

Migration and Remittances in Moldova



Milan Cuc, Erik Lundbäck, and
Edgardo Ruggiero



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Contents

Preface	vii
1. Overview	1
2. Literature on Remittances	5
3. Migration and Remittances in Moldova—A Microperspective	9
A. Extent of Migration and Migrants' Profile	13
B. The Decision to Migrate	20
C. Earnings, Contribution to Family Income, and Remittances	24
D. Microeconomic Impact and Use of Remittances	27
E. Summary of Findings	31
4. Macroeconomic Consequences	33
A. Stylized Facts of Remittances in Moldova	33
B. Economic Growth	38
C. Labor Market	41
D. Balance of Payments and the Exchange Rate	43
E. External Competitiveness	47
F. Monetary Conditions and Inflation	52
G. Fiscal Consequences	54
5. Policy Implications	60
A. Structural Policies	60
B. Monetary Policy	63
C. Fiscal Policy	65
6. Conclusions	67
Appendix	69
References	70
Boxes	
1. Negative Side of Labor Migration	22
2. Travel Costs and Migration Channels	23
3. Three-Commodity Model	49

4. Social Insurance and Fiscal Sustainability—Conceptual Framework	59
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Text Tables

1. Category and Gender of Migrants	18
2. Cumulative Change in Equilibrium REER, 1996–2004	51
3. Pension System’s Response to Demographic Changes	58

Appendix Table

A1. Selected Economic and Social Indicators, 2000–04	69
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Figures

1. Gross Workers’ Remittances, 1996–2004	2
2. Number of People Working Abroad, 1999–2004	11
3a. Population Density, 2001	12
3b. Share of Urban Population, 2002	12
4. Real GDP and Poverty Rate, 1996–2002	13
5. Migrant Contingent: Distribution by Gender and Age	15
6. Migrant Contingent: Country Distribution by Gender	16
7. Education Level of Migrants and Working Population	17
8. Education Level of Migrants by Category of Migrants	18
9. Geographical Distribution of Permanent, Nonpermanent, and Seasonal Migrants	19
10. Year of First Departure, 1983–2004	21
11. Main Migration Directions	22
12. Earnings Received by Moldovan Migrants	25
13. Percent of Earnings Sent to the Family	26
14a. Use of Remittances by Year of Remittance Cycle	28
14b. Use of Remittances by Category	28
15a. Use of Remittances by Year: Breakdown by Type of Savings	30
15b. Use of Remittances by Year: Breakdown by Type of Business Investment	30
16. Workers’ Remittances Through the Banking System, 1996–2003	35
17. Gross Workers’ Remittances as a Share of GDP in 2003	36
18. Distribution of Temporary and Long-Term Workers’ Remittances, 2000–03	37
19. Workers’ Remittances to Moldova by Region of Origin	37
20. Contribution of Consumption and Fixed Capital Formation to Real GDP Growth, 1999–2003	38
21. Remittances’ Growth and Real Consumption Growth, 1997–2003	39
22. GDP, GNI, and GNDI Per Capita, 1999–2003	39
23. Fixed Capital Formation, 1999–2003	40

24. Labor Migration, 1999–2003	42
25. Labor Market Indicators, 1998–2003	43
26. Workers’ Remittances and Foreign Direct Investment, 2000–03	44
27. Moldovan Leu Exchange Rate, 1999–2004	45
28. Assessing Competitiveness, 1996–2004	46
29. Import Coverage, 1996–2004	48
30. Change in Equilibrium REER	48
31. Change in REER and Equilibrium REER	51
32. Money Growth and Inflation, 2003–04	54
33. Unemployment, Unemployment Benefits, and Dependency Ratio, 1998–2004	55
34. Tax Revenue Composition, 1999–2004	56
35. Cumulative FDI Per Capita, 1991–2004	61
36. Business Environment	62

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Preface

Labor migration and remittances have increasingly become a part of the global landscape, with profound economic and social consequences. By directly affecting growth performance, public finance, balance of payments, and exchange rate and monetary conditions, they are posing fresh challenges to policymakers. Moldova, a small, low-income country where an estimated third of the economically active population has been working abroad, is an interesting illustration of this trend.

This Special Issues paper examines the microeconomic characteristics, macroeconomic consequences, and policy challenges of labor emigration and remittances in Moldova. Drawing on household survey data, it attempts to explain why Moldovan workers go abroad and how their remittances are used. With this background, the paper provides insights into policy challenges of coping with, and maximizing benefits from, international labor mobility and the large inflows of remittances. Appropriate macroeconomic policies are important, but a more determined and sustained effort to improve the business environment is needed to enhance Moldova's attractiveness to foreign capital and stimulate more foreign investment inflows. It would also facilitate the allocation into productive use of larger portions of migrants' remittances, which today are predominantly used to finance household consumption and residential construction. The signing of the EU-Moldova Action Plan in early 2005 offers hope for reinvigoration of the structural reform agenda.

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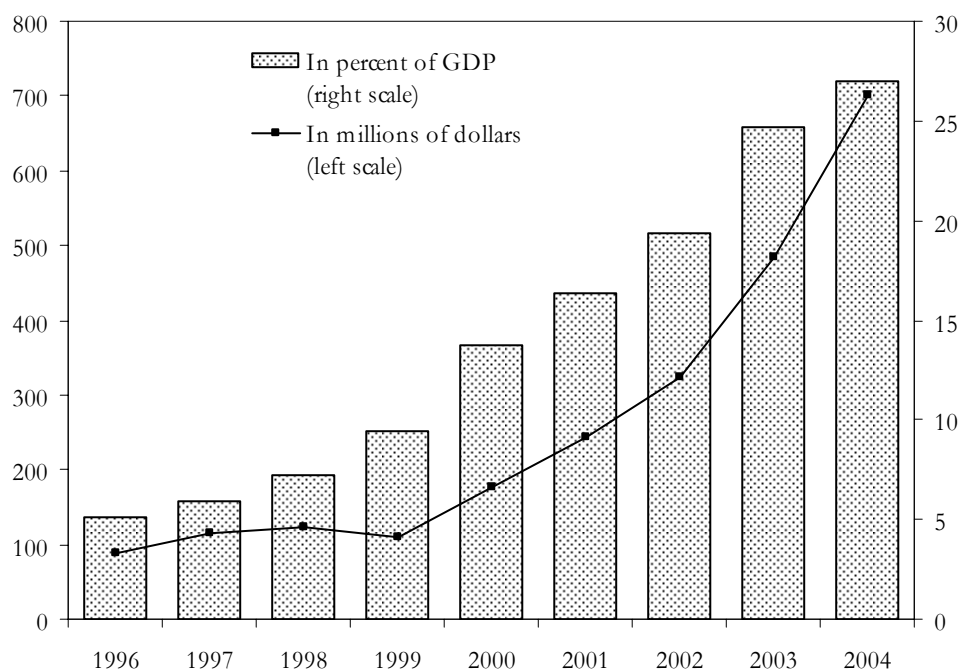
Overview

In today's globalized world economy, economic integration goes beyond international trade and capital movements, and increasingly involves international labor mobility. An interesting illustration of this trend is Moldova, where large-scale labor emigration and associated workers' remittance flows have played a dominant role in shaping the economic evolution in recent years. Although in Moldova much of the impetus for labor migration has come from unfavorable domestic conditions, the phenomenon is part of a wider trend of a growing movement of temporary and skilled workers across national borders.

Labor migration and workers' remittances picked up in the wake of the 1998 regional crisis, which hit Moldova particularly hard. The domestic economic situation was already difficult before the crisis, since the transformation from a centrally planned to a market-based economy implied drastic structural changes, resulting in output contraction and massive job losses. When hit by the 1998 crisis, many workers had few viable alternatives to seeking job opportunities abroad to support their families. Despite subsequent domestic economic recovery, these trends intensified over time, with new migrants benefiting from the informal support of the growing expatriate community. In 2004, the total officially estimated gross inflows of workers' remittances reached almost 27 percent of GDP (Figure 1)—large compared with other countries in which remittances also play a relatively significant role.

This paper examines the microeconomic characteristics, macroeconomic consequences, and policy challenges of labor emigration and remittances in Moldova. Drawing on household data from a recently conducted survey, it attempts to explain why Moldovan workers go abroad and how their remittances are used. With this background, the paper describes the profound impact the large inflows of remittances have had on the macroeconomic environment. Finally, the paper goes on to analyze key structural and macroeconomic policy issues and offers some insights into major policy challenges of coping with and maximizing the benefits from the large inflows of remittances and labor mobility.

Figure 1. Gross Workers' Remittances, 1996–2004



Source: National Bank of Moldova (NBM).

There are three main reasons this paper could be of general interest. First, the results presented from the survey add to the growing literature on the mechanisms behind and character of migration and workers' remittances. Second, the analysis of the macroeconomic consequences includes the potential impact of labor migration and workers' remittances on monetary and fiscal conditions. While the focus in the literature has chiefly been on "real" aspects of the economy—economic growth, investment, and competitiveness—extending the analysis to monetary and fiscal aspects arguably adds value, in particular from the perspective of policymakers. Third, and most important, the paper puts emphasis on economic policy implications. It highlights policy challenges that emerge from dealing with the causes and consequences of labor migration and workers' remittances. This is also where we believe the broad approach taken in this paper pays off. Specifically, when micro- and macroeconomic issues are looked at simultaneously, the decisive role of sound structural policies comes out clearly, highlighting the risk to slowly reforming economies and making a case for reforms to effectively address impediments to private sector investment and development.

The paper finds that the basic patterns of migration and remittances in Moldova are consistent with the stylized facts in the labor migration literature. Moldovan migrant workers, temporary and permanent, have a strong attachment to Moldova, remitting large portions of their earnings home. Transfers from migrants, who accounted for about 40 percent of the economically active population at end-2004, are primarily used to meet basic consumption needs and finance housing and education, with smaller amounts invested in business activities. Remittances are, moreover, likely to remain a stable and countercyclical source of foreign exchange in the short run. However, as more migrants settle permanently abroad, portfolio choice may become more important.

Household decisions to migrate and remit part of workers' labor income to their families in Moldova have important macroeconomic consequences. They (1) drive growth through household consumption, (2) reduce labor supply and put pressure on wages, (3) finance a large and widening trade deficit, (4) put the exchange rate under appreciation pressure, (5) fuel inflationary pressures, (6) contribute to higher tax revenues, and (7) threaten the sustainability of the pension system.

In the face of these challenges, policy choices in three broad areas—structural, monetary, and fiscal—become critical for determining whether labor migration and remittances will be good or bad for Moldova. In principle, higher factor mobility (of both capital and labor) offers potential benefits, permitting more efficient resource allocation. In this sense, a greater choice of employment opportunities, both at home and abroad, available to Moldova's workers is welcome. Moldova's problem today, however, is that much of the impetus toward migration stems from the lack of opportunities at home.

Appropriate macroeconomic policies are important, but will be effective only if underlying *structural weaknesses* are addressed. To limit and possibly reverse the upward emigration trend and the increasing dependence on workers' remittances, establishing a good business environment is crucial. It would both attract foreign capital and help channel the pool of savings from remittances into productive investment in the domestic economy. Domestic policy cannot influence the "pull" factor of labor migration (higher wages abroad). However, it needs to work harder to remove the "push" factors (poor investment climate and related lack of suitable employment opportunities at home). That way it can enhance the chances that labor and capital will link up in Moldova and that the benefits from remittances to Moldova will be realized more fully.

Fiscal policy faces both short-term and long-term implications from emigration and remittances. In the short run, the key challenge is to safeguard macroeconomic stability and resist procyclical spending temptations in the face of surging tax revenues. Over the longer term, considerations of fiscal sustainability become critical, as the government grapples with shifts in the demographic structure through the reduction of its economically active

population. Initially, social spending pressures are attenuated as a result of reduced unemployment and improvement in household incomes from higher wages and transfers from abroad. At the same time, the composition of tax revenue changes, with indirect taxes (e.g., value-added tax (VAT) on imports) increasing their share at the expense of business and personal income taxes. The pension system, designed as “pay-as-you-go” (PAYG), with contributions from the current generation of workers financing retirement benefits of current retirees, is coming under pressure, as the exodus of workers reduces the base on which the contributions are levied.

Monetary policy has a key role to play in creating a stable macroeconomic environment, but needs greater support from fiscal and structural policies to discharge its task effectively. At this point, a strategy to maintain a flexible exchange rate regime, paired with a clear focus on low inflation, as the overriding goal of monetary policy appears to be a reasonable monetary policy alternative. Going forward, maintaining and improving external competitiveness in Moldova are inextricably linked to the overriding policy challenge of accelerating economic development. In that sense, competitiveness needs to be viewed not only in terms of safeguarding external sustainability but also as Moldova’s ability to build solid economic growth by attracting much-needed foreign direct investment.

The paper is organized as follows: Chapter 2 gives a brief overview of the fast-growing body of literature on remittances; Chapter 3 provides a microeconomic perspective on Moldova’s labor migration, drawing on a recent household survey; Chapter 4 assesses macroeconomic consequences of labor migration and remittances in Moldova; Chapter 5 discusses policy implications; and Chapter 6 concludes. The Appendix presents selected economic indicators of the Moldovan economy.

Literature on Remittances

The growing body of literature on migration and remittances provides a useful framework to analyze these phenomena in Moldova, as well as to help with policy conclusions and recommendations.¹ Analytically, this literature can be organized around three main topics: motivation behind remittances, use of remittances, and macroeconomic impact of migration and remittances.

The literature on the motivation behind remittances primarily considers migrants to be altruistic individuals whose utility function takes into account the consumption of the household members who remained in the home country. Other possible motivations include attachment to the home country and portfolio diversification (see Elbadawi and Rocha, 1992). Attachment to the home country can be viewed as a willingness to maintain ties at home through nonfinancial assets such as real estate and business investment, often managed by relatives. If the level of remittances is largely driven by altruism and attachment, then it is reasonable to expect remittance flows to be fairly stable and, given appropriate economic policies, partly channeled toward business investment. Moreover, the altruistic migrant would be expected to react to an economic crisis at home, or a job loss in the household, by raising the amount of remittances. Thus, remittance flows by altruistic migrants tend to be predictable and countercyclical—a blessing for policymakers. By contrast, migrants who care about diversifying their portfolios would tend to equalize returns on financial and fixed assets in their host and home countries. These remittances would be sensitive to interest rate differentials, political risk, and uncertainty, and would tend to be procyclical. In short, they behave like capital flows. As such, they are more problematic for policymakers, since they carry the usual risk associated with capital flow volatility.

¹For a succinct and comprehensive review of the literature on remittances, see Bouhga-Hagbe (2004).

Typically, the literature on the motivation behind remittances has modeled their level on the basis of demographic, economic, and financial variables. Economic variables describe the economic situation facing the migrant and the family, such as wages and income in the host and home countries. Demographic variables describe the strength of the family ties. For example, the longer a migrant stays in a host country, the weaker the ties to the home country, thus the smaller the remitted amounts. Financial variables attempt to capture portfolio allocation behavior. The most reliable stylized fact from the empirical literature on the cause of remittances is that the demographic and economic variables tend to be significant in most model specifications, while the financial variables' significance depends on the sample size and specification (see Chami, Fullenkamp, and Jahjah, 2003).

The literature on the use of remittances explores the purposes for which funds are remitted to the home country. Three stylized facts emerge from this literature (Chami, Fullenkamp, and Jahjah, 2003): (1) a significant portion (often the majority) of remittances is spent on consumption; (2) a significant (but smaller) portion of remittances is channeled to savings or investments (houses, land, and related expenditures, such as renovations); and (3) such savings and investments are not necessarily productive for the overall economy, since the purchase of a house or land is not in itself a productive activity.

The macroeconomic impact of remittances is significant and acts through various channels. Remittances have become increasingly important as a source of external financing worldwide. Ratha (2003) reports that they are the second largest source of external financing in developing countries, after foreign direct investment (FDI), and are more critical for development and poverty reduction than foreign aid. They are mainly used for consumption and, to a lesser extent, for saving and investment. Investment, moreover, tends to be “unproductive” and is often concentrated in real estate. Although remittances finance investment in education, their net effect on human capital development can be negative, since emigration can potentially lead to brain drain.

The extent of brain drain varies considerably among countries. Adams (2003) finds that, for most countries, migration does not cause significant brain drain. For a few countries, however, especially those with wealthy neighbors, high proportions of the most highly educated people leave. Furthermore, the potential negative impact of brain drain on economic development has to be weighed against the positive impact of migration on human capital development and growth through several channels. First, returning migrants bring back their skills and work experience, thus boosting productivity. These new skills can offset the loss of migrants and may even lead to a “brain gain.” For example, returnees from the United States established half of all the companies in Hsinchu, the largest science park in Taiwan Province of China, and the Chinese Ministry of

Science and Technology estimates that returning overseas students started most Internet-based ventures (Cervantes and Guellec, 2002). India's software industry has been built in part on the skills of returning migrants. Second, the possibility of migration for higher wages and economic opportunities can stimulate individuals to pursue higher education. Because not everyone will leave, the result will be an increase in the average skills of the workforce. Third, international trade may flourish between countries that export labor services and countries that import them (*The Economist*, 2002).

The impact of remittances on economic agents and the economy varies over time. The contribution of remittances to growth appears to be positive in the short term. Part of remittances-induced consumption spending benefits domestic producers, thereby creating a Keynesian-type multiplier effect. Indeed, several studies report positive multiplier effects of remittances on short-term growth. Remittances also have a positive impact on poverty reduction, because they are transferred directly to households and are thus naturally well targeted, instead of being channeled through the government—as is the case with foreign aid. Moreover, remittances can also contribute to macroeconomic stability, since they tend to be relatively stable and countercyclical. Finally, remittances are not debt-creating foreign exchange flows. In the long term, remittances' contribution to growth appears to be weaker. When analyzing panel data across 113 countries, Chami, Fullenkamp, and Jahjah (2003) find that remittances are negatively correlated with economic growth, mainly because they are generally not used to finance productive investment. The authors suggest that one important explanation for this result is moral hazard, since remitters cannot directly observe the behavior of recipients.²

However, there are other potential negative effects generally associated with emigration and remittances. While emigration reduces labor supply, the related remittances increase demand for goods and services, putting pressure on wages and on the real exchange rate and increasing costs for domestic producers. Also, if remittances are large, they can generate Dutch disease-type appreciation of the exchange rate and further reduce the competitiveness of the export sector. These factors discourage investment in sectors that do not benefit from remittances (including the export sector). Moreover, if the inflows of remittances were to dry up quickly, the economy would become vulnerable, much in the same way that an oil-exporting country suffers when oil prices plummet. However, this sudden drop in remittances is usually associated with a situation in which workers have

²However, causality may play a role in these results. People usually migrate for lack of better opportunities at home. Thus, one would expect a negative correlation, a priori, between the real rate of economic growth and the amount of remittances.

migrated predominantly to one host country and this country is hit by an economic crisis or political and social turmoil. In this regard, since Moldovans' remittances originate predominantly from Russia, followed by Italy, Moldova remains exposed to economic and political events in these two countries.

3 Migration and Remittances in Moldova—A Microperspective

This chapter reports on the results of a survey of migration and remittances in Moldova. The survey was sponsored by the Chişinău offices of the International Organization for Migration and the Food Security Program of the European Commission, and developed by a survey agency (CBS AXA) in cooperation with the IMF resident representative office and the two sponsors. CBS AXA conducted the interviews, the focus groups, and the survey itself during September–November 2004.³

The survey was designed to shed light on the extent and pattern of migration and remittances, as well as their economic consequences. Although remittances have become a dominating factor in the Moldovan economy, only recently (summer 2004) did the National Bank of Moldova (NBM) revise its methodology to better capture informal remittances. As a result, estimates for remittances were revised upward. For example, the data on remittances for 2003 were revised by about \$90 million to \$484 million. Still, many believe that remittances are much higher, and figures of \$600 million for 2003 and \$1 billion for 2004 are often quoted, including by the authorities (see Basa Press, 2003; and Reporter.MD, 2004). Mainly as a result of rapidly increasing—as well as largely unexpected—remittances, the leu began to reverse its nominal depreciation trend in 2003 and then came under periods of appreciation pressure in 2004. The NBM had to change its monetary policy and walk a fine line between appreciation pressures

³The research was carried out in two stages. The first stage was a qualitative study including focus groups and in-depth interviews with migrants, their family members, and sector experts (e.g., train and bus conductors, and employees of relevant government agencies). Focus groups were used to gain insights into the behavior of migrants and their families. This allowed the survey agency to better define the questionnaire for interviewees and the interview guide for interviewers. The second stage was a public opinion poll, conducted in October 2004, based on a sample of 3,714 households, of which 1,006 had at least one migrant. The sample was stratified (e.g., urban and rural localities, size of localities) and randomly chosen.

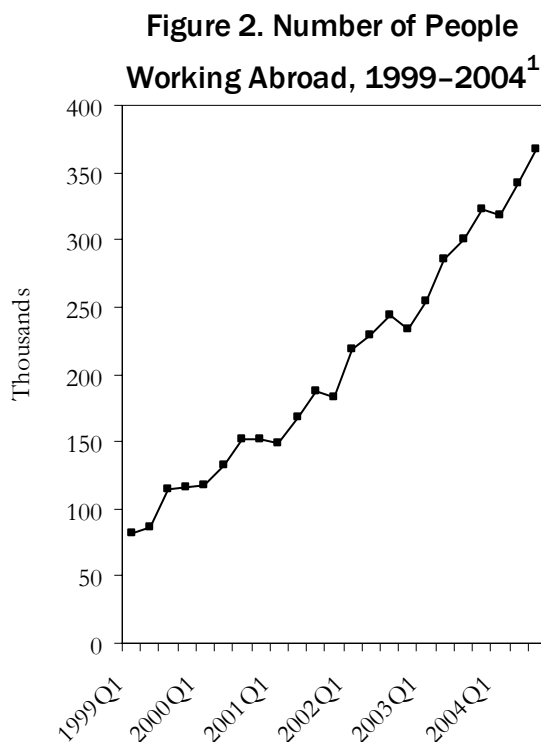
and increases in money supply. In such an environment, firm and up-to-date information on remittances is crucial to conduct the appropriate monetary policy.

Although there are no definitive data on how many Moldovans have emigrated, it is generally agreed that this number has increased markedly in the past few years. Available official estimates confirm that the number of migrants is very large when compared with an active population of 1,474,000 people in 2003. The Department of Migration estimated the number of migrants at about 600,000 as of August 2004 (Săptămîna, 2004). Data on population statistics produced by the Department of Statistics and Sociology (DSS) indicate that 367,000 Moldovans were working abroad in the third quarter of 2004, compared with 114,000 in the third quarter of 1999. Beyond these official sources, a recent survey found that the approximate number of Moldovans working or looking for a job abroad during January–September 2003 was between 265,000 and 285,000, consistent with the DSS estimates (Ghencea and Gudumac, 2004). This survey also found that almost 83 percent of Moldovans working or looking for a job abroad during January–September 2003 emigrated after 1999. Many migrants go abroad only during spring and summer to work in construction and agriculture. The DSS population data reflect this seasonality within a clear overall upward trend (Figure 2).

Precise and up-to-date information on the extent and pattern of migration and remittances is crucial to designing appropriate fiscal and social policies. For example, although remittances have been conspicuously absent from the debate on fiscal and social policy, they have become the most extensive and effective social assistance and safety net mechanism in Moldova. Officially estimated remittances reached \$484 million in 2003, far higher than the \$190 million spent on social assistance and pensions by the consolidated government. It is arguable that such inflows have reduced social pressure to increase social spending and reform the currently poorly targeted social assistance system. At the same time, migration has created some social problems that are only now starting to be recognized, while a policy response has not yet been fully formulated.⁴

Moldova's demographics and economic structure make it an ideal candidate for a high level of emigration. Not only does it have the largest share of nonurban population in Europe and the countries of the former Soviet Union, except for three countries in Central Asia, but also its population density is second only to a group of highly developed countries in Western Europe, Poland and the Czech

⁴The Ministry of Education estimates that, as a result of migration, during the 2004/2005 academic year, 23,000 Moldovan children were left without both parents and under the care of relatives, older siblings, or friends (Pro-Didactica, 2004).



Source: Department of Statistics and Sociology (DSS), 2005.

¹As declared by their families.

Republic in Central Europe, and Armenia in the former Soviet Union (Figures 3a and 3b). Prior to independence, a high percentage of Moldovans lived in essentially rural communities that, in turn, relied on the economic ties within the countries of the former Soviet Union. The breakup of these ties and the relative price shocks that ensued generated excess labor, which could not be easily absorbed in a country already characterized by high population density and with only the capital—Chişinău—able to offer employment opportunities to internal migrants.

These structural factors were exacerbated by the existence of several small towns whose economic well-being relied on a single large enterprise. These enterprises were not competitive and soon became idle, driving their towns' populations into poverty. In 2002, 63 percent of residents of small towns were poor, compared with 52 percent of rural residents and 29 percent of people living in large cities (World Bank, 2004). Small-town residents do not benefit from the better employment opportunities of large cities, or from the safety net of small landholdings of rural residents. Although the poverty risk is highest in small towns, since the majority of the population lives in rural areas, rural poverty

Figure 3a. Population Density, 2001¹

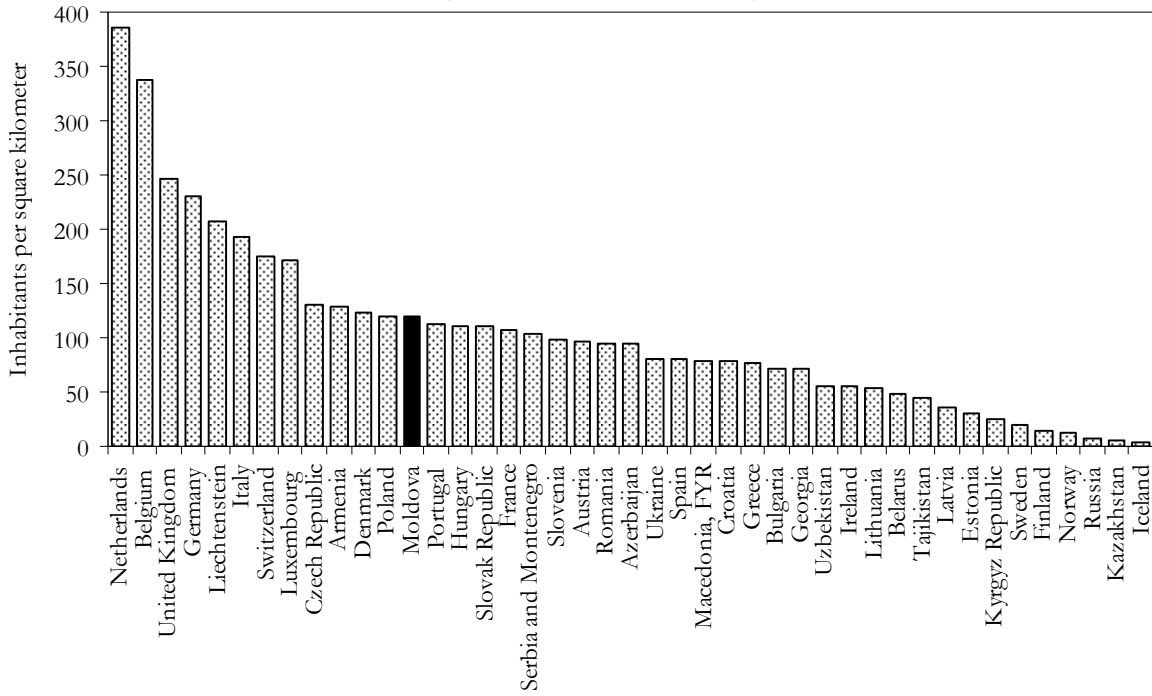
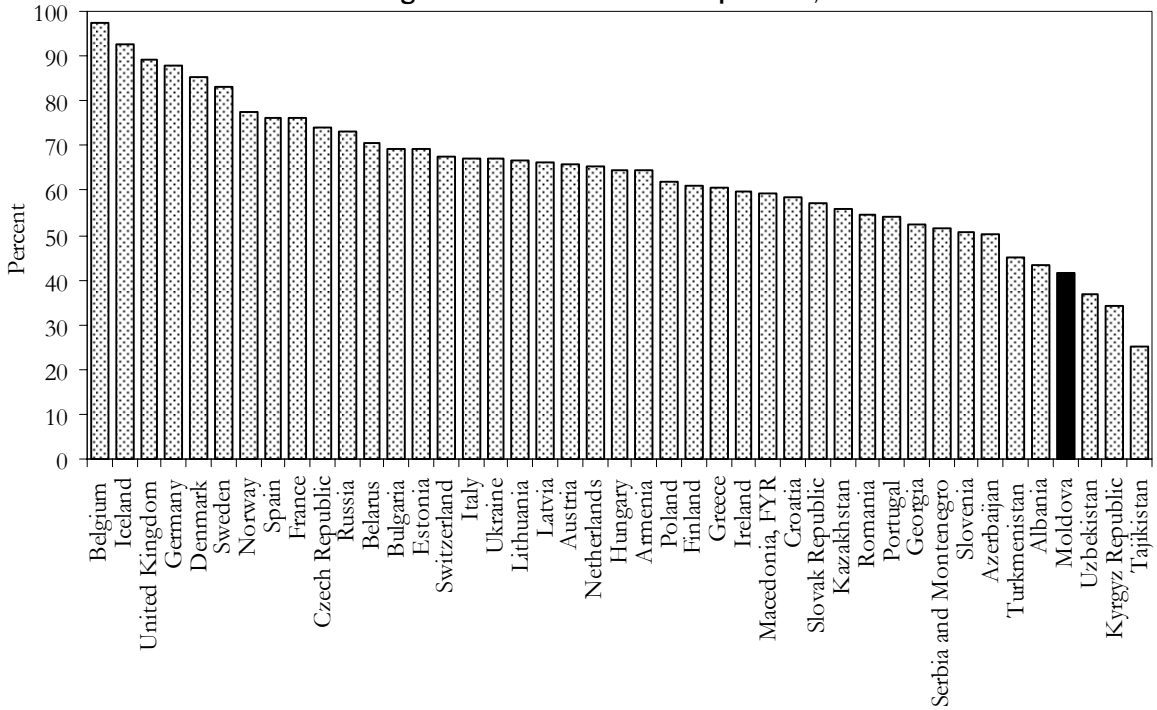


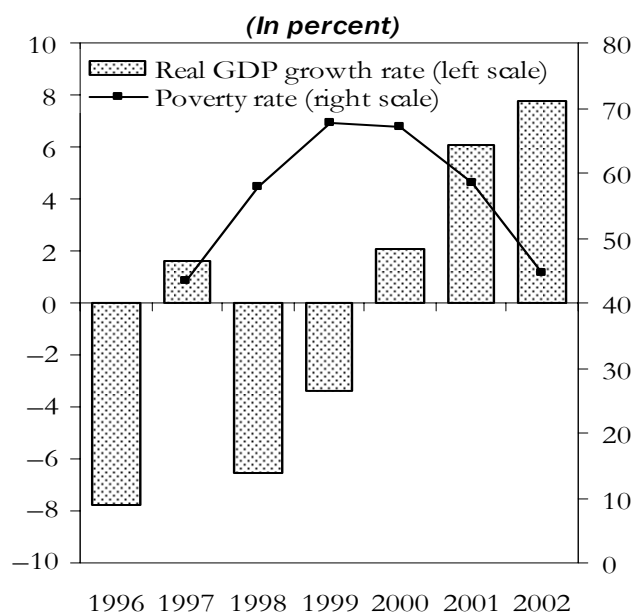
Figure 3b. Share of Urban Population, 2002



Source: United Nations Development Programme (UNDP), 2004.

¹Data for Moldova include Transnistria.

Figure 4. Real GDP and Poverty Rate, 1996–2002¹



Source: DSS, 2005.

¹Poverty rate defined with respect to the international poverty line (\$2.15 in purchasing power parity terms per day).

predominates—68 percent of all Moldovan poor lived in rural areas in 2002. Poverty became deeper and more severe during the recession that followed the 1998 regional crisis, although the depth and severity of poverty began to recede with the subsequent economic recovery (Figure 4). Migration appears to be a rational coping mechanism under these circumstances.

A. Extent of Migration and Migrants' Profile

CBS AXA (2005) estimates a migrant *contingent* of at least 571,000 people at the time of the survey, consistent with the figure quoted by the Department of Migration. These migrants are divided into two groups. The first is formed by some 399,000 Moldovans who were working abroad at the time of the survey. The second consists of about 171,000 people who were in Moldova at the time of the survey, but had worked abroad at least once during 2003–04 and intended

to migrate again either on a permanent or a seasonal basis in the near future.⁵ These two groups of migrants together form a migrant contingent equivalent to 38.7 percent of the economically active population at end-2003. The advantage of using the concept of migrant *contingent*, rather than the number of *emigrants at any point in time*, is that the former is independent from the strong seasonality of Moldovan migration flows. This is an important innovation with respect to other surveys, whose estimates vary according to the time of year when they are undertaken.

However, the migrant *potential* is higher than the migrant *contingent*. At the time of the survey (October 2004), 119,000 families who had not had any member working abroad during 2003–04 expressed their intention, or revealed that preparations were under way, to send at least one member to work abroad within the next six months to one year. Thus, the migrant potential is estimated to be as high as 690,000 (a migrant contingent of 571,000, plus 119,000 intending to depart for the first time within the next year), corresponding to 46.8 percent of the economically active population at end-2003. By any account, these are large figures and suggest that the Moldovan labor market may come under additional strain.

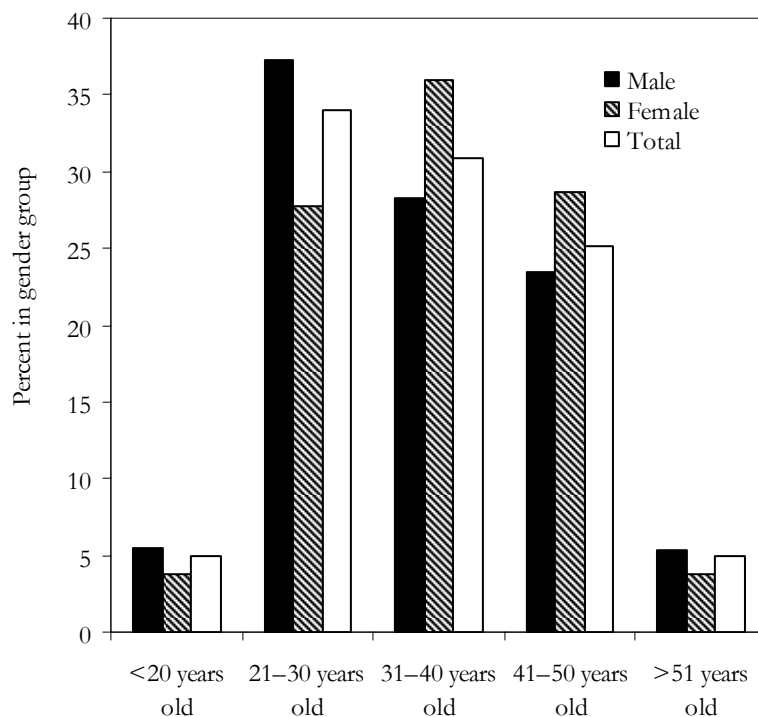
The distribution of the migrant contingent by gender and age provides interesting insights about the profile of migrants. As shown in Figures 5 and 6, the majority of people in the migrant contingent are men (about 66 percent), and the largest portion of migrants (75.3 percent) belongs to the most economically active age groups (21–40 years old).⁶ On average, male migrants are younger than female migrants, reflecting a specialization of men in physical work and of women in household chores in host countries. While about 62 percent of migrants are married, there is a clear correlation between their marital status and their length of stay abroad: married migrants migrate less permanently than single or divorced migrants.⁷ A preponderance of male migrants is characteristic of Commonwealth of Independent States (CIS) countries, such as Russia and Ukraine, and some Western European countries (Germany, Portugal, and Belgium), reflecting demand for services in construction, the repair industry, and agriculture (Figure 6). Female migrants prevail in Cyprus, Greece, Turkey, Italy, and Spain, reflecting demand from the tourism sector (e.g., Cyprus) and for household help (e.g., Italy and Turkey).

⁵These are either seasonal migrants, the largest component; migrants who are momentarily in Moldova to retrieve documents, finalize emigration papers, or take care of personal or family affairs or business; or migrants who have to spend some time in their home country to get a visa renewal (e.g., migrants to Turkey).

⁶Unless specified otherwise, figures in the remainder of this chapter refer to the migrant contingent.

⁷Widowers also migrate less permanently than divorced migrants. This suggests a relation of causality between migration and the divorce rate, a fact that is confirmed by the qualitative research.

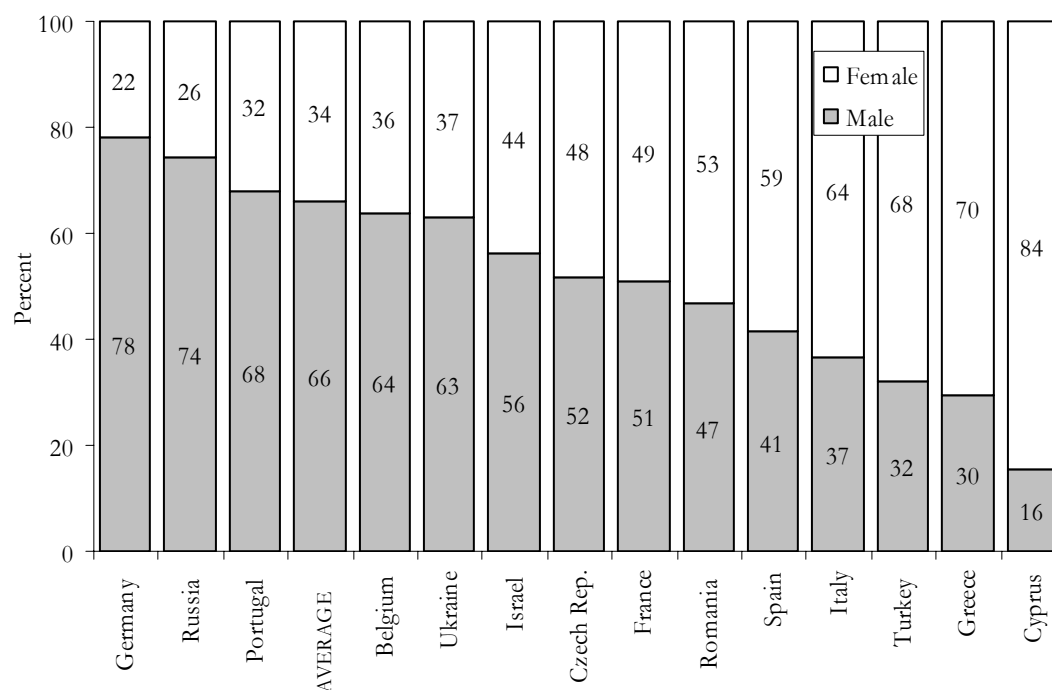
Figure 5. Migrant Contingent: Distribution by Gender and Age



Source: CBS AXA, 2005.

Migrants generally have a below-average level of education, but people with above-average education are overrepresented among permanent migrants and those who migrate to Western European countries. Fewer than 20 percent of migrants have a university education, compared with about 28 percent in the working population (Figure 7). However, the level of education among permanent migrants is distinctly above average, which contributes to a significant brain drain (Figure 8). The opposite is true for temporary and seasonal migrants. Most migrants with less education go to CIS countries (notably, Russia and Ukraine), where salaries are lower, while workers with higher education migrate mainly to Western European countries, where salaries are higher. These findings suggest that education offers wider choice in terms of destination and job opportunities. In turn, this helps to raise the perceived return on investment in education, thus contributing to increasing the overall skills of the labor force and potential output growth in the medium term.

Figure 6. Migrant Contingent: Country Distribution by Gender

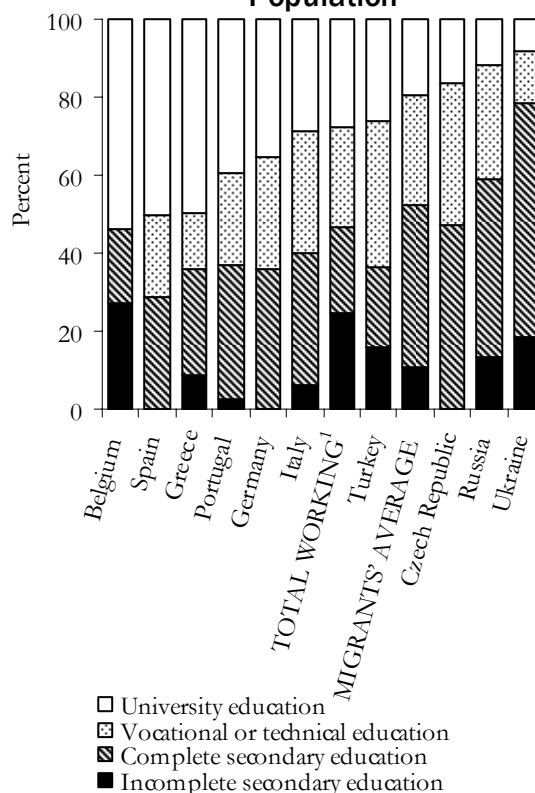


Source: CBS AXA, 2005.

Attachment to the home country may be important for Moldovan migrants. Most Moldovan migrants have not moved permanently abroad, and they go abroad repeatedly either as seasonal or as nonpermanent migrants. At the time of the survey, about 32 percent of migrants resided in the host country (Table 1). Another 27 percent either had moved abroad less than a year before or travel abroad routinely for periods of no longer than a year. In addition, another 41 percent are seasonal migrants, who migrate during specific periods of the year, or go abroad when necessary to find supplementary sources of revenue.⁸ Also, the focus groups indicate that the main reasons nonpermanent migrants return home

⁸As discussed in Chapter 2, permanent residents are those migrants who, from the balance of payments point of view, transfer remittances. The second and third categories are essentially exporting services for a period of time shorter than one year and, from the balance of payments point of view, their transfers are classified as compensation of employees.

Figure 7. Education Level of Migrants and Working Population



Sources: CBS AXA, 2005; and DSS, 2004.

¹Share of educated in total working population.

are to remain in touch with family, procure documents, and renew visas. Table 1 also shows that the majority of men are seasonal migrants, while the majority of women are permanent migrants. Emigrants departing to Western Europe tend to establish residence there, while emigrants to CIS countries seek work on a seasonal or nonpermanent basis (Figure 9). Ukraine and Russia attract mostly seasonal migrants.

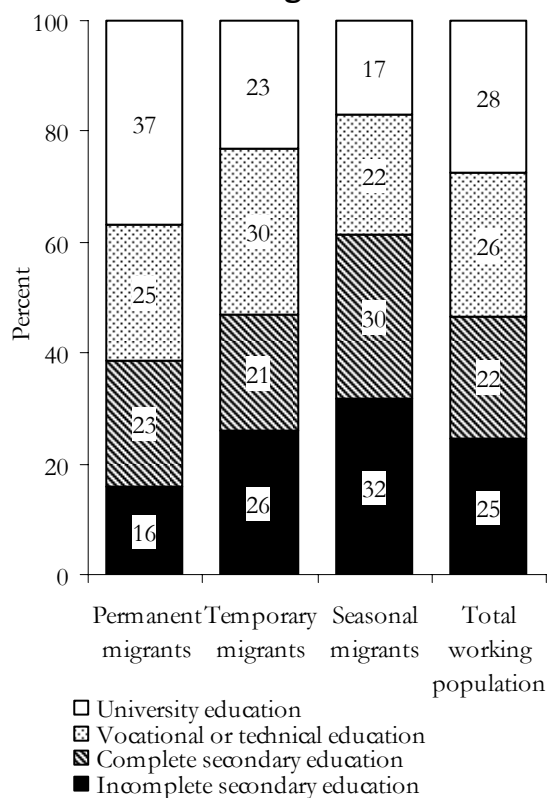
This pattern of migration may not change in the short term, since only a minority of current Moldovan migrants intend to move abroad permanently. Only 6.4 percent of interviewed migrants currently in Moldova intend to move permanently abroad, while 67.3 percent of them would consider seeking employment abroad again to save money and return to their home country. The answers given by the family members of migrants currently abroad are broadly consistent with those given by the groups of migrants currently in Moldova.

Table 1. Category and Gender of Migrants
(In percent of total by gender)

	Permanent: More Than One Year Without Returning	Nonpermanent: Less Than One Year	Seasonal: A Few Months
Total	32.3	26.9	40.8
Men	26.3	25.3	48.4
Women	44.3	30.1	25.5

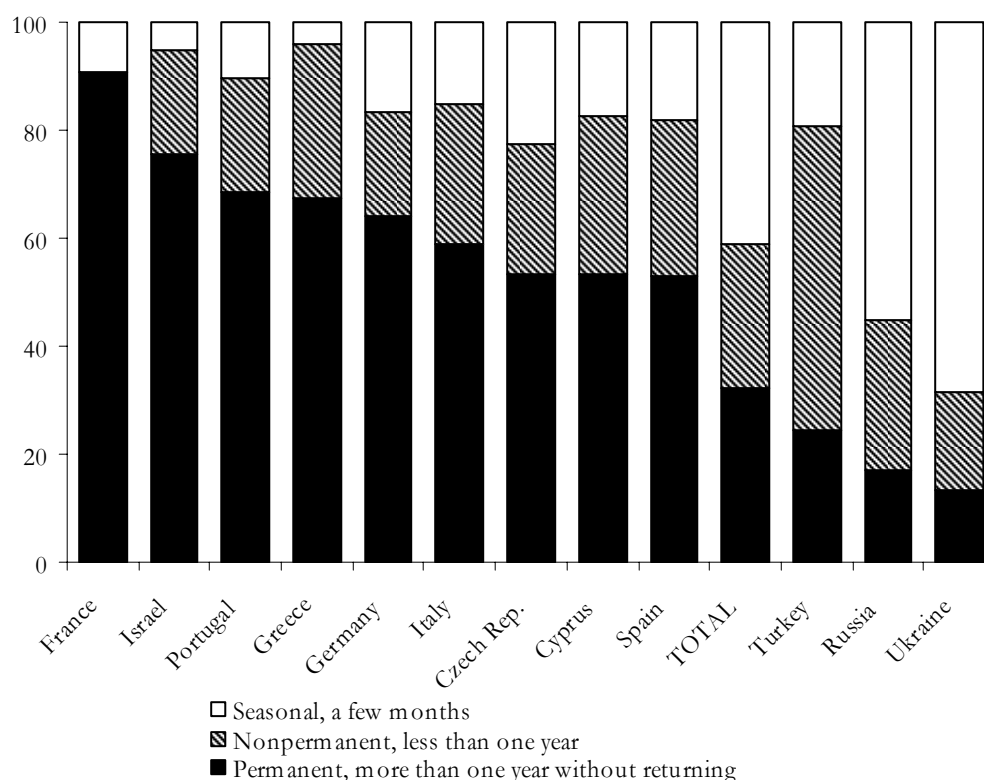
Source: CBS AXA, 2005.

**Figure 8. Education Level of
Migrants by Category of
Migrants**



Sources: CBS AXA, 2005; and DSS, 2004.

Figure 9. Geographical Distribution of Permanent, Nonpermanent, and Seasonal Migrants
(In percent of total in each country)



Source: CBS AXA, 2005.

Family members expect 12 percent of migrant workers to move abroad permanently and 65 percent to return to Moldova after accumulating enough savings to meet their specific needs.

In the medium term, however, more people may migrate permanently. If given the opportunity, more Moldovans, particularly the young ones, would migrate, and many of these would do so permanently. According to a poll conducted in November 2004 (International Republican Institute and Baltic Surveys Ltd. (IRI), 2004), 25 percent of Moldovans would migrate permanently and another 30 percent would migrate temporarily, if given the chance. This inclination is particularly strong among people under 30 years of age: 76 percent would leave Moldova, if they had an opportunity to do so; of these, 43 percent would migrate permanently. These figures suggest that the number of people willing to leave Moldova remains high and that, unless economic opportunities are created locally, migration is likely to continue.

B. The Decision to Migrate

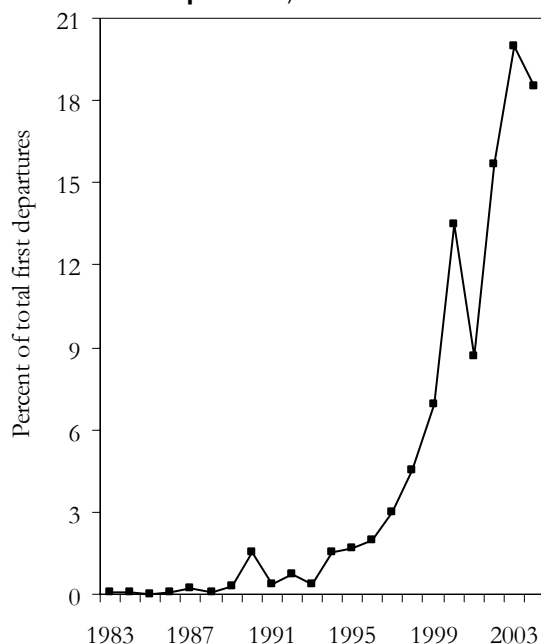
Migration started in earnest after the 1998 regional crisis, but accelerated during the past three years. While 29 percent of migrants went abroad for the first time in 1999–2001, 54 percent of migrants left in 2002–04 (Figure 10).⁹ Thus, 83 percent of migrants departed for the first time after 1998. Recently, there has been a clear tendency for younger people to migrate. Almost 45 percent of the migrants under 20 years of age departed in 2004, consistent with the finding by IRI (2004) that the desire to migrate is highest among people under 30 years of age.

The massive and accelerating emigration since the late 1990s is not solely due to *push* factors associated with the 1998 crisis or lack of employment opportunities in recent years; some *pull* factors are also at play. The qualitative research confirms the findings in other high-emigration countries (Rapoport and Docquier, forthcoming): once colonies of Moldovans are established abroad, relatives and friends back home find it easier to join the migrants in the host country—usually in the same city and, at least temporarily on arrival, in the same living quarters—thanks to the informational, logistical, and financial support they provide. Forty-six percent of those interviewed mentioned that having relatives and friends abroad encouraged them to migrate. The interviews also reveal that, particularly in small communities, imitation factors can be extremely important in triggering the decision to activate the informal network of Moldovans living abroad. The need to rely on outside support in seeking employment abroad makes Moldovans vulnerable to exploitation by criminal groups (Box 1).

Most migrants decide to leave to satisfy basic economic needs of the household. For 44 percent of them, the primary objective is to make enough money to meet current consumption needs (e.g., food, clothes, and basic household commodities), while for another 21 percent, it is debt repayment. For 19 percent of migrants, the primary reason to migrate is broadly defined household investments or savings (e.g., car, house purchase or renovation, weddings or funerals, bank deposits); for another 11 percent, it is spending on education, health, or household durables. Only 1 percent of migrants mention business investment in any form (e.g., land, farm animals, machinery, market stands, minibuses). The ranking of responses changes when migrants are asked for a second reason for leaving. While meeting current consumption remains the most frequently mentioned reason for emigrating (33 percent), household investments (29 percent) and spending on education and health (21 percent) become much more relevant. Debt repayment drops dramatically (7 percent) and business investment, though increasing, remains marginal (4 percent).

⁹The slowdown in emigration in 2001 as shown in Figure 10 reflects tighter police controls in Russia, in the aftermath of terrorist acts related to the second Chechen war, and lower emigration to Italy, probably owing to tighter controls before the enactment of a new immigration law in June 2002.

Figure 10. Year of First Departure, 1983–2004¹



Source: CBS AXA, 2005.

¹The estimates for 2004 exclude the last two months of the year.

These findings are confirmed by the focus groups and experts’ interviews. Among the most frequently mentioned reasons for migration are insufficient money to meet basic needs, lack of a decent place to live, joblessness, a poorly paying job, and the need to pay for the education of a family member. Among young people, a decisive factor is the lack of opportunities and the “life essentials” to raise a family.

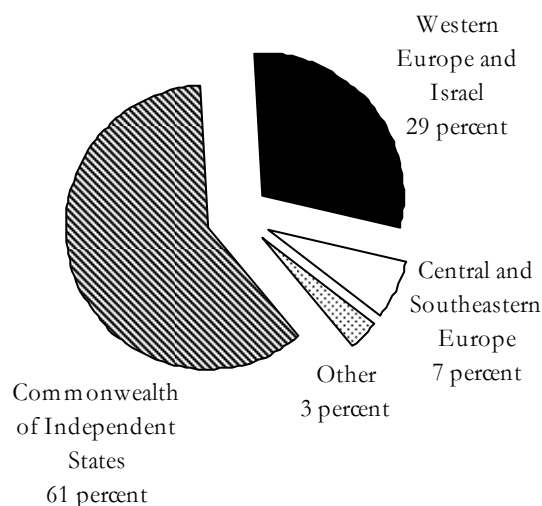
The majority of Moldovan migrants work in CIS countries (Figure 11). Almost 60 percent of migrants head for Russia, with Italy a distant second (19 percent), followed by Portugal (5 percent) and Greece (almost 3 percent). All migrants—irrespective of country of destination—claim that the most important factor in choosing a host country is the presence of relatives or friends, followed by the cost of departure, the advice or information received on that particular country, and its working conditions, which confirms that *pull* factors are important in determining how emigration flows are distributed among host countries.

Box 1. Negative Side of Labor Migration

One disturbing phenomenon associated with labor migration from Moldova concerns human trafficking. When they are working abroad illegally, many individuals are often vulnerable to exploitation by criminal organizations. Although comprehensive data are not available, partial data suggest that many victims are young: for example, the International Organization for Migration Rehabilitation Centre for Victims of Trafficking assisted 1,452 victims in 2000–04, of which 21 percent were under 18 years of age; 60 percent were between 18 and 24; and 35 percent were mothers (80 percent of them single). The recent United Nations Common Country Assessment (United Nations, 2005) cites estimates that 35 to 50 percent of victims coming into contact with support organizations across Europe are from Moldova, and that more than half of the street children in Moscow are Moldovan.

Youth social problems are often linked to migration. The Ministry of Education estimates that, as a result of migration, 23,000 children have been left without parental supervision. The aforementioned United Nations Common Country Assessment concludes that many of these children are left “without proper supervision in the care of aging grandparents or too-young siblings, and are at risk of institutionalization, abuse, neglect, and exploitation, including sexual exploitation, forced labor, or trafficking.”

Figure 11. Main Migration Directions



Source: CBS AXA, 2005.

Note: Western Europe: Italy, Portugal, Spain, France, Germany, Belgium. Central and Southeastern Europe: Romania, Turkey, Greece, Czech Republic, Cyprus.

Box 2. Travel Costs and Migration Channels

Travel costs vary depending on the country of destination and the channel chosen to migrate. The average cost (including ticket, document preparation, and visa) to depart for Russia is \$96, compared with \$422 for Turkey, \$1,922 for Portugal, \$2,048 for Italy, and \$2,300 for Spain.

A large component of emigration costs for more expensive destination countries (typically, Western European countries) are the fees paid to middlemen or travel agencies that take care of all documents, visas, and transportation to the target country. Both CBS AXA (2005) and Ghencea and Gudumac (2004) find that, although migrants often enter a country legally with a tourist or cultural exchange visa, they then remain illegally.

On average, a person spends \$658 to emigrate, though the majority of migrants spend \$100 or less (these are typically seasonal and nonpermanent workers to CIS countries). However, since these figures reflect the costs at the time of first departure, they underestimate how much Moldovans spend today to seek work abroad. Costs have increased considerably, and are now quoted mostly in euros.

An example from the focus group gives a good idea of how costs are increasing. An engineer spent \$900 to migrate to Portugal in 1999. He entered with a tourist visa, but remained to work without a regular working permit for some years, and then came back to Moldova. In 2004, he decided he wanted to return to Portugal and, at the time of the survey, he was preparing documents to leave. He found that the costs he would incur had now risen to \$2,700. If he were able to obtain a visa for work reasons from a Portuguese employer, he would be able to avoid paying fees to middlemen. As for other goods and services, the price of migration increases with demand and with regulations imposed to control it. In the current environment, obstacles to migration often translate into a tax on the migrant collected by the individuals and institutions facilitating the migration.

Travel costs vary widely by destination country and channel of migration (Box 2). The low cost of departure was mentioned as a particularly important reason by migrants who chose CIS countries, while most migrants to Western Europe and Turkey highlighted the importance of good working conditions. The interviews confirm a clear relation between the income level of the family and the choice of destination country—that is, migrants from better-off families can afford countries that are expensive to reach and settle in, which are usually also those where wages are higher.

Fifty percent of migrants financed some or all of their departure expenses from their own savings, but many also borrowed. Many migrants borrowed some or all the required amounts for traveling from relatives or friends either living in Moldova (31 percent) or abroad (13 percent). A smaller portion borrowed from moneylenders (10 percent) or from a bank (2 percent). The choice of the financing combination very much depends on the travel costs: while the majority of migrants to CIS countries self-financed their departure, people who went to Western European countries borrowed money more often—usually twice as often as the average. The interviews reveal that several migrants worked initially

in CIS countries, especially in Russia, to accumulate money to finance their trip to Western Europe.

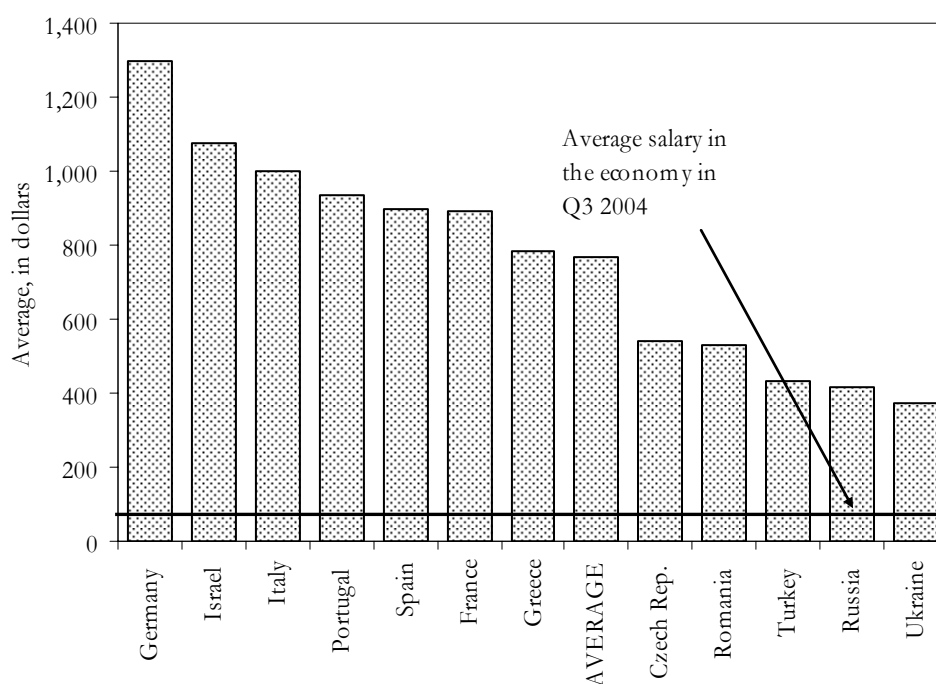
Migration seems to be an investment with quick-yielding returns. Borrowed money was quickly returned. Eighty percent of those who borrowed to finance their trip have already repaid the loan. Almost all of those who have not yet liquidated their debt are recent migrants who migrated in 2003 and 2004. Of those who repaid their debts, two-thirds did so within six months and another 11 percent within one year.

C. Earnings, Contribution to Family Income, and Remittances

The average monthly earnings of migrants are estimated at \$543. Earnings vary according to host country and type of migrant. Migrants to CIS countries have the lowest earnings, while migrants to Western European countries and Israel have the highest earning levels (Figure 12). Permanent migrants earn significantly more (\$741) each month than nonpermanent (\$500) or seasonal (\$409) migrants.¹⁰ This finding is consistent with that of Ghencea and Gudumac (2004), who observe that earning levels increase with the duration of permanence abroad. In addition, they find that earning levels increase with the level of education of the migrant and the nature of the job (i.e., legal or not). They also find that gender, once other factors are taken into account, does not explain differences in remuneration levels.

Most migrants transfer significant portions of their earnings home, often shortly after departure, suggesting that altruism is a significant trait of Moldovan migrants. Almost 81 percent of migrants send money to their family. Those that do not make remittances are either recent migrants (46 percent of those who do not send money emigrated for the first time in 2004) or young migrants who often have no family obligations and are probably accumulating savings either to set up their own family or to settle abroad permanently (about 53 percent of those who do not send money are under 30 years of age). Those who do transfer money home tend to send large portions of their earnings—71 percent of migrants send more than 50 percent of their earnings (Figure 13). Forty-nine percent of migrants sent money within three months of departure. People going to Russia, Turkey, Italy, Spain, and the Czech Republic transfer money faster than people who go to other countries, thus confirming the interviews' findings that it is easier to find a job in these countries.

¹⁰This explains why 60 percent of migrants go to Russia, but only one-fourth of the remittances come from the CIS. Also, the majority of migrants to CIS countries are seasonal or temporary migrants.

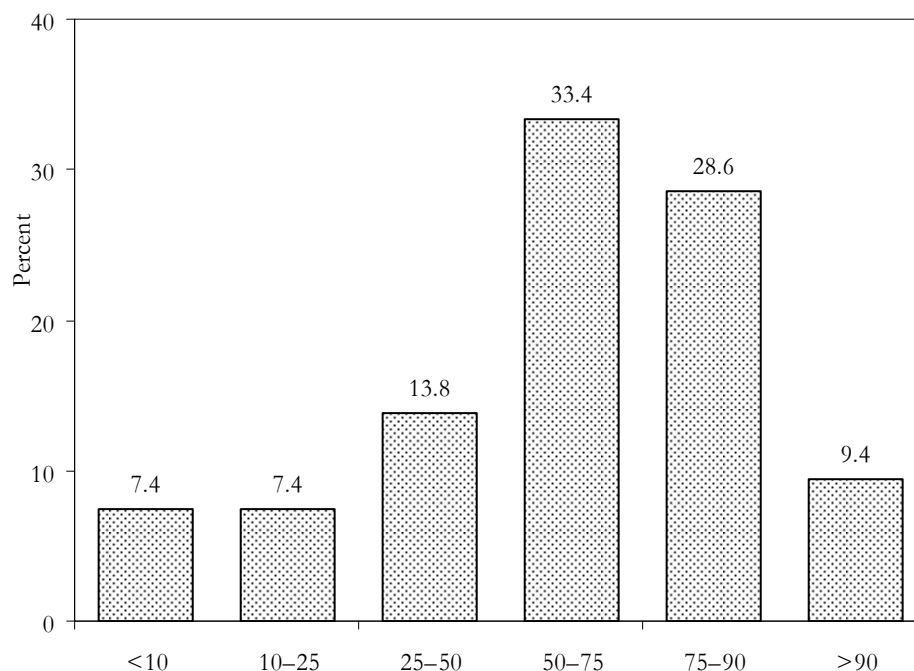
Figure 12. Earnings Received by Moldovan Migrants¹

Sources: CBS AXA, 2005; and DSS, 2005.

¹Reference period is 2003–04.

Informal channels are the most common method used to transfer money. Forty-four percent of migrants use informal methods most often: train or bus conductors, bringing money personally, asking relatives and friends to carry money, or even sending money hidden in parcels handed to bus drivers. Transporting funds personally is the most frequently used informal method (17 percent of total preferences). Thirty-four percent of migrants prefer to use formal channels: bank transfers, rapid transfers (such as Western Union, MoneyGram, Anelic, and Unistream), or post offices, with rapid transfers the most frequently used method (20 percent of total preferences). Migrants to Western European countries more frequently use bank and rapid transfers, while migrants to CIS countries and Central and Southeastern Europe prefer informal channels. The choice of transfer channel depends also on the category of migrant. For example, permanent migrants prefer rapid transfers, followed by carrying money with them; after that they prefer bank transfers or transport by bus drivers. Seasonal workers' preference is to bring the money themselves, followed by use of rapid transfers.

Figure 13. Percent of Earnings Sent to the Family



Source: CBS AXA, 2005.

The average amount of each transfer is \$367, whatever the host country. The size of the transfer is positively correlated to the age of the migrant and negatively correlated to the year of first departure. Younger people transfer less, because they spend more in the host country and have fewer family obligations in the home country. As Moldovan migrants settle abroad, portfolio choice becomes more important in determining the amount of funds remitted, as they start to save money in their host country.

Survey estimates of remittances are consistent with balance of payments data. According to the survey, Moldovan migrants transferred to Moldova an estimated \$461 million in 2003 (23.5 percent of GDP), a figure that is statistically very close to the balance of payments estimate of \$484 million. Permanent migrants are estimated to have transferred \$154 million, almost the same figure reflected in the balance of payments for *remittances* (\$152 million). Nonpermanent migrants and seasonal migrants are estimated to have transferred \$119 million and \$187 million, respectively. Thus, the survey confirms that seasonal migrants (mostly to CIS countries) are the most important contributors to the total volume of transfers. Together, transfers from nonpermanent and seasonal migrants, defined as *compensation of employees* in the balance of payments statistics, amount to \$306 million. Again, this figure is statistically very close to the balance of payments estimate (\$332 million).

Estimates for the first 10 months of 2004 (\$421 million) confirm that remittances continue to grow, and suggest that transfers from permanent migrants may be growing in importance. Because transfers usually peak before the winter holidays (as well as at end-August), it is highly likely that remittances in 2004 will be considerably higher than in 2003. At the same time, remittances from permanent migrants have increased to 36 percent of total inflows, compared with 33.4 percent during 2003. This may reflect the fact that a large number of Moldovans went abroad for the first time in 2002–03, and that about 29,000 Moldovans obtained official status in Italy just before June 2002. Because most migrants to Western Europe tend to stay abroad permanently and remittances increase with the length of stay, what we are witnessing now is the lagged increase in remittances from permanent migrants who went abroad during the 2002–03 migration wave.

D. Microeconomic Impact and Use of Remittances

Remittances represent a large share of the income of the recipient family, thus raising its welfare. As one would expect, there is a positive correlation between the contribution of remittances to family income and the level of welfare of the recipient family. On average, remittances constitute at least 65 percent of the income of the recipient family in 41 percent of families with a migrant. Remittances cover 35–65 percent of family income for another 25 percent of families with a migrant. However, in many cases, when the family is very poor to begin with, or the migrant is not yet remitting large amounts, even major contributions to family income are not sufficient to meet basic needs. In the qualitative research, all respondents indicated that they raised their consumption level—unless the emigration was recent or occasional—and the large majority of respondents observed that their situation improved considerably. Those families who did not have financial problems to begin with managed to increase their consumption level by, for example, buying a new car or renovating their house. This change in consumption levels has motivated friends and relatives to leave, or to prepare to leave.

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 (Figures 14a and 14b). This result holds true throughout the “life cycle” of remittances: (1) before departure, as expectations are formed on how to use future transfers; (2) during the first year of receiving remittances; (3) during 2004 (the survey year); and (4) in 2007, on the basis of expectations for future use. Throughout this life cycle, 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. This pattern of remittance use is consistent with the assumption that the largest portion of remittances is spent on consumption and that the second largest is spent on houses, land, and related expenditures (see Chapter 2).

Figure 14a. Use of Remittances by Year of Remittance Cycle

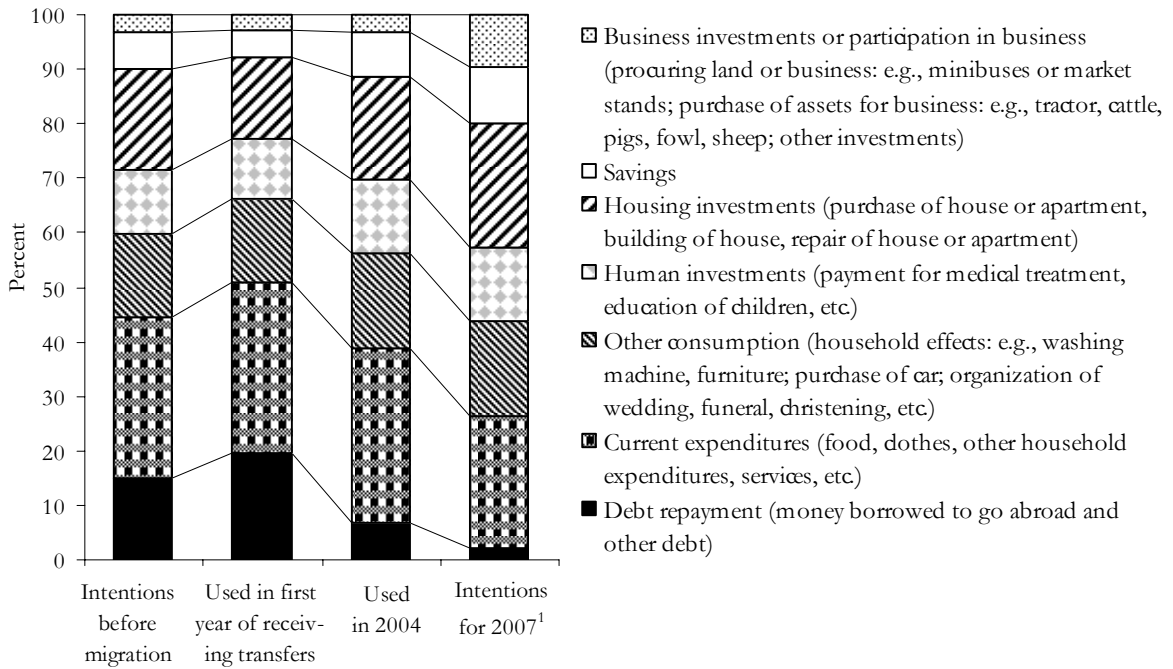
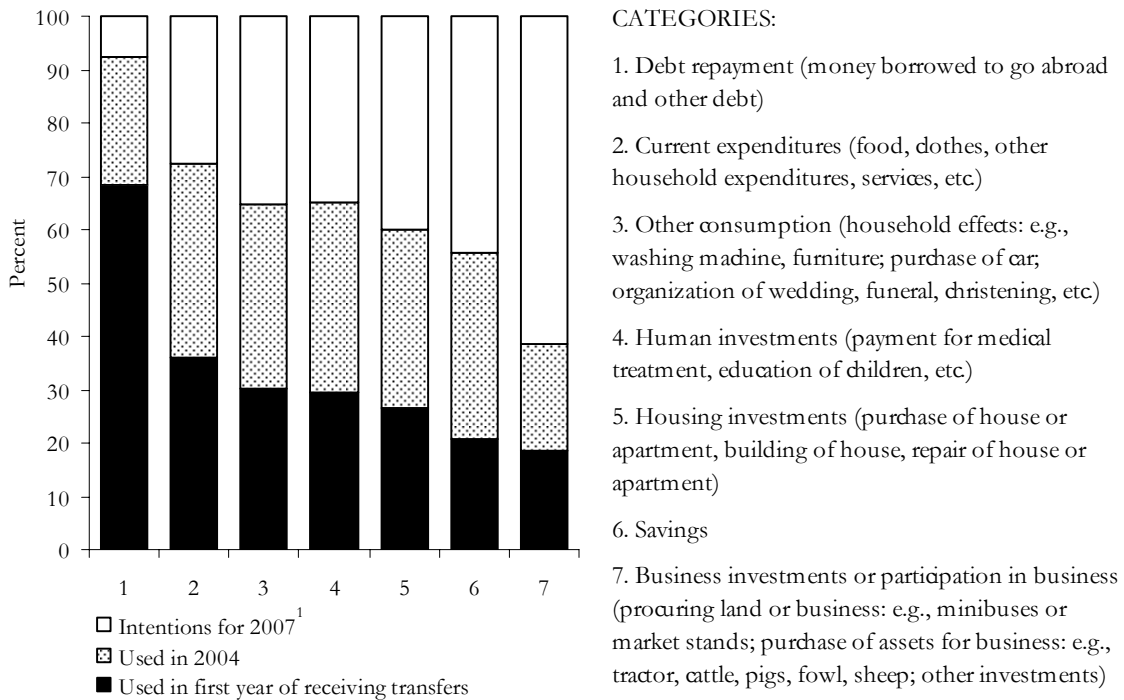


Figure 14b. Use of Remittances by Category



Source: CBS AXA, 2005.

¹Provided the same level of remittances is maintained over the next three years.

Particularly in the first years, only small portions of remittances are devoted to business investment, since migrants prefer to invest in housing and education. The low level of business investment is a result of three factors. First, business investment ranks low among the reasons behind migration. Second, few migrants (17 percent) think they will be able to save enough during the next few years to invest in their own business. Third, migrants have a cautious attitude toward investing in Moldova. This is very clear from the focus groups and interviews: only a small number of people expressed interest in opening a business in Moldova, often citing bureaucracy, corruption, and the perception of a poor business environment. The preferred investment of migrants is the purchase of a house, or a second house for their children—investment with property rights that are more secure. From the focus groups it is also clear that migrants regard expenditures on education as a form of investment.

The utilization pattern of remittances changes with the length of migration and the increase in welfare of the household. As basic needs (e.g., food and clothes) are met, an increasing portion of remittances is oriented toward durables, investment in housing, savings, and business investment. Debt repayment is the second most important use in the first year, but becomes marginal over time as debts are settled. Spending on household durables increases over time, almost mirroring the decrease in expenditures on basic consumption goods. These two categories together account for a relatively stable 45 percent of remittances.

Families receiving remittances count on accumulating more savings in the future, provided transfers from the migrant member do not decline. Interestingly, the largest saving category throughout the remittances' life cycle is "money kept under the mattress" (Figure 15a). Although bank deposits increase more than any other saving category, recipient households are likely to keep twice as much money "under the mattress" as in bank deposits even in 2007.

Families receiving remittances are also likely to increase investment considerably in business activities in the future, albeit to lower levels than housing and human investment. Indeed, business investment increases more than any other utilization category between 2004 and 2007. This suggests that business investment is affected only at high income levels, reached after receiving transfers for a few years. Accounting for 4.2 percent of utilization of total transfers, microbusiness and purchases of land are the largest category of business investment (Figure 15b). Still, families intend to invest much more in housing (23 percent) and education and health (about 14 percent) in 2007.

Figure 15a. Use of Remittances by Year: Breakdown by Type of Savings

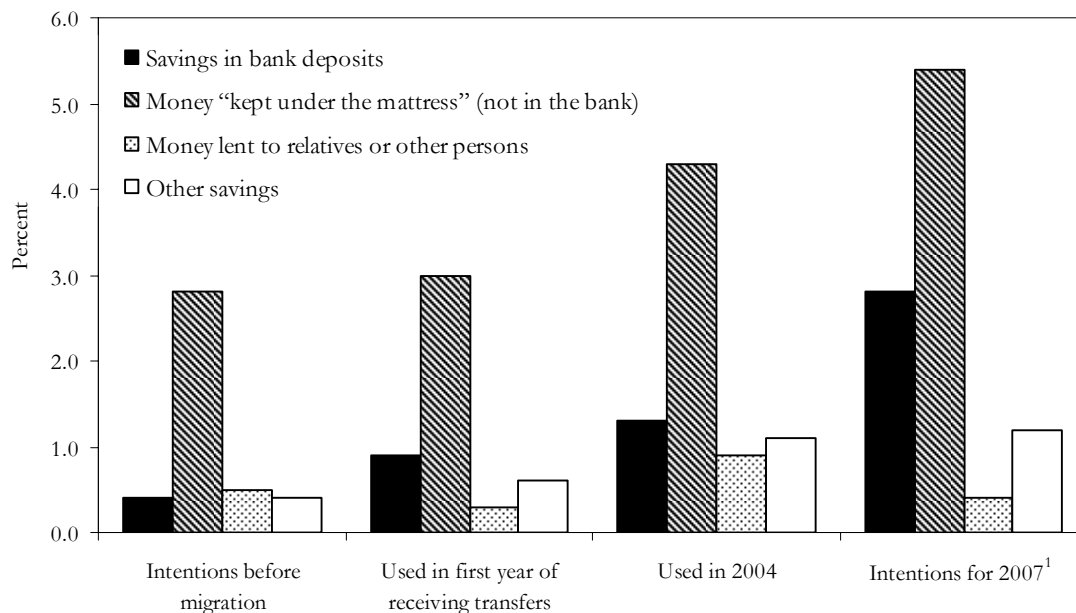
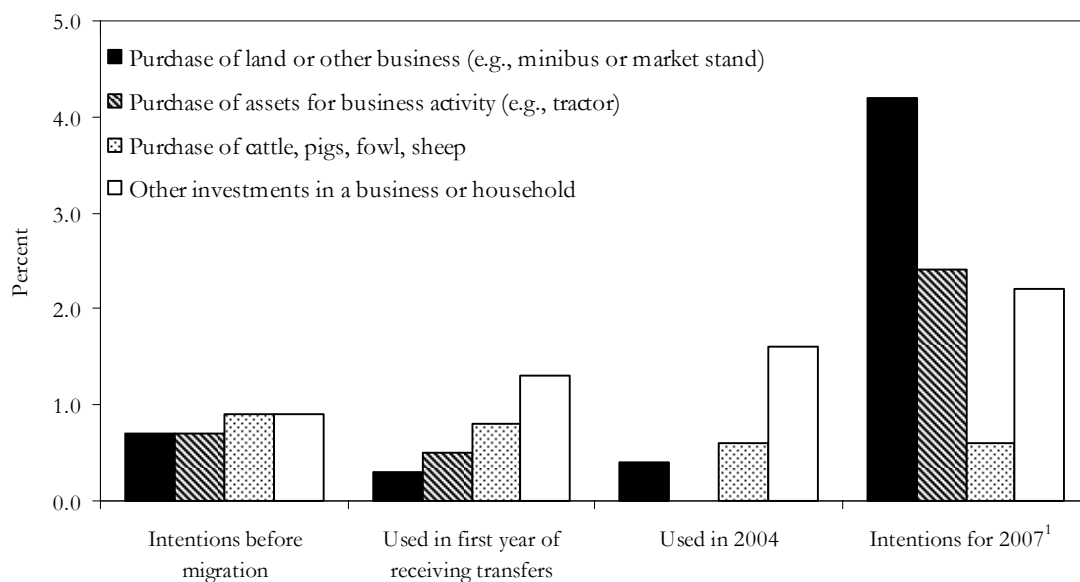


Figure 15b. Use of Remittances by Year: Breakdown by Type of Business Investment



Source: CBS AXA, 2005.

¹Provided the same level of remittances is maintained over the next three years.

E. Summary of Findings

The main findings of the survey on migration and remittances can be summarized as follows:

- The current migrant *contingent* is estimated at 571,000 people (39 percent of the economically active population). The migrant *potential*, which includes Moldovans who intend to depart in the near future, is estimated at around 690,000 people (48 percent of the economically active population).
- Remittances were estimated at \$461 million (23.5 percent of GDP) in 2003, a figure statistically very close to the National Bank of Moldova's official estimates reported in the balance of payments statistics. Estimates for the first 10 months of 2004 confirm the upward trend in remittances and suggest that transfers from permanent migrants may grow in importance.
- Most migrants go abroad temporarily—on either a seasonal or a nonpermanent basis. Thus, both the number of people working abroad and their remittances are highly seasonal. Emigrating has become easier, since migrants can rely on the informational, financial, and logistical support provided by Moldovans already residing abroad. Thus, *pull* factors are likely to increasingly facilitate migration.
- *Push* factors (e.g., unemployment, low salaries in the formal economy, increasing prices, and a large portion of the population living in rural communities) will also continue to motivate Moldovans to migrate. Some of these factors are in part under the control of policymakers.
- There is a clear tendency for younger people to migrate.
- While there is no evidence of brain drain among the entire migrant contingent, there is significant brain drain among permanent migrants, who also tend to migrate to countries with higher salaries. The opposite is true for seasonal and temporary migrants, who have a below-average level of education and tend to go to host countries with lower salaries. Thus, people with higher education find more and better opportunities abroad. This probably increases the perceived return on investment in education among migrants' households.
- The behavior of Moldovan migrants is consistent with assumptions in the literature about the motivation behind remittances. In particular, Moldovan migrants appear to have a strong attachment to their home country (i.e., they return home often) and are altruistic (i.e., they remit large portions of their earnings to their families). Thus, in the short-to-medium term, remittances are likely to remain a stable and countercyclical source of foreign exchange. Remittances are also likely to continue to boost household demand for consumption and investment in housing, as well as to provide a well-targeted social safety net. In the long term, as more migrants settle abroad, portfolio

choice may become more important and migrants may decide to start saving and investing in their host country rather than remitting funds home.

- Remittances are used in a manner consistent with assumptions in the literature on the use of remittances. Most remittances are used to meet basic current consumption needs. Migrants use large portions of their savings to invest in housing and children's education, with only marginal amounts invested in business activities.
- At the same time, migrants expect to start investing increased, albeit not large, portions of their future remittances in business activities in Moldova in future years. Savings from remittances are typically kept "under the mattress" rather than in bank accounts.

Macroeconomic Consequences

The preceding section explored the motivation behind labor migration and remittances and their use in Moldova. This chapter turns to their macroeconomic consequences, introducing the topic by first looking at how the relevant economic concepts are defined, measured, and accounted for in the balance of payments statistics. Using Moldova balance of payments data, we present a few key stylized facts about Moldova that complement the detailed results of the household survey presented earlier. Discussion of macroeconomic consequences of labor migration and remittances follows.

A. Stylized Facts of Remittances in Moldova

Workers' remittances are defined here as the sum of two components in the balance of payments: (1) compensation of employees in the income account and (2) workers' remittances in the transfer account. *Compensation* captures workers' wages, salaries, and other benefits earned by nonresident temporary workers.¹¹ *Remittances* are transfers from migrants residing abroad (permanent migrants, or workers staying or expected to stay for a year or more). A third balance of payments component—*migrants' transfers in the capital account*—could be included, but these transfers should formally be contra-entries to flows of goods and changes in financial items that arise from migration and, as such, they do not capture money sent to Moldova from workers abroad. This type of transfer is, moreover, insignificant in the case of Moldova.¹²

Workers' remittances are inherently difficult to measure, since they involve transactions between and within households, often outside the formal economy, and any statistics on workers' remittances must be interpreted with great

¹¹Temporary workers can then be divided into two groups: (1) seasonal migrants and (2) nonpermanent migrants who have been abroad for less than one year.

¹²See IMF (1993, paragraphs 269–72, 302, and 352–55).

caution.¹³ This paper relies on two sets of data on workers' remittances flowing into Moldova: (1) data from a recently conducted survey and (2) officially estimated remittances, as reported in the balance of payments. The survey, described and analyzed in Chapter 3, gives unique insights at the microlevel, which is essential for understanding many aspects of migration and remittances. The balance of payments data compiled by the NBM are the only available source for a time series on workers' remittances and appear to be of reasonably good quality. In addition to relying on banking statistics, the NBM estimates workers' remittances outside the banking system using information on individuals' exchange of foreign currency into lei at foreign exchange bureaus and banks' foreign exchange counters, and on transactions where foreign exchange is typically used (e.g., purchases of homes and cars). Many, if not most, other countries do not make such efforts.

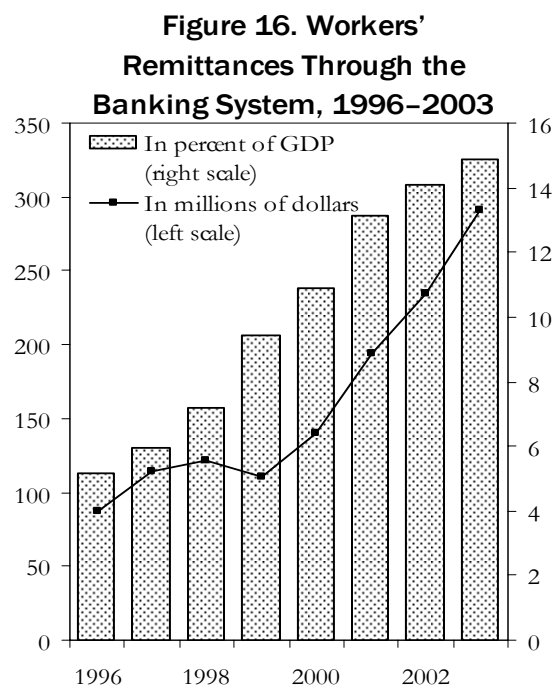
The survey and the balance of payments statistics give similar estimates of the total amount of workers' remittance inflows. In 2003, the only full year covered by the survey, gross inflows of remittances are estimated at \$460 million (23.5 percent of GDP) by the survey, and at \$484 million (almost 25 percent of GDP) by the balance of payments statistics. Remittances are sizable also on a net basis (almost 23 percent of GDP in 2003) and have become the single most important net source of foreign exchange in Moldova. As recognized above, the statistics are uncertain, in particular the estimates of remittances outside the banking system, but the level of remittances flowing into the Moldovan economy is still sizable when only those coming through the banking system are considered. As can be seen in Figure 16, gross remittances transferred through the banking system reached almost 15 percent of GDP in 2003.

The amount of workers' remittances sent to Moldova is large from both a regional and an international perspective. As illustrated in Figure 17, based on balance of payments data, Moldova clearly stands out compared with CIS and Central and Eastern European countries, and also fares well compared with the rest of the world.¹⁴ Ratha (2003) ranks Moldova as one of the top 10 receivers of workers' remittances in terms of GDP. Of course, since remittance data are very uncertain, so are comparisons across countries, but there is little doubt that remittances are very important in Moldova, including from an international perspective.

The strong upward trend in remittances may have been somewhat weaker than indicated by the data. Trust in banks has improved, and confidence in the leu has strengthened over time as the Moldovan economy stabilized after the 1998

¹³The data problems related to measuring workers' remittances are widely acknowledged in the literature. See, for instance, Chami, Fullenkamp, and Jahjah (2003); and Rapoport and Docquier (forthcoming).

¹⁴Data for Turkmenistan and Uzbekistan are not available.

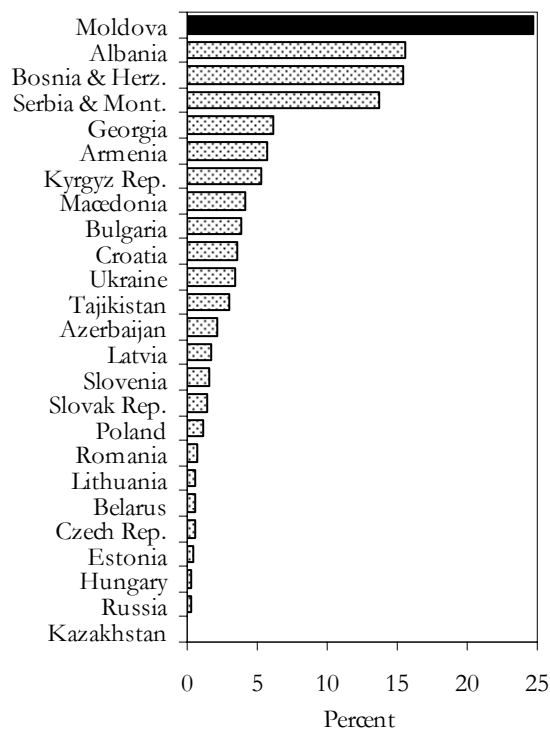


Source: NBM.

regional crisis. In addition, wire transfers from abroad have become more accessible and cheaper. This could exaggerate the upward trend in two ways. First, stronger banks and cheaper transfers raise incentives to use official channels and, as a result, balance of payments statistics now capture a larger share of all workers' remittances. Second, a stronger leu and stronger banks encourage people to exchange their idle foreign exchange cash holdings ("money under the mattress") into lei and deposit the money in banks, increasing estimates of inflows outside the banking system. It should be noted, however, that some of those cash holdings may emanate from *unrecorded* remittances in earlier years, which only surfaced when confidence in the leu strengthened. Therefore, some unrecorded remittances may have been captured by official statistics in a later year, imparting an upward bias to the estimates of growth in remittances.

The main source of remittances is *temporary workers*. About 70 percent of all remittances originate from Moldovans working abroad only part of the year (Figure 18). Many of these are likely to be seasonal workers in, for example, construction and agriculture in Russia.

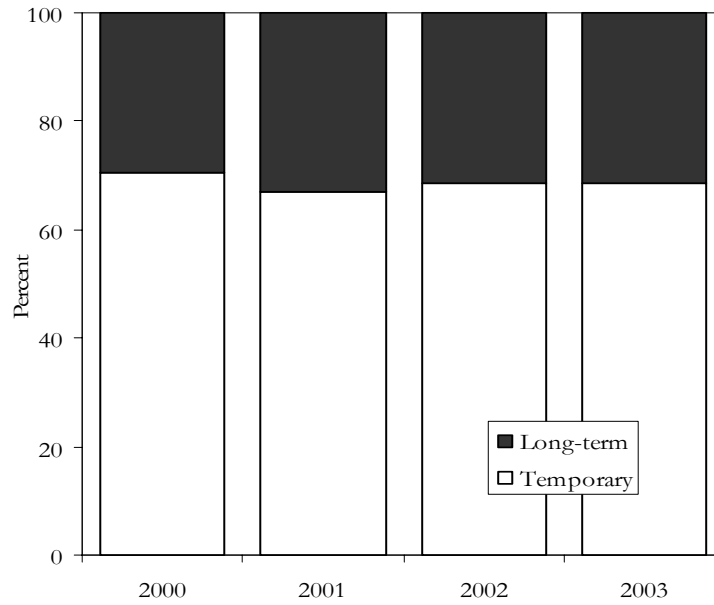
**Figure 17. Gross Workers' Remittances
as a Share of GDP in 2003**



Source: IMF staff estimates.

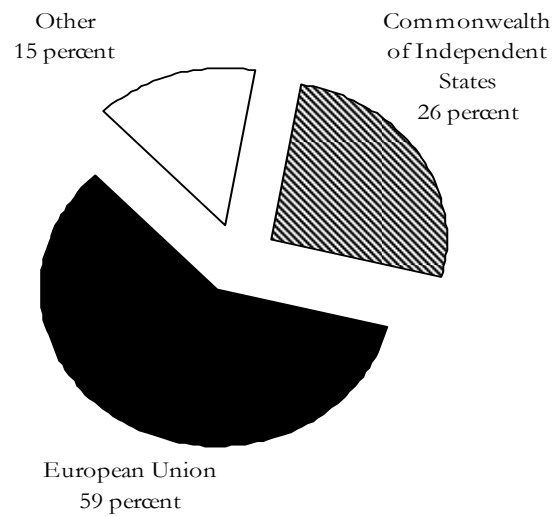
The data on the geographic origin of workers' remittances flowing into Moldova cover only remittances coming through the banking system. In 2003, about 60 percent of those remittances originated from the European Union (EU), and about 25 percent from the CIS (Figure 19). Of EU transfers, 47.5 percent were from Italy and 17 percent from Portugal. Almost all transfers from the CIS originate from Russia (97 percent). It is not really meaningful to look at underlying trends in the geographic pattern, since the data with respect to remittances through the banking system from Russia are distorted. Before 2000, nonresidents in Russia were not allowed to make any money transfers abroad. Since then, the maximum amount allowed has been gradually increased at the same time as money transfers have become much more available in Russia, with the introduction of several money transfer systems. Money transfers have also increased owing to security reasons. Reportedly, it is dangerous for migrants to bring cash into Moldova across the Russian and Ukrainian borders.

Figure 18. Distribution of Temporary and Long-Term Workers' Remittances, 2000-03



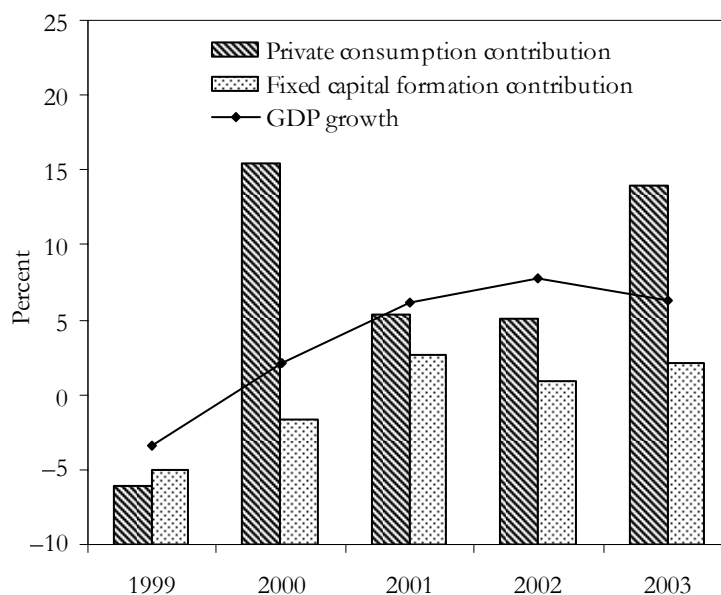
Source: NBM.

Figure 19. Workers' Remittances to Moldova by Region of Origin



Sources: NBM; and IMF staff estimates.

Figure 20. Contribution of Consumption and Fixed Capital Formation to Real GDP Growth, 1999–2003



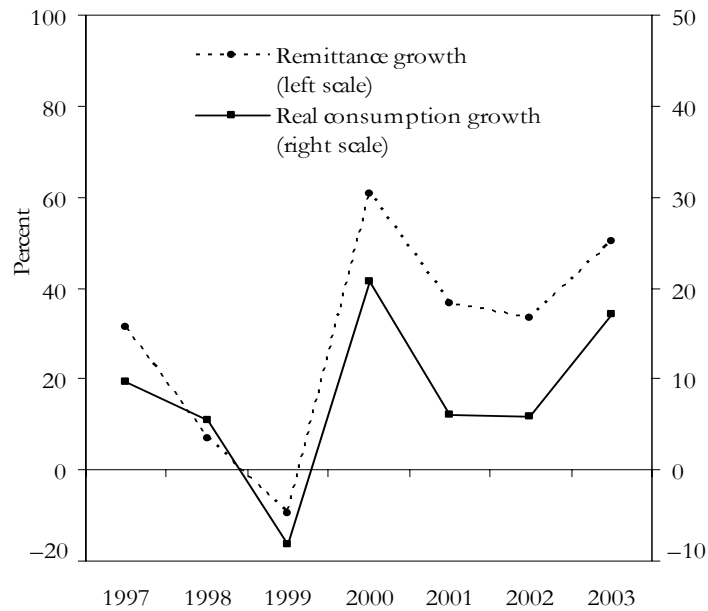
Sources: Moldovan authorities; and IMF staff estimates.

B. Economic Growth

Workers' remittances have played an instrumental role in propelling growth in recent years, through their effect on consumption. As shown in Figure 20, real GDP growth has been driven by household consumption, in turn fueled by remittances. Figure 21 shows a strong correlation between real consumption growth and remittances' growth, with a correlation coefficient of 0.98 during the period 1999–2003. This high correlation is a direct reflection of the fact that the large inflows of remittances boost income. While GDP has increased relatively fast since 2000, gross national income (GNI) and gross national disposable income (GNDI) have grown even faster (Figure 22).¹⁵ Between 2000 and 2003, GDP per capita grew by 13.5 percent on average, GNI per capita by 15.5 percent, and GNDI per capita by 18 percent, mainly reflecting large and rising workers' remittances.

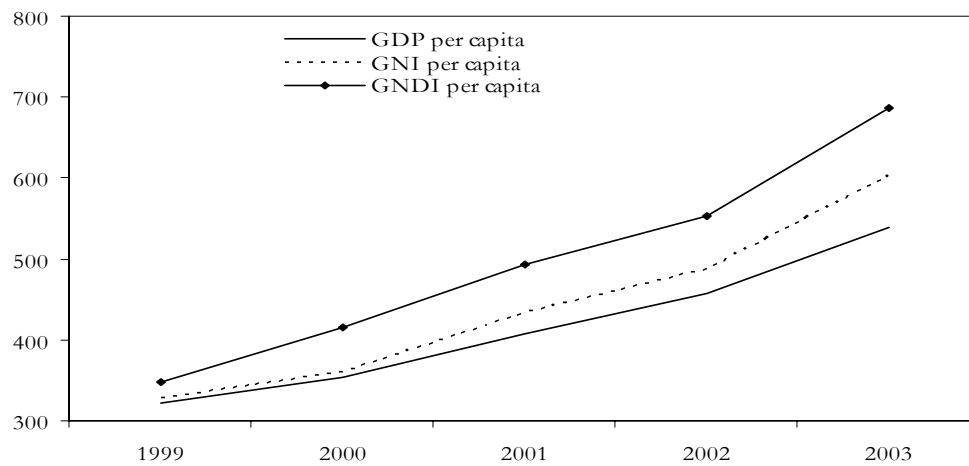
¹⁵GNI is defined as GDP plus the net factor income of residents from abroad, and GNDI is defined as GNI plus net current transfers received from abroad (see, e.g., IMF, 1998).

Figure 21. Remittances' Growth and Real Consumption Growth, 1997–2003



Sources: Moldovan authorities; and IMF staff estimates.

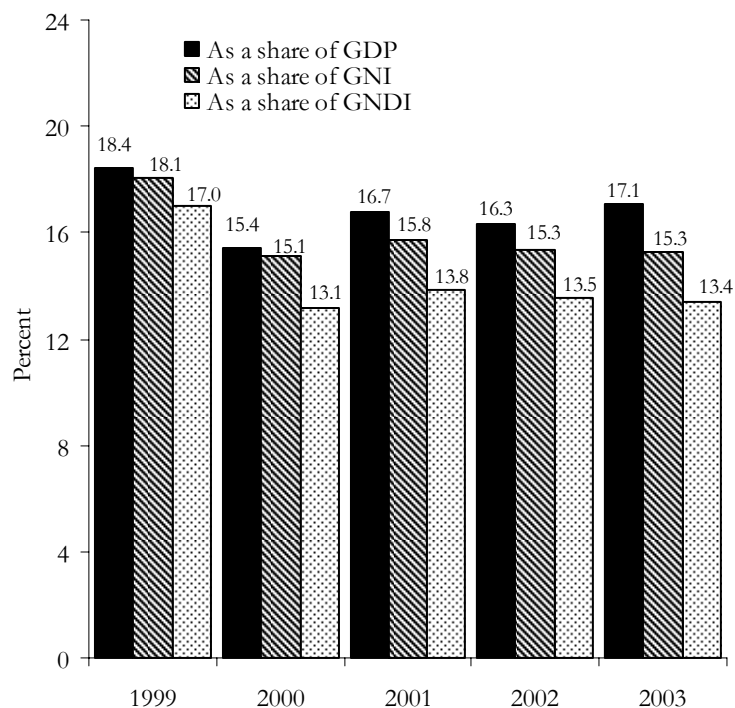
Figure 22. GDP, GNI, and GNDI Per Capita, 1999–2003
(In dollars)



Sources: Moldovan authorities; and IMF staff estimates.

Note: GDP = gross domestic product, GNI = gross national income, GNDI = gross national disposable income.

**Figure 23. Fixed Capital Formation,
1999–2003**



Sources: Moldovan authorities; and IMF staff estimates.

By contrast, the contribution of investment to economic recovery has been very modest. Fixed capital formation is still quite low as a share of GDP and, in terms of GNI and GNDI, has remained virtually flat since 2000 (Figure 23).

Investment has not yet recovered from the 1998 recession: at that time fixed capital formation accounted for 22 percent of GDP, but this share fell to 17 percent of GDP in 2003 and is projected to be about 18 percent in 2004. With disposable income boosted by large inflows of remittances, investment could have been growing more rapidly as a share of GDP had the investment climate been more favorable. Without higher investment, Moldova's long-term growth prospects are bleak.

The current situation, with very high remittances and somewhat disappointing levels of business investment, suggests that Moldova could be stuck in a pattern of migration and remittances reinforcing each other. The cost for Moldovan workers to work abroad is comparatively low for several reasons: (1) Moldova is located close to both the EU and the CIS; (2) there are tight connections between Moldova and other CIS countries; and (3) since many Moldovans already are working abroad, they can facilitate the emigration of others.¹⁶ The

¹⁶According to Rapoport and Docquier (forthcoming), this network effect is well documented in the sociological literature.

current trend of persistent emigration leading to rising remittances is, therefore, to be expected under the circumstances. With a favorable investment climate, remittances could be used to finance investment, thus helping create jobs and making it more attractive for Moldovans to stay at home. In a less favorable environment, however, the potential return on investment may not be high enough to compensate for risky projects, making it more attractive for recipients to use remittances to finance the emigration of one or more family members.¹⁷ At this point, Moldova appears to be in a situation where emigration is a better option than investing at home.

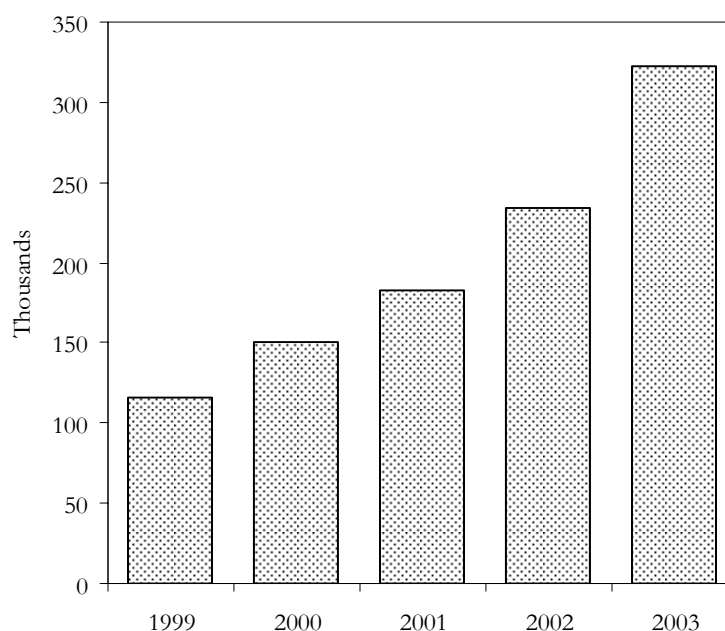
C. Labor Market

Emigration and remittances have significantly affected the labor market, raising both the equilibrium and the reservation wage. As argued above, emigration costs are relatively low, and, barring introduction of restrictive legislation in host countries, it may become easier to emigrate as emigration increases. From the perspective of a Moldovan worker, the possibility of working abroad fundamentally alters work prospects, raising the equilibrium wage rate in Moldova. Moreover, remittances seem to have also increased the reservation wage, with recipients demanding a higher wage at home.

Emigration has reduced unemployment and led to labor shortages in some sectors. According to the official statistics, labor supply has decreased markedly owing to emigration, while real and dollar-wages have increased rapidly. At the end of 2003, 322,000 people had left Moldova to find jobs abroad (Figure 24). By the third quarter of 2004, this number had expanded to 367,000, which corresponds to about one-fourth of the economically active population. These numbers should be seen as floors, or low estimates, since existing data only cover workers who officially declared that they were emigrating. In fact, the survey results, presented in Chapter 3, show that in late 2004, 399,000 people were working abroad, with another 177,000 back in Moldova after having worked abroad at least once in 2003 or 2004. Consequently, at the same time, employment, unemployment, and the labor force have all declined substantially (Figure 25).

The reduced labor supply has pushed up wages. Starting in 1999, the average real wage increased by 70 percent through 2003, and by almost 80 percent through the first 10 months of 2004. Average monthly dollar-wages rose by 126 percent

¹⁷Rapoport and Docquier (forthcoming) present a model of economic growth and remittances in which a country ends up in a long-run equilibrium with continuing migration and little investment if the costs of migration are low and the entry costs for investing and becoming an entrepreneur are high—a situation very pertinent to Moldova.

Figure 24. Labor Migration, 1999–2003¹

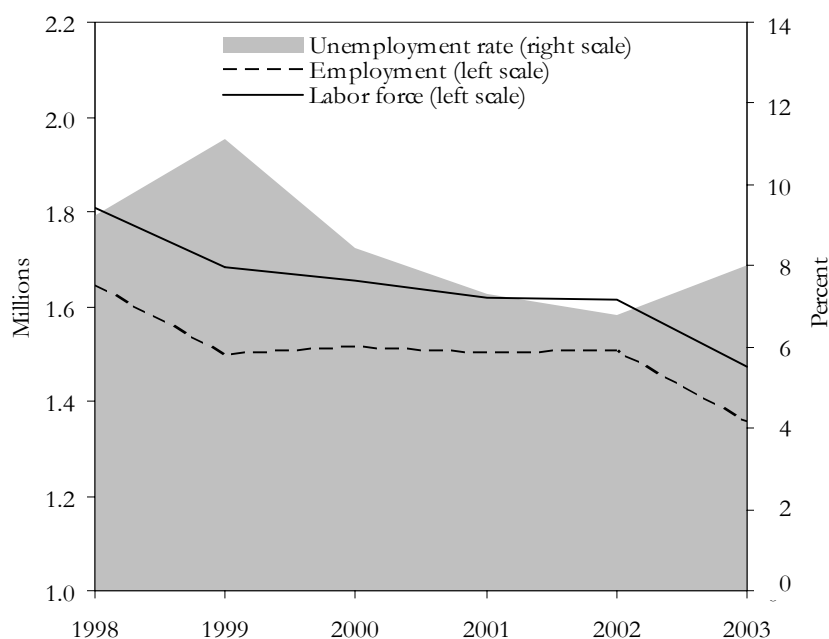
Source: Moldovan authorities.

¹The number of people who have declared they have migrated to find a job.

through 2003, and by almost 200 percent through the first 10 months of 2004. By contrast, real GDP is estimated to have grown by 33 percent from 1999 through 2004, and nominal GNDI (expressed in dollars) is estimated to have grown by 154 percent during the same period. There is also anecdotal evidence of labor shortages in some sectors (construction, transportation, and agriculture), in which employers are not able to find enough workers unless they are prepared to pay very high wages by Moldovan standards.¹⁸

Another potential implication of emigration is brain drain, and this may have materialized among permanent Moldovan migrants (see Chapter 3). Many of those with higher education and specialized work skills may find it financially very attractive to leave Moldova. The resulting decline in human capital is likely to hamper economic growth. In this context, it is important to note that investing in higher education may fetch a very high rate of return, in particular for those who migrate. Thus, recipients of remittances in Moldova may

¹⁸There are few formal studies on the effects of emigration on wages. Mishra's (2004) econometric analysis finds a strong positive effect of emigration on wages in Mexico.

Figure 25. Labor Market Indicators, 1998–2003¹

Source: Moldovan authorities.

¹International Labor Organization methodology.

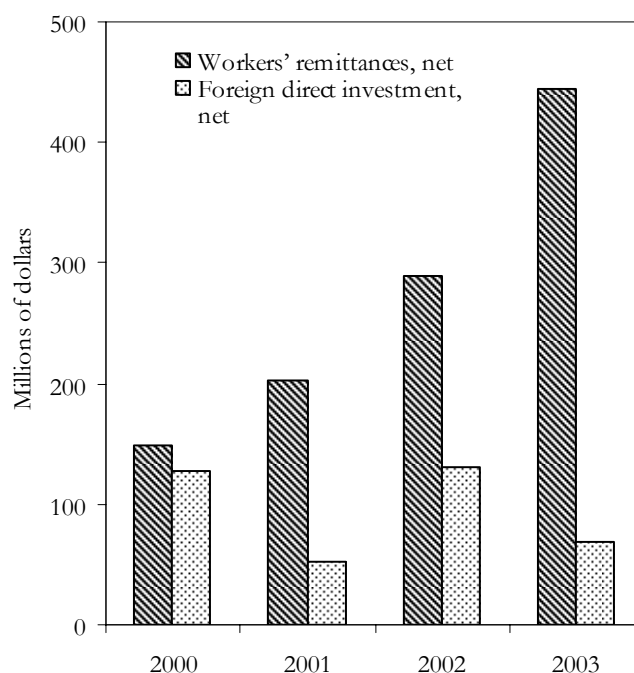
conclude that the best way to use the money is to invest in their own education or their children's education, with a view to finding a job abroad.¹⁹

D. Balance of Payments and the Exchange Rate

Remittances have had a major impact on the balance of payments. Exports of goods and services have been growing quite rapidly since 2000, but because imports have grown even faster, the balance of trade in goods and services has deteriorated from about 15 percent of GDP in 1999 to more than 30 percent in 2003 (and was most likely more than 30 percent in 2004 as well). Remittances covered about three-fourths of the trade deficit in 2002 and 2003 (in 2004 the coverage may have been even higher). Because actual inflows could be larger, the coverage may have been even higher, implying that Moldova's current account deficits were significantly lower than reported. The increasing importance of remittances in financing the trade deficit stands in sharp contrast to the disappointing performance of FDI (Figure 26). Although workers' remittances have been growing rapidly since 2000, FDI has lagged behind, covering only 10 percent of the trade deficit in 2003—another indication that the investment climate in Moldova is not conducive to private sector activity.

¹⁹Yang (2004) finds that in the Philippines remittances are indeed invested in education.

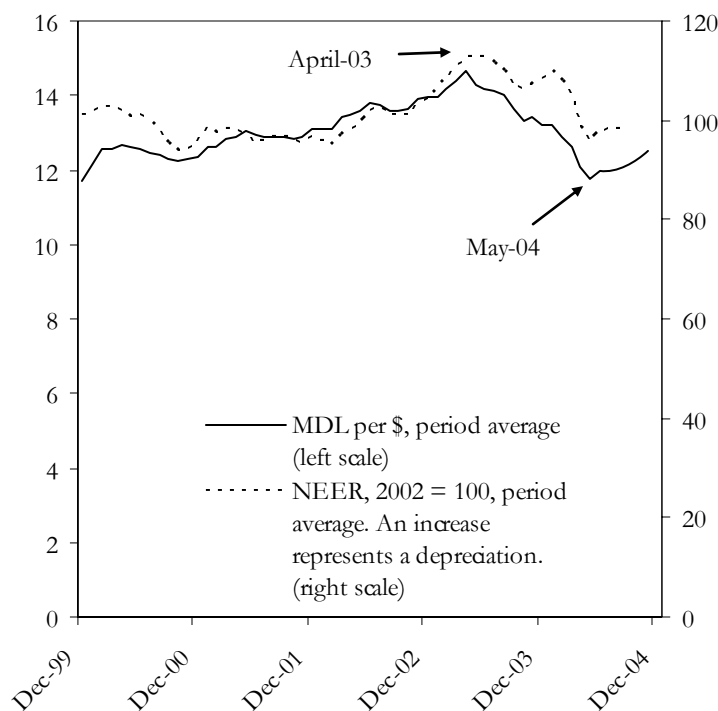
Figure 26. Workers' Remittances and Foreign Direct Investment, 2000–03



Source: NBM.

The inflows of workers' remittances are in fact an important factor behind the accumulation of international reserves in 2003 and 2004. At first sight, the external situation looks quite bleak, with a deteriorating recorded current account balance, low FDI, accumulation of government external arrears, and an accompanying low credit rating. Large errors and omissions were recorded in the balance of payments statistics. In the last three quarters of 2003, they amounted to \$133 million, or almost 7 percent of annual GDP, and through the first three quarters of 2004 they reached \$78 million, or about 3 percent of annual projected GDP. If all errors and omissions were unrecorded remittances, the current account deficit in 2003 would have been \$55 million, or less than 3 percent of GDP (compared with almost 7 percent officially reported in the balance of payments statistics). It is reasonable to guess that remittances explain a significant share of this. Part of the errors and omissions could also be a result of underinvoicing of exports and overinvoicing of imports to avoid the existing repatriation requirement, which would also imply that the current account is stronger than reported.

**Figure 27. Moldovan Leu Exchange Rate,
1999–2004**



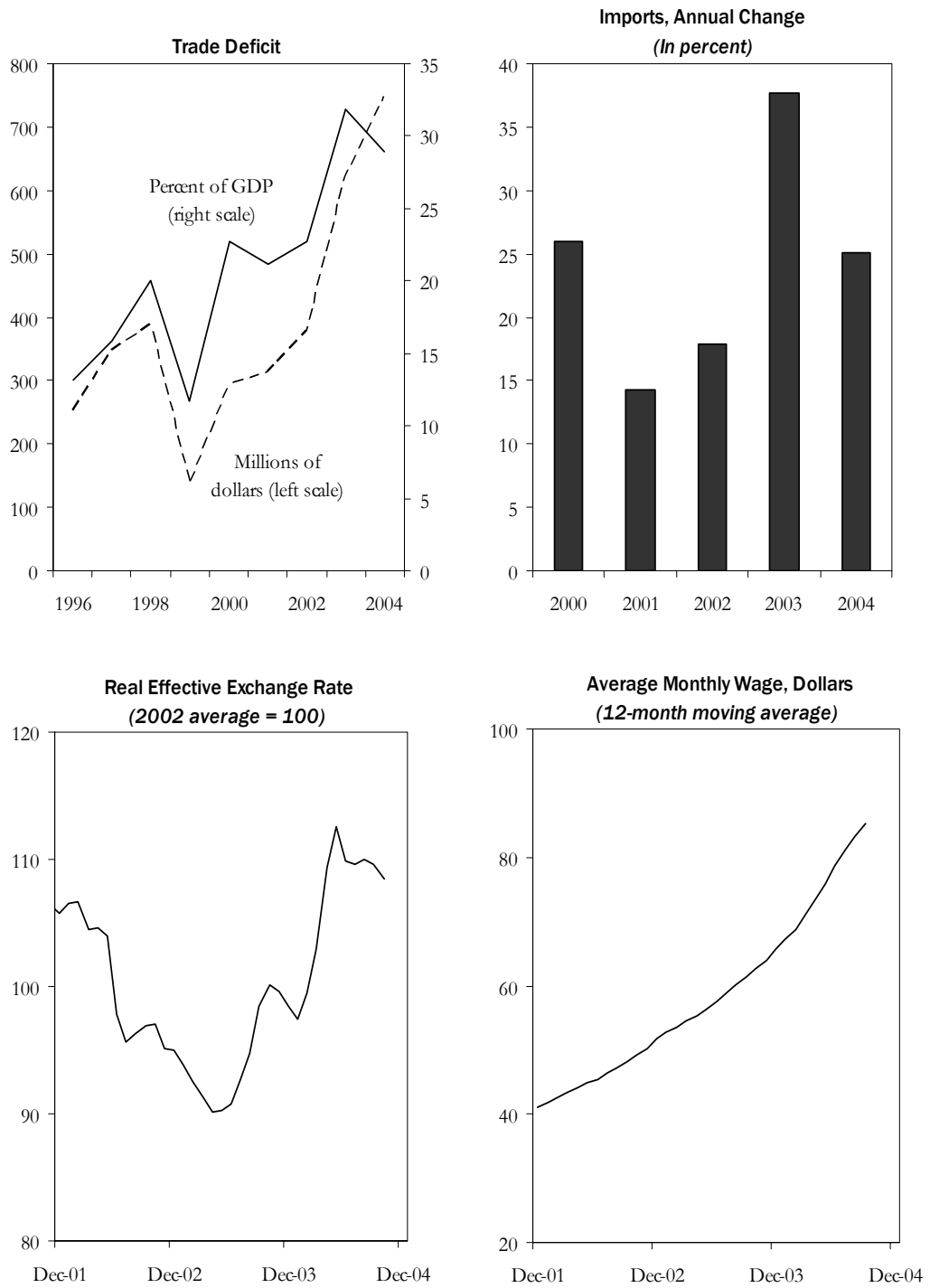
Sources: NBM; and IMF staff estimates.

Note: NEER = Nominal effective exchange rate.

With the stronger balance of payments, the leu has been under appreciation pressure since the second quarter of 2003. The leu has strengthened vis-à-vis the dollar as well as against a trade-weighted currency basket, the nominal effective exchange rate (Figure 27). At the same time, the NBM has stepped up its purchases of foreign exchange, mainly dollars, to dampen the actual appreciation of the leu. Without those interventions, the nominal leu appreciation would have been even stronger. The leu appreciation has also encouraged higher demand for domestic currency, making the appreciation self-reinforcing. With a stronger leu, households may be inclined to exchange their dollar-savings (e.g., from remittances) into lei. Consequently, there has been increasing demand for lei at foreign exchange bureaus; the appreciation pressure has been stronger there than in the interbank market, prompting the NBM to intervene in the cash market in an unprecedented fashion in 2004. There is also anecdotal evidence suggesting that the leu became more desirable as a transaction currency in 2004.²⁰

²⁰As previously noted, when foreign currency in the informal sector is brought into the formal balance of payments, this could reflect previous balance of payments transactions (e.g., cash remittances in the late 1990s may appear in the balance of payments in 2004 as “errors and omissions”).

Figure 28. Assessing Competitiveness, 1996–2004



Sources: Moldovan authorities; and IMF staff estimates and calculations.

E. External Competitiveness

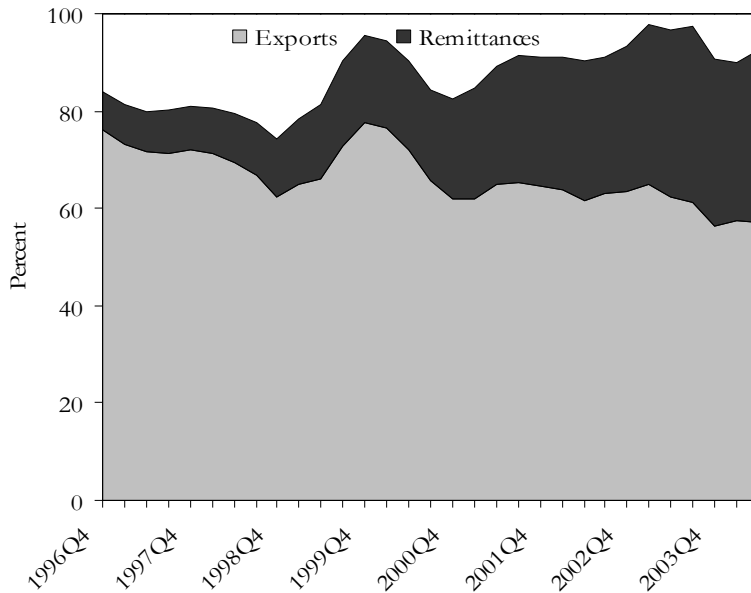
The leu has also strengthened in real terms, which, in combination with the rapid wage growth and widening trade deficit, has raised questions about Moldova's external competitiveness (Figure 28). Between end-2002 and end-2004, the real effective exchange rate (REER) appreciated by close to 10 percent and the average dollar-wage increased by 60 percent. Labor migration and workers' remittances are an important part of the explanation. Labor emigration has helped raise the *actual* wage (by reducing unemployment) and the *equilibrium* wage (by increasing the capital-labor ratio in the economy). At the same time, remittances have boosted national disposable income and domestic demand, leading to increases in the price of nontraded goods and services and hence to the real exchange rate appreciation.

With wages a fraction of the EU average, Moldova has traditionally been regarded as a low-cost country, with much potential—given the right policies and development of a business-friendly environment—to attract FDI and boost exports. Has the recent REER appreciation cut into its external competitiveness? To answer this question, we apply a model of the equilibrium REER developed by Devarajan, Lewis, and Robinson (1993). The model is outlined in Box 3. It is particularly useful in the case of Moldova, in that it explains how changes in sustainable balance of payments flows, such as workers' remittances, affect the REER (Figure 29). According to the model, the equilibrium real exchange rate should appreciate in response to rising inflows of remittances. The recent appreciation of Moldova's REER is therefore in line with the model predictions. To judge whether or not the recent appreciation has been excessive, we use the model to simulate the equilibrium REER between 1996 and 2004. Figure 30 shows the cumulative appreciation of the simulated equilibrium REER since end-1996, with the contribution from the change in sustainable trade balance corresponding to the influence of remittance inflows. Moldova also benefited from a modest improvement in its terms of trade during that period, which contributes to the appreciation of the equilibrium REER.²¹

Admittedly, the estimated impact will depend on the values selected for the parameters of the model. To gauge the robustness of the model predictions, the results were calculated for alternative supply and demand characteristics of the

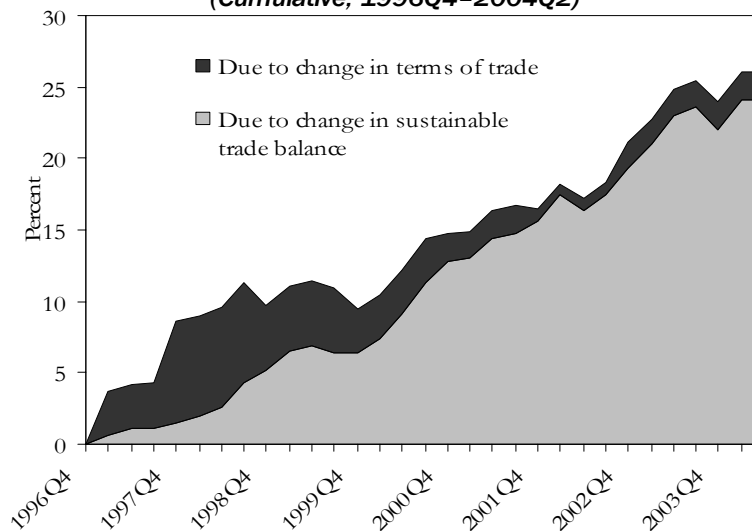
²¹The values for elasticity of substitution (0.81) and elasticity of transformation (0.95) are averages of estimates for 60 countries derived by Devarajan, Go, and Li (1999) using various approaches. In calculating the averages, we have included only those estimates that are statistically significant at 90 percent confidence level: 253 estimates for elasticity of substitution and 87 estimates for elasticity of transformation.

Figure 29. Import Coverage, 1996–2004



Sources: Moldovan authorities; and IMF staff calculations.
 Note: Imports in a given year = 100.

Figure 30. Change in Equilibrium REER¹
 (Cumulative, 1996Q4–2004Q2)



Sources: Moldovan authorities; and IMF staff calculations.
 Note: Assumptions: elasticity of substitution = 0.81 and elasticity of transformation = 0.95.

¹Elasticity of transformation and elasticity of substitution values are averages calculated from Devarajan, Go, and Li (1999).

Box 3. Three-Commodity Model¹

A small, open economy produces two goods—a nontraded domestic good, D , and an export good, X . It consumes two goods—the domestic good and an imported good, M . The corresponding prices are Pd , Px , and Pm . Goods D and X are assumed to be imperfect substitutes in production—a characteristic captured by the economy’s production possibility frontier, specified as a constant elasticity of transformation (CET) function. Profit maximization by producers implies that the relative supplies of D and X depend on their relative prices, Pd and Px , and on the elasticity of transformation, Ω . Goods D and M are assumed to be imperfect substitutes in consumption, with a constant elasticity of substitution (CES) function. The first-order condition for utility-maximizing consumers implies that relative demands for M and D will depend on their relative prices, Pm and Pd , and on the elasticity of substitution, σ . The domestic prices of the two traded goods (M and X) equal their world prices (π^m and π^x , respectively) times the nominal exchange rate (E). The world prices are exogenous (small country assumption). Finally, the balance of trade constraint states that the sustainable trade balance (exports minus imports) is set exogenously.

The model can be reduced to three equations:

$$\frac{M}{D} = c_1 \times \left(\frac{Pd}{Pm} \right)^\sigma, \quad (1)$$

$$\frac{X}{D} = c_2 \times \left(\frac{Px}{Pd} \right)^\Omega, \text{ and} \quad (2)$$

$$\pi^m \times M = \lambda \times \pi^x \times X, \quad (3)$$

where c_1 and c_2 are parameters from the CES and CET functions. Parameter λ in equation (3) is the country’s sustainable balance of trade, or the proportion by which imports can exceed exports.

By log differentiation, where $d \log(X) = \hat{X} = \frac{dX}{X}$, we obtain

$$\hat{M} - \hat{D} = \sigma \times (\hat{P}d - \hat{P}m), \quad (1a)$$

$$\hat{X} - \hat{D} = \Omega \times (\hat{P}x - \hat{P}d), \text{ and} \quad (2a)$$

$$\hat{\pi}^m + \hat{M} = \hat{\lambda} + \hat{\pi}^x + \hat{X}. \quad (3a)$$

Box 3 (concluded)

The nominal exchange rate, E , is chosen as the numeraire, so that $\hat{E} = 0$, $\hat{P}m = \hat{\pi}^m$, and $\hat{P}x = \hat{\pi}^x$. Because the world prices are set exogenously, the only endogenous price in the model is the price of the domestic good (Pd), which also determines the real exchange rate (R). Solving for the real exchange rate, we obtain

$$\hat{R} \equiv \hat{E} - \left[\hat{P}d - \frac{(\sigma \times \hat{\pi}^m + \Omega \times \hat{\pi}^x)}{\sigma + \Omega} \right] = \left(\frac{\hat{\pi}^m - \hat{\pi}^x}{\sigma + \Omega} \right) - \frac{\hat{\lambda}}{\sigma + \Omega}. \quad (4)$$

Equation (4) shows the real exchange rate—defined as the nominal exchange rate, adjusted for the inflation differential between the home country and its trading partners—as a function of the two right-hand-side terms: the terms of trade and the sustainable balance of trade. Equation (4) makes it clear that the conventional approach—based on the assumption that there is some unchanging equilibrium level for the real exchange rate—is valid only if the two terms on the right-hand side are equal to zero; that is, there is no change in the country's terms of trade or in the sustainable level of foreign income or capital inflows.

¹Based on Devarajan, Lewis, and Robinson (1993).

Moldovan economy, captured by the values of elasticities of transformation and substitution (Table 2). For example, assuming elasticities of substitution of 0.81 and transformation of 0.95, the model estimates a cumulative appreciation of 27 percent in Moldova's equilibrium REER between 1996 and mid-2004. Figure 31 contrasts the estimated range for the cumulative appreciation of the equilibrium REER with the actual cumulative change in the REER since end-1996.²² It suggests that the cumulative increase in the actual REER (10 percent) was below the increase estimated by the model for the equilibrium REER.

The preceding analysis suggests that the leu is unlikely to be overvalued at present. While the increase in dollar-wages and the nominal appreciation of the leu—particularly against the dollar—have captured public attention, some

²²The lower bound for the range corresponds to a 90 percent likelihood (based on Devarajan, Go, and Li, 1999) that the equilibrium REER is above this level.

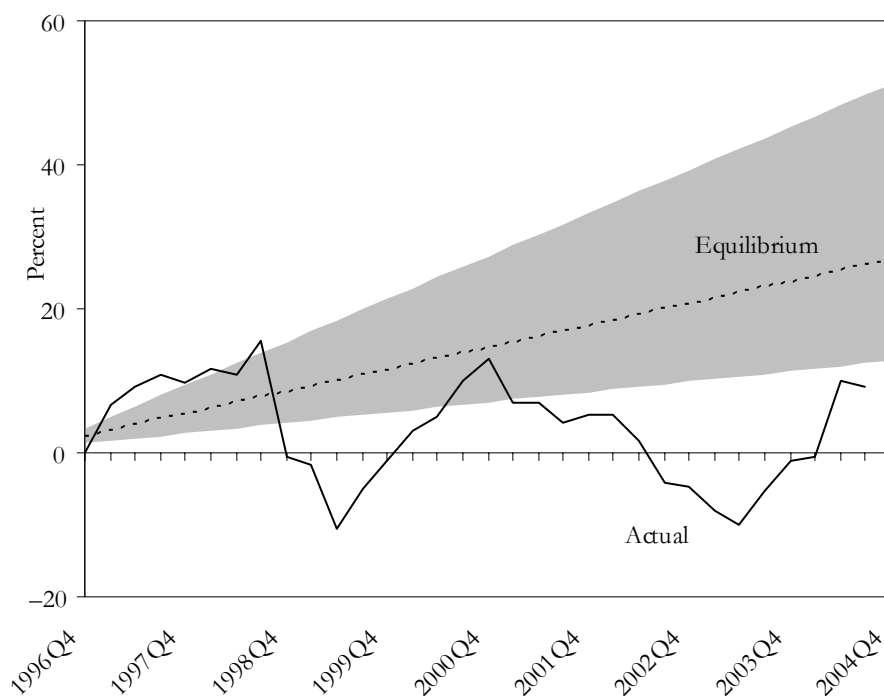
Table 2. Cumulative Change in Equilibrium REER, 1996–2004
(In percent)¹

Transformation Elasticity, Ω	Substitution Elasticity, σ				
	0.50	0.75	0.81	1.00	1.50
0.50	51	39	37	32	23
0.75	39	32	31	27	20
0.95	33	28	27	24	18
1.00	32	27	26	23	18
2.00	18	16	16	15	13

Sources: Moldovan authorities; and IMF staff calculations.

¹Elasticity of transformation (0.95) and elasticity of substitution (0.81)—shaded—are averages calculated from Devarajan, Go, and Li (1999).

Figure 31. Change in REER and Equilibrium REER
(Cumulative, 1996Q4 – 2004Q4)



Sources: Moldovan authorities; and IMF staff estimates and calculations.

aspects have received less emphasis: (1) the large undervaluation of the REER following the 1998 regional crisis, implying a large initial gap between the actual and the equilibrium REER; and (2) the role of balance of payments inflows (remittances) in raising the equilibrium REER.

It appears that the REER has some room to appreciate, and will likely do so if Moldova's economy operates close to its full potential, the labor market remains tight, and remittances continue to grow. Rather than viewing the leu appreciation as harmful to the economy, our analysis suggests that, by raising the returns in the nontraded sector relative to those in the traded sector, it could facilitate a reallocation of resources in the economy that could lay the foundation for long-term growth. With remittances providing an important portion of balance of payments financing, domestic production could be redeployed toward more goods and services needed for domestic investment. The hitherto neglected domestic infrastructure—transportation network, electricity transportation and distribution, communications—could benefit from this reallocation of resources. Over time, the modernization of the domestic infrastructure would help strengthen the economic potential by helping raise productivity growth economywide.

The large trade deficit is not, in itself, evidence that the exchange rate is misaligned. Exports of goods and services are growing at a healthy pace. Import growth is much higher, but imports are fully financed by workers' remittances, suggesting that Moldova has a comparative advantage in exporting labor. Admittedly, the current account deficit is relatively large, but if the sizable errors and omissions in the balance of payments were taken into account, the deficit would be much smaller, and declining. On the other hand, it is possible to argue that Moldova is not competitive in a more fundamental way. Because the economic environment is not conducive to private investment and work opportunities are scarce, pushing workers abroad, the export sector cannot fully develop its potential. In a more favorable business environment, small and medium-sized enterprises could thrive, leading to higher investment and increased private sector activity. Moldovan labor, skilled and unskilled, would then find better opportunities at home and exports of goods and services could replace exports of labor.

F. Monetary Conditions and Inflation

The large inflows of workers' remittances have complicated the task of monetary policy. The official monetary policy objective is to maintain the stability of the currency. In practice, the NBM attempts to achieve several, sometimes conflicting, goals:

- keep inflation low;

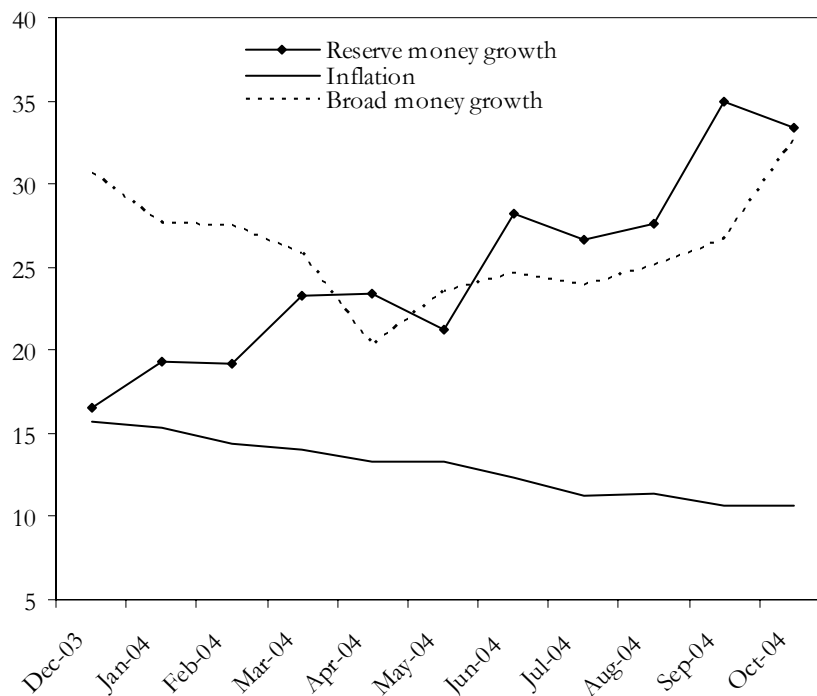
- preserve external competitiveness by preventing or at least limiting excessive nominal appreciation of the leu against the dollar;
- accumulate foreign exchange reserves on a precautionary basis, to be able to meet external debt service and to reach a level corresponding to three months of imports; and
- keep interest rates low, to support private sector development and limit government domestic interest payments.

The NBM is also concerned about its profit level, since it affects the strength of its balance sheet and the amounts that can be transferred to the budget.

It has naturally proven very difficult to keep inflation down, while at the same time achieving the other monetary policy goals in the face of strong inflows of foreign exchange. The NBM can choose to intervene in order to prevent the leu from appreciating by buying large amounts of foreign exchange in the open market, with the added benefit that foreign reserves are built up. However, this boosts money supply and fuels inflationary pressures. Sterilization operations can in principle help, with the undesired consequence of pushing interest rates up. Short-term interest rates (maturities less than or equal to one year) are directly affected by NBM interventions in the money market, and result in higher interest payments for the government. Commercial credits also become more expensive, since a large share of them are short-term, thus discouraging private sector activity. Long-term interest rates could in principle fall, as higher short-term interest rates help lower inflation expectations, but no such effect has been observed in Moldova. Moreover, sterilization operations are costly for the NBM, reducing its profits and its transfers to the budget.

Since late 2004, concerned with effects of workers' remittances on the nominal exchange rate, the NBM has given less priority to inflation. Until then, the NBM had been trying to strike a balance between keeping inflation down and preventing appreciation, while at the same time building reserves and keeping interest rates down. However, as the inflows of foreign exchange have persisted and the pressure on the exchange rate has intensified, the NBM appears in recent months to have given highest priority to preserving competitiveness. The appreciation of the leu against the dollar was halted in mid-2004 through historically large purchases of foreign exchange; the leu even depreciated somewhat before stabilizing toward the end of the year. Sterilization efforts have been stepped up, but not enough to prevent money growth from accelerating (Figure 32). Inflation has not yet picked up dramatically, but the inflation goal for 2004 was missed and there is clearly a risk of higher inflation in 2005.

Figure 32. Money Growth and Inflation, 2003–04
(Year-on-year, percent)



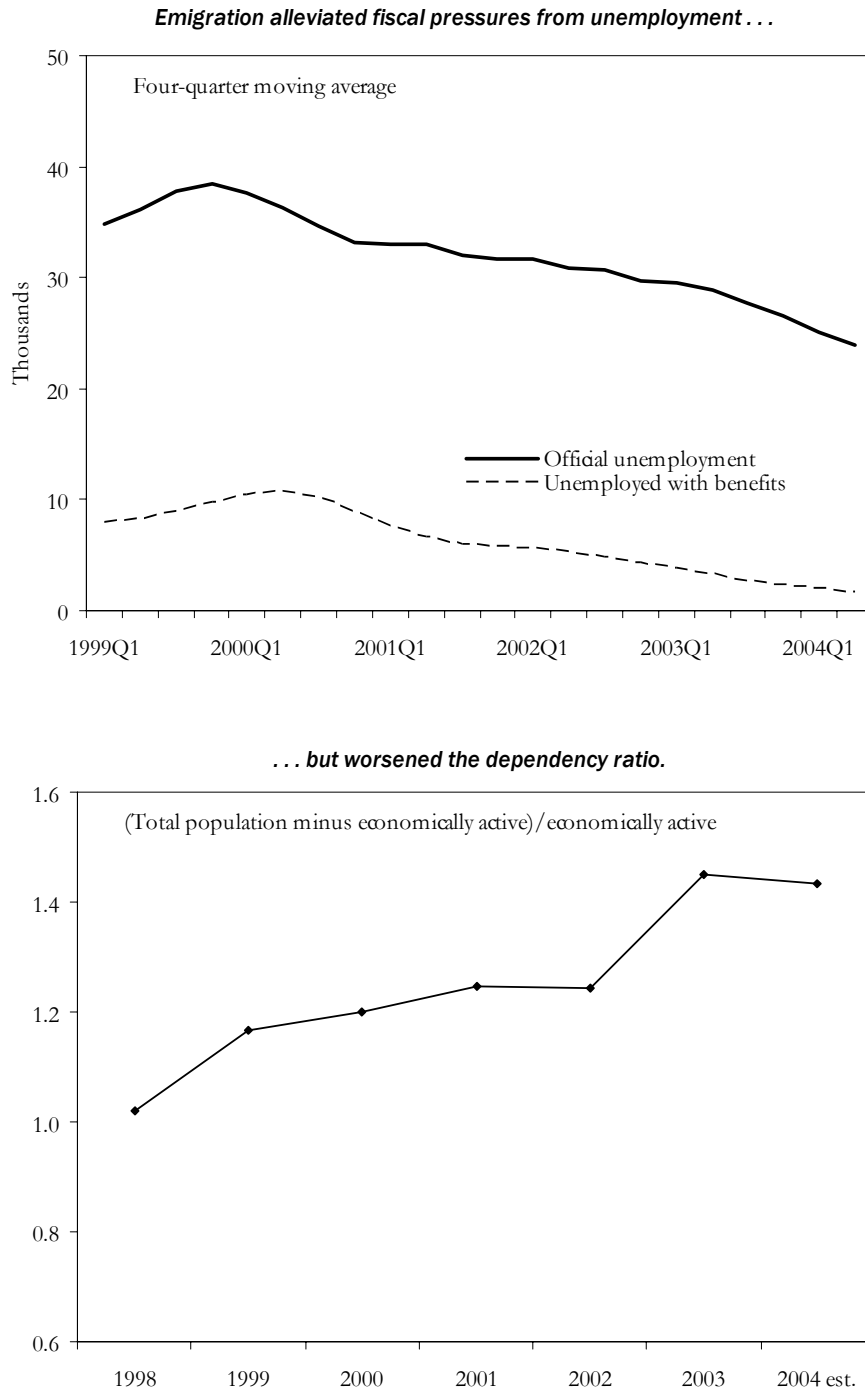
Source: NBM.

G. Fiscal Consequences

The exodus of the Moldovan labor force and the related inflows of remittances have shaped fiscal performance in recent years and will likely have an impact on fiscal policy in the medium- to long term. In the short run, fiscal performance has been affected through the impact of emigration and remittances on (1) the labor market, (2) revenue collection, and (3) the exchange rate.

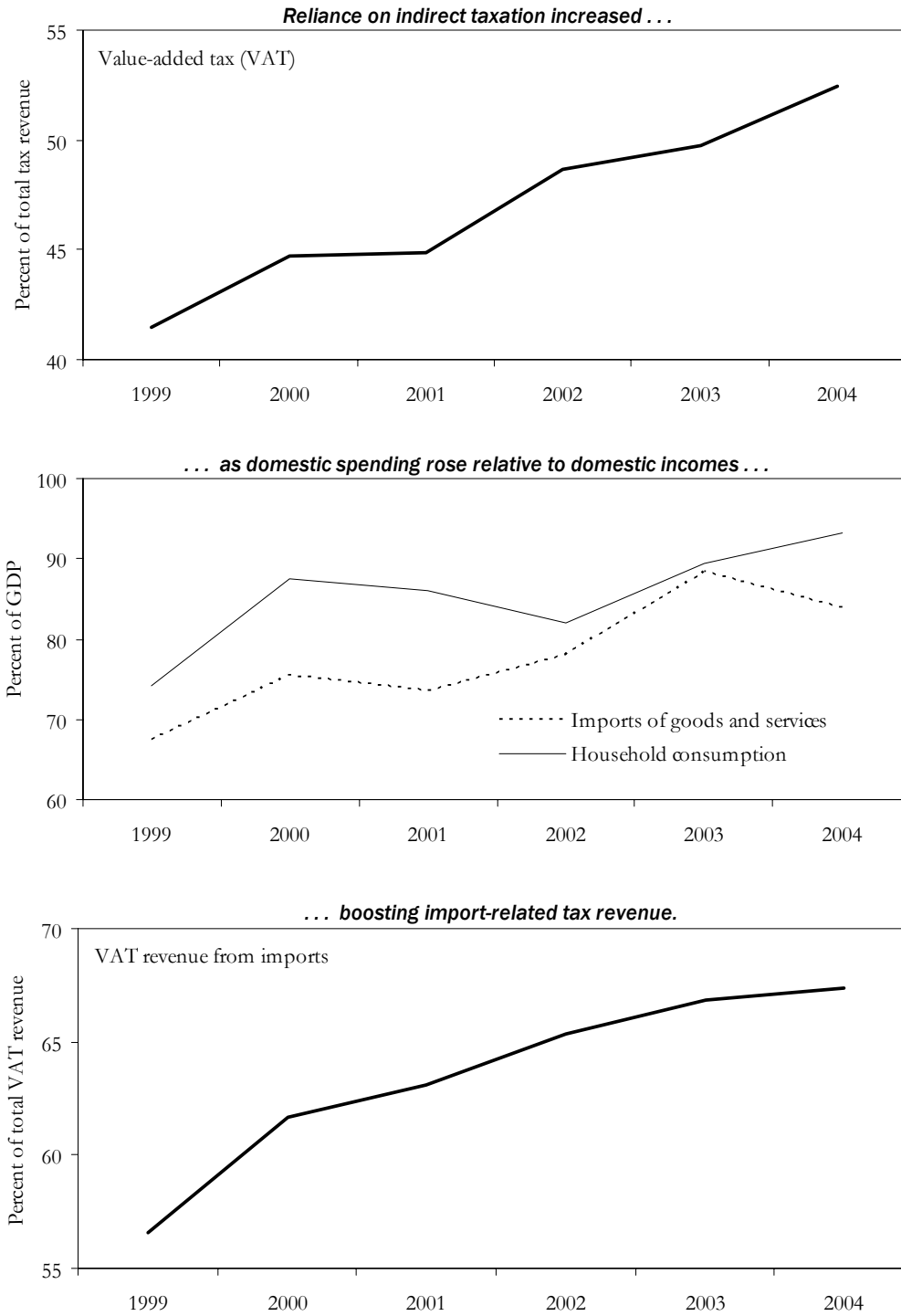
- *Labor market changes.* As emigration has reduced unemployment, and remittances have provided a social safety net to the poor, pressures on the budget related to unemployment have been alleviated (Figure 33).
- *Revenue collection of the central government budget.* The revenue base has grown dependent on remittances. Overall collection has improved significantly over the past few years, largely owing to rising import taxes. Although the declines in labor force and employment have constrained growth in value added, and hence income subject to taxation, rising remittance inflows have boosted

Figure 33. Unemployment, Unemployment Benefits, and Dependency Ratio, 1998–2004



Sources: Moldovan authorities; and IMF staff estimates.

Figure 34. Tax Revenue Composition, 1999–2004



Sources: Moldovan authorities; and IMF staff calculations.

imports and import-related tax collection (Figure 34).²³ This greater reliance on indirect taxation reflects a faster growth in domestic absorption relative to incomes generated in the domestic economy (or faster growth of national disposable income relative to GDP).²⁴

- *Exchange rate changes.* The appreciation of the leu resulting from remittance inflows affects the government's fiscal position in the short run. For example, a 10 percent appreciation of the leu in nominal effective terms would lead to a deterioration in the government fiscal position of about 0.6 percent of GDP.²⁵ This is a combination of a (negative) revenue impact of 0.9 percent of GDP and a reduction in annual external debt service of 0.3 percent of GDP (assuming that all government spending is on domestically produced goods). Allowing for a partial demand response (higher demand for imports, assuming price elasticity of 0.5), the net effect would be smaller—about 0.2 percent of GDP. In the long run, the initial net negative effect of an appreciation on the fiscal accounts would likely dissipate, particularly if the share of government spending on imports was relatively large.

In the long run, emigration raises fiscal sustainability issues, through its impact on the demographic dependency ratio and on the contribution base. Emigration has affected the balance between the taxable base and the demand for social spending in the domestic economy. The shrinking contribution base resulting from emigration adds to the challenge of safeguarding the viability of Moldova's pension system in the context of an aging population. The challenge is compounded by uncertainty about the ultimate size of the old-age population expected to depend on Social Fund pension benefits, which will be determined by emigrants' decisions about whether or not to retire in Moldova. Although the reform of the pension system initiated in 1999 was an important step toward restoring the system's short-term stability, securing its long-term fiscal sustainability is likely to require future adjustments.

To illustrate possible adjustments in the pension system as a response to demographic changes, two alternative scenarios are presented in Table 3. The scenarios are conceived as a change relative to the situation projected for 2005.

²³It is true that with the labor market balance tighter as a result of the labor exodus, real wages rose rapidly (see the discussion of the labor market in Section C of this chapter) as did overall labor income subject to taxation. Nevertheless, it is probable that some of this increase has been at the expense of higher business profits and that overall GDP growth might have been higher with a larger labor force.

²⁴This trend is expected to be accentuated by the decision to phase in reductions in personal income and corporate profit tax rates in 2004–07.

²⁵All figures are on an annual basis.

Table 3. Pension System's Response to Demographic Changes¹

	Base (2005)	Scenario A	Scenario B
M/N	1.21	1.48	1.67
α	0.29	0.35	0.40
β	0.26	0.21	0.19
τ	0.08	0.25	0.33

Source: IMF staff estimates and assumptions.

¹The implied transfer from the budget in 2005 reflects the need for additional financing of the Social Fund, currently provided through drawdowns of accumulated deposits.

Under Scenario A, the number of contributors declines by 10 percent (labor exodus) and the number of beneficiaries rises by 10 percent. Under Scenario B, the number of contributors declines by 20 percent, with the number of beneficiaries rising by 10 percent (all relative to 2005). As outlined in Box 4, under a PAYG system, an adverse demographic development, such as an increase in the ratio of the number of beneficiaries to contributors (M/N), necessitates an adjustment in policy parameters—either the contribution rate (α), the replacement rate (β), or the fiscal transfer rate (τ)—to preserve the long-term sustainability of the system. Table 3 shows the required response in these three policy parameters.²⁶

The scenarios highlight the trade-offs that may need to be contemplated in response to possible demographic shifts. If the required adjustment were shouldered fully by contributors, the contribution rate would have to rise from 29 percent to 35 percent in Scenario A, and to 40 percent in Scenario B. Alternatively, the replacement rate would need to fall to 21 and 19 percent in Scenarios A and B, respectively, from 26 percent in the base year. Without changes in the contribution and replacement rates, the state budget would need to increase its transfers to the pension plan from 8 percent of pension outlays to 25 and 33 percent under Scenarios A and B, respectively.

²⁶The simulations assume that only one parameter at a time is selected for adjustment. If the necessary adjustment were to be achieved by adjusting all parameters simultaneously, the required change in each parameter would be less.

Box 4. Social Insurance and Fiscal Sustainability—Conceptual Framework¹

Background

Moldova's social insurance is administered through the Social Insurance Fund. The pay-as-you-go (PAYG) pension system is its largest component. The 1998 regional financial crisis had a major impact on Moldova's costly and poorly targeted social protection system, which was already under severe strain. Problems emerged particularly in the pension system, including rising contribution arrears, delays in payments, lack of funds, and growth in in-kind payments.

A pension system reform, launched in 1999, laid the foundation for transforming the system into a sustainable insurance program. The main features of the new system include a new benefit formula, which bases future pensions more on individual contributions than on reported wages and years of service; elimination of most early retirement privileges; a gradual increase in retirement age; and an increase in the minimum required contribution period.

Although the reform helped restore the short-term financial stability of the system, ensuring its fiscal sustainability remains a challenge. PAYG systems need to ensure an ongoing balance between contributions and benefits. Demographic changes, including an aging population as well as increases in life expectancy, require changes to contribution rates or to the system benefits. In the case of Moldova, by raising the demographic dependency ratio, emigration is expected to place additional strain on the system's fiscal sustainability.

Framework

In a PAYG system, current period benefits are financed from current revenues, typically via a payroll tax. For revenues to equal expenditures, the payroll tax rate (α) has to equal the pension bill divided by the wage bill, or the ratio of pensioners (M) to active contributors (N) times the replacement rate (β), where the replacement rate is defined as the ratio of the average pension to the average wage. Thus we can write

$$\alpha = \beta \times \frac{M}{N}. \quad (1)$$

Allowing for the possibility of budget transfers, equation (1) becomes

$$\alpha = \beta \times \frac{M}{N} \times (1 - \tau), \quad (2)$$

where τ is the ratio of budgetary transfers to pension expenditures ($\tau > 0$ implies transfers from the budget to the pension fund; $\tau < 0$ implies a transfer of the pension fund surplus to the budget). More generally, the ratio M/N can be expressed as a function of the demographic dependency ratio (M^*/N^*), where M^* is the number of people 60 years and older, and N^* is the number of people between 15 and 59 years of age:

$$\alpha = \beta \times \gamma \times \frac{M^*}{N^*} \times (1 - \tau), \quad (3)$$

where γ represents the *pension system coverage ratio*, with its value depending on the maturity of the system, retirement policies, labor force participation rates, and other labor market conditions.

¹Based on Castello-Branco (1998).

Policy Implications

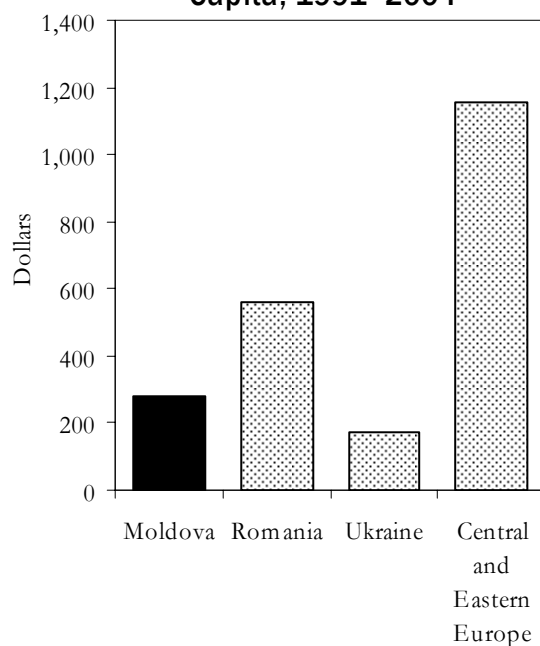
What challenges do remittances and labor migration pose for policymakers? Chapter 3 provided insights into what motivates Moldovans to seek employment abroad and how they make decisions about the amount and use of remittances. Chapter 4 discussed broader ramifications of these decisions for the performance of Moldova's economy. Now we will discuss how policies can (1) influence decisions about labor migration and remittances, and (2) deal with risks that remittance inflows pose to macroeconomic stability.

A. Structural Policies

Structural policies are central to addressing the main policy issues associated with labor migration and workers' remittances. Recognizing that much of the impetus for migration stems from poor economic and social conditions at home, the first order of the reform agenda should be to aggressively tackle impediments to faster economic growth and private investment and address more effectively social needs of the population through better-targeted social spending programs. To moderate, and eventually reverse, the current emigration trend and Moldova's increasing dependence on workers' remittances, establishing a good business environment is crucial. An improved business environment would (1) strengthen the incentives for business investment in Moldova; (2) increase the expected return on investment in Moldova, encouraging FDI and bringing much-needed know-how; and (3) increase the likelihood of the more highly educated labor force seeking and finding work opportunities in Moldova. More investment, better employment opportunities, and good economic prospects would reduce the incentives for workers to leave Moldova. At the same time, with improvement in the business climate, remittances could become an increasingly important source of business financing.

A poor business environment is the main reason for the reluctance to invest in Moldova. Compared with fast-reforming countries in Central and Eastern Europe, Moldova has benefited little from FDI (Figure 35), largely because its business environment does not fare well in comparison with that of its

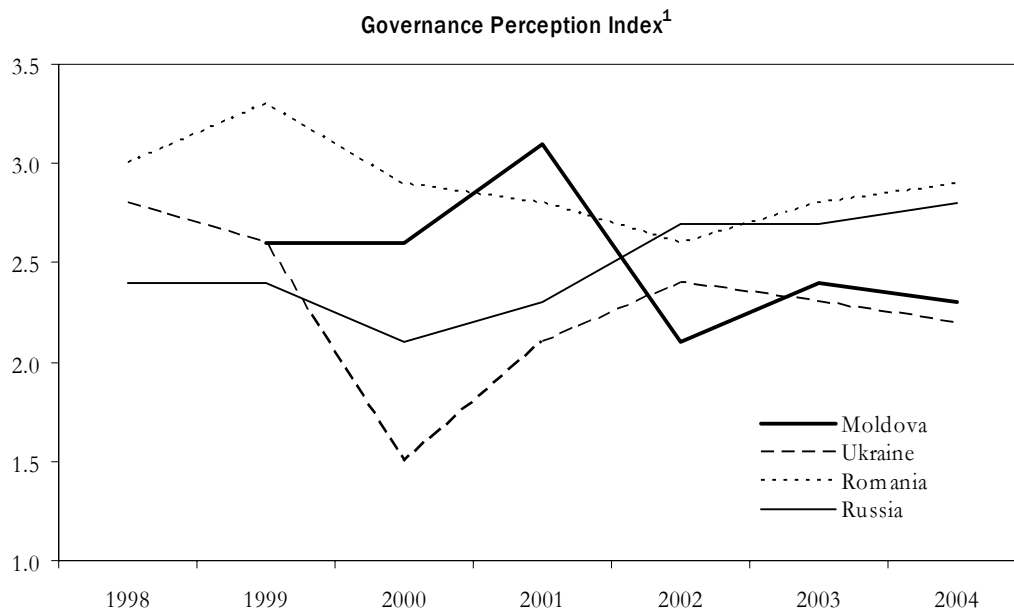
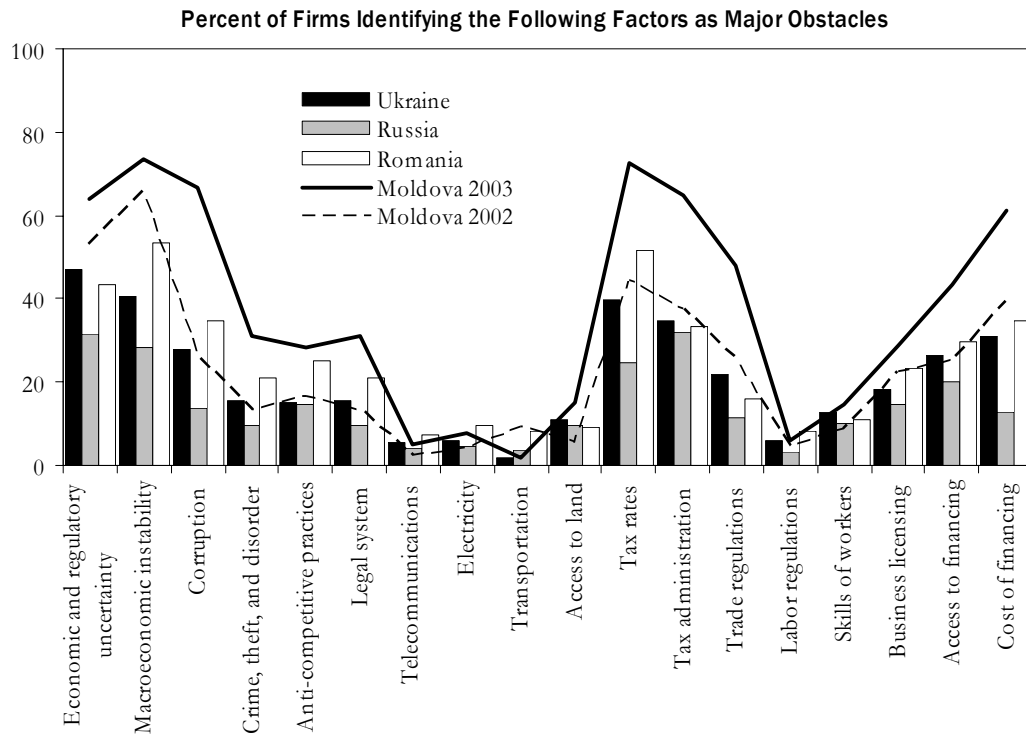
Figure 35. Cumulative FDI Per Capita, 1991–2004



Sources: Moldovan authorities; and IMF, *World Economic Outlook*, and staff calculations.
 Note: FDI = foreign direct investment.

neighbors, according to World Bank surveys. These surveys also indicate a relative deterioration of the business climate over time (Figure 36). The poor business climate and low investment have impeded creation of attractive domestic employment opportunities, leading Moldovan workers to leave. To bring about a change, this environment needs to be improved and it seems clear that with the right structural policies in place Moldova could be an attractive place for investment. It has a relatively well-educated labor force and a low-wage environment. Furthermore, it is geographically and culturally located between the two large markets of Western and Central Europe and the CIS countries. Moldova could therefore potentially be attractive to investors; for example, to those intending to process labor-intensive manufactured goods for export to Europe or to manufacturers looking for a platform to supply goods and services to the large CIS markets. Attracting foreign investors could be particularly beneficial since they typically bring advanced technology, as well as financial and marketing knowledge, which then can be absorbed by the local labor force and entrepreneurs, thereby raising total factor productivity.

Figure 36. Business Environment



Sources: World Bank; Transparency International; and IMF staff calculations.

¹From 0 to 10; a higher number indicates a better perception.

The second argument in favor of improving the business climate at home is to encourage use of workers' remittances as a source of funding for domestic business capital formation. In all likelihood, migration and remittances will remain important for years to come. The upward trend may end, and even be reversed over time, but there will always be attractive opportunities abroad for many Moldovans, as long as barriers to work in other countries (regulatory, logistical, financial, psychological, etc.) are surmountable. Because Moldovans migrate primarily to raise the consumption level of their households, and then to invest in their future through purchases of housing and education services, encouraging them to channel their savings to more productive uses is a policy challenge. A conscious, determined, and sustained effort to improve the business environment could, however, facilitate the allocation into productive use of the increasing portions of remittances migrants intend to invest in the future. This is particularly important from a longer-term perspective, since more migrants are likely to work abroad permanently and start saving and investing in their host country.

While it is beyond the scope of this paper to discuss a desirable reform agenda for Moldova, a few areas can be singled out as key for improving the business environment. Tax and customs administration could be modernized, in particular with regard to the administration of VAT refunds—critical for exporters—and the taxpayers' assistance function—critical for foreign investors. Legislation and regulations on licensing, registration, and certification could be simplified and aligned with European standards. Informal and formal regulations restricting trade should be phased out, and the inclination to protect sectors or specific manufacturers should be resisted.

The banking sector could play a greater role in channeling remittances into productive domestic investment. Bringing in strategic foreign investors would inject more competition into the banking sector and, more specifically, into the market for banking and financial services to households. Banks from countries with large numbers of Moldovan migrants may be interested in opening branches in Moldova and offering packages of services tailored to migrants and their families. This would encourage workers to direct a larger portion of remittances toward the banking system, making it possible for remittances to become a source of financing for productive investment in business activities in Moldova, rather than only for investment in housing and education or savings abroad. At the same time, the effectiveness of the banking system would be enhanced, as banking intermediation would increase from the current low levels.

B. Monetary Policy

Supporting structural policies will be necessary to reduce pressure from the inflows of workers' remittances on monetary policy. Monetary policy is important in creating a stable macroeconomic environment, which would be

conducive to a favorable investment climate. However, without effective structural policies, the effectiveness of monetary policy will continue to be hampered. Under these circumstances, the NBM has in principle chosen a flexible exchange rate regime, paired with a clear focus on low inflation as the overriding goal of monetary policy.

A flexible exchange rate regime helps in absorbing variations in the inflows of workers' remittances. Although these inflows are generally more stable than many other foreign exchange inflows, such as FDI and commodity price-sensitive exports, they are still quite unpredictable. This implies that adopting a fixed exchange rate regime would be more demanding and entail some risks. It would require a clear commitment to policies consistent with such an arrangement, not only from the NBM, but also from the government, and it would have to be backed up by strong political support. At this point, such commitment and support do not appear to be present. Furthermore, a fixed exchange rate regime in an environment of rapidly growing inflows of remittances could contribute to a false sense of stability, potentially leading to dangerous imbalances.

The NBM has chosen low inflation as the overriding goal of monetary policy, because it still seems to be the best option, although it cannot be characterized as an inflation-targeting regime.²⁷ Combined with strong structural policies, prudent fiscal policies, and increased de facto and de jure independence of the NBM, such a strategy could be successful.

As described in Chapter 4, the NBM has not fully focused on low inflation; it has also tried to resist the nominal appreciation pressure on the leu stemming from the large inflows of remittances. The motivation has been to preserve competitiveness. However, there are several reasons monetary policy cannot do much to improve competitiveness. First, and most important, monetary policy only affects competitiveness in the short term, and the end result of attempts to prevent a nominal appreciation of the leu may be nothing but higher inflation and an unchanged real exchange rate down the line. Higher inflationary expectations imply that the effect of monetary policy on competitiveness is likely to be short lived, and an undesirable wage-price spiral may develop. Second, considering that the exchange rate is likely to be undervalued, risk of inflation may be a more important concern at this point. Third, Moldova has chosen to adopt a flexible exchange rate regime, and the NBM has clearly stated its intention to keep inflation down. It is important to live up to this commitment in order to build up credibility, and let the market, by and large, set the exchange rate. There may be room for interventions to smooth short-term fluctuations, but this should not be at the risk of accelerating inflation and damaging credibility.

²⁷See Mishkin (2004) for a discussion of the requirements for inflation targeting.

For the same reasons, there is a limit to what monetary policy can do to make Moldova a more attractive place to invest and work. While a depreciation would reduce the cost of labor, it is not likely to make Moldova more attractive, since there is not much slack in the labor market, and lower dollar-wages could not be sustained. Nominal leu-wages would have to increase and the end result would only be higher inflation. Moreover, to the extent that dollar-wages are lowered for a period, it will then become even more attractive to work abroad, which may encourage additional emigration. At a more fundamental level, competitiveness can be viewed as the ability of the economy to generate increases in incomes through higher investment and productivity growth—something that monetary policy cannot affect directly. What is needed is higher productivity in Moldova and higher real returns on investment. That cannot be achieved without structural policies to improve the business environment.

C. Fiscal Policy

The short-term beneficial effects of emigration for the government financial position offer a margin for maneuvering a countercyclical macroeconomic policy. Emigration, by alleviating unemployment and providing a safety net to the population, has eased pressures on the budget, while boosting consumption- and import-related tax revenue collection. This newly created cushion provides an opportunity to strengthen fiscal policy's countercyclical role without jeopardizing medium-term fiscal sustainability. Such a strategy will require that tax revenue increases not be automatically used for new spending initiatives. Rather, it may be appropriate to increase fiscal saving when the domestic economy is overheating and inflationary pressures are on the rise. Thus, fiscal policy would lend more effective support to the central bank's efforts to control inflation.

Although there is uncertainty about the future evolution of the number of contributors and beneficiaries in the pension system, the analysis above suggests some practical steps that could be taken to strengthen its viability.

- Efforts should be directed at *broadening the contribution base* by bringing a greater number of contributors into the system. The government decision to lower contribution rates (from 30 to 28 percent by 2006) is aimed at encouraging greater participation in the plan. In addition, the authorities intend to engage the business sector in a debate over Social Fund reform, including by seeking ways to broaden the contribution base while lowering rates.
- The *link between contributions and benefits should be strengthened*. This was one of the main objectives of Moldova's pension reform, to be achieved initially through a blended system, in which benefits would depend increasingly on past contributions. However, the weight of past contributions in determining pensions remains relatively small. Greater weighting of past contributions

would make the link between contributions and benefits more transparent, encouraging greater participation. It would also signal to those who choose to stay outside the system—including those who have decided to seek employment abroad—that they would need to assume greater responsibility for financing their own retirement.

- The current demographic imbalance caused by labor migration may require that the pension system be financed partly through temporarily higher state budget transfers. *Linking pension benefits to lifelong contributions* can ensure that the system will be self-financing in the long run. However, it may not be feasible to match the contemporaneous contribution collection with the benefit payments, if one-third of the labor force is working outside the country. Raising contribution rates, which are already prohibitively high, or lowering old-age pensions, which—at less than 30 percent of an average wage—are relatively low, do not seem like practical options. Hence, some thought may be given to using some of the additional fiscal revenue generated from taxation of workers' remittance-financed consumer spending to supplement state budget transfers to the pension fund.

Conclusions

The behavior of Moldovan migrants is consistent with the stylized facts from the literature on the motivation behind remittances. In particular, Moldovan migrants appear to have a strong attachment to their home country and remit large portions of their earnings to their families. Thus, in the short to medium term, remittances are likely to remain a stable source of foreign exchange. Remittances are also likely to continue to boost household demand for consumption and investment in housing, as well as to provide a well-targeted social safety net. In the long term, as more migrants settle abroad, portfolio choice may become more important and migrants may decide to start saving and investing in their host country rather than remitting funds home.

Although the initial push toward migration can be traced to the 1998 regional financial crisis, which hit Moldova particularly hard, one of the striking observations made here is that migration has continued through the years when the domestic economy has been recovering strongly. This suggests that barriers to migration tend to diminish over time, as new migrants benefit from access to better information about job prospects and from the support network in destination countries. Indeed, the presence of relatives or friends in a foreign country, along with their advice or information about that country, are cited by migrants as among the most important factors affecting their decision to migrate.

Labor migration and remittances have profound, identifiable macroeconomic consequences that need to be explicitly considered in policy formulation. This paper has touched on several areas where these effects are most apparent, including economic growth; labor market, fiscal, and monetary developments; and the balance of payments. The macroeconomic data closely confirm the household preferences revealed in the microeconomic survey: most supplemental income is spent on consumer goods and housing construction. Even though this additional spending has provided a strong short-term boost to domestic demand that has helped drive GDP growth in recent years, ensuring sustainable growth in the long run will require a more balanced composition of aggregate demand—with a greater contribution from business investment, in particular.

Moldova's experience confirms that globalization is not limited to trade and finance. Moreover, it shows that traditional international trade models featuring mobile capital and immobile labor may no longer be able to capture all salient features of today's international economy. Although countries still trade where their comparative advantage lies, some of them specialize in exporting labor. In the years following the 1998 crisis, Moldova did exactly that. Large-scale labor emigration has played a dominant role in shaping Moldova's economic development and its regional integration in recent years. Although some impetus for migration comes from the destination countries—higher wages, employment opportunities—our paper has focused primarily on forces within the domestic economy that have influenced workers' decisions to migrate.

Are labor migration and remittances good or bad for Moldova? In Moldova's public debate, the issue is often framed in those terms. In our view, what matters more are the underlying reasons for these phenomena and the policy response. In principle, higher factor mobility (of both capital and labor) confers benefits, permitting more efficient allocation of resources. In that sense, a greater choice of employment opportunities, both at home and abroad, available to Moldova's workers is welcome. Moldova's problem today, however, is that much of the impetus toward migration stems from a lack of opportunities at home.

A determined and sustained effort to improve the business environment would enhance Moldova's attractiveness to foreign capital and stimulate larger foreign direct investment inflows, which have been relatively modest to date. It would also facilitate the allocation into productive use of increasing portions of migrants' remittances. This aspect will assume greater importance over time, as more migrants are likely to work abroad permanently and consider using their savings for investment in their host country.

The short-term benefits of remittances for the domestic economy should not be allowed to obscure the need to implement an effective reform agenda. In the end, only by making Moldova a more attractive place for both labor and capital can the government ensure that resources—most important, the skills and talent of its population—will be used to their full potential for the benefit of present and future generations.

Appendix

Table A1. Selected Economic and Social Indicators, 2000–04

	2000	2001	2002	2003	2004
Real economy					
	<i>(Percent change; unless otherwise indicated)</i>				
Gross domestic product					
Real growth rate	2.1	6.1	7.8	6.6	7.3
Nominal GDP (millions of dollars)	1,288.8	1,480.3	1,661.8	1,980.6	2,594.7
Unemployment rate (percent)	8.5	7.3	6.8	8.0	8.1
CPI inflation (period average)	31.3	9.8	5.3	11.7	12.5
Average monthly wage (dollars)	32.8	40.3	51.9	65.4	90.7
<i>(Percent of GDP)</i>					
Public finance (general government)					
Overall balance (cash)	-3.5	-0.1	-1.8	0.7	0.7
Overall balance (commitments)	-1.8	-0.3	-0.9	0.2	0.4
Public debt	91.7	79.0	73.6	63.1	47.0
External sector					
Current account balance (percent of GDP)	-8.4	-2.4	-4.4	-6.6	-4.4
Exports of goods (percent of GDP)	37.0	38.3	39.7	40.7	38.4
Imports of goods (percent of GDP)	59.8	59.5	62.5	72.1	67.6
Foreign direct investment (percent of GDP)	9.8	3.6	7.9	3.6	3.3
Gross official reserves (months of imports)	2.5	2.1	1.9	1.7	2.1
External debt/GDP (percent) ¹	123.6	105.1	100.8	88.7	64.1
Exchange rate					
Regime:			Managed float		
Exchange rate (MDL/\$) period average	12.4	12.9	13.6	13.9	12.3
Social indicators (reference year)					
Life expectancy, male, years: 64.5 (2003)					
Life expectancy, female, years: 71.6 (2003)					
Population below poverty line, percent: 26.5 (2004)					

Sources: Moldovan authorities; and IMF staff estimates.

¹Private and public, including IMF.

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