants in medium and long-term future. Migration affects social capital both positively and negatively, but it seems that net impact is negative. So far, migration and remittances have had only limited positive impact on economic capital, while the most of remittances have been used for consumption and channeled out of the

country as import payments. Our conclusions call for active management of migration processes in Moldova, especially in optimizing social outcomes of migration and increasing positive effects on social capital.

**Мишова Т., Вакуловски Д., Пелях М. Устойчивое развитие модели миграции в Молдавии.** Мы рассматриваем устойчивое развитие текущей модели миграции, которая развивалась в Молдавии в последние годы. Используя доступные данные, по которым мы заключаем, что модель, нежизнеспособна как в среднесрочной так и долгосрочной перспективе. В перспективе население Молдовы уменьшается и страна будет физически не в состоянии поставлять так много переселенцев в среднесрочной и долгосрочной перспективе. Миграция воздействует на социальную сторону как положительно, так и отрицательно, но в основном это воздействие негативно. Пока еще, миграция и денежные переводы имеют только ограниченное положительное воздействие на экономику, большинство денежных переводов были использованы для потребления и направлены вне страны как импортные оплаты. По нашему мнению необходимо активное управление миграционными процессами в Республике Молдова, особенно в оптимизации социальных последствий миграции и повышения положительного воздействия на социальный капитал.

**Мішова Т., Вакуловський Д., Пелях М. Сталий розвиток моделі міграції Молдови.** Ми розглядаємо сталий розвиток поточної моделі міграції, яка розвивалася в Молдавії в останні роки. Використовуючи доступні дані, за якими ми робимо висновок, що модель, нежиттєздатна як в середньостроковій так і довгостроковій перспективі. У перспективі населення Молдови зменшується і країна буде фізично не в змозі поставляти так багато переселенців в середньостроковій і довгостроковій перспективі. Міграція впливає на соціальну сторону як позитивно, так і негативно, але в основному це вплив є негативним. Поки що, міграція та грошові перекази мають тільки обмежено позитивний вплив на економіку, більшість грошових переказів були використані для споживання і спрямовані поза країною як імпортні оплати. На нашу думку необхідно активне управління міграційними процесами в Республіці Молдова, особливо в оптимізації соціальних наслідків міграції та підвищення позитивного впливу на соціальний капітал.

Mass migration of population was one of the major factors shaping social and economic landscape of Moldova in 2000s. It brought both positive and negative results, but the question is how long this model could be sustained? How sustainable is “development” based on massive migration and remittances? Could it be switched in more sustainable form?

The term “sustainable development” has its roots in ecological concerns, namely in necessity to match unlimited demands with limited resources. First it was used by the Brundtland Commission, which coined what has become the most often-quoted definition of sustainable development as development that “meets the needs of the present without compromising the ability of future generations to meet their own needs.” (UN 1987) Sustainable development ties together concern for the carrying capacity of natural systems with the social challenges facing humanity. As early as the 1970s “sustainability” was employed to describe an economy “in equilibrium with basic ecological support systems.”

In more broad sense sustainability could be considered from the point of view of three capitals, available in country—natural resources, social, and economic capital. Development is considered as non-sustainable, if it is associated with decrease in either capital (strong sustainability criteria) or sum of capitals (weak sustainability criteria). We applied this sustainability paradigm to labour migration from the Republic of Moldova. We looked on three capitals for migration—natural resources for migration, social capital of migration, and economic capital of migration.

**Natural resources.** People are natural resource for migration. Currently population of the Republic of Moldova is estimated<sup>1</sup> at 3 560.4 thousand people and slightly decreasing, over past

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<sup>1</sup> As of 1 January 2011, without taking into account population at left bank of the Nister river and Bendery town.

decade average annual growth rate of population was -0.2%. This trend will continue in the future, unless serious changes happen in fertility, which is highly improbable.

While changes in absolute number of population are important, even more important are changes in structure of population. Moldova experienced high fertility rates after the World War 2, in late 1940s, another small peak was registered in late 1980s. After that fertility rate went well below reproduction level of 2.1 births per woman. As a result, population pyramid of Moldova is characterized by a number of waves. One big wave of people born during post-war “baby boom” is approaching pension age now. Currently, it is partly compensated by coming to labour market of people born in late 1980s, but this wave is smaller and shorter. In the long run, according to UN Population Estimates, Moldova will face severe population ageing problems. Share of youth in total (shrinking) population will go down from 26% in 2010 to 18% by 2020, while the total share of working age population will go down from 71% to 67%, and even to 52% in long run, by 2060. Therefore, migration potential of Moldova will constantly go down. If we apply current migration readiness profile<sup>2</sup> to population projection figures, estimated migration potential of Moldova will go down from some 1.3 million people to 1.1 million people in 2020 and below 700 thousand people after 2060.

**Social capital.** Migration could affect human and social capital, in both ways—positively and negatively. On the positive side, migration could lead to learning and acquiring new skills (if migrant workers are employed in more technically advanced sectors and get on-the-job training). Migrants could also form network and act together to ensure their interest. On the negative side, migrants could be employed in less advanced sectors, in position not matching their education or qualification, which lead to underutilization of human capital. Back home, migration could cause destruction of networks and deterioration of human capital.

Results of surveys suggest that migration in its current shape cause destruction of social capital. According to CIVIS and IASCI survey (2010) migrants often find jobs below their qualifications or in sectors outside their specialization, creating a problem of ‘brain-waste’. Thus, majority of migrants (51% in CIS and 35% in EU and other countries) are employed as unskilled worker. Only small part, around 10%, is employed as highly qualified and mid-level specialists. Only one in four migrants (24%) receive education during migration—usually on-the-job training (10%) and formal language training (10%). This conclusion is further supported by evidence from the Regional Social Exclusion Survey. The majority of potential migrants - respondents who considered going abroad for employment or emigrating in another country - are looking for better incomes (even at expense of less qualified work), rather than professional self-realization. Getting experience and ensuring better education reasons lagged well behind.

Role of networks is very essential in migration process. For instance, Bleahu (2005) showed the role on change in migration networks on the example of Romanian migrants to Spain. Similar studies for Moldova suggest that the role of networks in Moldovan migration is also very essential. Anderson (2008) find out that that migration networks have a significant positive impact on the decision to migrate, whereas the results do not reveal any conclusive evidence that certain kinships have stronger or different influence on the decision to migrate than

<sup>2</sup> Available from Barometer of Public Opinion, IPP (2011). In November 2010 respondents answered the question “If you have a chance to leave Republic of Moldova, how would you proceed?” (share of people who choose respective option in respective age group)

	Would leave forever	Would leave just for a period of time	Would not leave	Don't know / no response	Total
18-25	20	64	12	4	100
26-30	21	52	22	6	100
31-40	22	54	21	4	100
41-60	12	38	48	3	100
More than 60	5	13	77	4	100
Total	14	40	43	4	100

others. The most influential determinants of migration when it comes to networks are ex-household members who migrated abroad and no longer make part of the household, and other individuals outside the household (i.e. friends, neighbours etc.) who migrated. Luecke et al (2007) find out that networks played serious role, especially in migration to Western Europe and other non-CIS countries, with many individuals choosing countries because they already had social contacts or even a guaranteed job there. Studies suggest high level of cohesion and maintaining social contacts among migrants abroad, but very low level of readiness for common actions. The studies also suggest high attachment of migrants to Moldova. According to CIVIS and IASCI survey (2010) some 70% of migrants planning to return to Moldova and only 17% decided not to return. Although, the planned time span for return of majority of migrants is 6-10 years.

Table 1. – Reasons for going abroad

What is the main reason for you to go abroad?	Go abroad to find employment	Emigrate to live in another country
To live in a more developed country	4.4	10.5
For better payment, even for a less qualified work	80.8	71.4
For prospects of a better professional career (even with a lower payment as a start)	2.4	1.0
Claiming back a property	0.7	0.0
To see the world/get experience	3.4	7.6
Joining family/spouse/marriage	1.7	2.9
Ensure better education for me / my children	6.1	5.7
Simply does not want to live in Moldova any more	0.7	1.0
NA	0.0	
Total	100.0	100.0

Source: Own calculations based on Social Exclusion Survey<sup>3</sup>

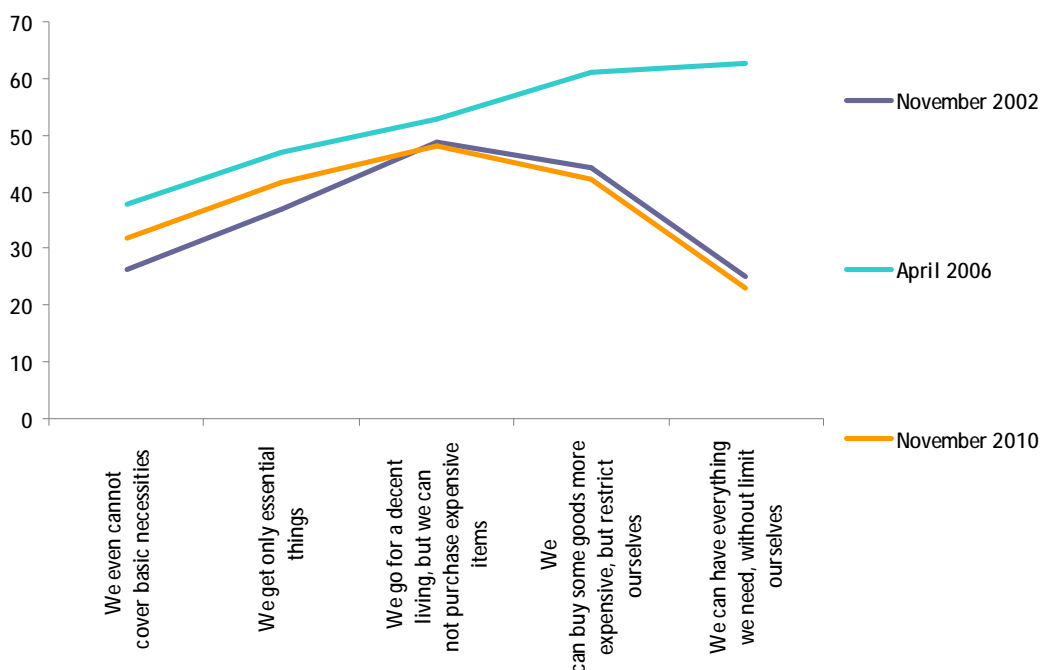
However, when it comes to effect of migration to social networks in home country, Moldova, results will be not so positive. Migrants are not equally distributed by levels of society. Results of sociological studies suggests that mid-class is more predisposed to migrate abroad in looking for job (see Figure 3, based on own calculations from Barometer of Public Opinion). Most probably, low income families simply lack of resources to migrate (both money to invest in migration, education and skills to propose in host economy, and social contacts to arrange migration). Contrary, for the more well off families return from migration would be much lower, comparing to possibilities in home, Moldovan economy.

Not surprising, this inequality is reflected in remittances receipt—according to the Household Budget Survey in 2010 twenty percent of most well-off population received 59.7% of total recorded remittances, while the one-fifths least well off got only 3.7 percent. Inflow of remittances, which fueled consumptions, contributed greatly to poverty reduction after 1998. IMF (2005) finds out a strong correlation between real consumption growth and remittances growth during the period 1999-2003, with a correlation coefficient of 0.98. At the same time, absolute poverty rate dropped down from 73% in 1999 to 29% in 2005. After 2006 poverty reduction was less significant, from 30% in 2006 to 22% in 2010<sup>4</sup>. In the meantime, inequality,

<sup>3</sup> UNDP/UNICEF Social Exclusion Dataset 2010 obtained from UNDP BRC  
<http://europeandcis.undp.org/poverty/show/DEAD2A6F-F203-1EE9-B97DD75685658B6A>

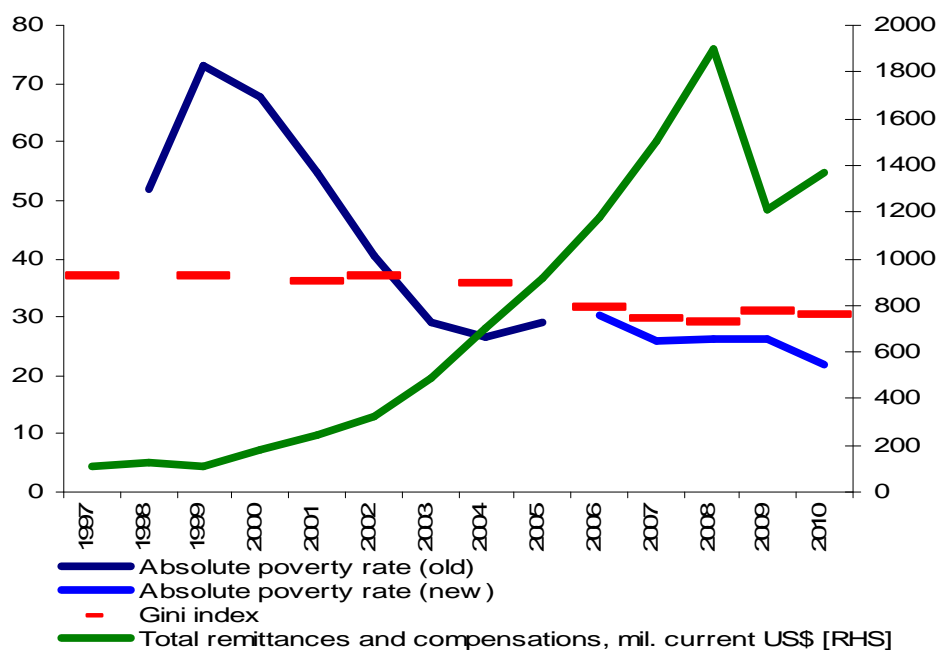
<sup>4</sup> National Statistical Office introduced significant changes in household budget survey and poverty estimation methodology in later 2005. These changes make impossible direct comparison of poverty in period 1998-2005 and

skyrocketed in the beginning of transition, remains on relatively high level and shows no significant decrease. According to the WorldBank, Gini coefficient jumped up from 24 in 1998 to 34 in 1992. In 2006-2010 it oscillated around 30.



**Figure 2.** – Temporary migration potential among different groups of population in Moldova 2002-2010

Source: own calculations based on Barometer of Public Opinion, various years, IPP (2011)



**Figure 3.** – Remittances, poverty and inequality, 1997-2010

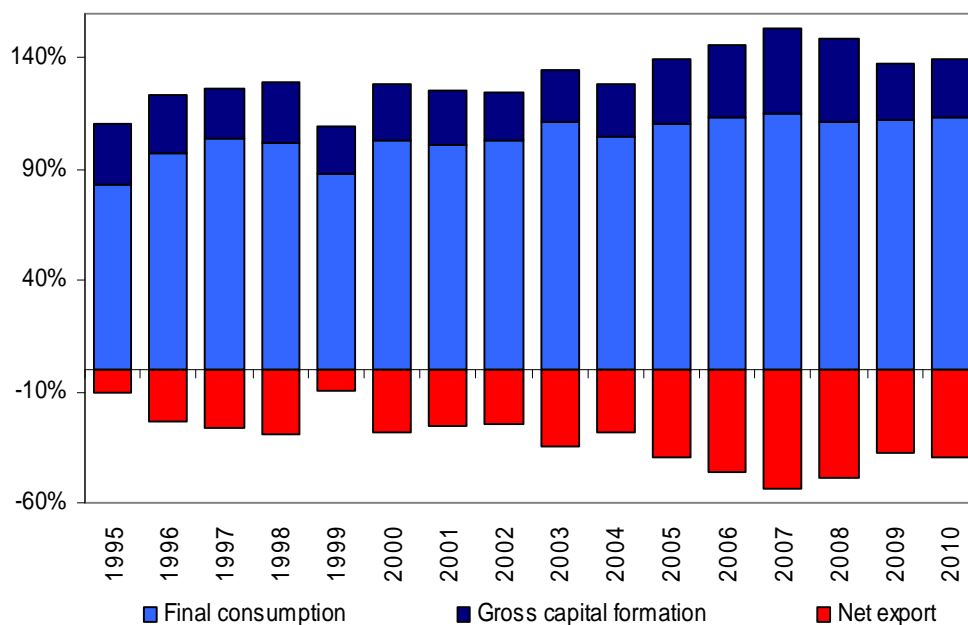
Source: Government of Moldova (2008), Ministry of Economy (2011), WorldBank World Development Indicators

Migration and remittances has a contradictory impact on human capital formation. On the negative side, migration of parents leaves children without supervision and support. According

2006-2010. However, as the methodology and the essence of poverty indicators are very close, it is legitimate to plot them on the same chart.

to Commissions for Protecting Children's Rights in 2010 in Moldova 84,207 children had at least one parent in migration, and out of the one third has been left with no parent at home. According to some studies (Peleah, 2007) in some 10-15% of migrant families crucially important roles related to children education and access to health services are not performed. On the positive side one of the remitting objectives and savings priorities of migrants is education and healthcare. Arguably, with migrants' money families could get access to better education and health care services. The issue is that massive migration washes out teachers and doctors out of education and health care system and higher spendings do not result in better quality services. In addition, there is lack of matching mechanism between education system supply and economic demand. As a result, majority of students are enrolled in currently popular economics and law-related courses, but face harsh unemployment reality just after graduation.

In addition to economic inequalities country faces intergenerational inequalities—population is ageing and this put additional burden on working age population. While currently old-age dependency ratio (i.e. share of population aged 65+ per 100 population 20-64) is around 17 (UN DESA 2010), it is expected to double in medium-term and go even much higher level in a long term. This change will negatively affect perspectives of pension system in Moldova in medium and long-term. In reality, country has to choose either of two scenarios in the framework of current PAYG pension system—to reduce payments to future pensioners, or to increase contributions from future workers. This raising intergeneration inequality will further deteriorate social capital and reduce migrants' desire to remit and return.



**Figure 4.** – Contribution of consumption and capital formation to GDP, 1995-2010

Source: own calculations based on National Statistical Office, <http://statbank.statistica.md>

**Economic capital.** Workers' remittances have played an significant role in propelling growth after 2000, through their effect on consumption. Survey shows that remittances are mostly used to meet current consumption needs. Expenditures on basic consumption (e.g., food, clothes, utilities) are the most important use of remittances. Housing investment tends to be the second most important use of remittances, followed by household durables and big-ticket family events (e.g., a wedding), and spending on education and health. By contrast, investment contribution to economic recovery and growth has been very modest. Fixed capital formation increase only in 2006-2008, mostly due to construction, and dropped again in 2009-2010. Remittances have also had a major impact on the balance of payments. Exports of goods and services have been growing quite rapidly since 2000, but as imports have grown even faster, the balance of trade in goods and services has deteriorated from about 15 percent of GDP in 1999 to

striking 52 percent in 2008. Nevertheless, so far remittances had limited positive impact on economic development of country, being channeled mostly to consumption, which, in turn, has been satisfied through import increase. A number of studies suggest that migrants and their families prefer to keep their savings in case at home, rather than as bank deposits, which further decrease economic potential of migration and remittances.

Current migration model, developed in Moldova in recent years, is unsustainable in medium and long term. From natural resource perspective, population of Moldova is decreasing and country will be physically unable to supply so many migrants in medium and long-term future. Migration affects social capital both positively and negatively, but it seems that net impact is negative. So far, migration and remittances have had only limited positive impact on economic capital, while the most of remittances have been used for consumption and channeled out of the country as import payments.

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**Ключові слова:** міграція, соціальний, економіка, ефективність, природний рух населення

**Ключевые слова:** миграция, социальный, экономика, эффективность, естественное движение населения

**Keywords:** migration, social, economy, efficiency, natural motion of population